Interpersonal Evaluations Following Threats to Self: Role of Self-Esteem

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In 2 studies, the authors used dyadic interactions to assess the influence of ego threat on likability as a function of self-esteem. In both studies, 2 naive participants engaged in a structured conversation; in half of the dyads, 1 participant received an ego threat prior to the interaction. In the 1st study, threatened high self-esteem participants were rated as less likable than were threatened low self-esteem participants. The 2nd study confirmed that ego threats are associated with decreased liking for those with high self-esteem and with increased liking for those with low self-esteem. A mediational analysis demonstrated that decreased liking among high self-esteem participants was due to being perceived as antagonistic. Study 2 also indicated that the findings could not be explained by trait levels of narcissism. These patterns are interpreted in terms of differential sensitivity to potential interpersonal rejection.

The construct of self-esteem has rarely been examined in a true interpersonal context. The vast majority of research on the topic has examined the influence of self-esteem on motivational, behavioral, affective, and cognitive mechanisms within individuals with high or low self-esteem (e.g., Banaji & Prentice, 1994; Baumeister, 1993, 1998; Brockner, 1983; Brown, 1993; Campbell, 1990; Crocker & Major, 1989; Greenberg et al., 1992; Greenwald & Banaji, 1995; Higgins, 1996; Pelham, 1995; Swann, 1996; Tesser, Millar, & Moore, 1988). Although several important theories of self-esteem are interpersonal in nature (Cooley, 1902; Leary, Tambor, Terdal, & Downs, 1995; Mead, 1934; Shrauger & Schoeneman, 1979), people's assessments of those with high and low self-esteem are nearly absent from the literature. These various interpersonal theories of self-esteem share a common view that people's self-evaluations reflect, in part, beliefs about how they are perceived and valued by significant others. In the current research, we examine the validity of self-perceptions by examining interpersonal judgments of likability.

The extent to which people are viewed as likable and as desirable associates has a number of important mental health consequences. Those who feel ostracized or rejected experience negative reactions, including physical illness, emotional problems, and negative affective states (Bowlby, 1969; Downey & Feldman, 1996; Rutter, 1979; Williams, 1997). Furthermore, social support is known to be an important contributor to positive mental and physical health (Cohen & Wills, 1985), and people who are disliked, antagonistic, or emotionally distressed are less likely to receive support and assistance from others (Bolger, Foster, Vinokur, & Ng, 1996). Baumeister and Leary (1995) proposed that people have a fundamental need to belong, such that they are strongly motivated to seek out positive social interactions and avoid interactions that are conflicted or that contain negative affect. Their work outlines the considerable psychological toll exacted from an absence of positive and meaningful interpersonal relationships.

One key ingredient to the formation of strong social bonds is the extent to which people have likable personal characteristics, such as being attractive (Berscheid & Hatfield, 1969) or possessing desired personality traits (such as warmth and competence, see Lydon, Jamieson, & Zanna, 1988). Although self-reports of positive personality traits are often correlated with self-esteem, relatively little is known about the extent to which perceivers endorse the positive self-views of those with high self-esteem.

Interpersonal Liking and Self-Esteem

It has long been recognized that people like those who are attractive, competent, warm, and morally sound (Anderson, 1968; Lydon et al., 1988; Taylor, Peplau, & Sears, 1997). Of relevance to the current research is the extent to which self-esteem is associated with personality traits of positive or negative valence. In terms of self-report, those with high self-esteem rate themselves as attractive (Diener, Wolsic, & Fujita, 1995), intelligent (Gabriel, Critelli, & Ee, 1994), socially outgoing (Briggs, Cheek, & Buss, 1980; Schmutte & Ryff, 1997), socially skilled (Jones, Freemon, & Goswick, 1981; Riggio, Throckmorton, & DePaola, 1990), unselfish (Brockner, O'Malley, Hite, & Davies, 1987), emotionally stable (i.e., not neurotic, Scheier, Carver, & Bridges, 1994), and morally sound (Dickstein & Hardy, 1979). Of course, high self-

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esteem people generally like themselves and believe favorable things about themselves, and therefore it is not surprising that they rate themselves highly on most positive personality traits (Brown, 1993). Unfortunately, the evidence fails to support a strong link between self-esteem and objective appraisals (Swann, 1996). For example, although people with high self-esteem claim to be more intelligent than those with low self-esteem, objective data suggest the association is weak at best (Gabriel et al., 1994). Similarly, self-esteem is more strongly related to self-perceived attractiveness than objectively rated attractiveness (Diener et al., 1995; Jovanovic, Lerner, & Lerner, 1989). Indeed, even in terms of judgments of self-esteem there is little correspondence between self-ratings and observer ratings (Shrauger & Schoeneman, 1979).

Our review of the literature uncovered a surprising lack of research on the interpersonal appraisals of those with high and low self-esteem. One of the few studies that directly assessed interpersonal evaluations of people as a function of self-esteem found that there were no overall differences in terms of how much people liked those with high and low self-esteem (Brockner & Lloyd, 1986). However, people with high self-esteem were more likely than were people with low self-esteem to believe that others liked them. Even among children, the typical finding is that those with high self-esteem are more likely than those with low self-esteem to believe that others like them (Bohrnstedt & Felson, 1983), although actual sociometric status often does not differ as a function of self-esteem (Bishop & Inderbitzen, 1995). Thus, it does not appear that people generally like those with high self-esteem more than they like those with low self-esteem. Indeed, some evidence suggests the possibility that people with high self-esteem may be disliked in certain situations, namely when they have experienced threats to self.

Extremely positive self-appraisals have been linked to poor interpersonal outcomes, especially when such self-appraisals are challenged or discredited. Baumeister, Smart, and Boden (1996) examined the literature linking self-esteem to interpersonal violence. In contrast to widely held assumptions that low self-esteem is associated with violent actions, they found a consistent pattern in which those who thought highly of themselves but encountered some sort of threat or challenge to their positive self-view were more likely to engage in hostile and violent ways. Bushman and Baumeister (1998) have recently demonstrated that narcissists, who by definition view themselves in positive terms, become more aggressive following threat.

Other evidence suggests that those with highly positive self-views may exhibit poor interpersonal skills when challenged. Colvin, Block, and Funder (1995) examined individuals with apparently inflated self-views, as indicated by the difference between self and other ratings. During a dyadic interaction, they found such individuals to be viewed as hostile and unlikable. This pattern is most likely to occur when high self-esteem individuals feel personally challenged. For instance, Schlenker, Weigold, and Hallam (1990) exposed high and low self-esteem participants to contexts in which they were motivated to make a positive impression on a critical or supportive audience. They found that high self-esteem participants became egotistical when evaluative pressures were greatest. They concluded that "people with high self-esteem become more boastful as the social stakes increase" (p. 861). Similar findings were reported by Schneider and Turkat (1975) who found that high self-esteem participants who also expressed high needs for social approval presented themselves much more positively following negative feedback than following positive feedback. Perhaps ironically, high self-esteem participants who receive negative feedback about their intellectual abilities claim to have especially good social skills (Brown & Smart, 1991). However, the available evidence does not appear to support these claims.

Self-Esteem and Response to Threat

Why might people with high self-esteem respond to ego threats in a way that leads to negative interpersonal evaluations? We start with the assumption that all people have a fundamental need to belong that may well be rooted in our evolutionary history (Baumeister & Leary, 1995). However, there are individual differences in the extent to which people view themselves as possible targets of rejection. Mark Leary and his colleagues have recently developed a theory linking self-esteem to interpersonal rejection (Leary & Downs, 1995; Leary et al., 1995). This theory proposes that self-esteem functions as a monitor of the likelihood of social exclusion. When people feel that they are targets of social exclusion or rejection, they experience a reduction in state self-esteem that serves as a warning function.

According to the sociometer theory, high self-esteem individuals generally expect others to like and include them (Walster, 1965), and therefore they may be less concerned with interpersonal evaluation than people with moderate or low self-esteem (Leary & Downs, 1995). As stated by Leary et al. (1995), "people who already feel included, accepted, and socially integrated need not be as concerned with fitting in as people who feel less so" (p. 520). Although people with high self-esteem apparently do experience a reduction in feelings of state self-esteem when excluded or ostracized, their self-esteem may not drop to a level that suggests they are in imminent danger of being rejected. Situations that threaten self-esteem but do not explicitly indicate relationship devaluation may not raise fears of rejection for those with high self-esteem.

By contrast, people with low self-esteem possess a sense of contingent acceptance, believing that others will reject them if they fail. For instance, Baldwin and Sinclair (1996) found that people with low self-esteem linked personal failure with the expectation that they would be rejected by others whereas high self-esteem participants did not show such a contingency. Thus, although both groups experience negative self-feelings when they feel rejected, people with low self-esteem expect to be rejected in failure situations where people with high self-esteem do not. Following a noninterpersonal ego threat, therefore, moderate or low self-esteem individuals may experience a sufficient drop in self-esteem to activate the sociometer system and heighten fears of rejection. Although both high and low self-esteem individuals experience a reduction in state self-esteem following ego threats (Heatherton & Polivy, 1991), those with low self-esteem may be especially likely to have their fears of social exclusion activated in ego-threatening situations.

Because the need to belong is a fundamental human motive, we propose that people who feel they are in imminent danger of being rejected engage in amiable, reparative, or prosocial behaviors to gain approval from others and affirm social bonds. We therefore expect that low self-esteem individuals respond to ego threat by being friendly and courteous and by attending to their social

partners. By contrast, when those with high self-esteem receive a noninterpersonal ego threat, we propose that they do not experience concerns about possible social rejection, and therefore, they do not engage in efforts to affirm social relationships. Indeed, it is possible that they use self-repair strategies such as self-aggrandizement and downward social comparisons to affirm their sense of self; if so, these strategies may have negative interpersonal consequences (Leary, Bednarski, Hammon, & Duncan, 1997).

We therefore predicted that ego threats would have opposite effects on the interpersonal evaluations of those with high and low self-esteem. Specifically, we predicted that low self-esteem individuals would be evaluated more positively (more likable) and high self-esteem individuals will be evaluated more negatively (less likable) following ego threat. To test these predictions, we had high and low self-esteem individuals engage in a structured conversation that was designed to increase feelings of intimacy. Prior to the conversation, one participant in half of the dyads received an ego threat. We used the conversation partner's ratings to assess how ego threats are related to evaluations of those with high and low self-esteem.

Study 1

Method

Participants

Eighty-four male undergraduates were participants in a study of interpersonal interactions. Participants received either extra course credit or a payment of $5.

Procedure

Prior to arriving at the experiment participants completed a standard measure of self-esteem (Fleming & Courtney, 1984, on the basis of Janis & Field, 1959), which was used to divide participants into high or low self-esteem groups on the basis of a median split (*Mdn* = 132, range = 97–167).

Participants signed up to participate in a study of interpersonal interactions, and the sign-up sheet had two spaces available for each time slot. Thus, two individuals arrived at the lab at the same time. After arriving at the experiment, the experimenter asked the two participants whether they knew each other. After assurance that they did not, one member of the dyad was randomly assigned to be the target of evaluation (we hereinafter refer to this person as the "target" and their partner as the "rater"). The target was then randomly assigned to be in either the control group or the ego-threat group. Thus, in each dyad there was a target and a rater, and the target was either threatened or not.

Participants then completed the Remote Associates Test (RAT; Mednick, 1968). The RAT asks participants to find one word that connects sets of three seemingly unrelated words. For example, the words "lick," "sprinkle," and "mines" are linked by the word "salt." Ego threat was created in three ways: by the description given about the implications of the test, the test difficulty, and the performance feedback given to the participant. Ego-threatened participants were told to complete the RAT in 4 min, that the RAT was a strong indicator of academic achievement, and that the RAT was predictive of future earning potential. Moreover, the RAT items were extremely difficult, and pilot testing indicated that participants would be unlikely to solve more than 3 or 4 of the 12 problems. Non–ego-threatened participants were told that the test was being piloted for a different experimenter and were asked to "give it a try for a couple of minutes." The RAT given to participants in the control condition was moderately easy.

For ego-threatened targets the experimenter returned after 4 min with a red pen with which to score their test. The experimenter looked surprised as he scored the test and then excused himself to check on the other participant, leaving the answer key on the table. The answer key contained the correct answers but also false statistics indicating the average score for Dartmouth students (9.0 of 12.0 correct) and for college students nationwide (7.2 out of 12.0). Non–ego-threat targets and raters did not receive feedback on their performance (under the guise that it was simply a pilot to see what participants thought of the test).

Next both participants completed the State Self-Esteem Scale (SSES; Heatherton & Polivy, 1991) and a 24-item mood scale to assess the effectiveness of the manipulation. The mood scale consisted of four factors determined by earlier research in our laboratory: positive affect, anxiety, dysphoria, and hostility.

The participants were then brought together to engage in a structured conversation. Because the feedback was given privately to those in the ego-threat condition, they had no reason to believe that the other person knew how they had performed. We used a procedure devised by Sedikides and his colleagues to create intimacy in a short period of time (Sedikides, Campbell, Reeder, & Elliot, 1998). This method involves participants asking each other a series of questions that begin with ordinary and impersonal questions and continues through to very personal and intimate questions. Participants were instructed to spend a pre-established amount of time on each section: 2 min were given to discuss low intimacy questions such as "How old are you?" and "What is your major?"; 6 min were given for moderately intimate items such as "What is one embarrassing thing that has happened to you this year?"; and 10 min were given for intimate topics such as feelings of loneliness and describing early memories.

After the interaction, participants were separated again and given a set of questionnaires. The first question was "Based on what you know about this person so far, how much do you like him?" and was rated on a 7-point scale (1 = *not at all;* 7 = *very much*). They then rated their partner on 22 bipolar traits (e.g., *unintelligent–intelligent, reckless–cautious, lazy–hardworking, shy–outgoing, calm–anxious*). The bipolar traits were selected to represent a broad array of personality dimensions (on the basis of the Big Five) as well as to indicate traits known to be related to liking (e.g., *genuine–fake, honest–deceptive, cheerful–gloomy, modest–arrogant*). Participants rated which of the two opposing bipolar traits were more characteristic of their partner using a 7-point scale (e.g., 1 = *reckless;* 7 = *cautious*). Finally, all participants were fully debriefed about the purpose of the experiment, including assurances to participants in the ego-threat conditions that all of the RAT scores and data were false.

Results

Manipulation Checks

A 2 (high vs. low self-esteem) × 2 (ego threat vs. control) analysis of variance (ANOVA) was used to evaluate the effectiveness of the manipulation on the target's mood and state self-esteem. As may be seen in Table 1, we found that ego-threatened targets reported increased dysphoria, $F(1, 38) = 6.96$, $p < .02$, decreased positive affect, $F(1, 38) = 3.12$, $p < .09$, and increased hostility, $F(1, 38) = 14.46$, $p < .0005$. There were no significant effects on self-reports of anxiety, $F < 1$. Self-esteem did not interact with ego threat on any of the mood measures ($ps > .15$) and the only main effect of self-esteem was that low self-esteem participants reported greater anxiety than did high self-esteem participants, $F(1, 38) = 7.51$, $p < .01$ (again, this did not interact with condition). There were no significant decrements of state

Table 1
Manipulation Checks for Study 1

Mood and self-esteem measures	Low self-esteem		High self-esteem	
	Control	Ego threat	Control	Ego threat
Dysphoria				
M	13.4	17.6	12.1	15.1
SD	3.5	4.8	3.8	5.2
Anxiety				
M	18.3	20.0	14.1	14.6
SD	7.3	6.1	5.4	3.2
Positive Affect				
M	39.9	34.3	39.2	33.1
SD	7.4	11.4	12.2	9.9
Hostility				
M	11.3	17.9	11.2	14.1
SD	3.4	3.7	4.2	4.8
State Self-Esteem				
M	69.4	65.3	78.0	81.8
SD	8.6	10.2	7.3	5.2

self-esteem as a function of ego threat, $F(1, 38) = 2.32, p < .15$, although high self-esteem participants did score higher overall than low self-esteem participants, $F(1, 38) = 23.50, p < .0001$ (as is typically found, see Heatherton & Polivy, 1991).

Primary Analysis

We predicted that self-esteem would interact with ego threat in its effects on likability. A 2 (high vs. low self-esteem) × 2 (ego threat vs. control) ANOVA revealed the expected interaction, $F(1, 38) = 3.91, p = .055$, as well as a marginal main effect of self-esteem level, $F(1, 38) = 3.19, p < .09$.[1] As may be seen in Figure 1, although there were no significant differences between high and low self-esteem participants in the control group, $t(38) < 1$, following ego threat those with low self-esteem were liked more than those with high self-esteem, $t(38) = 2.66, p < .01$. In terms of changes within self-esteem category, threatened high self-esteem men were disliked somewhat more than were nonthreatened high self-esteem men, $t(38) = 1.68, p = .10$, whereas threatened low self-esteem men were liked somewhat more than nonthreatened low self-esteem men, $t(38) = 1.35, p < .20$.

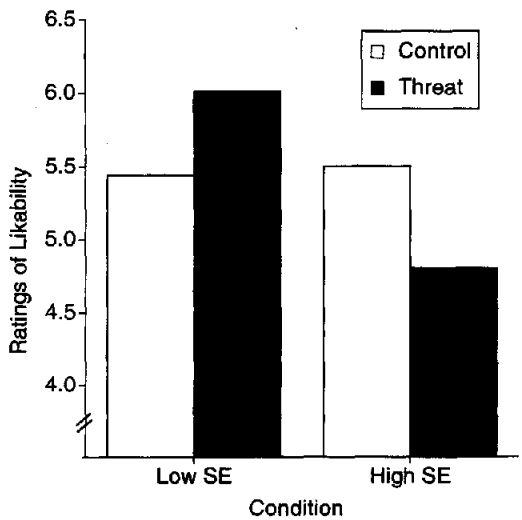

Figure 1. Ratings of likability by condition in Study 1. SE = self-esteem.

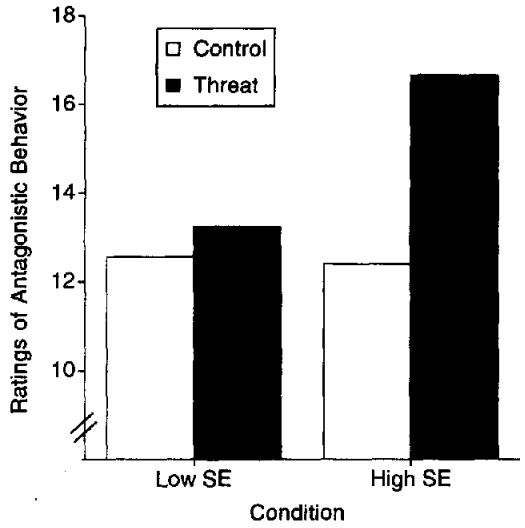

Figure 2. Ratings of antagonistic behavior by condition in Study 1. SE = self-esteem.

To clarify the basis of the likability ratings, we examined the raters' judgments of the target on the 22 bipolar trait dimensions. We used a principal-components analysis to reduce the number of trait dimensions. This resulted in a four factor solution based on eigenvalues greater than 1. The rotated factor solution led us to label the factors as Composed (comprising the traits calm, honest, congenial, intelligent, reasonable, refined, and unassuming), Depressive (comprising lethargic, gloomy, lazy, shy, timid, low self-esteem, and yielding), Inhibited (comprising restrained, cautious, and practical), and Antagonistic (comprising arrogant, fake, uncooperative, rude, and unfriendly). The latter factor was of particular interest since these traits are associated with the potential negative aspects of high self-esteem (Leary et al., 1997).

A 2 × 2 ANOVA on antagonism scores obtained a marginally significant interaction between self-esteem and ego threat, $F(1, 38) = 2.74, p < .10$, and a main effect of ego threat, $F(1, 38) = 6.23, p < .02$. As may be seen in Figure 2, although there are no differences between high and low self-esteem targets in the control condition, $t(38) < 1$, as predicted, high self-esteem targets were rated higher on the Antagonism factor than low self-esteem

[1] An important preliminary analysis is to demonstrate that participants' ratings were independent of each other. That is, we had to ensure that participants' ratings of liking were unrelated to each other in order to demonstrate independence of the data (and therefore not violate one of the central assumptions of ANOVA, see Brockner & Lloyd, 1986). That is, self-perceptions of whether the other person liked them should not be related to their liking for the other person. Indeed, there was no relation between participants' metaperception of their partner's liking for them and the extent to which they liked their partner, $r(40) = -.17, p > .25$. Moreover, the extent to which targets liked themselves should not correlate with their liking for their partners, and it did not, $r(40) = .03, p > .25$. Thus, we were justified in using ANOVA to analyze these data.

targets following ego threat, $t(38) = 2.24$, $p < .05$. In addition, high self-esteem participants were rated as being more antagonistic following ego threat than they were in the control condition, $t(38) = 2.93$, $p < .01$. There were no significant main effects or interactions on any of the other factors.

Mediational Analysis

To examine the prediction that changes in antagonistic behaviors were responsible for the decreased liking of high self-esteem targets, we conducted a mediational analysis (Baron & Kenny, 1986). We tested the effect of the proposed mediator, antagonism, using a regression model that included self-esteem scores, ego-threat condition (a dichotomous variable, ego threat vs. control), their multiplicative interaction, and antagonism ratings to predict likability. All continuous variables were centered by subtracting their means prior to being entered (Aiken & West, 1991). This analysis revealed that the addition of the mediator, antagonism, renders the interaction between self-esteem and ego-threat condition nonsignificant, $t(37) = -.54$, *ns*, $b = -.01$. The main effects of self-esteem and ego-threat condition were also not significant in this model, $t(37) = .27$ and $t(37) = .76$, both ps = *ns*. Thus, it appears that antagonism ratings mediated the relation between self-esteem, threat, and liking.

Discussion

The results of Study 1 provide initial support for our prediction that ego threat would lead to differential liking as a function of self-esteem. In the control condition, there were no differences in liking between high and low self-esteem targets, replicating Brockner and Lloyd's (1986) earlier findings. However, our ego threat was associated with decreased liking for those with high self-esteem. This supports our hypothesis that high self-esteem individuals react negatively to ego threat and behave in ways that are viewed as unlikable by others. In contrast, as we predicted, low self-esteem targets were viewed as somewhat more likable following ego threat. This supports the hypothesis that those with low self-esteem become concerned with the possibility of rejection when ego threatened.

One limitation to our first study is that although the interaction between self-esteem and ego threat was nearly significant, we did not obtain clear evidence that high self-esteem participants were less likable and low self-esteem participants more likable following threat. It is possible that our ego threat manipulation was not sufficiently powerful to have its intended effect. For instance, there were only modest changes in scores on the SSES and therefore the targets might not have been adequately threatened by our manipulation. Therefore, we decided to boost the threat in Study 2 so that we could more confidently examine its effects. We again predicted that ego threat would lead to decreased liking for those with high self-esteem and increased liking for those with low self-esteem. In addition, we examined possible mediation of likability ratings by ratings on the Antagonism factor, as was seen in Study 1.

Many of the behaviors displayed by threatened high self-esteem participants in Study 1 suggest the possibility that they would score high in measures of narcissism. Indeed, there is modest overlap in measures of self-esteem and narcissism (Emmons, 1984; Raskin, Novacek, & Hogan, 1991a, 1991b; Raskin & Terry, 1988; Rhodewalt & Morf, 1995), and studies of narcissism have observed correlations between high scores in narcissism and interpersonal hostility (Raskin et al., 1991b; Rhodewalt & Morf, 1995). Bushman and Baumeister (1998) have recently shown that narcissists who received an ego threat responded with increased interpersonal aggression, as measured by their willingness to administer a blast of noise to an individual who gave them negative feedback. Rhodewalt and Morf (1998) found that narcissists responded to failure feedback with increased anger, which certainly suggests that they might be viewed as antagonistic. Thus, it seemed important to establish whether our findings in the first study were due to the confounding of narcissism and self-esteem.

Study 2

Method

Participants

One hundred twenty-six male undergraduates were participants in a study of interpersonal interactions. Participants received extra course credit in exchange for their participation.

Procedure

Prior to arriving at the experiment participants completed a standard measure of self-esteem (Fleming & Courtney, 1984, on the basis of Janis & Field, 1959), which was used to divide participants into high or low self-esteem based on a median split (*Mdn* = 127; *SD* = 20.6). Participants also completed the Narcissistic Personality Inventory (NPI), a measure of trait narcissism (Raskin & Terry, 1988). Mean score on the NPI was 18.5 (*Mdn* = 20; *SD* = 5.9).

The method used in Study 2 was a modified version of Study 1 designed to increase the intensity of the ego threat.[2] Participants signed up for a study of interpersonal interactions and the sign-up sheet had two spaces available for each time slot. Thus, two individuals arrived at the lab at the same time. After being assured that the two participants were unacquainted, they were then randomly assigned to be either the target of evaluation or the rater. The target was then randomly assigned to be in the control group or the ego-threat group. It was at this point that participants completed the RAT, which again served as our manipulation of ego threat.

Control condition. These participants completed the easy version of the RAT and were told to "give it a try for a couple of minutes." They were not given any information about the implications of the test, their performance, or how others typically perform. Prior to the dyadic interaction, they completed the SSES and a 24-item mood scale to assess the effectiveness of the manipulation.

Ego-threat condition. These participants completed the difficult version of the RAT. They were told that the RAT reliably predicts academic achievement and even future earning potential. Participants were told that they had a 4-min time limit, accentuated by the starting of a stopwatch. After four minutes, the experimenter scored the RAT and looked surprised at the participants' answers (mode = 1 correct out of 12). We bolstered the

[2] We included a cognitive load condition in order to test whether the behavior of high self-esteem targets was due to cognitive load. We used a standard manipulation for cognitive load of having subjects memorize a 9-digit number (Gilbert & Hixon, 1991). On further reflection, and some prodding from the reviewers, it became clear that this was not an appropriate task to test the hypothesis. Moreover, the putative load condition did not differ in any fashion from the control condition. Therefore, we exclude that condition from the analysis and discussion.

ego threat by having the experimenter leave the room to allow participants to "look at the correct answers." Like many difficult tasks, once a person sees the solution and is able to use top-down processing, the connections between the word sets are obvious. This showed participants that the RAT items were solvable and also provided false average RAT scores for college students at Dartmouth and nationwide (means were listed as 9.2 and 7.1, respectively). Next participants completed the SSES and mood scales.

The target and the rater were then brought together to engage in a structured conversation (Sedikides, Campbell, Reeder, & Elliot, 1998). After the interaction, participants were separated again and given a set of questionnaires. The first question was "Based on what you know about this person so far, how much do you like him?" and was rated on a 100-point scale (1 = *not at all;* 100 = *very much*). They then rated their partner on the same 22 personality traits that had been used in Study 1. Finally, all participants were fully debriefed about the purpose of the experiment, including assurances to participants in the ego threat conditions that all of the RAT scores and data were false.

Results

Manipulation Checks

We conducted a series of 2 (high vs. low self-esteem) × 2 (ego threat vs. control) ANOVAs on the mood and state self-esteem measures. As may be seen in Table 2, ego-threatened participants reported less positive affect, $F(1, 38) = 7.80$, $p < .01$; greater hostility, $F(1, 38) = 11.46$, $p < .001$; and lower state self-esteem, $F(1, 38) = 4.52$, $p = .04$. There were no significant effects on mood ratings of anxiety or dysphoria ($ps > .10$). Trait self-esteem level did not interact with ego threat on any of these measures. These results generally replicate the findings in the first study and demonstrate that our ego threat had the intended effect.

Primary Analysis

Our first prediction was that ego threat would lead to decreased liking for high self-esteem participants and increased liking for low self-esteem participants. To test this we conducted a 2 (ego threat vs. control) × 2 (high vs. low self-esteem) ANOVA on the raters' liking for the target. This analysis produced a significant interaction, $F(1, 38) = 7.99$, $p < .008$. Decomposing the interaction (see Figure 3), we found that high self-esteem participants who received an ego threat were liked considerably less than low self-esteem participants who were threatened, $t(38) = 5.26$, $p < .0001$, and also less than their high self-esteem counterparts in the control condition, $t(38) = 2.03$, $p < .05$. In addition, threatened low self-esteem participants were rated as more likable than low self-esteem participants in the control condition, $t(38) = 2.46$, $p < .03$. Our results again indicated no difference in the likability of high and low self-esteem participants under control conditions, $t(38) < 1$.

Table 2
Manipulation Checks for Study 2

Mood and self-esteem measures	Low self-esteem		High self-esteem	
	Control	Ego threat	Control	Ego threat
Dysphoria				
M	11.1	13.8	9.2	8.8
SD	6.2	3.5	3.9	3.5
Anxiety				
M	29.0	29.7	23.3	20.9
SD	9.2	5.2	6.6	8.7
Positive Affect				
M	43.8	30.8	45.3	40.1
SD	11.0	9.4	11.0	8.6
Hostility				
M	8.8	13.5	8.2	12.1
SD	3.3	3.8	4.1	4.7
State Self-Esteem				
M	71.3	61.4	80.8	78.3
SD	10.5	6.2	8.7	12.3

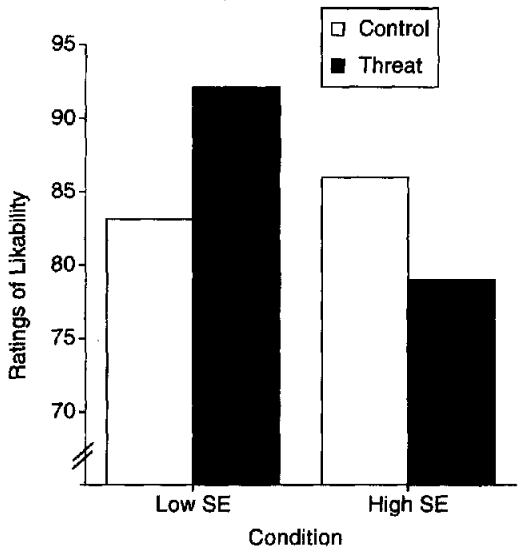

Figure 3. Ratings of likability by condition in Study 2. SE = self-esteem.

Narcissism

Because the liking results may have been due to narcissism rather than to self-esteem, we included a standard measure of narcissism as a premeasure. We found the NPI to be moderately correlated with scores on our measure of self-esteem, $r(61) = .37$, $p < .005$. Entering NPI scores, ego-threat condition, and their interaction in a regression analysis to predict likability did not yield a significant interaction between narcissism and ego-threat condition, $t(38) = 0.70$, *ns,* nor any main effects (both $ts < 1.0$). We then conducted a mediational analysis (Baron & Kenny, 1986) of the interaction of self-esteem and ego threat on liking, statistically controlling for narcissism. We computed a model that included self-esteem scores, ego-threat condition, their interaction, and NPI scores to predict likability. Entering narcissism into the regression equation did not affect the ability of the Self-Esteem × Ego-Threat Condition interaction to predict likability, $t(37) = 3.20$, $p < .01$, $b = -.39$ (as compared with the Self-Esteem × Ego-Threat Condition interaction when the model does not include narcissism, $t(37) = 3.28$, $p < .01$, $b = -.41$). Thus, narcissism did not mediate our primary effect.

It remains plausible that those with high self-esteem who were also high in narcissism were the ones most likely to be disliked when threatened. We therefore compared those high in self-esteem but low in narcissism with those high in self-esteem and high in

narcissism in the ego-threat condition. This analysis revealed no differences in likability between these groups, $t(38) = 1.32$, *ns*. Although there was a slight overall correlation between narcissism and liking, $r(40) = -.28$, $p < .08$, indicating that narcissists were liked somewhat less well overall, the correlation between narcissism and liking among threatened high self-esteem targets was effectively zero ($r = -.02$). We also computed a regression analysis that included self-esteem, ego-threat condition, narcissism, the 3 two-way interactions of Self-Esteem × Ego-Threat Condition, Self-Esteem × Narcissism, and Ego-Threat Condition × Narcissism, and the three-way interaction of Narcissism × Self-Esteem × Ego-Threat Condition. There was no suggestion that likability is predicted by the interaction of self-esteem, narcissism, and ego threat, $t(34) = 0.23$, *ns*, $b = .004$. No other predictors were significant, all $ts(34) < 1.6$, all *ns*. Although we acknowledge that there were not sufficient participants to conduct a more powerful test, there was not a hint of a relation in our data. Thus, these diverse statistical tests indicate that the target's level of narcissism did not relate to whether they were liked by the raters.

Personality Ratings

To clarify the basis of the likability ratings, we examined the raters' judgments of the target on the 22 bipolar trait dimensions. We used the same personality factors that were used in Study 1. There was a significant interaction between self-esteem and ego-threat condition on ratings of antagonism, $F(1, 38) = 5.81$, $p < .03$. As may be seen in Figure 4, ego-threatened high self-esteem targets were rated as significantly more antagonistic than high self-esteem targets in the control condition, $t(38) = 2.67$, $p < .02$, or low self-esteem targets in the ego-threat condition, $t(38) = 2.64$, $p < .02$. Although there was a slight decrease in antagonism scores for threatened low self-esteem targets, this effect was not significant. These effects were largely as expected and generally replicate the patterns found in Study 1.

In terms of the other personality factors, we found a trend for the interaction between self-esteem and ego-threat condition on the Inhibited factor (comprising restrained, cautious, and practical), $F(1, 38) = 3.26$, $p = .08$. Decomposing this interaction, we found that low self-esteem targets were more inhibited following ego threat than in the control condition, $t(38) = 2.76$, $p < .01$, whereas threatened high self-esteem targets were somewhat less inhibited than those in the control condition, although this difference was not significant ($p > .10$). There were no other significant interactions between self-esteem and ego-threat condition.

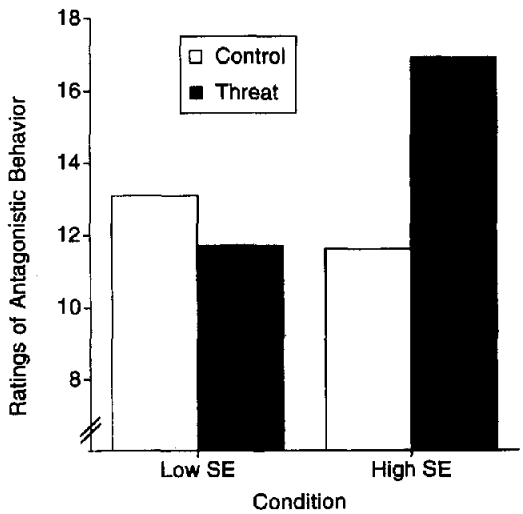

Figure 4. Ratings of antagonistic behavior by condition in Study 2. SE = self-esteem.

Mediational Analysis

As in Study 1, we conducted a mediational analysis to assess the influence of antagonism ratings on the interactive effect of self-esteem and ego threat on likability. A regression model that included self-esteem scores, ego-threat condition (a dichotomous variable, ego threat vs. control), their multiplicative interaction, and antagonism scores as predictors and likability ratings as the outcome variable was computed (continuous variables were centered prior to entering into the regression analysis). This analysis revealed that statistically controlling for antagonism ratings did not render the Self-Esteem × Ego-Threat Condition interaction nonsignificant, $t(37) = 2.35$, $p < .03$, $b = -.27$. Relative to the regression model in which antagonism is not entered as a predictor, antagonism ratings appear to partially, but not completely, mediate the relationship between the Self-Esteem × Ego-Threat Condition interaction on likability.

Thus, a moderated mediational model was computed to assess whether antagonism ratings mediated the Self-Esteem × Ego-Threat Condition interaction on likability for a subset of participants, but not for all participants.[3] Given our findings that antagonism scores were highest among high self-esteem ego-threatened targets, we reasoned that antagonism mediated the relationship between the Self-Esteem × Ego-Threat interaction and likability for high, but not for low, self-esteem participants. To test this prediction, we added the multiplicative interactions of Antagonism × Ego-Threat Condition, Antagonism × Self-Esteem Scores, and the three-way interaction of Antagonism × Ego-Threat Condition × Self-Esteem to the regression model. The overall model for likability was significant, $R^2 = .56$, $F(7, 34) = 6.10$, $p < .001$, and provided some support for moderated mediation. In this model, the interaction between self-esteem and ego threat was not significant, $t(34) = .15$, *ns*, $b = .02$, but the three-way interaction between self-esteem, ego-threat condition, and antagonism was marginally significant, $t(34) = 1.72$, $p = .10$, $b = -.03$. It is important to note that this test might have limited power, given the relatively small number of participants. Our data suggest the presence of moderated mediation such that antagonism mediates the relationship between the Self-Esteem × Ego-Threat Condition and likability. Table 3 displays the zero-order correlations between ego-threat condition, antagonism, and likability for high and low self-esteem participants.

As can be seen in Table 3, ego threat differentially relates to antagonism ratings as a function of self-esteem. That is, among high self-esteem targets, being in the ego-threat condition is related to higher ratings on the Antagonism factor, $r(21) = .46$, $p < .05$. However, the correlation is not significant for low self-esteem

[3] We thank an anonymous reviewer for suggesting this analysis.

Table 3
Zero-Order Correlations Between Ego-Threat Condition, Ratings on the Antagonism Factor, and Likability Ratings: Study 1 and Study 2

Measure	Study 1 participants						Study 2 participants					
	Low self-esteem			High self-esteem			Low self-esteem			High self-esteem		
Ego-threat condition[a]	—			—			—			—		
Antagonism[b]	.15	—		.52*	—		−.22	—		.46*	—	
Likability[c]	.52*	.11	—	−.25	−.72***	—	.49*	−.44*	—	−.36†	−.64**	—

Note. For all correlations, $df = 21$.
[a] Represents targets' experimental condition, either ego threatened or control (1 = *control;* 2 = *ego threat*). [b] Represents ratings of targets on the Antagonism factor. [c] Represents targets' likability ratings.
† $p = .10$ (marginally significant). * $p < .05$. ** $p < .01$. *** $p < .001$.

participants, $r(21) = -.22, p > .30$. The difference between these correlations is significant ($z = 1.97, p < .05$). There is also a significant difference between the correlations of ego threat and likability among high and low self-esteem targets, $r(21) = -.36$, $p = .10$, and $r(21) = .49, p < .03$, respectively, $z = 2.39, p < .05$. Stated differently, being in the ego-threat condition was positively associated with likability ratings for low self-esteem targets and negatively associated with likability ratings for high self-esteem targets. These analyses illustrate the differences in perceptions of high and low self-esteem targets as a function of ego threat. For high self-esteem targets, being in the ego-threat condition was related to higher ratings on the antagonism factor and decreased likability, whereas being in the ego-threat condition for low self-esteem targets was unrelated to ratings on the antagonism factor but significantly related to increased likability. Thus, antagonism appears to mediate the relationship between the Self-Esteem × Ego-Threat interaction and likability for high self-esteem targets but not for low self-esteem targets.

Discussion

The results of Study 2 provide strong support for our prediction that ego threat changes the way people with high and low self-esteem are evaluated. Although liking did not vary as a function of self-esteem in the control condition, after being threatened, high self-esteem individuals were rated as more antagonistic and unlikable whereas low self-esteem individuals were rated as more likable. Although both high and low self-esteem participants experienced diminished positive affect, decreased state self-esteem, and increased hostility when threatened, their subsequent behavior led them to be evaluated quite differently. People with high self-esteem were viewed as antagonistic (i.e., rude, uncooperative, fake, unfriendly, and arrogant) when threatened. Taking into account the mediating effect of antagonism reduced the effect of ego threat on liking as a function of self-esteem. In contrast to the evaluations of high self-esteem targets, those with low self-esteem were liked more when threatened. Although the general patterns suggested that they became nicer, the trait ratings effects were not significant, except for them being rated as more inhibited.

High self-esteem participants in both studies were viewed as antagonistic, which led them to be perceived as unfriendly and unlikable. The behavioral response of those with high self-esteem may reflect the motivational orientation of self-enhancement rather than self-protection (Baumeister, Tice, & Hutton, 1989). Firmly entrenched within high self-esteem is the belief that one is valued and respected by others, and therefore those with high self-esteem may generally assume that they are accepted and included. People with high self-esteem do not expect to be rejected simply because they failed at a task (Baldwin & Sinclair, 1996), and therefore their sociometers do not become triggered by the types of ego threat used in this research. It is possible that people with high self-esteem expend their efforts at repairing or enhancing their own self-views following threat, with relatively little concern for whether other people like them. For instance, people with high self-esteem react to ego threat by focusing on their strengths and downplaying their weaknesses (Dodgson & Wood, 1998). Although having high self-esteem helps people to compensate for and neutralize the negative affect inherent in ego threat, the behavioral correlates of this compensation may have negative interpersonal consequences.

We hasten to add that we are not suggesting that people with high self-esteem are motivated to act antagonistically in order to enhance their self-esteem. Rather, we are suggesting that following a noninterpersonal ego threat, those with high self-esteem place a priority on self-reparation at the expense of impression management. From attachment theory, individuals with an avoidant attachment style—who also possess high self-esteem (Collins & Read, 1990)—have been found to react to threatening situations by decreasing reliance on others and reasserting their autonomy (e.g., Mikulincer, 1998). It may be, then, that there are links between the behaviors associated with avoidant attachment style and the behaviors of threatened high self-esteem individuals in the present study. We have no direct evidence regarding the strategies that high self-esteem participants used to cope with the ego threat. Whatever they did, they were evaluated negatively because of it.

Those with low self-esteem link failure with expectations of interpersonal rejection (Baldwin & Sinclair, 1996), and therefore their sociometers are activated in situations where they fail. The activation of their sociometer warns them that they are at risk for social exclusion, and because the need to belong is a fundamental human motive, they may try to forestall actual rejection. Accordingly, their behavior following threat is viewed as somewhat more friendly, but also as cautious and restrained. We contend that people with low self-esteem are viewed as somewhat more inhibited following failure because they try not to do or say anything that would be perceived negatively.

General Discussion

Relation to Other Variables

Because it was possible that reduced liking of high self-esteem threatened targets was due to narcissism rather than to self-esteem, we included a standard measure of narcissism to see whether it predicted or mediated the interpersonal evaluations. We did not find that narcissism had an impact on likability after threat: The effect of self-esteem and threat remained significant after controlling for ego threat; there was no association between trait levels of narcissism and liking among high self-esteem threatened participants; and an analysis of liking as a function of narcissism and threat did not lead to any significant effects. Although previous reports suggest that narcissists react to threat by becoming hostile and aggressive (Bushman & Baumeister, 1998; Rhodewalt & Morf, 1998), the current studies do not show evidence that they display their emotions to their dyad partners. There is some evidence that narcissistic self-aggrandizement is hidden from observers (Robbins & Dupont, 1992), and it has also been reported that narcissists moderate their negative response in public (Morf & Rhodewalt, 1993). Thus, it is possible that although narcissists react angrily to threat, and although they are willing to anonymously administer more noise—a measure of aggression—to those who threaten them (Bushman & Baumeister, 1998), they may mask these personal reactions and behaviors in front of others. Paulhus (1998) has shown that people's first reaction to people high in trait self-enhancement—a construct similar to narcissism—is positive, and that it is only with time that they dislike them. Hence, it seems plausible that narcissists manage to hide their true feelings over the short-term.

One possible criticism of our findings is that the patterns obtained do not represent genuine high self-esteem but a defensive self-esteem orientation. As pointed out by Leary et al. (1997), it is commonly believed that egotistical behaviors arise from a fragile or insecure sense of self. Baumeister et al. (1996) proposed that interpersonal violence occurs most frequently among those with an unstable or fluctuating sense of self-esteem (see also Kernis' work on unstable self-esteem, Kernis, 1993; Kernis, Granneman, & Barclay, 1989). Thus, it is possible that only fluctuating or defensive high self-esteem leads to reduced interpersonal liking when challenged. Nonetheless, a sufficient number of such individuals exist to produce an overall significant effect of self-esteem on likability. That is, our findings suggest that defensiveness in the face of ego threat is a general pattern among men with high self-esteem.

The core idea of defensive high self-esteem is that some aspect of low self-esteem underlies the self-reports of high self-esteem for some individuals (i.e., they are actually insecure but report liking themselves for reasons of social desirability or self-deception). From this perspective, it is low self-esteem and insecurity that leads defensive high self-esteem individuals to engage in antagonistic behaviors. However, note that threatened high self-esteem participants did not behave in a similar fashion to those who reported low self-esteem; those who scored low in self-esteem did not become obnoxious when challenged, and in fact, they were viewed as somewhat nicer. Hence, the hidden low self-esteem view does not fit the data from these studies. Of course, it is also plausible that those with defensive self-esteem are qualitatively different from those with low self-esteem, but it is difficult to know how to identify such individuals.

The desire to explain possible negative aspects of high self-esteem by inferring the existence of low self-esteem or some other maladaptive form of high self-esteem may be due to the deeply held societal beliefs that self-esteem is not only good, but is something to be treasured and nurtured in our classrooms and homes. Although many high self-esteem individuals may possess the positive characteristics that we expect from them, it seems plausible that many people who lack these positive characteristics also like themselves a great deal. That is, there is a tendency to judge people's self-esteem by whether or not their actions fit the prototypes of high and low self-esteem.

The notion that there are observable differences between those with genuine and defensive self-esteem has been an issue in self-esteem research for some time (Schneider & Turkat, 1975). For instance, self-esteem is positively correlated with social desirability (Raskin, Novacek, & Hogan, 1991a), and some researchers have argued that researchers should be careful in whether they are examining genuine or defensive self-esteem (Smalley & Stake, 1996). The development of measures of implicit self-esteem (Greenwald & Banaji, 1995) may allow for differentiation of healthy and defensive self-esteem, but the possibility exists that what is healthy for the self is not particularly beneficial for smooth and pleasant social interaction. Baumeister (1998) has noted that most of the benefits of high self-esteem go to individuals, whereas most of the costs and the consequences go to those around them.

We examined and rejected the possibility that our findings were due to narcissism rather than self-esteem. We believe, however, that one aspect of high self-esteem is a tendency towards occasional narcissism. From this perspective, beliefs by people that they are especially capable, competent, and better than average may form positive illusions (Taylor & Brown, 1988), and these illusions may allow them to maintain their sense of self-esteem in the face of hardships, rejections, obstacles, and failures. As Baumeister et al. (1996) point out, "Obviously, if high self-esteem is defined in a way that stipulates that it can only produce positive, desirable characteristics, then it cannot lead to violence or aggression, but this is circular" (p. 27). It may be that defensive and antagonistic responses to ego threats characterize those who are relatively high in both self-esteem and narcissism, but a sufficient number of those with high self-esteem reacted antagonistically when challenged to carry the effect for the entire group.

Future Research

Our research demonstrates that people with high and low self-esteem are evaluated quite differently following ego threat. Although popular culture may hold the belief that positive self-conceptions are associated with positive interpersonal evaluations, the interpersonal correlates of high and low self-esteem are poorly understood. Our results suggest a number of possible avenues for future research. For instance, it seems important to examine the basis of gender differences in liking as a function of self-esteem. It is possible that the interpersonal consequences of self-esteem differ for men and women, perhaps as a function of differential behaviors displayed by high and low self-esteem men and women. An important limitation of our study is that we included only men

as participants. Additional research is necessary to examine whether these patterns obtain equally for women.

It is also possible that judgments of those with low and high self-esteem evolve or change over time, and understanding such patterns is important for understanding long-term relationships and social support. Joiner's research (Joiner, Alfano, & Metalsky, 1992; Joiner & Metalsky, 1995) has provided clear evidence that low self-esteem men engage in negative interpersonal behaviors (e.g., reassurance seeking) that lead to rejection. Conversely, Paulhus (1998) has recently shown that although self-enhancers are initially liked, they become more unlikable over time. The temporal dynamics of self-esteem and relationship formation require further empirical consideration, especially when we consider the deleterious consequences associated with social rejection and ostracism (Baumeister & Leary, 1995; Williams, 1997).

Summary

Our studies provide compelling evidence that the interpersonal consequences of ego threat differ depending on level of self-esteem. These data challenge the belief, held by many, that people especially like those who have high self-esteem. We found that, in a neutral situation, there are no differences in how people evaluate those with high and low self-esteem. In this regard, our findings replicate the earlier research reported by Brockner and Lloyd (1986). Hence, in most circumstances, the positivity of self-evaluations are not reflected in the evaluations made by others. These initial findings are not very surprising. It is not uncommon to meet people who have low self-esteem in spite of great success and the loving attention of friends and family (Heatherton & Vohs, in press). Indeed, that people dislike themselves in spite of objective evidence is the central paradox of low self-esteem (Baumeister, 1993). Conversely, sometimes we can be puzzled by how much people like themselves in spite of their numerous failures, obvious shortcomings, and even in the face of blatant rejection and ostracism. Our findings provide an important reminder that the central premise of interpersonal theories of self-esteem is that it is the personal *belief* that one is valued and respected that predicts having high self-esteem. Whether others actually share these positive beliefs is of secondary importance.

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Correction to Garcia-Marques and Mackie (1999)

In the article "The Impact of Stereotype-Incongruent Information on Perceived Group Variability and Stereotype Change," by Leonel Garcia-Marques and Diane M. Mackie (*Journal of Personality and Social Psychology,* 1999, Vol. 77, No. 5, pp. 979–990), Table 3 (p. 987) contained an error.

The row "Number of subgroups" was inadvertently omitted. The corrected table appears below.

Table 3
Dispersion and Central Tendency Measures as a Function of Critical Information and Cognitive Load Levels (Experiment 3)

Dependent measure	Incongruent/ no-load	Incongruent/ load-at-encoding	Incongruent/ load-at-retrieval	Control
Chosen dispersion level	2.67	2.25	1.93	1.96
Range spread	14.44	12.50	12.46	11.37
Probability of distribution score	.88	.85	.83	.82
Standard deviation	1.82	1.88	1.60	1.72
Number of subgroups	4.33	4.07	4.33	3.32
Chosen mean level	3.39	3.69	3.87	3.93
Mean range	11.44	11.94	12.80	11.96
Distribution mean	6.05	6.17	6.44	6.12
Impression ratings	7.05	6.94	6.47	6.89

Note. $N = 75$. Higher numbers represent greater stereotypicality or higher variability.