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Endorsing a negative in-group stereotype as a self-protective strategy: Sacrificing the group to save the self ☆

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Abstract

This work examined if stigmatized targets will embrace negative in-group stereotypes in order to protect their self-esteem from the threat of stereotypic failures. All studies focused on the stereotype that women have lower math ability than men. In Study 1, women who failed a math test showed buffered self-esteem if they were first given the opportunity to endorse this stereotype. Study 2 replicated this effect and showed that women, but not men, increased their endorsement of this stereotype following math failure. Study 3 showed that the tendency to embrace this stereotype in response to failure was most pronounced among women with high trait self-esteem. Together, these findings suggest that there are contexts in which stigmatized individuals can protect their self-esteem in the face of stereotypic failures by embracing the very stereotypes that would have predicted their failure.
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Imagine a scenario that is familiar to many in academia. A professor arrives at his office to find that his graduate student has been patiently waiting over an hour for a scheduled meeting. She questions him about his tardiness and when he admits that he forgot, she is clearly upset. Embarrassed by his forgetfulness, he replies, "I guess professors really are an absentminded bunch."

The above scenario demonstrates an example of *negative in-group stereotyping.* Negative in-group stereotyping occurs when an individual embraces a negative stereotype regarding his or her own group. This phenomenon has largely been studied in the stigma literature and has been shown

to occur for a wide range of stereotypes and with a large number of stigmatized groups, including women, older adults, homosexuals, Jews, Blacks, sorority members, juvenile delinquents, and those with mental illness. Unlike prevailing theoretical accounts for this phenomenon, it is our assertion that people may embrace negative in-group stereotypes as a way of protecting and promoting personal self-esteem. Consistent with our example of the absentminded professor, we propose that individuals at times embrace these stereotypes as a way of maintaining positive self-regard in the face of stereotypic failures and shortcomings.

Traditional views of negative in-group stereotyping

Although negative in-group stereotyping has received a great deal of theoretical attention, there has been little emphasis on the proposed self-protective properties of this phenomenon. Early explanations suggested that negative in-group stereotyping stemmed from stigmatized targets' self-hatred for their own groups. Kurt Lewin (1948) made one of the earliest references to this phenomenon in his

discussion of the "self-hatred among Jews." According to Lewin, when emancipation allowed Jews broader social interaction with higher-status groups, they began to internalize others' negative perceptions regarding their own group. He argued this phenomenon was not limited to that of the Jews and that it also occurred among Blacks and European immigrants. Allport (1954) described similar forms of self-hate. He argued that the victim of discrimination comes to see the in-group through the dominant group's eyes and in turn, "his natural self-love may, under the persistent blows of contempt, turn his spirit to cringing and self-hate" (p. 143). This view was expanded on by Jones and his colleagues (1984) who argued that such internalization is most likely to occur among individuals whose stigma is non-concealable, socially disruptive, or recently acquired (see also Goffman, 1963; Rosenberg, 1979).

Crocker and Major (1989) challenged the self-hatred thesis and instead argued that there are adaptive and self-protective reasons why one might acknowledge negative views of one's group. Their research shows that targets sometimes embrace stigmatized identities as explanatory mechanisms and that attributing interpersonal failures to these identities can buffer a person from social rejection. However, like Lewin and Allport, these theorists argue that endorsing negative stereotypes is damaging to the self-concept. According to Crocker and Major (1989), "those who have internalized society's negative views of their group should be at particular risk for low self-esteem" (p. 619). Thus, their model would suggest that negative in-group stereotyping would decrease, not increase, self-esteem. Consistent with their perspective, it has been demonstrated that women who accept gender stereotypes and who allow these perceptions to shape their self-concepts have lower self-esteem than those who reject gender stereotypes (Whitley, 1983). Endorsement of negative in-group stereotypes has also been linked to other negative consequences that suggest diminished self-views. For example, juvenile delinquency (Dembo, 1988) and poor parenting skills (Connor, 1988) among Black men have been associated with their internalization of negative perceptions regarding their in-group. Similarly, individuals with mental illness who have embraced negative stereotypes about their group show increased depressive symptoms and lowered personal empowerment, recovery orientation and self-esteem (Ritsher, Otilingam, & Grajales, 2003).

More recently, researchers have considered adaptive reasons why one might internalize negative in-group stereotypes but, even in these cases, they have argued that people do so at the expense of self-esteem, rather than to protect it. For example, Jost and his colleagues argue that people at times endorse negative in-group stereotypes in order to justify the status quo. According to their system justification theory (Jost, 2001; Jost & Banaji, 1994; Jost & Burgess, 2000), people are motivated to view existing social arrangements as fair and legitimate. As a result, low-status individuals are likely to endorse negative in-group stereotypes as a means of justifying their position within society. Although this tendency might serve certain epistemic needs, Jost and his colleagues explicitly argue that the desire to embrace negative in-group stereotypes runs contrary to one's desire for positive self-regard. In fact, the tendency to endorse negative in-group stereotypes is often interpreted in their studies as evidence that system justification motives are taking priority over self-esteem motives (Jost, 2001; Jost & Burgess, 2000). Brewer and colleagues adopt a similar reasoning in their analysis of distinctiveness motives. They argue that people at times will endorse negative stereotypes, but in their work they interpret this as evidence that the desire for optimal distinctiveness has overridden the desire for self-esteem (e.g., Brewer, 1991, 1993; Pickett, Bonner, & Coleman, 2002).

To summarize, three general perspectives can be found in the literature: (1) Negative in-group stereotyping reflects self-hatred, (2) a stigmatized identity can promote positive self-views, so long as stereotypic beliefs are not internalized, and (3) negative stereotypes can be internalized in the service of epistemic needs, but doing so runs contrary to a person's pursuit of self-esteem. None of these views addresses the scenario introduced at the beginning of this article. In that example, the mentor endorsed the "absent-minded professor" stereotype as a means of maintaining a positive image after failure. Although this stereotype is generally negative, endorsing it in this context provides an excuse for his behavior, thereby protecting his self-esteem. We argue that negative stereotypes often serve this role. Negative stereotypes about one's group can excuse a poor athletic performance ("white men can't jump"), an unintelligent or embarrassing response ("blondes are dumb"), or a momentary lapse in memory ("old people are forgetful"). Anecdotal evidence of this form of stereotype endorsement was suggested to us in a recent episode of the game show *Fear Factor*. After a Black male contestant failed miserably at a swimming challenge, his first statement when asked what happened was, "brothers don't do well in the water." By endorsing the stereotypic view that Blacks have poor swimming abilities, this man saved himself the humiliation of admitting that he failed the task as a result of his personal merits.

Self-protective negative in-group stereotyping

At first blush, it appears that negative in-group stereotyping contradicts our basic self-enhancement motive. We believe, however, that there are circumstances in which negative in-group stereotyping is actually performed in order to fulfill this motive. Specifically, we assert that people at times protect themselves against the threat of stereotypic failures and shortcomings by embracing the very stereotypes that would have predicted these outcomes. Thus, we believe that in certain circumstances, people are willing to sacrifice the group in order to protect the self.

Although this approach is similar to previous work by Crocker and Major (1989), in that it identifies a way in which individuals can use aspects of their stigma to protect their

self-esteem, it differs from their work in important ways. First, as previously stated, Crocker and Major assert that stereotype endorsement is harmful and can eventually lead to low self-esteem. A second distinction is concerned with perceived legitimacy. According to Crocker, Voelkl, Testa, and Major (1991), negative attitudes towards one's social identity only protect self-esteem if they are seen as illegitimate. For example, African-Americans who attribute negative feedback to a racist evaluator show buffered self-esteem because the racist statements towards their group are seen as illegitimate. However, when negative attitudes towards one's group are seen as legitimate, as is the case for many overweight women, self-esteem is harmed (Crocker, Cornwell, & Major, 1993). The present theory incorporates the variable of legitimacy differently by asserting that under certain circumstances, stigmatized targets will *perceive a stereotype as legitimate* in order to protect their self-esteem.

Our theory also highlights an important distinction in the stereotype literature that has yet to be identified. Some theorists treat the internalization of negative stereotypes as a long-term, dispositional endorsement that occurs across varying situations (e.g., Allport, 1954; Crocker & Major, 1989; Lewin, 1948). We define this form of stereotype endorsement as *chronic internalization.* The literature previously reviewed that demonstrates the harmful effects of negative in-group stereotyping seems to be addressing this particular form of internalization. Therefore, it is likely that chronic internalization of stereotypes is related to decreases in self-esteem. Alternatively, some theorists describe stereotype internalization as a short-term, situational endorsement that occurs as a function of the individual's needs in a particular situation (e.g., Pickett et al., 2002). We define this type of stereotype endorsement as *functional internalization.* This form of internalization is enacted in service of a particular motive and therefore is likely to lead to positive consequences for the individual. Thus, we believe that although chronic internalization leads to negative consequences for the self, functional internalization does not, and in fact may often lead to positive consequences. The present studies attempt to add to this distinction by demonstrating that functional internalization can be used to protect self-esteem.

Three studies test predictions that derive from this theory. All of the studies focus on the negative stereotype that women are less skilled at math than men. In Study 1, we predict that women's self-esteem will be buffered from a math failure if they are given an opportunity to endorse the relevant in-group stereotype. In Study 2, we replicate this effect and we test the prediction that women (and not men) will increase their endorsement of this stereotype following a math failure. In Study 3, we predict that the tendency to embrace the negative stereotype following a stereotypic failure will be most pronounced among women with high rather than low trait self-esteem. Combined, these studies test the reasonableness of the view that people can and do protect and promote self-esteem in the face of threat by embracing negative in-group stereotypes.

Study 1

Overview

We believe that at times people embrace negative in-group stereotypes in order to protect themselves from a personal failure. Study 1 applied this logic to investigate the degree to which negative in-group stereotyping protects self-esteem following a threat. As an initial test of this hypothesis, women who just failed a math test were presented with negative stereotypes regarding their gender's poor math abilities. If negative stereotypes protect against failure, then these women should exhibit higher self-esteem than those denied this opportunity. This however is not to deny that there are also esteem benefits to positive in-group stereotypes in such situations. Being presented with a positive stereotype irrelevant to the failure task would essentially serve as a self-affirmation and this would thereby detract from the threat of failure. To examine the impact of positive versus negative stereotypes on self-esteem, we also included a condition in which women were exposed to positive stereotypes regarding their gender's superior verbal abilities.

Method

Participants and design

One hundred and twenty-two women from the University of North Carolina at Chapel Hill (UNC) participated for course credit. Their mean age was 19 years old. Participants were randomly assigned to one of three stereotype conditions: negative in-group stereotype (math), positive in-group stereotype (verbal), or no stereotype (control). The primary dependent variable was state self-esteem.

Procedure and materials

Participants were told that the purpose of the study was to assess various abilities and attitudes of UNC students. Each participant was seated in an individual cubicle in front of a computer and all instructions and materials were presented on the computer screen. Participants were told that the purpose of the first task was to standardize a measure of "natural math ability" (see Blanton, Christie, & Dye, 2002). This test was described as different from previous math tests they may have encountered because it assessed one's "inherent ability to quickly and efficiently process mathematical information" and was therefore not based on an individual's level of schooling in math. To ensure that the upcoming feedback would be threatening, participants were told that natural math ability is an important ability and has been shown to predict successes in school and one's career. Participants were then told that their score would be based on a combination of accuracy and speed. This statement was made so that it would be difficult for participants to determine their own performance on the test and therefore increased the likelihood that they would believe the test feedback.

Participants then completed the math test. The measure consisted of 30 multiple-choice math questions that required simple, numerical operations (e.g., How many numbers between 100 and 184 are divisible by 5?, What is the next number in the sequence 2, 4, 8, 16?). Once finished, all participants were presented with a screen that provided failure feedback by indicating they had performed poorly on the math test. Demographic information that participants had previously entered (age, gender, year in school) was presented at the top of the screen to increase the validity of the feedback. Located below this, participants read:

> The Natural Math Ability test is designed so that the average UNC student scores an 80 (out of 100). Your score is a 67. This score is significantly below that of the average UNC student. Approximately 35% of UNC students at this campus get a score of this value or less.

After participants completed the math test and received the failure feedback, they were instructed that the second portion of the study involved students' attitudes towards various topics. Women in the two experimental conditions were then presented with gender stereotypes and were asked to think about the extent to which each stereotype was based on true sex differences. Women in the negative stereotype condition were presented with two stereotypes regarding sex differences in math ability ("Women typically have poorer math skills than men" and "Men typically have better math abilities than women"). Those in the positive stereotype condition were shown two stereotypes regarding sex differences in verbal ability ("Women are typically better at verbal tasks than men" and "Men typically have worse verbal skills than women"). Women in the control condition just received the attitude instructions but were not presented with any stereotypes. Next, all participants completed a measure of state self-esteem. Specifically, they completed the self-relevant affect measure (Leary, Tambor, Terdal, & Downs, 1995), which asks people to make self-judgments based on 7 positive (good, proud, useful, superior, smart, confident, effective) and 5 negative (incompetent, inadequate, worthless, unimportant, dissatisfied) adjectives (e.g., To what extent does *proud* describe how you are feeling at this moment?). Responses were made on an 11-point unipolar scale ranging from *not at all* to *very much so*. Overall, the measure of state self-esteem showed high internal consistency ($\alpha = .90$). Ratings for negative adjectives were reverse-scored, so that higher numbers indicated greater self-esteem and then all the items were averaged together to create a composite score. To ensure that participants attended to the failure feedback, they were then asked to recall their score on the math test. Finally, suspicions regarding the purpose of the study were assessed and all participants were fully debriefed.
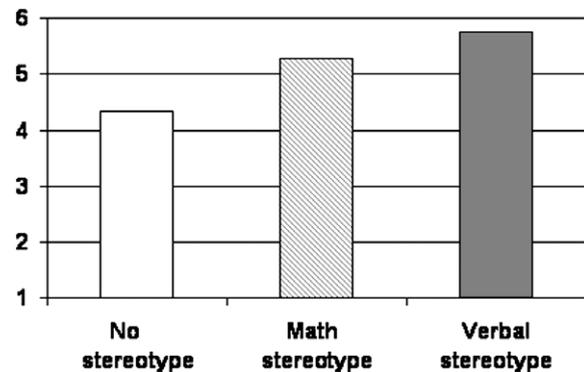

Fig. 1. State self-esteem as a function of stereotype condition.

Results

Manipulation check

To determine if the participants had attended to the failure feedback, we asked them to recall their math test score. Ninety-nine percent of participants correctly remembered their score.[1]

State self-esteem

A one-way Analysis of Variance (ANOVA) was conducted on the mean of state self-esteem, revealing a significant difference among the three conditions, $F(2, 119) = 8.23$, $p < .001$. As shown in Fig. 1, the control group showed the lowest level of self-esteem ($M = 4.34$, $SD = 1.51$), with those in the negative and positive stereotype conditions showing higher self-esteem (negative: $M = 5.29$, $SD = 1.57$; positive: $M = 5.76$, $SD = 1.67$). Follow-up contrasts indicated that the control condition did significantly differ from the two stereotype conditions, $t(119) = -14.84$, $p < .001$. However, the two stereotype conditions did not significantly differ from each other, $t(119) = -1.35$, $p > .20$.

Discussion

Study 1 demonstrated that women who failed a math test showed higher self-esteem if they were reminded of the relevant negative gender stereotypes compared to those denied this opportunity. This pattern seems to contradict common sense. One would expect that reminding women of a negative stereotype about their group would decrease, not increase, self-esteem. In one sense, these women received a "double-dose" of threat to their self-integrity. They received a threat to their individual self by failing the math test and they received a threat to their collective self by being reminded of the negative status of their group. Thus, these women might be expected to show the lowest level of self-esteem of all the participants. However, this pattern is exactly what one would anticipate if the negative

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[1] For all three experiments, 99–100% of the participants correctly recalled their math test score.

stereotypes protect the individual in the way we have described. Interestingly, there was no difference in self-esteem between those who were given positive and negative stereotypes. This suggests that the buffering effects that negative stereotypes have on the self are roughly on par with the self-affirmation effects that positive stereotypes can have.

Although this first study provided evidence for the protective effects of negative in-group stereotyping, there were two serious limitations that Study 2 sought to address. First, there are several potential confounds that could have influenced our results. The two stereotype conditions in this study included a task between the threat and the self-esteem measure, whereas the control condition did not. Thus, an alternative interpretation of our results is that the differences in self-esteem across the groups could have been due to the influence of time delay or distraction. Furthermore, it is possible that responding to the stereotype questions forced participants to think about their in-group, and that thinking about one's group membership buffered self-esteem. In Study 2, we used a moderator approach to address these possible confounds. Second, this study was also limited in that it did not enable us to test a second hypothesis—that endorsement of in-group stereotypes increases following stereotypic failure. Therefore Study 2 was structured so that stereotype endorsement could be measured and compared across groups.

Study 2

Overview

The purpose of Study 2 was to remedy the problems associated with our first study. In order to address the potential confounds, we included both men and women in this study. If, in Study 1, the effect on self-esteem occurred because of a confound (delay, distraction or thoughts about group membership), then we would expect to see this effect in both men and women. However, if the effect were instead due to the protective nature of the negative stereotypes, then we would only expect the women's self-esteem to be protected. This is because the stereotype that women are bad at math does not provide men with an excuse for failing, as it does for women. Although the men in this condition would have an opportunity to endorse positive stereotypes about their group (i.e., that men are better than women at math), we did not expect this experience to produce the self-affirmation effect demonstrated in Study 1. In our first study, women were provided with a positive stereotype (verbal ability) that was irrelevant to the threatening failure (math test). In contrast, the men in Study 2 were provided with a positive stereotype that is relevant to the failure. Previous research has demonstrated that relevant affirmations such as these can be threatening (Blanton, Cooper, Skurnik, & Aronson, 1997). As a result, we believed that the men in this condi-

tion would either feel worse or no better about their self after responding to the math stereotype.

The second purpose of Study 2 was to demonstrate that endorsement of negative in-group stereotypes increases after a stereotypic failure. If negative in-group stereotyping is in fact an actual self-protective strategy, then people should be more likely to embrace negative stereotypes following stereotypic threats. We therefore predicted that failure on the math test would increase women's tendency to endorse the view that women are bad at math. We did not expect men to embrace this same stereotype following a math failure, because it was of no strategic value to them.

To test these predictions, we modified the procedure in Study 1. First, we only included the math stereotypes in this study. Second, after each stereotype was presented, participants were asked to rate the extent to which the stereotype was based on a true sex difference. This served as our measure of stereotype endorsement. Third, in order to compare stereotype endorsement levels, Study 2 utilized two different conditions: *strategic* and *non-strategic*. In the strategic condition, participants were given an opportunity to endorse the negative stereotypes *after* failing the math test. Thus, this condition approximated the math stereotype condition in Study 1, but it included both men and women. We refer to this condition as "strategic" because participants are given the opportunity to embrace the gender stereotypes in response to the threat of failure. In the non-strategic condition, we prevented participants from using the stereotypes in this manner. To accomplish this, we merely changed the order of the tasks. Participants in this condition completed the stereotype endorsement task *before* taking the math test. This allowed us to assess stereotype endorsement levels prior to the influence of failure to determine if failure increased endorsement, as predicted by our theory.

Method

Participants and design

One hundred and twenty-seven male and female undergraduate students participated in the study as partial fulfillment of a requirement for their introductory psychology course. The sample consisted of 42 men and 85 women with a mean age of 19 years. Participants were randomly assigned to one of two experimental conditions, creating a 2 (gender: women versus men) × 2 (condition: strategic versus non-strategic) factorial design.[2] The dependent variables of interest were math stereotype endorsement and state self-esteem.

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[2] The sample had an uneven number of men and women, which leads to a difference in statistical power across genders. However, this discrepancy could not produce the predicted first-order interaction between gender and condition.

Procedure

The procedure for this study was very similar to that of Study 1. All participants were presented with the four stages described above: math test, failure feedback, math stereotype endorsement, and state self-esteem assessment. To create strategic and non-strategic conditions, we merely changed the order in which participants completed these tasks. Participants in the *strategic* condition completed the tasks in the exact order as Study 1 (i.e., rated stereotypes after failing math test). However, for participants in the *non-strategic* condition, the order of the math test and stereotype task was switched (i.e., they rated the stereotypes first). Importantly, these participants were unaware that they would later be taking a math test. Next, they completed the math test and received the failure feedback. Finally, they completed the state self-esteem measure.

In order to assess stereotype endorsement, participants were asked to rate the extent to which each stereotype was based on true sex differences. Participants rated the truth of two gender stereotypes regarding math ability ("Women typically have poorer math skills than men" and "Men typically have better math abilities than women"). Responses were made on an 11-point unipolar scale ranging from *not at all true* to *completely true*. Participants' endorsement of the two math stereotypes was highly correlated with one another ($r = .80$, $p < .001$). In order to create a composite score, ratings for these two stereotypes were averaged. As in Study 1, state self-esteem was assessed using the self-relevant affect measure (Leary et al., 1995) and once again it demonstrated high internal consistency ($\alpha = .92$).

Results

Stereotype endorsement

The data were analyzed with a 2 (gender: women vs. men) × 2 (condition: strategic vs. non-strategic) ANOVA. The results revealed a marginally significant interaction between gender and condition, $F(1, 123) = 3.43$, $p = .06$.
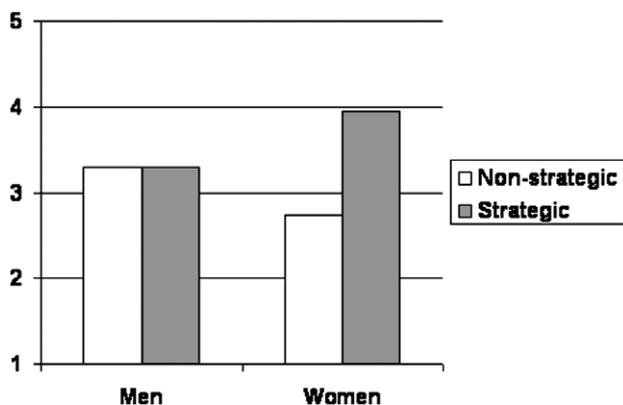
Fig. 2. Math stereotype endorsement as a function of condition and gender.

The pattern of results is shown in Fig. 2. As predicted, women given the opportunity to endorse the math stereotypes after failure showed greater endorsement (strategic: $M = 3.95$, $SD = 1.90$) compared to women denied this opportunity (non-strategic: $M = 2.75$, $SD = 1.28$), $F(1, 123) = 10.44$, $p < .01$. For men, there was no difference in math stereotype endorsement between those who rated the stereotypes after the failure (strategic: $M = 3.30$, $SD = 1.62$) and those who rated them before the failure (strategic: $M = 3.30$, $SD = 2.14$), $F < 1$.

State self-esteem

The results revealed a main effect of gender, $F(1, 123) = 20.65$, $p < .01$. Overall, men displayed higher self-esteem ($M = 7.05$, $SD = 1.72$) than women ($M = 5.64$, $SD = 1.58$). This finding is consistent with literature on gender differences in self-esteem (e.g., McMullin & Cairney, 2004) and reactions to failure (e.g., Ruble, Greulich, Pomerantz, & Gochberg, 1993). However, as expected, this main effect was qualified by a significant interaction with condition, $F(1, 123) = 4.14$, $p < .05$. The pattern of results is shown in Fig. 3. For women, there was a marginally significant difference in state self-esteem across the two conditions, $F(1, 123) = 3.45$, $p = .06$. As predicted, women in the strategic condition ($M = 5.97$, $SD = 1.69$) showed higher state self-esteem compared to women in the non-strategic condition ($M = 5.32$, $SD = 1.42$). For men, there was no significant difference between the two experimental conditions, $F(1, 123) = 1.40$, *ns*. However, the pattern of means illustrates that men in the strategic condition ($M = 6.74$, $SD = 1.39$) had somewhat lower self-esteem than those in the non-strategic condition ($M = 7.33$, $SD = 1.97$).

Mediational analyses

Following the procedure recommended by Baron and Kenny (1986), we tested if the effect of condition on self-esteem was mediated by math stereotype endorsement. To do so, a series of regressions were conducted separately for women and men. First, we regressed stereotype endorsement onto condition. As demonstrated in the above ANOVA, stereotype endorsement was higher for women in
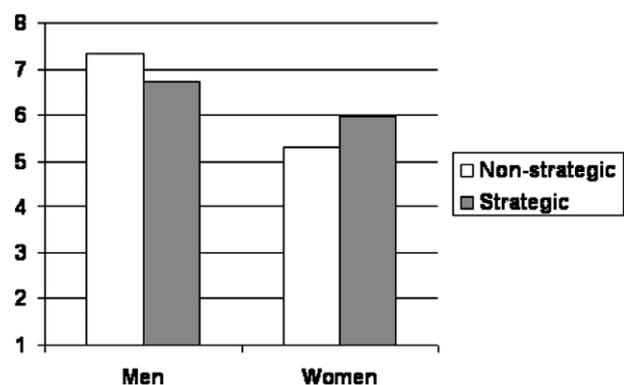
Fig. 3. State self-esteem as a function of condition and gender.

the strategic condition compared to the non-strategic condition, $B = .1.20$, $t(83) = 3.44$, $p = .001$, but this was not the case for men, $B = .01$, $t(40) = .01$, $p = .99$. Next, we regressed self-esteem onto stereotype endorsement. This step revealed that stereotype endorsement was not a significant predictor of self-esteem for women, $B = .06$, $t(83) = .60$, $p = .55$, or men, $B = .08$, $t(40) = .54$, $p = .59$. The direct effect of condition on self-esteem was then assessed. As shown in the above ANOVA, self-esteem was higher for women in the strategic condition compared to the non-strategic condition, $B = .65$, $t(83) = 1.92$, $p = .06$, but this was not the case for men, $B = -.59$, $t(40) = -1.11$, $p = .28$. Finally, we regressed self-esteem onto condition and math stereotype endorsement. The results revealed that, when controlling for stereotype endorsement, the impact of condition on self-esteem did not markedly decrease for women, $B = .66$, $t(82) = 1.81$, $p = .07$, or men, $B = -.59$, $t(39) = -1.10$, $p = .28$. This pattern suggests that the impact of condition on women's self-esteem was not mediated by their level of negative stereotype endorsement.

Discussion

Study 2 replicated the finding that women given an opportunity to endorse negative in-group stereotypes showed higher self-esteem following a stereotypic failure. Importantly, this was not the case for the men in this study. There was no difference in self-esteem for men across the strategic and non-strategic conditions and in fact, the men in the strategic condition showed somewhat lower self-esteem. Importantly, these results not only replicated the findings of Study 1 but they also addressed the concern regarding delay, distraction, or thoughts about group membership, since the difference in self-esteem only emerged for women. In Study 2, both men and women in the strategic condition were exposed to these potential influences; however, as predicted, only women showed protected self-esteem. Consistent with our theory, this overall pattern suggests that in-group stereotypes only protect one's self-esteem when they provide a viable excuse for one's failure.

Although the impact of condition on self-esteem for the women in this study was only marginally significant, there are several reasons why the effect is unlikely to be due to chance. First, the same effect was demonstrated in Study 1 (control vs math stereotypes: $t(81) = -2.82$, $p < .01$). Furthermore, a pilot test also established this same pattern, $t(88) = -3.83$, $p < .001$, with women in the strategic condition showing higher self-esteem ($M = 5.72$, $SD = 1.67$) than those in the non-strategic condition ($M = 4.43$, $SD = 1.53$).[3]

An additional feature of Study 2 was that it allowed us to test our second hypothesis; that endorsement of negative in-group stereotypes will increase following failure. We found that for women who rated the stereotypes prior to failure, there was only a slight endorsement of the idea that women have poor math abilities. However, for women who rated the stereotypes after having failed a math test, there was an increase in endorsement. This provides evidence that women do indeed embrace negative gender stereotypes in the wake of a gender-stereotypic failure. Importantly, there was no difference in the men's stereotype endorsement across the two conditions. Thus, it appears that failure does increase endorsement of in-group stereotypes, but only when they serve as an excuse for the failure.

There are a number of limitations of Study 2 that we sought to address in our final experiment. First, it is possible that when women rated the math stereotypes prior to the math test (i.e., non-strategic condition), this created a stereotype threat situation, in which reminding women of the negative gender stereotypes decreased their actual performance on the math test. If this were the case, these women may have been aware of their poorer performance, resulting in decreased self-esteem. We do not think this is a likely explanation for our effects, primarily because our math test does not meet the criteria known to produce stereotype threat effects (e.g., difficult items). Nevertheless, in Study 3 we recorded participants' answers to the math items in order to test the possibility that women in the non-strategic condition performed worse, although the math test was not originally designed for this particular purpose.

Second, it is our contention that women's tendency to embrace negative stereotypes following failure serves an esteem motive. In support of this, Studies 1 and 2 showed that this strategy does indeed protect self-esteem. But, there certainly are other interpretations. It could be that people embrace negative in-group stereotypes following failure for a relatively mundane reason (e.g., mood congruence) and that the resulting changes in state self-esteem are simply an unintended consequence of this behavior. One could interpret the results of our mediational analyses as consistent with this proposition. Those tests revealed that women who showed greater stereotype endorsement did not subsequently show greater self-esteem. At first glance, this pattern appears to threaten our theory, but closer inspection reveals it does not.

Our theory predicts (and our first two studies suggest) that women will endorse self-protective negative stereotypes when their self-esteem is threatened. To the extent that women do this, their self-esteem should then be protected against the threat. Thus, although the very women in our studies who felt most threatened by the test feedback should have been the ones who were most prone to endorsing self-protective stereotypes (a pattern suggesting a negative correlation between self-esteem and stereotype endorsement), greater stereotype endorsement by these women should have resulted in greater self-esteem buffering

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[3] A meta-analysis on this effect was conducted across Study 1, Study 2, and the pilot study. The weighted standardized mean difference was $d = .61$, indicating a medium effect size (Cohen, 1988).

(a pattern suggesting a positive correlation between self-esteem and stereotype endorsement).

To determine if a self-esteem motive is underlying the effect observed in Studies 1 and 2, it was thus necessary to pursue a more clever tactic in Study 3. To this end, we adopted a moderator approach. As Spencer, Zanna, and Fong (2005) recently argued, experiments incorporating theoretical moderators are often more effective than the traditional mediational approach at identifying underlying psychological processes. In this vain, we included a theoretically relevant moderator in Study 3 to determine if the results pattern themselves in a manner consistent with the hypothesized esteem protecting mechanism.

Study 3 tested if the tendency to embrace negative in-group stereotypes following failure would be greatest among those with high rather than low trait self-esteem. Such an effect would provide compelling evidence that people do indeed embrace negative group attributes in order to preserve positive self-views. Thus, Study 3 sought to demonstrate the seemingly paradoxical situation in which those individuals with the most positive self-views (i.e., high trait self-esteem) embrace the least flattering statements about their in-groups (i.e., negative stereotypes).

The inclusion of trait self-esteem also allowed us to rule out a possible alternative explanation for the stereotype endorsement pattern found in the previous study. Recall that Study 2 showed that women were more likely to endorse negative gender stereotypes if they had just failed a math test themselves. Although this pattern is consistent with our theory, an alternative (and more mundane) account of this finding might apply. Perhaps the stereotype-endorsement measure was merely acting as a "manipulation check," in that it showed that those women who had just done poorly at math were more likely to conclude that women do poorly at math. Although this account has some explanatory power, there are at least two reasons to suspect that this does not account for our findings. First, as Jost and colleagues have observed, people do not automatically embrace negative in-group stereotypes, even when they have been given seemingly veridical information suggesting that their in-group is unsuccessful in a particular domain (e.g., Jost & Burgess, 2000; Jost & Hamilton, 2005). This program of research has identified specific conditions that must be in place in order for this to occur (e.g., perceived legitimacy of the status quo, belief in a just world). Second, a large literature on the self suggests that individuals are reluctant to embrace negative statements about themselves, and this is particularly the case among people with high trait self-esteem (e.g., Taylor & Brown, 1988).

By adding trait self-esteem as a moderator variable in Study 3, we were able to explore these alternative explanations systematically. If the stereotype endorsement effect observed in Studies 1 and 2 occurred because participants made simple cognitive generalizations about their in-group following failure, then the women low in trait self-esteem should show the largest increase in stereotype endorsement

(since they have the least reason to resist the negative inferences that are promoted by failure feedback, see de la Ronde & Swann, 1993). On the other hand, if the increase in endorsement occurred because women are embracing the negative stereotypes in order to preserve a positive self-view, then women with high self-esteem should show the largest increase. Consistent with our theory and contrary to the alternative account, we predicted that the latter pattern would be observed in Study 3.

Study 3

Overview

We adopted the procedure in Study 2 using a sample of women whose trait self-esteem was assessed. Numerous studies have demonstrated that people high in trait self-esteem are more likely to engage in a variety of self-protective strategies, especially following a threat to the personal self-concept (see Taylor & Brown, 1988, for a review). Therefore, we predicted that women high in trait self-esteem would be more likely to embrace negative gender stereotypes following a math failure.

Method

Participants and design

One hundred and thirty undergraduate female students participated for credit in an introductory psychology class (mean age = 19 years). As in Study 2, the women were randomly assigned to either the strategic or non-strategic condition. The dependent variables of interest were math stereotype endorsement and state self-esteem.

Procedure

As in Study 2, women in the strategic condition rated their stereotype endorsement after failing the math test, whereas women in the non-strategic condition completed this task before taking the math test. All participants then completed the state self-esteem measure. Next, participants completed various filler tasks for 30 min before completing a measure of trait self-esteem. The purpose of the 30-min distracter period was to remove any residual effects that may have occurred due to our experimental manipulation before participants completed the trait self-esteem measure.[4] Furthermore, we tested to see if RSE scores were

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[4] Typically, it would be desirable to measure an individual difference moderator at the beginning of the study. However, our placement of the RSE at the end of the study reflects a deliberate attempt to avoid a known problem with the use of this scale. Steele, Spencer, and Lynch (1993) have shown that the mere act of filling out the RSE serves as a self-affirmation for people high in trait self-esteem. Had we administered the RSE prior to our failure feedback, we could have affirmed a large subgroup of our sample and thereby introduced a suppressor effect that would have countered the very mechanism we are studying. To ensure that RSE scores were not influenced by our manipulation, we tested for condition effects on trait self-esteem and found none.

influenced by our manipulation and found this not to be the case (non-strategic $M = 5.50$, strategic $M = 5.55$; $t(128) = .00$, $p = 1.0$).

Following the 30-min distracter period, participants completed the Rosenberg Self-Esteem Inventory (Rosenberg, 1965). The RSE is a widely used measure of trait self-esteem. It consists of 10 items (e.g., "I feel that I have a number of good qualities") and responses were made on a 7-point scale ranging from *strongly disagree* to *strongly agree*. This instrument demonstrated good internal consistency in our study ($\alpha = .86$).

Results

Math performance

In order to test if stereotype threat effects influenced our data, we calculated the total number of correct responses to the math items and compared across conditions. As expected, there was no difference in math performance for women in the non-strategic ($M = 23.32$) and strategic conditions ($M = 23.41$), $t(128) = -.20$, $p > .80$. Therefore, any differences in state self-esteem across the two conditions cannot be attributed to stereotype threat effects.

Stereotype endorsement

To assess if trait self-esteem moderates the relationship between condition and negative stereotype endorsement, we regressed stereotype endorsement onto the full range of trait self-esteem, a dummy code for condition ($0 =$ non-strategic; $1 =$ strategic), and the multiplicative cross-product of trait self-esteem and condition. To assess the independent main effects, trait self-esteem and condition were entered in the first block of a hierarchical regression equation and the cross-product was added in the second block (see Blanton & Jaccard, 2006).

The results of the regression analyses are displayed in Table 1. The first block revealed a main effect of condition, $t(127) = 2.02$, $p < .05$. The unstandardized regression coefficient indicated that, controlling for trait self-esteem, those in the strategic condition were $B = .64$ units higher in math stereotype endorsement compared to those in the non-strategic condition. This provides a replication of the pattern for women in Study 2. Importantly, however, this main effect was qualified by an interaction between trait self-esteem and condition, $B = .87$, $t(126) = 2.25$, $p < .05$.

To reveal the patterning of data that contributed to this significant interaction, simple slope tests were conducted (see Aiken & West, 1991; Jaccard, Turrisi, & Wan, 1990). As seen in Fig. 4, condition had little impact on math stereotype endorsement among individuals with relatively low trait self-esteem, $B = -.71$, $t(126) = -1.04$, $p > .30$. In contrast, condition did significantly influence endorsement for individuals with high self-esteem, $B = 1.91$, $t(126) = 2.92$, $p < .01$. As predicted, those who rated the negative stereotypes after the math failure showed greater endorsement compared to those who rated the stereotypes before the failure. Thus, individuals with high self-esteem used the negative stereotypes to their advantage. Under typical circumstances (i.e., non-strategic condition), they denied that the negative statements about their group were true. However, when the stereotypes provided a viable excuse for their failure (i.e., strategic condition), they endorsed the negative statements regarding their group. Conversely, individuals with relatively low self-esteem did not use the negative stereotypes in this strategic manner. They showed moderate endorsement, regardless of whether they had just failed a math test or not.

Discussion

Study 3 provided strong evidence that high self-esteem individuals use negative in-group stereotypes in a self-protective manner. The women in our study who were high in trait self-esteem clearly used the negative stereotypes to their advantage. On the whole, they denied that there was truth to the stereotype that women have poor math abilities. However, when this stereotype provided an excuse for their poor math performance, they embraced it as true. They avoided the stereotype when it threatened them and approached it when it benefited them. In contrast, the women low in trait self-esteem did not embrace the negative stereotypes in this way. These women generally showed a moderate amount of endorsement for the stereotypes, regardless of whether it excused their failure or not. These results contradict alternative explanations and support our

Table 1
Math stereotype endorsement as a function of condition and trait self-esteem

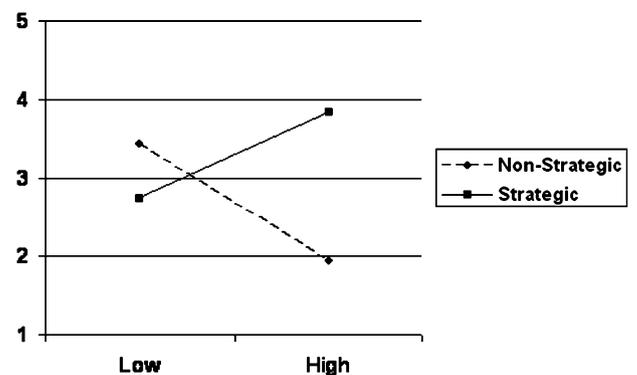| Model	Variable	B	SE	β	t	p
1	Constant	3.37	1.11		3.04	.01
	Trait *SE*	−.11	.20	−.05	−.56	.58
	Condition	.64	.32	.18	2.02	.05
2	Constant	5.55	1.46		3.80	.01
	Trait *SE*	−.50	.26	−.22	−1.93	.05
	Condition	−4.19	2.17	−1.15	−1.93	.05
	Interaction	.87	.39	1.35	2.25	.03

Fig. 4. Math stereotype endorsement as a function of condition and trait self-esteem. High and low self-esteem are defined as one *SD* above and below the mean of trait self-esteem ($M = 5.55$, $SD = .81$).

view that negative in-group stereotyping is a protective strategy that people are likely to engage in if they are motivated to protect their self-esteem.

This overall pattern of endorsement supports our previous distinction between chronic and functional internalization of negative stereotypes. Under normal circumstances (non-strategic condition), low self-esteem individuals showed higher rates of endorsement compared to high self-esteem individuals. This best exemplifies *chronic internalization* and demonstrates that in the absence of an identity threat, there is an inverse relationship between self-esteem and negative in-group stereotyping. This was not the case, however, in the strategic condition. When the negative stereotype offered protection against the threat, it was the high self-esteem individuals who showed higher rates of endorsement. This exemplifies *functional internalization*. This form of stereotype endorsement is enacted in service of a particular motive; therefore, it can lead to positive consequences for the self. Thus, Study 3 offers an initial empirical demonstration of the difference between these two forms of stereotype internalization and their relation to self-esteem. This distinction between chronic and functional internalization may be an important addition to the stereotyping literature and a fruitful area for future research.

General discussion

The present studies provided strong evidence that negative in-group stereotypes can help protect the self against the threat of stereotypic failures. Across all three studies, women's self-esteem was buffered from a math failure when they were given an opportunity to endorse the negative stereotype that "women are bad at math." Moreover, endorsement of this stereotype increased after failure. Importantly, however, these effects did not occur for men (Study 2). Presumably, this is because the gender stereotype did not provide a viable excuse for their failure on the math test. Finally, these studies demonstrated that women who had the stronger tendencies to protect the self against threat (i.e., those high in trait self-esteem) were more likely to embrace the negative stereotypes following failure (Study 3).

Overall, this package of studies offers compelling evidence that a negative in-group stereotype can buffer a person against stereotypic failures. This perspective on negative stereotyping compliments the previous literature by identifying an additional motive underlying this phenomenon. We have shown that negative in-group stereotyping does not necessarily contradict one's self-enhancement needs, in fact it can act in service of this motive.

Implications

Strategic buffering or opportunistic buffering?

Although the current studies indicate that negative stereotypes can protect the self against threat, it is important

to note that our studies do not in any way indicate that this will be the preferred method individuals will take. One interesting aspect of self-protective strategies is that they often are interchangeable. For example, Tesser has argued that self-affirmation, cognitive dissonance, and social comparison are all self-esteem maintenance mechanisms that can be substituted for one another (Tesser, 2001; Tesser, Crepaz, & Beach, 2000). As a result, individuals have a variety of strategies they can rely on when they are in the presence of a self-threat. We argue that negative in-group stereotyping is yet another strategy individuals can pursue when the situation makes this response viable. Even in these situations, however, individuals may choose to rely on different strategies—strategies that have fewer negative implications for a valued social identity. Identifying the circumstances under which this strategy is chosen will be an important next step in this research program.

Mediators of self-protection

Although the current studies reveal a way in which in-group stereotypes can buffer a person against threat, they do not reveal the "lower-level mechanisms" that drive this effect. We feel there are a variety of lower-level mechanisms that could account for this relationship. For example, it could be that stereotype endorsement leads women to disengage with the math domain momentarily, which in turn leads to buffered self-esteem. Alternatively, stereotype endorsement could lead women to only compare their math abilities to other women, which in turn protects their self-esteem from the math failure (see Blanton et al., 2002; Major, 1994). Either of these explanations is plausible, but these lower-level accounts do not compete with our theory, nor do they necessarily compete with one another. Both explanations support the general assertion that negative stereotypes can protect stigmatized targets from the threat of failure by diminishing the personal sting of being associated with a stereotypic trait. Subsequent research studies should explore the mechanism or mechanisms by which this protection is achieved.

Theoretical significance

Even as the underlying mechanisms await greater scrutiny, the current studies draw attention to a functional benefit to in-group stereotyping that has important theoretical implications. A critical analysis of the extant literature reveals important areas where our findings converge and diverge with those that would be predicted from other theoretical perspectives.

Social identity theory

At first blush, it appears that the claims we are making contradict the predictions one might make from a reading of social identity theory. Social identity theory (SIT; Tajfel, 1978; Tajfel & Turner, 1979) asserts that group memberships help us to fulfill our self-esteem needs. Many investigations of SIT focus on the straightforward prediction

that, since we are driven to perceive the self in a positive light, we desire positively distinct group memberships. However, this one straightforward prediction for SIT may have led to a blind spot within the research that tests this theory. That is, researchers have not investigated how a *negative* group membership can also satisfy self-esteem needs. We thus see our thesis as quite consistent with SIT principles. Just as people are motivated to embrace positive group identities to fulfill self-esteem motives, at times they will be motivated to embrace negative group identities for this same purpose.

Excuse formation

The idea that negative stereotypes can protect self-esteem shares some similarities with theory on excuse formation. Excuse making is an impression management strategy in which people invoke alternative explanations for a poor performance in order to protect their self-esteem (Mehlman & Snyder, 1985; Snyder, Higgins, & Stucky, 1983). Snyder and colleagues argued that one way people form excuses is by suggesting anyone in a similar situation would have performed just as poorly (i.e., consensus-raising). For example, a student who performed poorly on a math test may claim that nearly everyone performed poorly on the test, implying that the exam was unfair. This strategy protects one's self-esteem by directing attribution for the failure away from the individual and onto the situation or stimulus (Snyder et al., 1983). Unfortunately, there has been little evidence to support the idea that people actually engage in this form of excuse making (Mehlman & Snyder, 1985). Snyder and his colleagues suggest that people might avoid this strategy because they assume that others have access to normative data that could invalidate such claims (e.g., most students actually do pass most exams). But this is less of an obstacle with stereotyping. Negative stereotypes, by their nature, revolve around claims that are hard to validate and yet easy to believe. A woman who fails at math might lack the "hard data" to show that other women would perform poorly, but the presence of gender stereotypes will make such a possibility seem reasonable, even if she offers no evidence for her claim. Therefore, stigmatized targets may use negative stereotypes as a consensus-raising strategy in order to excuse their stereotypic failures.

Self-handicapping

Our theory that stigmatized targets will endorse negative stereotypes in the face of failure also shares similarities within the self-handicapping literature. Self-handicapping occurs when individuals select an obstacle to successful performance, thereby enabling them to direct the cause of their poor performance away from their own incompetence and toward the obstacle. Thus, an individual *creates* an excuse in *anticipation* of an unsuccessful performance. For example, Rhodewalt, Saltzman, and Wittmer (1984) demonstrated that competitive athletes high in self-handicapping tendencies put less effort into practicing before

an important meet. Like self-handicapping, our theory posits that people attempt to deflect the cause of poor performance away from the self in order to protect self-esteem. However, self-handicapping requires individuals to engage in destructive behavior prior to a threatening performance, whereas negative in-group stereotyping is an excuse-making strategy that occurs after a threatening performance. Thus, although both strategies offer a form of self-protection in the face of a threat, the execution is quite different.

Stereotype threat

Our theory also shares similarities with that of stereotype threat. Again, however, there are important distinctions and implications. Research on stereotype threat has consistently shown that stigmatized targets perform poorly in situations in which their behavior could confirm a negative in-group stereotype (e.g., Steele & Aronson, 1995). Our studies involved a situation similar to that of stereotype threat research (women completing a math test). However, the women in our studies received feedback regarding their performance, whereas those in stereotype threat studies do not receive such feedback. Consequently, our views of the target in this stereotyped situation are quite different. According to Steele (1997; Steele and Aronson, 1995), stereotype threat does not require the target to internalize the negative stereotype. The target merely needs to be aware of the relevance of the stereotype to produce impaired performance. In contrast, our work shows a situation in which stigmatized individuals rate a stereotype as true. This suggests that a form of internalization did take place. So, although stereotype internalization is not a prerequisite for stereotype threat, our work suggests it can be a consequence of it.

The stereotype threat literature also has relevance for what it has to say about identity change. In addition to predicting an impaired performance, research on stereotype threat has shown that stigmatized targets attempt to distance themselves from their group membership following failure. For instance, Steele and Aronson (1995, Study 3) showed that African-American students were less likely to indicate their race on a demographics questionnaire and were more likely to avoid racially stereotyped preferences when they were placed in stereotype-threat conditions. These findings seem to contradict our results, in that they suggest that stereotyped individuals often deal with the threat of stereotypic failure by distancing the self from the group and the group stereotype. Unlike our studies, however, the participants in Steele and Aronson's study never received feedback regarding their test performance. Our research suggests that the opposite pattern can emerge once stigmatized targets learn of their poor performance. This demonstrates how flexible stigmatized targets can be with their identities—avoiding or embracing their group memberships, depending upon the social context and the implications of these choices.

Conclusion

These studies point to a situation where negative stereotypes are of use to those who are targeted by them. By combining the implications of our work with stereotype threat, we may see that the very stereotypes that lead individuals to fail also at times may allow them to live more comfortably with these failures.

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