

“I Am Us”: Negative Stereotypes as Collective Threats

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Collective threat is the fear that an ingroup member's behavior might reinforce a negative stereotype of one's group. In a field study, self-reported collective threat was higher in stereotyped minorities than in Whites and was linked to lower self-esteem in both groups. In 3 experimental studies, a potentially poor performance by an ingroup member on a stereotype-relevant task proved threatening, as evidenced by lower self-esteem among minority students in 2 experiments and women in a 3rd experiment. The latter study demonstrated the generality of collective threat. Collective threat also undermined academic performance and affected self-stereotyping, stereotype activation, and physical distancing from the ingroup member. Results further suggest that group identification plays a role in whether people use an avoidance or challenge strategy in coping with collective threat. Implications for theories of social identity and stigmatization are discussed.

Keywords: social identity, stereotype threat, racial identification, stigma, academic achievement

Because people derive both identity and self-worth from their group memberships, their thoughts, feelings, and actions are influenced by the objective outcomes of their group. That is, individual psychology is affected by collective outcomes. People experience increases in self-esteem when fellow group members succeed, which may manifest in changes even at the hormonal level (Bernhardt, Dabbs, Fielden, & Lutter, 1998). When other group members transgress, individuals may experience guilt even if they personally had no involvement in these acts (Doosje, Branscombe, Spears, & Manstead, 1999). The present article begins with the idea that just as people can vicariously share in the objective outcomes of fellow group members, they also may share in experiences that are more subtle and subjective in nature. We explore this idea in the context of stigmatization based on race and gender. We suggest that the distress of stigmatization need not arise from firsthand experience.

Being personally victimized by overt discrimination can be threatening (Branscombe, Schmitt, & Harvey, 1999). Even subtler threats based on one's social identity may be distressing, such as the knowledge that one's behavior could be used to reinforce a negative stereotype about one's group. For example, as research on stereotype threat has demonstrated, Black students completing an intelligence test, or women completing a math test, may worry about performing

poorly and thus lending credence to the stereotype about the intellectual inferiority of their racial or gender group (Spencer, Steele, & Quinn, 1999; Steele & Aronson, 1995; Steele, Spencer, & Aronson, 2002; see also Aronson, 2002; Cohen & Steele, 2002; Cohen, Steele, & Ross, 1999; Mendoza-Denton, Downey, Purdie, Davis, & Pietrzak, 2002; Vorauer, Main, & O'Connell, 1998). In the present article, we examine the situation where, although running no risk of personally lending support to a stereotype about their group, individuals are concerned about the potentially stereotype-confirming acts of other members of their group. We call this concern *collective threat*, as it issues from the collectively shared nature of social identities. We further suggest that in situations where one's group is negatively stereotyped, an “I am us” mindset may arise out of the awareness that the way one is viewed and defined depends, in part, on the way that other group members are viewed and defined.

Collective threat issues from the awareness that the poor performance of a single individual in one's group may be viewed through the lens of a stereotype and may be generalized into a negative judgment of one's group. Indeed, this apprehension may be well founded, as people draw conclusions about entire groups based on the behavior of individual group members (Henderson-King & Nisbett, 1996). In the research presented here, we examine collective threat among students who face negative stereotypes about the intellectual ability of their group—that is, ethnic minority students in school generally and women in math in particular (Steele et al., 2002). They may feel threatened, we argue, when the possibility is made salient that a fellow group member may perform poorly in an academic context and thus reinforce a negative stereotype about their race or gender.

Why would an ingroup member's potentially stereotype-confirming behavior prove threatening? One reason involves the role of group membership as a source of self-definition (Tajfel & Turner, 1986; see also Schmader, 2002; Walton & Cohen, 2003). As research on social identity theory confirms, people use their groups as a basis of self-evaluation (Tajfel & Turner, 1986). Because people want to see themselves in a positive light, they want to maintain a positive image of their group and are likely to feel threatened when their group could be viewed negatively

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(Lewis & Sherman, 2003; Rubin & Hewstone, 1998; Schmader, 2002). Indeed, as research on the black sheep effect suggests, people may disassociate from and even denigrate ingroup members whose behavior reflects negatively on their group (Lewis & Sherman, 2003; Marques & Paez, 1994; see also Ellemers, Van den Heuvel, De Gilder, Maass, & Bonvini, 2004).

Regardless of the personal centrality of their group identity, people may view the stereotype-confirming behavior of an ingroup member as threatening because they are aware that they themselves could be defined by others on the basis of their group (Cohen & Steele, 2002; Klein & Azzi, 2001; Vorauer et al., 1998). Knowing that an ingroup member might have confirmed the stereotype in the minds of others, people may believe that they personally will now be at a greater risk of being judged negatively. The concern that one could be viewed negatively because of one's group membership is threatening to self-worth (Branscombe et al., 1999; Ethier & Deaux, 1994; Mendoza-Denton et al., 2002; Vorauer et al., 1998), and it motivates the deployment of coping strategies among individuals low and high in group identification alike (see Klein & Azzi, 2001; Spears, Doosje, & Ellemers, 1997). More generally, it is threatening to believe that other people could reject one on the basis of any personal characteristic (Leary, 1999). This is especially true in a setting, such as school or work, where people want to belong and where the judgments of others have large material and symbolic consequences (Steele et al., 2002).

We suggest that for many stereotyped students, the threat of other people confirming a negative stereotype about their group may be at least as acute as the threat of personally doing so. This may be the case for several reasons. First, people tend to think that their peers have less ability than they themselves have (Dunning, Meyerowitz, & Holzberg, 1989; see also Dunning & Cohen, 1992). Members of a stereotyped group may thus expect fellow group members to be at a greater risk of performing poorly, and of substantiating a negative stereotype, than they personally are. Regardless of their own level of skill, moreover, such individuals would realize that at least some people in their group will perform poorly. Consistent with this claim, Blacks express negative, stereotypical beliefs about other Blacks, sometimes even more so than Whites (Sniderman & Piazza, 1993). Another factor increasing collective threat arises from people's tendency to believe that they are less victimized by prejudice than are fellow group members (Crosby, 1984). Members of a stereotyped group may thus acknowledge that the behavior of others in their group could be viewed in light of their race or gender but minimize the possibility that their own behavior could be so viewed. Moreover, because there are more evaluative events involving other people than those involving oneself, and because the performances of other people are less controllable than are one's own, situations of collective threat may prove especially stressful on account of their chronic and uncontrollable nature.

Our primary objective focused on determining whether collective threat constitutes a concern of negatively stereotyped students in an academic setting and whether it is, in fact, threatening. Consistent with the research described above, our primary measure of threat was self-esteem. Fears of confirming the stereotype oneself, and of being personally discriminated against, were either statistically controlled (in our pilot study) or experimentally removed (in Experiments 1–3).

On an exploratory basis, we also assessed whether the impact of collective threat varies with the personal importance of participants' group identity. On the one hand, people who identify with their group may feel more threatened by the poor performance of an ingroup member, because they derive a greater sense of self-identity from the positive representation of their group (Schmader, 2002). On the other hand, high group identification may act as a source of social support and self-esteem that offsets the pain of stigmatization (Branscombe et al., 1999; Wong, Eccles, & Sameroff, 2003). High group-identified individuals also have more motivation and ability both to reject negative representations of their group (Doosje et al., 1999; Oyserman, Kimmelmeier, Fryberg, Brosh, & Hart-Johnson, 2003) and to challenge its lower status in a hierarchy (Ellemers, Spears, & Doosje, 1997; Oyserman et al., 2003; Spears et al., 1997; Tajfel & Turner, 1986)—tendencies that might buffer them against negative stereotypes of their group.

Pilot Study

In a pilot study, we sought to determine whether students belonging to intellectually stereotyped racial groups (i.e., Black and Latino students) report experiencing collective threat in school and whether the reported levels of threat are associated with lower self-esteem. As past research finds that minority and majority members alike feel threatened by negative stereotypes of their group (Aronson et al., 1999; Leyens, Désert, Croizet, & Darcis, 2000), we also hoped to ascertain whether the posited relationship between collective threat and lower self-esteem holds regardless of student race.

We also examined, on an exploratory basis, whether collective threat predicts a drop in students' grade point average (GPA). Believing that a fellow group member has reinforced a stereotype, people may worry that others now view that stereotype as more valid than they did before. The belief that others endorse a stereotype of one's group as inferior can worsen performance in the domain of the alleged inferiority (Aronson, 2002; Steele et al., 2002). Accordingly, we expected collective threat to predict lower GPA for students targeted by a negative stereotype about their intellectual ability—Black and Latino students (Aronson, 2002).

We distributed surveys to a sample of 472 junior and senior students attending a high school in a New England suburb. Of the participating students, 18% were Black, 3% were Latino, 75% were White, and 5% were "other." Students were classified as a member of a stereotyped minority group if they were Black or Latino.¹ Both Black and Latino students face a stereotype about the intellectual inferiority of their race, and members of both groups perform worse academically than their nonstereotyped peers (Aronson, 2002). Furthermore, they did not differ on any measure ($t_s < 1.5$, $p_s > .15$).

¹ Consistent with the U.S. Census Bureau, "Black," "Latino/Hispanic," and "White" constitute racial categories of self-identification. These categories are sociopolitical constructs rather than biological ones. Also, the majority of students in the "other" ethnic category were Asian; all others were a mix of non-Black and non-Latino ethnic groups. Although students in this group are members of an ethnic minority group, their academic abilities are not negatively stereotyped; indeed, in some cases, they are positively stereotyped (Shih, Pittinsky, & Ambady, 1999). Accordingly, we place these students in a separate racial category.

Collective threat was assessed with the item, “In school, I worry that people will draw conclusions about my racial group, based on the performances of *other* people in my race.” *Stereotype threat* was assessed with the item, “In school, I worry that people will draw conclusions about my racial group based on my performances.” A more general *threat of being stereotyped* was assessed with the item, “In school, I worry that people will draw conclusions about me, based on what they think about my racial group.” The latter two items were based on a questionnaire developed by Steele et al. (2003). Responses were made on separate scales (1 = *strongly disagree*; 7 = *strongly agree*). The order of the focal stereotype threat and collective threat items was counterbalanced; the item assessing threat of being stereotyped always came last. No effect of order was found. The three measures of racial threat proved to be correlated among stereotyped minority students (average $r = .69$), White students (average $r = .75$), and all other students (average $r = .60$).

We wanted to assess whether stereotyped minority students, compared with White students, reported higher levels of racial threat in general and of collective threat in particular. Analysis used participant race as a between-subjects independent variable and type of racial threat (collective threat, stereotype threat, threat of being stereotyped) as a repeated measure. Two orthogonal contrast codes tested the effects of participant race, one for the theoretically important contrast between stereotyped minority students and White students and the other for the theoretically unimportant contrast between these two groups combined and all other students.

Figure 1 displays the relevant means for the two focal ethnic groups. First, there was a main effect of student race, $F(1, 445) = 103.34, p < .01$. Stereotyped minority students reported higher levels of racial threat than did White students. Second, responses

varied with the type of racial threat. Collective threat and the threat of being stereotyped were rated as more worrisome than stereotype threat, $F(2, 444) = 34.13, p < .01$. Third, there was an interaction between student race and type of racial threat, $F(2, 444) = 15.22, p < .01$. The tendency for stereotyped minority students to report more racial threat than White students was most pronounced for collective threat and for the threat of being stereotyped. Nevertheless, collective threat proved the highest rated racial concern among minority students—significantly higher than both stereotype threat, $F(1, 445) = 71.17, p < .01$, and the threat of being stereotyped, $F(1, 445) = 3.87, p = .05$.

To determine the relationship between collective threat and outcomes (i.e., self-esteem and GPA), we used regression, controlling for stereotype threat, threat of being stereotyped, level of perceived racial discrimination (assessed with a two-item scale, e.g., “How much discrimination do you suffer because of your race?”), and racial identification. We measured racial identification with the Race Centrality subscale of the Multidimensional Inventory of Black Identity, supplemented with four items tapping the importance of race to students’ social lives (e.g., “I feel the most comfortable with people in my racial group”; Sellers, Rowley, Chavous, Shelton, & Smith, 1997). We assessed self-esteem with Harter’s (1988) Global Self-Worth Scale for adolescents. Because the measures used different scales, all independent and dependent variables were first standardized.

As expected, higher collective threat predicted lower self-esteem, $B = -.19, t(413) = -1.98, p < .05$. No other measure attained significance ($ts < 1.6, ps > .12$). Furthermore, collective threat predicted lower self-worth regardless of students’ race or level of racial identification. None of the two-way or three-way interactions involving collective threat, student race, or racial identification yielded a significant result ($ts < 1$).

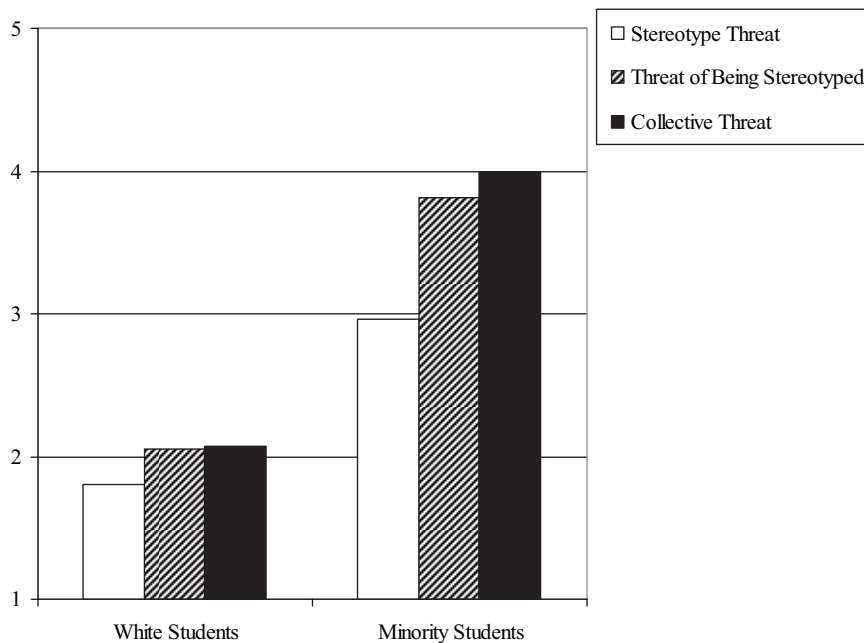


Figure 1. Mean levels of racial threat as a function of students’ minority status: Pilot study. Scale ranges from 1 (*strongly disagree*) to 7 (*strongly agree*).

We obtained academic records for all but 30 students; students with missing data had either dropped out of school or moved. To compute change in GPA, we regressed GPA at the end of the year (after our assessment) on GPA at the beginning of the year (before our assessment), using the unstandardized residuals as the outcome. This outcome represents the difference between actual GPA and expected GPA based on prior grades. It is analogous to a change score.

Stereotyped minority students evidenced a decline in academic performance ($M = -.08$), whereas White students showed a slight gain ($M = .06$), $B = .23$, $t(398) = 3.90$, $p < .01$. This widening in the racial achievement gap arose from the worsening grades of minority students who reported both low levels of racial identification and high levels of collective threat. That is, although higher collective threat predicted worse GPA overall, $B = -.31$, $t(398) = -3.10$, $p < .01$, it also interacted with students' race and level of racial identification, $B = -.11$, $t(398) = -2.32$, $p = .02$. Thus, minority students exhibited a Collective Threat \times Racial Identification interaction, $B = .26$, $t(398) = 3.08$, $p < .01$; White students did not ($t < 1$). Among minority students low in racial identification (one standard deviation below the mean), collective threat led to worse GPA, $B = -.35$, $t(398) = -2.82$, $p < .01$. Among those high in racial identification (one standard deviation above the mean), it did not ($t < 1.4$, $p > .18$). The relevant means, in their original metric, are presented in Figure 2.

In summary, our pilot study found that collective threat constitutes an openly reported concern on the part of minority students in an actual academic environment, one that they expressed without the imminent stressor of a test or assignment. Additionally, our results suggest that people feel uniquely threatened by the potential for acts of fellow group members to perpetuate a negative image of their group. The highest rated racial threat among minority stu-

dents was collective threat, and it uniquely predicted lower self-esteem among all students.

Although the consequences of collective threat for self-esteem did not appear to depend on racial identification, its consequences for GPA did. Deriving identity from one's racial group seemed to buffer minority students against the negative impact of collective threat on their GPA—a finding that is consistent with the protective effect of racial identification on academic performance observed by Wong et al. (2003; see also Oyserman et al., 2003; cf. Schmader, 2002). Those who are high in ethnic identification may be better able to mobilize social and psychological resources that ameliorate the threat of stigmatization (see Branscombe et al., 1999; Ethier & Deaux, 1994; Oyserman et al., 2003; Wong et al., 2003).

Encouraged by these correlational data, we conducted an experiment to assess the impact of collective threat on self-worth and on other important outcomes.

Experiment 1

Our objective in Experiment 1 again focused on examining whether the potentially stereotype-confirming behavior of an in-group member constituted a threat. As in the pilot study, our primary measure of threat was self-esteem. Black college students observed a same-race peer in an intellectually evaluative situation modeled after that used in research on stereotype threat (Steele & Aronson, 1995). Half of them were randomly assigned to a condition designed to evoke collective threat. They saw another member of their ethnic group in a stereotype-threat situation—specifically, that person was preparing to complete a difficult and evaluative verbal ability test (Steele & Aronson, 1995). The remaining Black students were assigned to a no-threat condition.

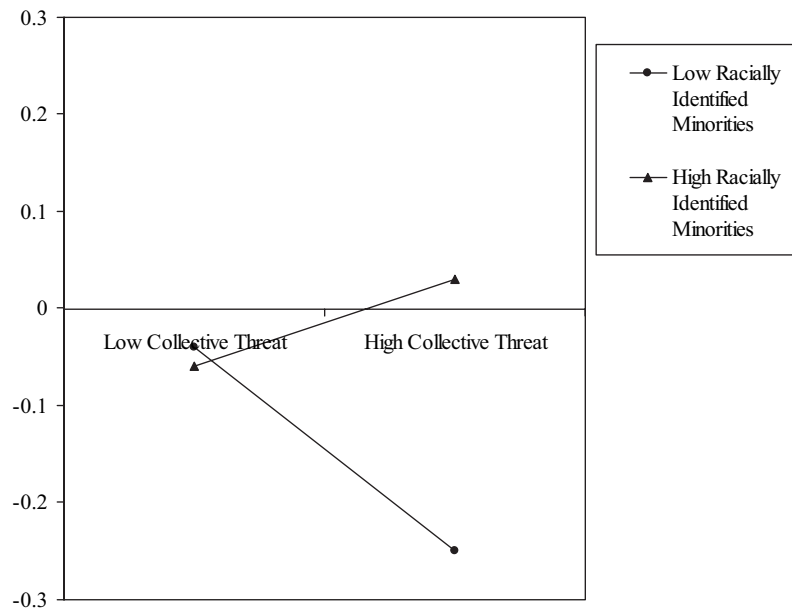


Figure 2. Unstandardized residuals of end-of-year GPA regressed on beginning-of-year GPA (i.e., the difference between actual end-of-year GPA and expected end-of-year GPA based on prior grades) as a function of minority students' level of racial identification and level of collective threat: Pilot study. Positive values reflect improvement in GPA; negative values reflect decline.

They saw the same person in a non-stereotype-threat situation, specifically, preparing to complete verbal puzzles. In contrast to participants in stereotype threat research, threatened participants in our study neither thought that their abilities were being evaluated nor expected to take a test themselves. We predicted that Black participants would have lower self-esteem in the threat condition, as only in this condition could the same-race peer confirm the stereotype about the intellectual inferiority of their race.

No White students were assessed in this procedure, as research consistently finds that nonstigmatized students show higher self-evaluation even when exposed to an obviously poor intellectual performance by a peer (Tesser, 1988). That is, because White students do not contend with a threatened social identity in this context, more individual-based social comparison processes predominate.

The results of the pilot study, which provided evidence for the role of collective threat in student GPA, gave rise to a secondary goal of Experiment 1, that is, exploring the consequences of collective threat for behavior. People cope with stressors by engaging in either a flight or a fight response (Cannon, 1932) or, to draw on analogous terms from Blascovich and Tomaka (1996), a threat or challenge response. In the context of collective threat, a flight response with respect to one's social identity involves distancing oneself from the threatening (i.e., stereotypical) qualities of one's group (Pronin, Steele, & Ross, 2004; Spears et al., 1997; Steele & Aronson, 1995). It might involve disassociating oneself from the same-race peer, as those who affiliate or come into close proximity with stigmatized individuals risk being denigrated themselves (Neuberg, Smith, Hoffman, & Russell, 1994). A flight response might also lead to avoidance of intellectual challenges where one would continue to contend with the alleged inferiority of one's group (Aronson, 2002; Cohen et al., 1999; Mendoza-Denton et al., 2002). By contrast, a fight response entails asserting solidarity with one's group in the face of threat and embracing rather than eschewing non-negative qualities emblematic of one's social identity (Branscombe et al., 1999; Klein & Azzi, 2001; Spears et al., 1997; Tajfel & Turner, 1986). A fight response might also involve trying to refute the allegations directed at one's group by confronting rather than avoiding intellectual challenges.

Students completed a set of measures examining the consequences of collective threat for such fight-or-flight responses: (a) a stereotype distancing measure (Steele & Aronson, 1995; see also Klein & Azzi, 2001; Pronin et al., 2004; Spears et al., 1997), on which participants indicate the applicability to themselves of traits and interests stereotypical of their racial group (e.g., enjoying basketball); (b) a physical proximity measure, that is, the distance that individuals choose to sit from a same-race peer who potentially confirmed the stereotype; and (c) a situational readiness measure, in which participants indicate their willingness to expose themselves to a stereotype threat situation in which their own academic skills will be evaluated. On an exploratory basis, we also included (d) a measure of stereotype activation. Although individuals under the threat of a negative stereotype think about that stereotype—increasing its cognitive accessibility—they are also motivated to suppress these thoughts. This pressure inhibits stereotype activation when mental resources are available (e.g., under conditions of low cognitive load; Iserman, Spencer, Davies, & Quinn, 2004).

In summary, our primary prediction in Experiment 1 was that collective threat would lead to lower self-esteem—a conceptual replication of the result predicted and obtained in the pilot study. Additionally, we assessed outcomes linked to how people cope with collective threat.

Method

Participants and Design

Sixty-three Black undergraduates at Yale University (44 women, 19 men) participated in the study in exchange for \$8. An official registrar's list specifying students' ethnicity and contact information was used to identify potential participants. They were randomly assigned either to a threat condition or to a no-threat condition. One participant in each condition suspected that the study concerned responses to racial stereotypes; accordingly, their data were discarded prior to analyses.

Procedure

Students participated in the experiment individually. On arriving at the laboratory, they were greeted by an Asian American female experimenter and told that a second participant would arrive momentarily. Approximately 2 min later, a Black female student (a confederate) entered the waiting area, and the participant and the confederate were then escorted to the laboratory room. For each participant, one of two experimenters (both Asian women) and one of three confederates (all Black women) were used. (There were no consistent effects involving either experimenter or confederate.) After thanking the participant for his or her participation, the experimenter looked down at her clipboard and said, "It turns out that we're just about done with our main study. And we only need one more person to wrap it up." For that reason, she explained, only [confederate's name] would complete the original study, because "her name appeared first on the list." The other person (i.e., the participant) would simply complete some "background questionnaires for a different study."

The participant and the confederate were each given an informed consent form to sign. The participant was then asked to wait while the experimenter provided instructions to the confederate. The experimenter explained to the participant that these instructions were directed to the "other subject" and that the instructions were thus irrelevant to the study that the participant would complete. Because the instructions given to the confederate were brief, their presentation in front of the participant appeared to be a matter of convenience only. No participant (beyond the two suspicious participants previously noted) questioned this aspect of the procedure during a thorough postexperimental interview.

In the threat condition, the participant overheard the experimenter tell the confederate that the researchers were interested in the "various factors that affect performance on problems that demand strong reading and verbal abilities" and that "for the next 25 minutes, you'll be working on a standardized test of verbal ability . . . identical in format to that of other standardized tests of verbal ability, like the SAT [Scholastic Aptitude Test]." The experimenter explained that the test was "quite difficult" in order to obtain an "accurate and reliable measure of your verbal abilities and limitations." These instructions were modeled after those used by Steele and Aronson (1995). Two procedural details reinforced the threat. First, after the experimenter left the room momentarily, the confederate said, "I'm so bad at these standardized tests." Second, after being given the test, the confederate asked the experimenter, "Will you be correcting this at the end?" The experimenter replied, "Yes, your performance will be evaluated" and then reiterated the importance of expending "your best effort" to help "us get the best possible evaluation of your verbal ability" (see Steele & Aronson, 1995).

The procedure in the no-threat condition, again modeled after Steele and Aronson (1995), was identical to that of the threat condition with three

exceptions. First, the experimenter did not mention ability and instead stated that the researchers were interested in the “various factors involved in solving verbal puzzles” and that “for the next 25 minutes, you’ll be working on a set of verbal puzzles and games.” The puzzles were “quite difficult,” the experimenter explained, because “we are interested in how people solve challenging verbal puzzles.” Second, after the experimenter left the room momentarily, the confederate commented, “Verbal puzzles . . . I remember these.” Finally, after being given the test, the confederate asked, “So should I just be working on these verbal puzzles?” The experimenter replied, “Yes, that’s what you’ll be doing here today” and reiterated the importance of expending “your best effort” to help “us in analyzing the problem-solving process.” Manipulation checks administered at the end of the study confirmed that participants accurately overheard the instructions in each condition.

In both conditions, participants were next told to bring their chair to a nearby room. In this room, they completed the dependent measure questionnaires assessing state self-esteem, stereotype distancing, and racial stereotype activation. We also tested whether our instructions successfully conveyed that participants’ own abilities were equally free from evaluation in the threat condition and in the no-threat condition. To do so, we measured how much participants felt that their verbal abilities were exposed to evaluative scrutiny.

Participants deposited the questionnaires in a drop-box upon completion and then returned to the original room with their chair. At this time, the participant saw the confederate seated and apparently finishing the study. After the participant positioned his or her chair and was seated, the experimenter (using a piece of tape) covertly marked the participant’s seating distance from the confederate.

In the presence of the participant, the experimenter asked whether the confederate had any questions about the study. The confederate had none and was subsequently thanked and excused. Next, the experimenter asked if the participant had any questions about the study (none had a substantive question). The measure of readiness to enter a stereotype-threatening situation was then administered. The experimenter said that it was possible that the researchers would run additional students through the same “test-taking study” that the other student had completed. But, the experimenter warned, the “test” in this future study would be “longer” and “more intense.” Should the participant wish to complete it, the experimenter explained, the participant should leave his or her name and contact information on a response form. To reduce social desirability pressures, the experimenter added that “some people are interested in doing this; some people aren’t,” and that “if you don’t want to, that’s completely fine.” The form provided two response options: “yes, please contact me” (with space for the participant’s name and contact information) and “no, I do not wish to participate.” Participants were instructed to seal their completed form in a provided envelope after the experimenter departed. They were further told to deposit the envelope in a drop-box, where a stack of envelopes ostensibly completed by previous participants was visible. Participants were told that after they completed the form, they were free to leave.

Upon exiting, participants were intercepted by the experimenter and debriefed. The participant and the confederate were reunited. The purpose of the study and the rationale for its deceptive elements were explained.

Measures

Self-esteem. This scale consisted of five items drawn from the State Self-Esteem Scale (Heatherton & Polivy, 1991). Selected items tapped the psychological consequences of stigmatization (Steele et al., 2002), that is, doubts about one’s ability (Aronson & Inzlicht, 2004; Stangor, Carr, & Kiang, 1998; Stone, Lynch, Sjomeling, & Darley, 1999) and about one’s social acceptance (Cohen & Steele, 2002; Mendoza-Denton et al., 2002). The items were as follows: “I am confident in my abilities,” “I feel smart,” “I feel concerned about the impression I am making,” “I feel that others respect and admire me,” and “I am worried about what other people think of me.” These were supplemented with a global measure of state self-worth

(“I feel good about myself”). Responses were made on separate scales (1 = *strongly disagree*, 7 = *strongly agree*). All items had loadings greater than .50 on the first unrotated factor. After reverse coding where appropriate, we summed the items into a composite ($\alpha = .75$), with higher values signifying more positive self-esteem.

Stereotype distancing. This measure asked students to rate the extent to which they enjoy various activities, characterize themselves as having various traits, and like various types of music and sports (Steele & Aronson, 1995). Some of the activities and traits were associated with the stereotypic image of African Americans. In the activities category, the stereotype-relevant items were “playing sports,” “socializing,” and “exercising.” In the traits category, the stereotype-relevant items were “aggressive,” “humorous,” “lazy,” “easygoing,” and “good-natured.” In the music category, the stereotype-relevant items were “rap,” “rhythm and blues,” and “jazz.” In the sports category, the stereotype-relevant item was “basketball.”² Responses were made on separate scales (1 = *not at all*, 7 = *extremely*). They were summed into a composite.

Racial stereotype activation. Participants completed a word-fragment completion exercise (Steele & Aronson, 1995), in which 40 word fragments were presented. Some of them (e.g., _ A C E) could be completed either with a stereotype-irrelevant word (e.g., F A C E) or with a stereotype-relevant one (e.g., R A C E). The potential race-relevant words included *race*, *welfare*, *lazy*, *color*, *class*, *brother*, *black*, *bias*, *riot*, *soul*, *poor*, and *minority*. The total number of stereotype-relevant words each participant generated constituted the measure of racial stereotype activation.

Perceived exposure to evaluative scrutiny. This measure asked participants to indicate the extent to which they felt that their verbal abilities were being evaluated in the study (1 = *not at all*, 7 = *very much*).

Racial identification. As in the pilot study, racial identification was assessed. Because a long inventory risked alerting participants to our interest in race prior to the seating distance measure, a single-item scale was used in this study. (For a discussion of the validity of single-item scales, see Robins, Hendin, & Trzesniewski, 2001.) This measure was administered after the other questionnaire measures. The scale asked participants to indicate “How important is your racial background to you?” (1 = *not at all important*, 7 = *extremely important*). Prior to the experiment, the scale’s reliability and validity were established. In a sample of 42 undergraduates (16 Black, 26 White), the test-retest reliability (over 2–8 weeks) proved satisfactory, $r(41) = .80, p < .01$. In another sample of 35 Black undergraduates, evidence of convergent validity was found in the form of a strong correlation with the Race Centrality subscale of the

² These items had been selected on the basis of a prior investigation into the features associated with the stereotype of African Americans (Cohen & Garcia, 2003). In this study, a questionnaire was administered to a sample of convenience ($N = 36$). Respondents were asked to think about the “cultural stereotype or image of African Americans” and were told that “there are no objectively correct answers.” Additionally, they were assured both that the researchers were “not interested in your personal beliefs but in the content of the cultural stereotype or image . . . in both its negative and positive aspects” and that “there is no correlation between your personal beliefs and your knowledge of the stereotype.” This method was similar to one used by Devine (1989). A list of miscellaneous activities and traits was then presented, and participants were asked to rate each one on a scale ranging from 1 (*does not fit stereotype at all*) to 7 (*very much fits with the stereotype*). Because it was important to identify characteristics that Black participants could be expected either to avoid or to affirm as a function of a threat to their racial identity, the presented items encompassed characteristics of negative, neutral, and positive valence (see also Biernat, Vescio, & Green, 1996). To determine the items for subsequent use, we relied on the midpoint of our scale. Items with a mean rating greater than 4 were classified as stereotype relevant.

Multidimensional Inventory of Black Identity (Sellers et al., 1997), $r(34) = .79$, $p < .01$. Racial identification varied neither with gender nor with experimental condition ($t_s < 1$). The measure was dichotomized because of the small number of observations at the lower end of the scale that could be used for parameter estimation and because the fundamental trend in the data was more adequately captured by a simple binary split. Roughly half of the sample was categorized as “moderately racially identified” (6 or lower); the remaining participants (41%) were categorized as “highly racially identified.”

Results

Data Analytic Strategy

A one-way analysis of variance (ANOVA) was conducted, with experimental condition (threat vs. no threat) as the independent variable. We used ANOVA so that main effects involving gender could be included in the model where significant. To explore the effect of racial identification, we supplemented this analysis with a 2×2 ANOVA, using both experimental condition and participants' level of race identification as independent variables. For this analysis, main effects and interactions involving gender were included in the model where significant. In no case did participant gender interact with experimental condition. Because effects involving participant gender are tangential, they receive no further attention in Experiments 1 and 2. Because analyses involving racial identification are exploratory in nature, their presentation is postponed to the end of the Results section. Degrees of freedom vary for different analyses due to the inclusion of significant main effects and interactions involving participant gender and due to missing values for some measures.³

Main Effects of Collective Threat

Table 1 displays the means and standard deviations for each of the dependent measures.

Table 1
Dependent Measures as a Function of Threat Condition, Study 1

Variable	<i>F</i>	<i>df</i>	Experimental condition	
			No threat	Threat
State self-esteem	9.43**	1, 57		
<i>M</i>			30.53	27.12
<i>SD</i>			4.25	3.34
Stereotype distancing	4.18*	1, 57		
<i>M</i>			61.75	58.00
<i>SD</i>			6.35	7.60
Stereotype activation	3.70†	1, 59		
<i>M</i>			2.57	2.00
<i>SD</i>			1.20	1.12
Seating distance	5.87*	1, 54		
<i>M</i>			38.22	42.09
<i>SD</i>			4.76	5.43
Readiness to enter stereotype-threat situation	$\chi^2 < 1$	1		
Percentage assenting to take test			78	69

† $p = .059$. * $p < .05$. ** $p < .01$.

State self-esteem. Consistent with the results of the pilot study, state self-esteem was lower in the threat condition than in the no-threat condition, $F(1, 57) = 9.43$, $p < .01$.

Stereotype distancing. As expected, participants characterized themselves less stereotypically under threat than under no threat, $F(1, 57) = 4.18$, $p < .05$.

Racial stereotype activation. Threat led to inhibition (rather than activation) of stereotype-relevant words relative to the no-threat condition, yielding a marginally significant effect, $F(1, 59) = 3.70$, $p = .059$.

Seating distance. Consistent with past research (Lewis & Sherman, 2003; Marques & Paez, 1994), participants distanced themselves from the specific person who had potentially discredited their social identity. They sat farther from the Black peer in the threat condition than in the no-threat condition, $F(1, 54) = 5.87$, $p < .02$.

Readiness to enter stereotype-threatening situation. Participants had the opportunity to complete an exercise characterized as similar to, but harder than, the one undertaken by the same-race peer. A chi-square test of independence—which assessed whether participants' responses were associated with condition—yielded no effect of condition, $\chi^2(1, N = 59) < 1$.

Perceived exposure to evaluative scrutiny. The threat manipulation had no impact on how much participants felt that their verbal skills were being evaluated (no threat, $M = 3.79$; threat, $M = 4.06$; $F < 1$).

Racial Identification: A Moderator?

As in the pilot study, students under collective threat had lower self-esteem regardless of their level of racial identification. The Racial Identification \times Condition interaction was not significant ($F < 1$). Although highly racially identified minority students had more positive self-esteem than did their less identified peers, $F(1, 55) = 4.45$, $p = .04$, both highly and moderately identified participants had lower self-esteem in the threat condition than in the no-threat condition, $t(55) = -1.85$, $p < .07$, and $t(55) = -2.51$, $p < .02$, respectively.

However, the two groups differed in how they coped with threat. Moderately identified participants avoided the stereotype in thought and action, whereas highly identified students did not. Racial identification interacted with threat for stereotype distancing, $F(1, 52) = 12.52$, $p = .01$; for stereotype activation, $F(1, 57) = 4.64$, $p < .04$; and for readiness to enter a stereotype-threatening situation, $\Delta\chi^2(1, N = 59) = 9.27$, $p < .01$. Among moderately identified students, threat (relative to no threat) led to

³ A few participants failed either to answer some questionnaire items or to complete the situational readiness measure. In addition, a measure of seating distance was obtained for all but 4 participants; for the latter participants, either the experimenter had no opportunity to mark seating distance covertly or the participant moved his or her chair upon departure and thus disturbed the placement of the mark. Finally, diagnostic procedures revealed one outlier on the self-esteem measure (more than three standard deviations from the condition mean). To prevent this outlier from exerting a disproportionate influence on significance tests, it was excluded from analyses involving this measure. Doing otherwise—that is, using a nonparametric test or even retaining the anomalous observation in a parametric analysis—yields the same (i.e., statistically significant) result.

less stereotypical self-ratings, $t(52) = -2.56, p < .02$; to less stereotype activation, $t(57) = 2.82, p < .01$; and to a decreased likelihood of assenting to take the test (55% vs. 93%), $\chi^2(1, N = 34) = 5.69, p < .02$. By contrast, among highly identified students, threat led to more stereotypical self-ratings, $t(52) = 2.16, p < .04$; to no inhibition of the stereotype ($t < 1$); and to a marginally increased likelihood of assenting to take the test (92% vs. 62%), $\chi^2(1, N = 25) = 3.11, p < .08$. Although the interaction for seating distance was not significant ($F < 1$), only moderately identified participants sat farther from the same-race peer under threat, $F(1, 31) = 3.98, p = .055$. Highly identified participants did not, $F(1, 20) = 1.63, p = .22$.

Discussion

Like the pilot study, Experiment 1 demonstrated that collective threat is linked to lower self-esteem. Black students had lower self-esteem when they saw a same-race peer in an intellectually evaluative situation rather than an intellectually non-evaluative one. Although participants were not being personally evaluated in the threat condition—and did not feel that their abilities were under evaluation more in this condition than in the no-threat condition—they responded as though their personal worth were under assault.

Under collective threat, participants avoided the stereotype. They distanced themselves from the stereotypical image of their social group (Pronin et al., 2004; Spears et al., 1997; Steele & Aronson, 1995). They dissociated from the person who had potentially discredited their group by sitting farther away (see also Marques & Paez, 1994). In addition, they inhibited thoughts about the stereotype (Iserman et al., 2004).

As in the pilot study, collective threat led to lower self-worth regardless of students' level of racial identification. Of course, this may have occurred because of the relatively high level of ethnic group identification of all our minority participants. Nevertheless, it also seems possible that regardless of whether one personally identifies with one's group, one could still be threatened by the prospect of being so identified by others (Cohen & Steele, 2002; Cohen et al., 1999; Klein & Azzi, 2001; Steele et al., 2002; Vorauer et al., 1998).

As in the pilot study, an interesting—albeit exploratory—qualification emerged with respect to the influence of racial identification on how people coped with collective threat. Less racially identified students used a strategy we would characterize as *social identity avoidance*, that is, one consistent with a flight response. They withdrew from the stereotype both in thought and in action. They described themselves less stereotypically, disassociated from the same-race peer, and inhibited thoughts about the stereotype. Their response echoes the way in which low group-identified individuals have been found to cope with a threatened social identity. They distinguish themselves from their group (Spears et al., 1997) and disassociate from and even denigrate other group members (Ellemers et al., 2004; Ethier & Deaux, 1994). By contrast, highly racially identified participants showed none of these responses. Instead, they used a strategy we would characterize as *social identity affirmation*, that is, one consistent with a fight response. Under threat, these participants rated themselves more stereotypically. They did so, it is worth noting, not for negative traits (e.g., aggressive; $t < 1$) but selectively for neutral and

positive ones (e.g., enjoying basketball), $t(52) = 2.47, p < .02$ (Biernat et al., 1996; Klein & Azzi, 2001). Their response pattern echoes the findings of previous research regarding the ways in which high group-identified individuals cope with threats to their social identity, specifically by asserting their stereotypicality and solidarity with the group (Spears et al., 1997; see also Branscombe et al., 1999; Tajfel & Turner, 1986).

Under threat, moderately racially identified participants also proved less willing to expose themselves to an intellectually evaluative situation. This response is analogous to what Steele and Aronson (1995) call *disidentification* and what social identity theorists call *opting out* (Lalonde & Silverman, 1994), wherein one defensively devalues or altogether avoids the domain of threat. While this coping mechanism could be effective in some ways, it could discourage effort and challenge seeking that could otherwise benefit performance (Aronson, 2002; Cohen et al., 1999; Mendoza-Denton et al., 2002). By contrast, highly identified students under threat were marginally more likely to expose themselves to an evaluative situation, in spite of the stereotype threat inherent in doing so and in spite of its characterization as more demanding than the situation faced by the same-race peer. These participants might have viewed the situation as an opportunity to defend the image of their group, by performing well and thus challenging the negative stereotype that may have been put into play by their fellow group member.

Our results with respect to racial identification, while interesting, are secondary. Our primary result is that the potentially stereotype-confirming behavior of ingroup members constitutes a significant source of concern to stereotyped students in an academic context and that this concern threatens self-worth even when people experience no evaluative threat themselves. Each of the two previous studies supports this claim.

Experiment 2

A second experiment was conducted to replicate the effect of collective threat on self-esteem and to address issues not considered in the previous two studies. One issue concerns whether shared group membership constitutes a necessary condition for the effect of collective threat on self-worth. We assert that the collective threat requires the two individuals to have a common group membership. Consequently, Black students should not experience collective threat when aware that a White peer might perform poorly on an intellectually evaluative task. Another issue concerns the role of the stereotype relevance of the task in collective threat. We maintain that collective threat requires a potentially poor performance by an ingroup member on a stereotype-relevant task. Black students should not experience collective threat when they are aware that a Black peer could do poorly on a stereotype-irrelevant task. (Our no-threat condition in study 1 did not explicitly raise the possibility that the same-race peer might perform poorly.)

To address these two issues, Experiment 2 featured three experimental conditions: one collective threat condition and two no-threat control conditions. In the threat condition, Black students were led to believe that a same-race peer worked on a stereotype-relevant task, specifically, an intelligence test. In the first no-threat control condition, Black students were led to believe that a same-race peer worked on a stereotype-irrelevant task—an art test. In the

second no-threat control condition, Black students were led to believe that a White peer worked on an intelligence test. Once again, our primary measure of threat was self-esteem. We predicted that Black participants would have lower self-esteem in the threat condition than in the two no-threat conditions. We also tested whether collective threat occurs, as our analysis predicts, in response to a potentially poor rather than strong performance on the part of the ingroup member. To address this question, we asked participants to estimate the ability of the peer.

Continuing the exploratory aspect of our research, we took up three other objectives in Experiment 2. The first objective involved testing the robustness of collective threat. To do so, we made the collective threat in Experiment 2 less vivid and more remote than it was in Experiment 1. In contrast to Experiment 1, participants in Experiment 2 never met the same-race peer. They did not hear the test described as difficult. They overheard the peer express apprehension about the test only once. Also in contrast to Experiment 1, participants were not made explicitly aware that the peer had entered a highly evaluative situation where explicit feedback identifying his or her intellectual limitations would be given. Instead, participants were led to believe only that an intelligence test had been administered to a same-race peer. Would even this subtle threat undermine self-worth?

A second objective involved testing the effect of collective threat on test performance. Among less racially identified minority students, collective threat predicted lower GPA in the pilot study and, in Experiment 1, caused more avoidance of a test. In light of these results, it seemed desirable to assess actual intellectual performance.

Finally, as in our previous studies, the role of racial identification in collective threat was explored.

Method

Participants and Design

Participants were 63 Black undergraduates at Yale University. They took part in the study in exchange for either \$8 or course credit. Paid participants were identified using a registrar's list; students receiving course credit were identified with a participant pool roster. Two students suspected that the purpose of the study concerned responses to racial stereotypes (one was in the Jamal/IQ test condition, the other in the Jeffrey/IQ test condition). Another four students (distributed roughly equally across conditions) failed to hear an important component of the experimental manipulation (noted below). Accordingly, data from these six students were excluded from analyses. The remaining sample comprised 57 participants (31 women, 26 men) randomly assigned to one of three experimental conditions: one collective threat condition and two no-threat control conditions.

Procedure

Each participant was met by an Asian American female experimenter, who stated that the purpose of the study was to investigate "how people form impressions of one another on the basis of brief interactions." The same experimenter was used for all participants. She explained that the participant's partner was in the room across the hall. To signify the race of the partner, the experimenter referred to him as either Jamal (a common Black name) or Jeffrey (a common White name). In the Jamal/IQ test and Jeffrey/IQ test conditions, the experimenter explained that the partner was completing another study that entailed "assessing a person's intellectual ability" and that the partner was "taking a shorter version of the standard

IQ test." The experimenter told the participant that after their partner finished the test, the two of them would interact. Participants were informed that prior to this interaction, they would complete some background questionnaires. The procedure in the Jamal/art test condition was identical to that in the Jamal/IQ test condition with one exception: The experimenter did not mention intellectual ability and instead said that the partner ("Jamal") was completing a study that entailed "assessing a person's drawing abilities" using "art puzzles."

Because the peer was apparently a fellow Yale student, he might be expected to perform well on the IQ test. Accordingly, we introduced the possibility that he might perform poorly (and thereby confirm, in the Jamal/IQ test condition, the racial stereotype). To do so, we staged the following scene. In all three conditions, the experimenter excused herself from the participant's lab room. She then knocked on the door of another lab room where the other participant supposedly was working. Opening the door, the experimenter called into the room (within earshot of the participant), "Hey [Jamal/Jeffrey], are you finishing up?" Inside the room, the experimenter then played a digital recording of the student's response. (The recording had been engineered to sound authentic. A Black student's voice had been used in the Jamal conditions, a White student's voice in the Jeffrey condition.) The response was: "Yeah, I guess so. To be honest with you, I'm so bad at [these standardized tests/drawing]." The experimenter replied, "Oh yeah? Hmm . . . Just finish up, and we'll move on to the next section." As noted previously, in the post-debriefing interview, 4 participants (2 in the Jamal/IQ test condition and 1 in each of the remaining two conditions) said that they did not hear the recording (and were thus discarded prior to analysis).

Participants then completed the questionnaires assessing state self-esteem, stereotype distancing, racial stereotype activation, and perceived exposure to evaluative scrutiny. After completing these scales, the measure of readiness to enter a stereotype-threatening situation was administered in the same manner described in Experiment 1.

Participants were then given up to 18 min to complete a verbal test. It is important to note that participants had no prior knowledge that they would take this test. Thus, their responses to the previous measures could not be contaminated by the expectation of taking a test themselves. Next, participants completed the measures assessing racial identification and the perceived ability of the peer. Finally, participants were probed for suspicion, thoroughly debriefed about the true purpose of the study, and thanked for their participation.

Measures

Unless otherwise noted below, all measures were identical to those used in Experiment 1. No measure of seating distance was obtained, as this study did not include a confederate.

Self-esteem. We used the complete Performance and Social State Self-Esteem subscales rather than only the five items selected from those scales in Experiment 1 (Heatherton & Polivy, 1991). These were supplemented with the same global state self-esteem item used in Experiment 1. All but three items loaded on the first unrotated factor (with loadings $\geq .40$). The three items were excluded from the composite (including them does not alter the statistical significance of any reported result). After reverse coding where appropriate, we summed the 12 items into a composite ($\alpha = .79$), with higher values signifying more positive self-esteem.

Perceived exposure to evaluative scrutiny. One item asked participants to indicate how much they thought their "intellectual abilities" were being evaluated in the study; a second item asked how much they thought their "general abilities" were being evaluated in the study (1 = *not at all*, 7 = *very much*).

Verbal test. The verbal test consisted of 16 multiple-choice items drawn from various practice verbal tests for the Graduate Record Examination (Educational Testing Service). Consistent with previous research (e.g., Shih et al., 1999; see also Steele & Aronson, 1995), our primary

measure of performance was test accuracy—the number of problems correct divided by the number of problems attempted. Accuracy controls for individual differences (e.g., with regard to knowledge of subject matter) that could affect the number of problems students attempt but not the overall quality of their performance on the problems that they are able to undertake.

Perceived ability of the peer. Participants estimated how much ability the peer had on the task he was ostensibly completing (1 = *very little*, 7 = *a great deal*).

Racial identification. The racial identification measure was expanded beyond the single-item scale used in Experiment 1. The relevant scale included the original item used in Experiment 1, the four-item Importance of Identity subscale of the Collective Self-Esteem Inventory (e.g., “The racial/ethnic group I belong to is an important reflection of who I am”; Luhtanen & Crocker, 1992), and one item from the Race Centrality subscale of the Multidimensional Inventory of Black Identity (e.g., “I have a strong sense of belonging to people of African descent”; Sellers et al., 1997). Responses were made on appropriately labeled 7-point scales. All six items had loadings greater than .50 on the first unrotated factor. Accordingly, they were summed into a single composite ($\alpha = .83$), with higher values representing greater racial identification. Racial identification was moderately high ($M = 26.28$) and varied neither with experimental condition nor with participant gender ($ts < 1$).

Results

Data Analytic Strategy

We used regression because our theoretically specified moderator (i.e., the peer’s estimated ability) was continuous. Two orthogonal contrast codes tested the effects of experimental condition, the first for the theoretically important contrast between the threat condition and the two no-threat conditions (Jamal/IQ test = +2, Jamal/art test = -1, Jeffrey/IQ test = -1) and the second for the contrast between the two no-threat conditions (Jamal/IQ test = 0, Jamal/art test = -1, Jeffrey/IQ test = +1). We expected the latter contrast to yield a null result.

We included main effects and two-way interactions involving participant gender where significant; the small sample size precluded testing three-way interactions. In no case did gender significantly interact with threat (i.e., the first contrast code). Only after testing the effects of the two contrast codes did we assess main effects and interactions involving the estimated ability of the peer. As is appropriate, in testing a variable’s interaction with condition, we computed that variable’s interaction with each of the two contrast codes and retained both interaction terms if either one proved significant. As expected, no interaction effects were found involving the second contrast code ($ts < 1.8$, $ps > .09$).

Because the measures used different scales, we standardized all continuous independent and dependent variable measures before computing regression coefficients. To supplement the presented coefficients, we report means for the dependent measures in their original scale. Four participants declined to estimate the peer’s ability (distributed roughly equally across conditions). Degrees of freedom varied slightly because of missing values and because of the inclusion of significant main effects and interactions involving participant gender.

State Self-Esteem

As expected, state self-esteem was lower in the Jamal/IQ test condition ($M = 56.47$) than in the Jamal/art test condition ($M =$

62.29) and the Jeffrey/IQ test condition ($M = 63.12$), $B = -.23$, $t(50) = -2.60$, $p < .02$. The two no-threat conditions did not differ ($t < 1$).

As noted previously, the difference between the threat condition and the two no-threat conditions should be largest among participants who had less confidence in the peer’s ability and who thus had reason to believe that he would confirm, in the Jamal/IQ test condition, the negative stereotype. Although the peer had “said” that he was not good at the task, students in the study attended an elite academic institution, and they would assume that any peer they encountered had the intellectual capacity to attend such a school. Also, as noted previously, both the evaluative nature of the situation and the peer’s expressed level of distress were downplayed in the threat condition used in this study. Perhaps as a result of these factors, participants gave a high mean estimate of the same-race peer’s intellectual ability ($M = 5.09$, $SD = 0.87$, on the 7-point scale). Given this high estimate, the previous analysis provides only a weak test of our hypothesis.

Indeed, the estimated ability of the peer interacted with threat (i.e., the first contrast code), $B = .38$, $t(43) = 3.76$, $p = .01$. The relevant means are displayed in Figure 3. Among participants who gave a low estimate of the peer’s ability (one standard deviation below the mean), self-esteem was lower in the threat condition than in the no-threat conditions, $B = -.71$, $t(43) = -4.95$, $p < .01$. By contrast, among participants who gave a high estimate of the peer’s ability (one standard deviation above the mean), self-esteem was high regardless of condition ($ts < 1$). The results suggest that collective threat requires uncertainty about the in-group member’s ability. It is noteworthy that the minimal condition is uncertainty, not doubt. Participants defined as low along the measure assessing the peer’s estimated ability fell not at the low end of the scale, but near its midpoint.

Stereotype Distancing

No main effect of condition was found ($ts < 1$). However, threat again interacted with the estimated ability of the peer, $B = .33$, $t(46) = 2.92$, $p < .01$. Among participants who gave a low estimate of the peer’s ability, self-ratings were less stereotypical in the threat condition ($M = 50.39$) than in the two no-threat conditions (for the Jamal art/test, $M = 62.77$; for the Jeffrey/IQ test, $M = 56.32$), $B = -.43$, $t(46) = -2.64$, $p = .01$. By contrast, among participants who gave a high estimate of the peer’s ability, self-ratings were slightly more stereotypical in the threat condition ($M = 64.00$) than in the two no-threat conditions ($Ms = 58.05$ and 59.73 , respectively), $B = .24$, $t(46) = 1.86$, $p < .07$. While this latter result should be regarded tentatively due to its marginal nature, it suggests a social identity affirmation response among participants who thought that the peer would refute the stereotype rather than reinforce it. It is important to note that this affirmation response occurred for neutral and positive stereotypical traits, $B = .28$, $t(46) = 2.25$, $p < .03$, not negative ones ($t < 1$).

Racial Stereotype Activation

Stereotype activation was higher in the Jamal/IQ test condition ($M = 2.44$) than in the Jamal/art test condition ($M = 2.05$) and the Jeffrey/IQ test condition ($M = 1.67$), $B = .19$, $t(54) = 2.13$, $p < .04$. The two no-threat conditions did not differ ($t < 1.2$, $p > .26$).

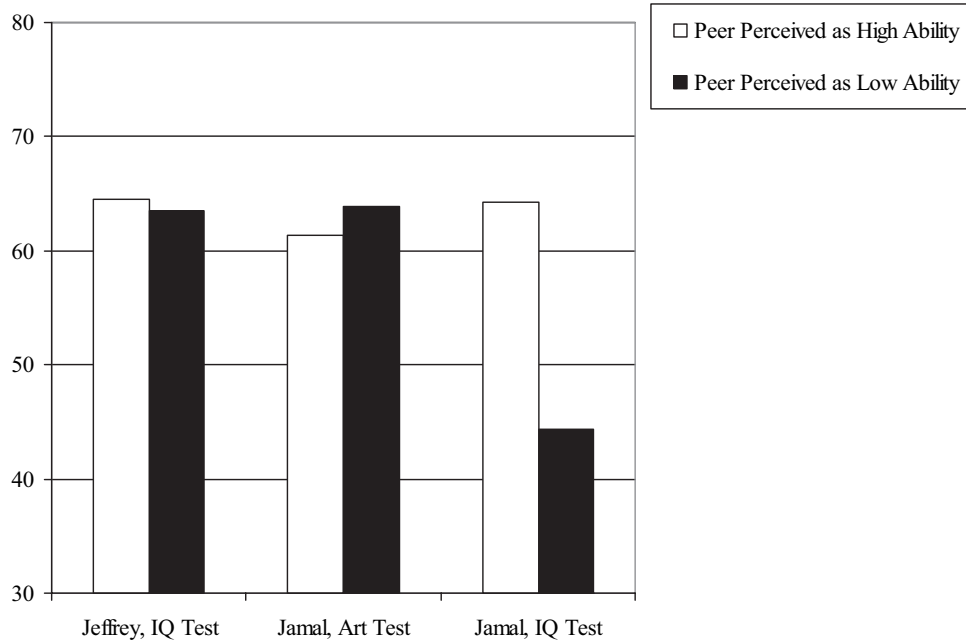


Figure 3. Mean levels of state self-esteem as a function of experimental condition and estimated ability of peer: Experiment 2. Higher values signify more positive self-esteem.

Although the threat condition appears to have increased the accessibility of the stereotype, some of this effect may be due to the perceived presence of another Black person in the same study. Consistent with this claim, mean activation in the Jamal/art test condition fell halfway between the other conditions.

Threat again interacted with the estimated ability of the peer, $B = .28$, $t(47) = 2.38$, $p < .03$. Among participants who gave a high estimate of the peer's ability, activation was greater in the threat condition than in the no-threat conditions, $B = .41$, $t(47) = 3.15$, $p < .01$. By contrast, among participants who gave a low estimate of the peer's ability, there was no effect of condition ($t < 1$). It seems possible that participants who worried that the ingroup member might perform poorly attempted to inhibit any activation that the joint presence of a Black peer and an intellectually evaluative test would otherwise have elicited (Kunda, Davies, Adams, & Spencer, 2002; Steele & Aronson, 1995).

Test Performance

Test accuracy was lower in the Jamal/IQ test condition ($M = .42$) than in the Jamal/art test condition ($M = 0.51$) and the Jeffrey/IQ test condition ($M = 0.57$), $B = -.20$, $t(53) = -2.29$, $p < .03$. For total number of problems solved correctly, the same significant difference between threat and no-threat conditions ($p < .04$), and nonsignificant difference between the two no-threat conditions ($p > .17$), were found. The effect of condition did not vary with the estimated ability of the peer ($t < 1$).

Readiness to Enter Stereotype-Threatening Situation

Logistic regression identified no main effect of condition ($ps > .68$). Threat again interacted with the estimated ability of the peer, $\Delta\chi^2(1) = 4.39$, $p < .05$. However, follow-up analyses revealed

only a trend among participants who gave a low estimate of the peer's ability, with those in the threat condition assenting to take the test more often than those in the no-threat conditions, $\Delta\chi^2(1) = 3.26$, $p < .08$. Given the marginal nature of the effect, however, it should be viewed tentatively.

Perceived Exposure to Evaluative Scrutiny

Participants reported that both their intellectual abilities and their general abilities were being evaluated to the same extent in the Jamal/IQ test condition ($Ms = 3.41, 4.39$), the Jamal/art test condition ($Ms = 3.61, 4.19$), and the Jeffrey/IQ test condition ($Ms = 3.40, 4.29$; $ts < 1$). This was the case regardless of the estimated ability of the peer ($t < 1$).

Racial Identification: A Moderator?

As in the previous two studies, collective threat had a greater impact on participants who were low rather than high in racial identification. In contrast to our previous studies, however, this occurred only for our primary measure of threat, self-esteem. We tested both the main effect of racial identification and its two-way interactions with condition. (Because of limited sample size, we excluded main effects and interactions involving the peer's estimated ability. It is important to note that the latter measure did not correlate with racial identification, $rs < .16$, $ps > .58$.) There was a main effect of racial identification. As in Experiment 1, participants had more positive self-esteem if they were high rather than low in racial identification, $B = .24$, $t(46) = 2.07$, $p < .05$. There was also a Racial Identification \times Threat interaction, $B = .20$, $t(46) = 2.56$, $p < .02$. Among less identified participants, self-esteem was lower in the threat condition ($M = 52.14$) than in the two no-threat conditions (Jamal/art test $M = 60.28$; Jeffrey/IQ test

$M = 66.22$), $B = -.41$, $t(46) = -3.76$, $p < .01$. By contrast, among more identified participants, self-esteem was high both in the threat condition ($M = 63.72$) and in the two no-threat conditions ($M_s = 66.08, 61.82$, respectively).

Discussion

Like the two previous studies, Experiment 2 demonstrated that experiencing collective threat is linked to lower self-esteem. This occurred even though—in contrast to Experiment 1—the threat was subtle rather than vivid. Students neither met nor saw the same-race peer. They received no explicit information that the peer had entered a difficult and highly evaluative situation aimed partly at identifying limitations in intellectual ability. Additionally, as expected, the negative effect of threat on self-worth occurred only for participants who felt uncertain of the peer's ability and who thus had reason to think he might confirm the alleged intellectual inferiority of their race.

Experiment 2 supported two other, theoretically derived conditions of collective threat. First, collective threat requires a shared group membership. Black students did not experience lower self-esteem when the peer taking the IQ test was White rather than Black. Second, collective threat requires the fellow group member to be at risk of confirming the stereotype. Black students did not suffer lower self-esteem when the Black peer took a test irrelevant to the stereotype.

A secondary finding concerned the effect of collective threat on the way in which people oriented to their social identity. As in Experiment 1, Black students under collective threat distanced themselves from the stereotypical qualities of their racial group (Steele & Aronson, 1995; see also Pronin et al., 2004; Spears et al., 1997). Consistent with our theoretical analysis, they did so only if they felt uncertain of the same-race peer's intellectual ability and thus had grounds to believe that he might confirm the negative stereotype.

Collective threat also undermined participants' performance on a standardized test that they were later, unexpectedly, asked to complete. This result offers some evidence that the association between collective threat and low GPA observed in our pilot study issues, in part, from the causal impact of collective threat on performance.

A final secondary result concerns the moderating influence of racial identification. Once again, less identified students proved more responsive to collective threat. Why this effect occurred for self-esteem in the present study, and only for the other secondary measures in the two previous studies, is unclear. Differences in the intensity of threat may have played a role. When the threat lacks intensity, as in Experiment 2, racial identification may reduce the likelihood of perceiving the situation as threatening to self-worth (see Ethier & Deaux, 1994). When the threat is more intense—on account of either its chronic nature (as in the pilot study) or its greater immediacy and plausibility (as in Experiment 1)—racial identification may fail to protect self-worth from the knowledge that one's group has, in fact, been negatively represented. It may instead act as a source of social support and self-esteem and thus facilitate recovery from threat (see Branscombe et al., 1999). In such cases, racial identification may ameliorate the normal esteem-protective adaptations to threat. Whereas low identified minorities may protect self-worth by disidentifying from school, distancing

themselves from the stereotypical image of their race, or otherwise severing self-evaluation from the domains of threat (Major, Spencer, Schmader, Wolfe, & Crocker, 1998; Steele et al., 2002), highly identified minorities may instead draw on their racial identity as a compensatory source of self-worth (see also Sherman & Cohen, 2002).

However, the most important result of Experiment 2 is its replication of the negative effect of collective threat on self-esteem and its validation of the hypothesized parameters of this effect. An important remaining question concerns the generality of the phenomenon.

Experiment 3

The studies presented thus far focus exclusively on ethnic minority students. It is possible that factors unique to this group account for the results. To address this limitation, we conducted a conceptual replication of Experiment 1, this time focusing on women. Because women contend with negative stereotypes about the quantitative ability of their gender group (Spencer et al., 1999), they should experience collective threat if they are aware that a female peer could perform poorly on a math test and thus lend credence to the gender stereotype.

Method

Participants and Design

Thirty-two undergraduate women who were enrolled in either a math or an engineering course took part in the study in exchange for payment. We recruited math and engineering students on the basis of the assumption that people who care about a performance domain will want to maintain a positive representation of their group in such a setting (Steele et al., 2002). Participants were randomly assigned to one of two conditions. In the collective threat condition, they observed another female student about to complete a test that had been described as diagnostic of math ability. In the no-threat condition, they observed this student about to complete math puzzles that had been described as non-diagnostic of math ability.

Procedure

The procedure was almost identical to that of Experiment 1, with one important change. References to a "verbal test" in the threat condition were changed to references to a "math ability test," and references to "verbal puzzles" in the no-threat condition were changed to references to "math puzzles." Manipulation checks at the end of the study confirmed that participants accurately overheard the instructions in each condition. One of three male experimenters conducted the study; one of seven female students played the confederate.

Each of the conceptual dependent variables assessed in Experiment 1 was assessed in Experiment 3. (Because of time constraints, the measure of test performance used in Experiment 2 was dropped.) The measures of stereotype distancing and stereotype activation referred to stereotypes about women rather than about Black Americans. The stereotype distancing measure used a validated scale developed by Pronin et al. (2004) that asks respondents to rate how much they characterize themselves as having various traits, enjoying various activities, and entertaining various future plans. Some of the traits (e.g., gossipy, emotional), activities (e.g., using makeup, flirting), and plans (e.g., thinking about leaving work to have children) are associated with stereotypes of women who lack math ability. As Pronin et al. (2004) recommends, participants rated both the self-descriptiveness of each item and its personal importance, using separate, appropriately labeled 7-point scales. The scale contains 14 questions and

encompasses negative items (e.g., “gossipy”) and items more neutral or positive in valence (e.g., “leaving work to raise children”). The gender activation measure again featured a word-fragment completion task. The 12 critical words were associated with gender and gender stereotypes (e.g., “lady,” “weak,” “pink”). Participants were also asked how much they thought their math abilities and their general abilities were being evaluated in the study using two separate scales (1 = *not at all*, 7 = *very much*). Gender identification was assessed with the item, “How important is your gender to you?” (1 = *not at all*, 7 = *extremely*). Gender identification was moderately high ($M = 4.84$) and did not vary with condition ($t < 1.3$, $p > .23$).

Two new, conceptually relevant measures were introduced in Experiment 3. The first was math self-efficacy. A strong form of our argument is that an “I am us” mindset leads people to experience the threat of an ingroup member as if it were their own. A major consequence of stereotype threat is a momentary drop in self-efficacy (Aronson & Inzlicht, 2004; Cohen et al., 1999; Stangor et al., 1998; Stone et al., 1999). A similar drop in self-efficacy may occur as a result of collective threat. To assess self-efficacy, we asked participants to indicate their level of agreement with the statement, “I am very good at math” (1 = *strongly disagree*, 7 = *strongly agree*). The other new measure assessed imitation behavior. The goal to affiliate leads to mimicry (Lakin & Chartrand, 2003). To the extent that participants want to distance themselves from the same-gender peer under threat—as threatened Black participants did by sitting farther from the same-race peer in Experiment 1—they may imitate her less. At the end of the study, the experimenter presented the participant and confederate with a plate of cookies. The confederate ate one. The dependent measure was whether participants ate one too. Seating distance from the confederate was again measured. At the beginning of the study, the chair was positioned approximately 6 feet from the confederate. The dependent measure was the deviation (in inches) from this baseline. Negative values represent movement toward the confederate, positive values represent movement away.

Results

Data Analytic Strategy

We conducted our analyses using a series of simple t tests. With one exception, no effects were found either for experimenter or for confederate; accordingly, analyses collapse across these variables. The exception involved the measure of readiness to enter a stereotype-threatening situation, for which there was variation due to the experimenter. Accordingly, analysis of this measure uses a logistic regression, with the experimenter effect controlled. One participant did not complete all the stereotype distancing items; analysis of this measure thus involves one fewer degree of freedom.

Main Effects of Collective Threat

Table 2 displays the means and standard deviations for each of the dependent measures.

State self-esteem. Replicating the result of the previous studies, we found that participants had lower state self-esteem in the collective threat condition than in the no-threat condition, $t(30) = -2.71$, $p = .01$. (Variance was also greater in the threat condition than in the no-threat condition, $F(1, 30) = 4.09$, $p = .05$. However, a nonparametric Mann–Whitney U test—robust against violations of equal variance—identified the same significant condition effect ($z = -2.46$, $p < .02$).

Table 2
Dependent Measures as a Function of Threat Condition, Study 3

Variable	t	df	Experimental condition	
			No threat	Threat
State self-esteem	-2.71**	30		
<i>M</i>			29.69	24.75
<i>SD</i>			3.65	6.30
Math self-efficacy	-3.02**	30		
<i>M</i>			5.94	4.81
<i>SD</i>			0.93	1.17
Stereotype distancing	2.62*	29		
<i>M</i>			48.80	58.81
<i>SD</i>			13.06	7.66
Gender/stereotype activation	2.34*	30		
<i>M</i>			5.31	6.75
<i>SD</i>			1.35	2.05
Seating distance	9.23**	30		
<i>M</i>			-9.69	11.00
<i>SD</i>			5.63	6.98
Imitation behavior	$\chi^2 = 12.70^{**}$	1		
Percentage taking cookie			75%	13%
Readiness to enter stereotype-threat situation	$\Delta\chi^2 = 3.29^\dagger$	1		
Percentage assenting to take test			75%	50%

Note. For seating distance, negative numbers signify movement toward the same-gender peer, and positive numbers signify movement away from her.

$^\dagger p = .07$. * $p < .05$. ** $p \leq .01$.

Math self-efficacy. Participants had lower math efficacy in the threat condition than in the no-threat condition, $t(30) = -3.02$, $p < .01$.

Stereotype distancing. Like highly racially identified Black students in Experiment 2, women characterized themselves more stereotypically under threat than under no threat, $t(29) = 2.62$, $p < .02$. As found in the previous studies, this social identity affirmation response—when it occurred—involved endorsement of neutral and positive qualities, $t(29) = 2.87$, $p < .01$, not negative ones ($t < 1.3$, $p > .39$).

Gender/stereotype activation. Participants generated more stereotype-relevant words in the threat condition than in the no-threat condition, $t(30) = 2.34$, $p < .03$.

Seating distance. As in Experiment 1, participants sat farther away from the confederate in the threat condition than in the no-threat condition, $t(30) = 9.23$, $p < .01$.

Imitation behavior. More participants took a cookie in the no-threat condition than in the threat condition, $\chi^2(1, N = 32) = 12.70$, $p < .01$.

Readiness to enter stereotype-threatening situation. The logistic regression indicated that, compared with participants in the no-threat condition, participants in the threat condition were marginally less likely to agree to complete the same task as the confederate, $\Delta\chi^2(1) = 3.29$, $p = .07$.

Perceived exposure to evaluative scrutiny. Participants reported that both their math abilities and their general abilities were

being evaluated to the same extent in the threat condition ($M_s = 2.25, 3.56$) as in the no-threat condition ($M_s = 1.94, 3.50$; $t_s < 1$).

Gender Identification: A Moderator?

Gender identification did not moderate the effect of collective threat (all $F_s < 2.6$, all $p_s > .11$). Consistent with the previous studies, however, any trends indicated that collective threat had a larger effect on less identified women. The absence of a significant interaction effect may be due to insufficient power. The sample size was roughly half of the ones used in each of the two previous experiments. While results with respect to gender identification are thus tentative, collective threat had (as in the previous studies) a clear negative impact on feelings of personal worth and associated outcomes.

Discussion

Experiment 3 generalized the negative effect of collective threat on self-esteem to women in math. As in Experiment 1, participants also distanced themselves from the ingroup member who had potentially reinforced the negative stereotype about their group by sitting farther away. They were also less likely to indulge in the same snack as the same-gender peer. Experiment 3 further found that one of the cardinal symptoms of stereotype threat—low self-efficacy (Aronson & Inzlicht, 2004; Cohen et al., 1999; Stangor et al., 1998; Stone et al., 1999)—also befell participants under collective threat. This was the case even though participants were aware that their math abilities were not being evaluated. Participants seem to have adopted an “I am us” mindset. It was as if they had psychologically entered the ingroup member’s situation.

With respect to how collective threat affected stereotypic thoughts and self-characterizations, women responded in a manner similar to that of highly racially identified Black students. They embraced the non-negative stereotypical aspects of their group identity more under threat than under no threat. Additionally, under threat, they showed no suppression of thoughts about their group. Instead, they exhibited an increase in gender activation.

While women, on the whole, exhibited a social identity affirmation response, only the most highly racially identified minority students did so. One explanation for this difference pertains to a difference between the stereotype targeted at women and the one targeted at Black Americans. The stereotype targeted at women is specific (e.g., alleging low math ability), and it contains some positive components (e.g., women’s interpersonal and relational qualities are positively stereotyped; Glick & Fiske, 2001; Prentice & Carranza, 2002). By contrast, the stereotype targeted at Black Americans impugns their general intelligence (Devine, 1989; Steele et al., 2002) and even their humanity (Fredrickson, 2002). The risks of being viewed as a typical group member may thus be greater for Black Americans than for women. To express solidarity with one’s social identity may thus require a greater level of group identification for Black Americans than for women. This admittedly speculative analysis calls for future research. What is clear in all three experiments is that collective threat not only harms self-worth but changes people’s thoughts and orientation toward their group.

General Discussion

When one belongs to a negatively stereotyped group, the awareness that how one is personally defined will be determined, in part, by how one’s group is defined may give rise to an “I am us” mindset. As a consequence, not only do people worry that their own behavior could be used to lend credence to a negative stereotype about their group (Steele et al., 2002), they also worry that the behavior of fellow group members could be used in this way. As Lewin (1948) observed, “[S]ensitivity in regard to the conduct of other members of a group is but an expression of a fundamental fact of group life, namely, the interdependence of fate” (p. 190).

In our field study, minority students, unsurprisingly, reported more concern than did White students that their poor performances could reflect on their race. However, they reported even greater concern that the poor performances of fellow minorities could reflect on their race. This study also provided evidence that collective threat was indeed threatening. It predicted lower self-esteem even after controlling for self-reported stereotype threat, fear of being stereotyped, and perceived discrimination.

Our experimental studies provide direct evidence that collective threat harms self-esteem. In Experiment 1, Black students had lower self-esteem when they observed a same-race peer under stereotype threat, that is, one who was about to complete a test diagnostic of intellectual ability (Steele & Aronson, 1995). Experiment 2 replicated this effect and supported two hypothesized conditions of collective threat—that the two individuals share a group identity and that one of them be confronted with a stereotype-relevant situation rather than a stereotype-irrelevant one. Consistent with our conceptual analyses, Experiment 2 also indicated that a necessary condition of collective threat is uncertainty as to whether the ingroup member has the ability to do well and the accompanying supposition that he or she might confirm the stereotype. Experiment 3 generalized the effect to women in math. The four studies strongly support our primary claim. Just as it is distressing to confront a stereotype-threatening situation oneself, it is also distressing to observe a fellow group member face the same situation.

Collective threat occurred without our having introduced an explicit intergroup comparison (cf. Blanton, Crocker, & Miller, 2000; Brewer & Weber, 1994). Participants were not led to believe that the performances of ingroup members would be compared with those of outgroup members. They received no feedback that the ingroup member had, in fact, performed poorly. Most important, prior to completing the critical dependent measures, participants in the present experiments neither undertook an intellectual task nor expected to do so. This aspect of our experiments eliminates confounds that could otherwise explain the effect of our manipulations on self-esteem, such as concern that one’s own performance could confirm a negative stereotype (Steele et al., 2002) and discomfort over outperforming a fellow group member (Exline & Lobel, 1999).

Seeing a fellow group member in a potentially stereotype-threatening situation may prove, in some respects, more troubling than being in such a situation oneself. Collective threat is a chronic evaluative threat—as it involves all other individuals in one’s group and evaluative situations in which one is not directly involved—rather than an acute evaluative threat involving only one’s own performance. Moreover, minority group members are

aware, as we all are, that some people do poorly on difficult intellectual tasks and that included among these are members of their group. Additionally, because people tend to believe that their own abilities are superior to those of their peers (Dunning et al., 1989), they may underestimate the possibility that they personally could do poorly on an intellectual task but exaggerate the possibility that other people in their group could. People also tend to rationalize their own poor performances, thereby casting their failures as immaterial to assessing their ability (Greenwald, 1980). However, they do not interpret the poor performances of others as charitably as their own. As a result, people may expect the failures of fellow group members to be viewed as more reflective of a lack of ability, and thus as more validating of the negative stereotype, than their own. Indeed, whereas we found that Black students' self-esteem suffered as a result of exposure to a same-race peer who might perform poorly on an intellectual test, other researchers have found that Black students' self-esteem can prove surprisingly immune to their own poor performances on such tests (Major et al., 1998).

Beyond a negative impact on self-esteem, three other consequences of collective threat were apparent. First, under some circumstances, and for some people, collective threat can lead to lower achievement. It was associated with a drop in GPA (pilot study) and with avoidance of an intellectual challenge (Experiment 1) for less racially identified minority students. Collective threat also led to lower performance on a standardized test of verbal ability for minority students both low and high in racial identification (Experiment 2). Moreover, collective threat led to lower self-efficacy (Experiment 3), which is a major cause of underachievement (Bandura, 1997). A second consequence of collective threat is dissociation from the ingroup member who had potentially reinforced the negative stereotype about one's group—for example, by sitting farther away from that person (Experiments 1 and 3) or by declining to indulge in the same snack as the fellow group member (Experiment 3). These results are consistent with past research showing that people disassociate from and even denigrate those whose behavior could be seen as discrediting their group (Lewis & Sherman, 2003; Marques & Paez, 1994).

Third, collective threat gave rise to two distinct social identity management strategies. One strategy involves downplaying the relevance of one's social identity to the situation at hand. To do so, people distance themselves from the stereotypical image of their group (Pronin et al., 2004; Steele & Aronson, 1995) and may even mentally suppress the stereotype (Iserman et al., 2004). Such social identity avoidance characterized Black students who expressed less identification with their racial group (Experiment 1). A second strategy involves affirming solidarity with one's group in the face of collective threat. To do so, people embrace the non-negative characteristics emblematic of their group identity (Spears et al., 1997) and maintain and even increase thoughts about their group. Such social identity affirmation characterized Black students who expressed high identification with their racial group (Experiment 1) and women in general (Experiment 3).

One question we explored concerns the moderating influence of group identification. Although its effect manifested on different measures, the overall pattern was consistent. Minority students who expressed less identification with their group proved more responsive to collective threat. Under threat, they suffered a greater loss of self-esteem (Experiment 2), showed more avoid-

ance of an intellectually evaluative test (Experiment 1), or experienced a larger decrement in GPA (pilot study). These results are consistent with past research showing that racial identification can protect minority students either from the pain of stigmatization (Branscombe et al., 1999; Ethier & Deaux, 1994) or from its adverse academic consequences (Oyserman et al., 2003; Wong et al., 2003). On the other hand, group identification has been found to increase vulnerability to stereotype threat (Schmader, 2002). Clearly, further inquiry is needed to identify the conditions under which group identification ameliorates and exacerbates threat.

Our research raises an important ambiguity—whether people under collective threat feel concerned only with the image of their group or whether, in addition, they feel concerned with the impact that image has on the way they personally are viewed. Of course, people have many motives for maintaining a positive social identity, including collective and self-interests.

However, the entwined nature of these two concerns constitutes a major point of our research. It is, we think, fundamental to the experience of stigmatization. This seems especially true for ethnic minority students. Because the racial stereotype is widely known and because it impugns a universally valued trait, it would be difficult for many, if not most, ethnic minorities to feel that their personal reputations were ever fully independent of the reputation of their race. For good and for ill, our stake in our social identities makes the fates of fellow group members intimately linked to our own.

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New Editor Appointed, 2007–2012

The Publications and Communications (P&C) Board of the American Psychological Association announces the appointment of a new editor for a 6-year term beginning in 2007. As of January 1, 2006, manuscripts should be directed as follows:

- *Emotion* (www.apa.org/journals/emo.html), **Elizabeth A. Phelps, PhD**, Department of Psychology, New York University, 6 Washington Place, Room 863, New York, NY 10003.

Electronic manuscript submission. As of January 1, 2006, manuscripts should be submitted electronically via the journal's Manuscript Submission Portal (see the Web site listed above). Authors who are unable to do so should correspond with the editor's office about alternatives.

Manuscript submission patterns make the precise date of completion of the 2006 volumes uncertain. The current editors, Richard J. Davidson, PhD, and Klaus R. Scherer, PhD, will receive and consider manuscripts through December 31, 2005. Should 2006 volumes be completed before that date, manuscripts will be redirected to the new editor for consideration in 2007 volume.