When my friends and I entered junior high school in the mid-1970s, we quickly noticed something that our teachers seemed to miss: the black and Latino kids bused into our district were a lot smarter than the adults at the school seemed to think. It was not necessarily that our teachers held the prejudiced view that minorities were dumb. Rather, as students, we had the advantage of seeing these kids in a variety of classes and situations. And their behavior from one situation to the next was often remarkably different. For example, there were many kids like Ricky, the star pupil in my electronics class. Always the first to finish his project, Ricky would go from table to table, patiently helping the electronically challenged kids like me make sense of the complex diagrams for assembling the strobe light, radio, or whatever we happened to be struggling with. There were also kids like my friend Darryl, a black eighth grader, whom I hung around with at lunch and after school. Darryl was one of the most thoughtful, intelligent, and articulate kids I knew, and no one who knew him well thought otherwise. But in some of the classes I had with Ricky and Darryl, you would never get an inkling of how bright they were. In these more “academic” classes like English, Math, and History, they simply ceased to be the same kids we knew. Like most of the minority students in the school, they fell into one of two camps. Either they were rowdy and disruptive, or they were meek and withdrawn, quietly sitting in their seats as though they were trying to
become invisible to the teacher. In either case, they were not themselves in these classes, and they performed terribly, no doubt considered losers by the teachers and the administration. My friends were not extraordinary cases. I think they were typical of a trend of underachievement that has perplexed educators and policy makers for several decades. It is a depressing trend: on whatever measure of academic success one looks at—test scores, grades, engagement, dropout rates, and so on—black and Latino students from grade school through college tend to perform worse than white students (National Center for Education Statistics, 1998). But why? What happens to students like my junior high classmates to suppress their performance, learning, and engagement in school? And what can educators do to help them perform up to their potential?

For the past decade I have been trying to find answers to these questions. My colleagues and I started by considering the standard explanations for minority underachievement. Some of these explanations have been widely discussed and hotly debated in the scientific literature and in the popular press. Most notorious is the view that some groups are by nature intellectually inferior. This is the argument put forth in the highly controversial book, *The Bell Curve* by Herrnstein and Murray (1994), who assembled a massive amount of information on test performance and school achievement, casting it as evidence for genetically determined differences in general intelligence. Most scientists who study intelligence reject this argument in favor of the view that some combination of environmental factors (e.g., poverty, poor schooling) hinders black and Latino students from developing the skills necessary to do well on tests and in school (see Jencks & Phillips, 1998). Certainly these structural factors make a difference, but can they explain why kids like Ricky or Darryl, so undeniably competent and engaged in certain circumstances, could be so incompetent and “out of it” in others? Our hunch was that the standard explanations fell short. Something was missing.

National statistics supported this hunch. For example, every year the College Board releases statistics on how students across the country score on the Scholastic Achievement Test (SAT). And every year the same pattern: blacks and Latinos score substantially lower than the Asians and whites, regardless of income level. To be sure, the gaps are widest between poor black and Latino students and their more well-to-do white counterparts. Income level clearly matters. But even at the same level of family income, the gap is substantial. Thus, by itself, socioeconomic status does not explain the problem, though it is a factor (Steele, 1997; Jencks & Phillips, 1998). Indeed, group-level differences in ability or preparation seem inadequate to fully explain the low performance of minority students. For example, when we look at how students perform in college as a function of their SAT scores (which are associated with ability, preparation, and motivation), we find a sizable discrepancy between the grades of blacks and whites. Specifically, blacks with a given SAT score earn significantly worse grades than whites with the same score, even when the
score they share is extremely high, say at the 98th percentile. Thus, something else appears to be depressing the test performance and the school achievement of these students at every level of income, ability, and preparation —something beyond skill, preparation, or any of the other things to which we customarily attribute achievement.

Claude Steele, Steven Spencer, and I (e.g., Steele, Spencer, & Aronson, in press) have been studying these issues for the past decade, and we believe that this "something else" is psychological in nature, a social psychological predicament rooted in stereotypical images of certain groups as intellectually inferior. It has long been known that stereotypes—the "pictures in the head" that simplify our thinking about other people—produce expectations about what people are like and how they are likely to behave (e.g., Allport, 1954). We also know such expectations on the part of a teacher can influence the performance of his or her students. The process (described by Rosenthal in Chapter 2 in this volume) proceeds like this: a teacher develops expectations about a student's ability based on some prior information about the student (e.g., a test score) or based on the student's race, ethnicity, gender, or social class. Then the teacher inadvertently acts on these expectations and in so doing, treats the student in a way that makes those expectations come true. Thus, let us suppose that because of the widespread images of blacks as intellectually inferior, a teacher unconsciously assumes a black boy in her class does not have much potential. During the teacher's interactions with him she sends subtle signals that reflect her expectations: perhaps she's less warm or attentive, perhaps she fears embarrassing him, so she sets the bar lower, asking easy, unchallenging questions, or perhaps she does not call on him at all. And so on. The student in turn, responds to this differential treatment as anyone would—with less learning. Such a process undoubtedly plays a role in the relatively low achievement of black students (e.g., Ferguson, 1998). Thus, stereotypes have been thought to undermine minority children in large part, because the stereotype influences the way they are treated by others.

STEREOTYPE THREAT

But this is just part of the equation. What my colleagues and I have found is that a "self-fulfilling prophecy" of this sort can occur without a teacher's help. That is, even in the absence of differential treatment, stereotypes can spoil a person's experience—in school or in many social situations—just by suggesting to the target of a stereotype that a negative label might apply to one's self or one's group. Consider the image elicited by the term absentminded professor, a label that could conceivably be applied to me, because I am a professor and because, like anyone, I am capable of absentmindedness. My familiarity with this image can make me wonder if this description fits me and perhaps make
me worry that my behavior could be viewed with this rather unflattering stereotype in mind. When the stereotype is relevant to a particular situation—say, when I am trying to locate my lecture notes or trying to remember if I have an appointment after lunch—the question may cross my mind: *Am I behaving like an absentminded professor?* If I’m in the company of my students, I may become apprehensive, wondering if they think I am an absentminded professor, and I may start to worry that they do. And perhaps as a result of this, I may become less effective in finding my notes or remembering my schedule. This predicament, this apprehensiveness about confirming a stereotype, both in my own eyes and other people’s eyes, is what we have called “stereotype threat” (Aronson, Quinn, & Spencer, 1998; Steele, 1997; Steele & Aronson, 1995). In form, it is a predicament that can beset anyone, given that all of us belong to one group or another that has some sort of reputation, and given that each of us can develop our own individual reputation. When the stereotype or individual reputation alleges an importantly negative quality—like the low intelligence stereotypes allege for blacks and Latinos—the expectations that come with it can be quite unnerving, and stereotype threat can have critically disruptive effects.

Consider, for example, an African-American or Latino student trying to solve difficult items on a test, or called on in class to answer a complex question. As for anyone, low performance in such situations can bring discouragement and shame. But the stereotype alleging African-American or Latino intellectual inferiority poses the additional risk of confirming a deeply negative, racial inferiority, a suspicion of being unalterably limited and of not belonging in the academic arena. Negative stereotypes alleging low intelligence among blacks and Latinos are particularly problematic, both because intelligence is universally valued and because these stereotypes are so widely known. By the age of about 5, virtually everyone in our culture is aware of the content of a variety of ethnic and racial stereotypes. Whether or not people agree with stereotypes, the mere awareness of their content is enough to bias people’s perceptions and treatment of individuals from stereotyped groups (Devine, 1989). Moreover, opinion polls suggest that the stereotypes are widely believed. About half of white Americans endorse common stereotypes about blacks and Latinos, which, among other things, portray them as being unintelligent (e.g., Smith, 1990). And this fact is not lost on blacks and Latinos; research indicates that they are well aware how the are viewed by the mainstream. Indeed, some research suggests a tendency for targets to be *hyperaware* of people’s negative expectations about their group, considerably overestimating the extent to which they are viewed as less intelligent, more likely to commit crime, live off welfare, and so on (Sigelman & Tuch, 1997). Given this climate of stereotype awareness, there are ample grounds for black and Latino students to feel a burden of suspicion, to feel at risk of confirming stereotypes through their behavior, and to wonder if they belong in environments where academic ability is prized. Such feelings, our research suggests, can play a significant role in
undermining the achievement of students who belong to groups stereotyped as lacking some academic ability—blacks, Latinos, and women in math and science domains. This would appear to be bad news given the ubiquity of social stereotypes and the fact that they are notoriously resistant to change. But as the research I will now discuss demonstrates, stereotype threat is partly situational; it is induced by features of the situation that can be changed, and it can be minimized by teaching students adaptive ways of coping with it.

CONTENDING WITH STEREOTYPE THREAT

Stereotype threat arises in situations where a negative stereotype is relevant to evaluating performance. The classic example is a black student taking a standardized test of intelligence. If, in such cases, performance is depressed by the extra cognitive and emotional burden of worrying that low performance will confirm the stereotype, then somehow removing that extra burden should improve performance. This was the initial hypothesis in our research, and we have tested it with a number of very simple experiments (Steele & Aronson, 1995). In our first experiment, we had African-American and white college students take a very challenging standardized test (the verbal portion of the Graduate Record Examination). In the control condition of the experiment, we presented the test as these tests are always presented—as a measure of intellectual ability and preparation. In the experimental condition, we sought to reduce stereotype threat by removing the relevance of the stereotype. To do so, we simply told our test takers that we were not interested in measuring their ability with the test; we just wanted to use the test to examine the psychology of verbal problem solving. This was the only difference between the two conditions of the experiment: the test was the same, the students were equally talented, they were given the same amount of time, and so on. But this little difference in the way we presented the test made a big difference for the African-Americans. When the test was presented in this nonevaluative manner, they solved about twice as many problems on the test as when it was presented in the standard way! Moreover, there was no difference between the performance of the black test takers under no stereotype threat and that of the white test takers. For the white students, incidentally, the way the test was presented had no effect whatsoever on their performance.

What caused this dramatic rise in performance among black students? Further analyses and additional studies suggested a number of things. First, by reducing the evaluative scrutiny in the situation, we reduced our black students' anxiety—the sort of debilitating test anxiety that we have all experienced at times, and which appears to be aroused in black and Latino students under traditional testing situations where their intelligence is being evaluated. One thing was also very clear from our studies: stereotype threat did not impair performance simply by prompting our test takers to give up or to try less hard.
On every measure of effort available to us, we have found the same thing: if anything stereotype threat makes people try harder on tests. We think this increase in effort and anxiety reflects a kind of "I'll show you" response, aimed at invalidating the stereotype. Such a reflex can be an advantage in situations where brute effort or a rush of adrenaline is desirable, and indeed, stereotype threat can actually boost performance on easy or well-learned tasks where more effort pays off (O'Brien & Crandall, under review). But on difficult standardized tests, as with brain surgery, free-throw shooting, or chess, a sort of relaxed concentration is critical, and anything that compounds performance pressure is likely to be a handicap. The data from our studies suggest strongly that this extra motivation reflected the desire to disprove the negative stereotype or, at least, to deflect it from being self-characteristic. In one study (in Steele & Aronson, 1995) with a setup similar to that described above, just after describing the test as either ability evaluative or nonevaluative, we gave our test takers a questionnaire to fill out. Part of the questionnaire asked about the kinds of activities they enjoyed—the kinds of sports they played, the kind of music they enjoyed, and so on. Some of these preferences were clearly stereotypic of African-Americans (e.g., liking rap music, playing basketball, being lazy, and so on). There was a very telling difference in the way that black students filled out these measures depending on whether or not they were told the upcoming test was a measure of intelligence. Stereotype threat led them to distance themselves from the stereotypic portrayals of themselves. That is, when they thought the upcoming examination was going to be used to measure their intelligence, they reported liking basketball, enjoying rap music, being lazy, and so on, significantly less than their counterparts who thought the upcoming examination was not going to diagnose their abilities. Feeling at risk of being viewed stereotypically, they did what they could not to portray themselves in a stereotype-consistent manner.

Thus, people in stereotype threatening situations appear to be thinking about the stereotype and its implications. In addition to whatever thoughts they bring to bear on their test, they are also contending with the stereotype and the extra burden of the possibility of confirming it. Evaluative scrutiny, our studies make clear, activates thoughts about race in the minds of black students. Stereotype threat thus appears to involve the salience of race. The converse seems to be true as well; we have found that just making race salient in some way spoils performance, even in a nonevaluative situation. For example, in one of our experiments (Steele & Aronson, 1995) we replicated the conditions of the no-stereotype threat test described earlier. That is, all of our black and white test takers were assured that their intelligence would not be evaluated. For half of these students, we added one detail designed to inject thoughts about race into the situation: we merely included an item on the cover of the test booklet that asked them to indicate their race. As in the prior study, when the test was presented as a nonevaluative exercise, blacks performed just as well as the whites. But in the race-salient condition, in which
students were asked to indicate their race, black students’ anxiety went up and their test performance plummeted. They solved about half as many items as their counterparts who were not asked to indicate their race. Such is the power of a stereotype; the mere mention of race can turn an otherwise nonevaluative situation into an unpleasant defense of one’s competence and worth.

The studies I have just described have been replicated in one way or another numerous times, not only by my colleagues and my students, but by researchers working around the country. Thus we are convinced not only that the effects are real, but also that they are not dependent on a particular population of students or limited to a particular set of procedures or settings. Some of this work has greatly extended our understanding of the stereotype threat phenomenon: the groups that regularly experience stereotype threat, the situations that can either exacerbate or reduce stereotype threat, and some important individual differences in people’s vulnerability to stereotype threat. Rather than exhaustively go through all of these studies, I will instead focus on findings that shed light on some of the more pressing issues that educators may face, such as trying to identify students likely to experience stereotype threat, creating conditions that can reduce stereotype threat, and helping students overcome its more pernicious effects.

Who Contends with Stereotype Threat?

An obvious question is who is likely to be affected by stereotype threat? Researchers have found that virtually any group can experience it to a meaningful degree in certain circumstances. The basic effect of impaired test performance has been replicated in studies of Latino students taking tests of verbal ability and with women taking math tests, at a variety of levels of schooling from grade school (Ambady et al., 2001; Good & Aronson, in press) through college (Aronson & Salinas, 1997; Spencer et al., 1999), in elite private colleges like Stanford (Steele & Aronson, 1995) and large state universities such as the University of Texas (Aronson, 1997, 1999). Stereotype threat can affect students who are highly confident in their abilities and those who are less confident; highly able and prepared students and the not so able and prepared. It is clear as well that to feel stereotype threat, the stereotype need not pertain to race, ethnicity, or gender. For example, Jean-Claude Croizet has found that French students of low socioeconomic status performed worse on a test when reminded of their social status, which in France, as in the United States, is stereotypically associated with low academic achievement (e.g., Croizet & Claire, 1998). Similarly, elderly individuals can be disrupted by the stereotype suggesting that their mental abilities are on the decline. When the elderly participants in one experiment were subtly reminded of the stereotype regarding old age and senility, they performed worse on a test of short-term memory than when they were reminded of the more positive old-people-are-wise stereotype instead (Levy, 1996). Indeed, it is clear that in certain circumstances, one need
not even be a member of a stigmatized minority group suspected of inability to feel the pressure associated with stereotype threat. In a simple experiment I performed with my colleagues (Aronson, Lustina, Good, Keough, Steele, & Brown, 1999), we asked highly competent white males, (both at Stanford University and at the University of Texas) to take a difficult math test. Two groups were told that the test was aimed at determining their math abilities. For one group we added a stereotype threat: we told them that one of our reasons for doing the research was to understand why Asians seemed to perform better on these tests. In this condition, these test-takers stumbled on the test. Pressured by the stereotype of Asian mathematical superiority, they solved significantly fewer of the problems on the test and felt less confident about their performance. These students were highly competent and confident males: most of them were mathematics majors and most of them had earned near-perfect scores on the math portion of the SAT. It is safe to say that they were not minorities and, thus, not conditioned by stereotypes to doubt the intellectual abilities of their group. Thus, if they can experience stereotype threat, anyone who can be plausibly targeted by a stereotype can feel it. The rather exotic situation that we imposed on them—a direct comparison with a supposedly superior group—is not exotic for blacks and Latinos; they contend daily with this sort of implied comparison in most integrated academic settings. That such undeniably smart and accomplished students like our high-scoring math whizzes underperform on a test when faced with a stereotype should make us think twice about casually assuming that the low performance of blacks and Latinos reflects a lack of ability. Instead, we need to appreciate the power of the circumstances they face.

Importantly, stereotype threat can arise without any special attempt to raise the issue of the stereotype, either explicitly as with in study with the Asian stereotype, or implicitly as with the study with the elderly or the study with poor students in France. In a study with particular relevance for educators, Michael Inzlicht and Talia Ben-Zeev (2000) showed how just the way students are grouped can matter. In their study, they had highly competent female undergraduates take a difficult math examination in small groups. Depending on the condition of the experiment, the researchers added one or more men to this testing session. The effects were dramatic. The mere presence of only one male test taker was enough to significantly lower the performance of the female test takers in the group. Moreover, each male introduced into the testing session produced an increase in stereotype threat and a corresponding drop in the women's performance, a perfectly linear effect of gender integration on underperformance. To my knowledge, no similar study has been conducted with race or ethnicity integration systematically varied in this way, but there is no theoretical reason to doubt that these effects would not occur with black or Latino students in the company of whites. The implications of this finding for race and gender composition of classrooms would appear to be self-evident. If classes are simply integrated, without any attention paid to attenuating the
intimidating intellectual environment that can ensue, many students will perform at levels beneath their potential. This study raises critical questions not only about testing, but more generally about how classroom learning may be impeded in environments where stereotype threat arises by mixing students alleged to differ in ability.

**Stereotype Vulnerability: Individual Risk Factors for Underperformance**

Stereotype-based expectations are not equally unnerving to all individuals. Important individual differences make some individuals more vulnerable than others to the kind of underperformance I have been talking about. I refer to the sum of these risk factors as “stereotype vulnerability.” The following factors, which I describe only briefly, appear to contribute to an individual’s level of stereotype vulnerability.

**Domain Identification**

One of the sad ironies uncovered by our research is that stereotype threat is most keenly felt by the individuals who care most about doing well. In a number of studies, we have measured the degree to which people care about a particular domain: how much they value doing well in math, science, or any particular domain of academic achievement, and how much doing poorly in the domain threatens their self-esteem. What we find is that underperformance under stereotype threat is more pronounced for those who really want to do well (Aronson et al., 1999; Aronson & Good, 2001a). This is quite logical, of course. We would not expect to be critically unnerved by a stereotype alleging a lack of ability if that ability was trivial. The irony is this: to the extent that we increasingly see high-stakes testing used to evaluate our students’ progress or suitability for admissions to institutions of higher learning, it is unfortunate that we, in a sense, punish those minority students who care the most about high achievement.

**Group Identification**

It appears also to be the case that people who feel a deep sense of attachment to their ethnic or gender group are also more at risk for feeling stereotype threat. Some individuals are less invested than others in their gender or racial identity, and initial research into this area of research, although not yet definitive, suggests that the less investment in one’s own group, the less one will be bothered by stereotypes impugning that group’s abilities (e.g., Schmader, Johns, Keiffer, Healy, & Fairchild-Olivierre, 2001). Thus in an intriguing set of studies, Rosenkrantz (1994) found that all other things being equal (e.g., ability and preparation), Latinos who are “bicultural,” that is, who feel just as firmly
grounded in mainstream culture as in their culture of origin, are less stereotype vulnerable than Latinos who are more heavily identified with Latino culture. Specifically, in one situation biculturals were less defensive about receiving negative feedback on an academic task from a white evaluator and, in a subsequent study, less likely to underperform on a standardized test under stereotype threat. Apparently, in some cases, there can be an unfortunate trade-off for feelings of group pride and solidarity; deep identification with one's own group can create difficulty navigating integrated situations where stereotypes may be relevant.

Stigma Consciousness

One reason that group pride may exact a toll in terms of discomfort in integrated intellectual environments is that it often comes along with higher expectations for discrimination. Studies of “racial socialization” find that African–Americans who have experienced discrimination in their lives often attempt to prepare and shield their children from such discrimination by teaching them to expect it and to counter it with pride in their group (e.g., Hughes & Chen, 1999). Thus along with a sense of group pride, some children also develop a heightened sense of what Elizabeth Pinel (1999) calls “stigma consciousness.” Pinel and her colleagues have found that students perform worse on standardized tests the more stigma conscious they are—the more they have experienced discrimination and the more they expect to experience it in the future (e.g., Brown, Pinel, Rentfrow, & Lee, 2001).

Acceptance of the Stereotype

A person need not believe a stereotype to feel threatened by its unflattering allegations. After all, even if one rejects the premise of a stereotype, one must still contend with the perceptions of other people. A person can still feel uneasy or alienated in academic settings if he or she feels devalued or suspected of inferiority by others, and these feelings, we have shown, are sufficient to undermine performance (Aronson et al., 1999; Good & Aronson, 2001). But it seems reasonable to assume that some people may suspect that a stereotype may have some validity, a “kernel of truth,” and such individuals would presumably be more threatened by the stereotype. Interestingly, survey research suggests that this should not be a big problem, because most black and Latino students reject negative stereotypes as untrue. Yet questionnaires can be very misleading; they often fail to detect people’s underlying attitudes. But other methods can, and they tell a very different story. Thus, in a remarkable study by developmental psychologist Niobe Way (1998), in-depth interviews with minority adolescents revealed the degree to which they wrestle with stereotypes, wanting to reject them, but unable to do so with confidence. A large percentage of the teens she interviewed admitted, with shame, that they
lived up to stereotypes portraying them as lazy and incompetent. They did not like the stereotypes, but they could not deny that they lived up to them. Because it is easy to reject a proposition on a survey, questionnaires fail to capture this ambivalence, and thus they paint a distorted picture of what minority students may be thinking about the stereotypes applied to their group. But using more subtle measures of people’s implicit acceptance of stereotypes, recent research shows that the more people accept the stereotypes as true, the more vulnerable they are to stereotype threat (Spicer & Monteith, 2001; Schmader et al., 2001).

Beliefs about Intelligence

An important individual difference for achievement-related behavior is the way people think about intelligence. People differ in how fixed they think it is: some think it can be expanded with hard work and mental challenge, whereas others think you are either smart or not smart, and your intelligence cannot really develop. Dweck (1999; Chapter 3 in this volume) discusses the various advantages conferred on students who believe in malleable intelligence. Such students tend to maximize their academic potential—they respond better to challenges and difficulties because they are less threatened by them. In my own research, I have found that black students performed better under stereotype threat to the extent that they saw intelligence as something they could expand. This makes good sense. If one believes that intelligence is fixed, a stereotype alleging low intelligence is a condemnation of one’s ability and future prospects for success. Thus the risk of low performance is very keenly felt. If, on the other hand, one believes that intelligence is malleable, the stereotype should have less impact. As I will discuss shortly, these findings hold considerable promise for helping students cope with stereotype threat. As for the other individual differences, no research to my knowledge has addressed whether understanding these risk factors can help us remediate stereotype threat, but they can certainly help us identify students who may be particularly vulnerable.
The social psychologist Daniel Gilbert, in noting the variety of ways that people unconsciously cope with threats to the self, speaks of the "psychological immune system" we all possess (e.g., Gilbert et al., 1998). In much the same way that our physiological immune system wards off threats from microbes, that is, without our awareness that it is working, this psychological system rationalizes, minimizes, and otherwise attempts to neutralize threats to the self. Research has examined a number of such unconscious defenses that arise as way of coping with stereotype threat as well. And just as sometimes happens physiologically (e.g., with allergies), our psychological immune systems can turn traitor on us, offering a defense that is harmful both in the short run and in the long run.

**Self-Defeating Defenses**

**Self-handicapping**

For example, a common defense for people who feel at risk of low performance is what psychologists refer to as "self-handicapping" (see Rhodewalt & Traga-kis, Chapter 6 in this volume). In an attempt to minimize the negative implications of low performance, a person may make claims that some external factor impeded performance ("the sun was in my eyes"; "I didn't get any sleep last night"; "the test was biased against minorities"). Or, alternatively, they may create actual performance impediments that allow them or others to attribute low performance to some external cause. They may, for example, not try as hard, get drunk the night before an examination, or create some other kind of excuse that defeats their own performance. While self-esteem may be protected in this way, learning, performance, and enjoyment of academics can suffer. Thus, the protection of self-esteem can become a liability for learning and growth.

Moises Salinas and I (Aronson & Salinas, 1997) have documented this trade-off in a series of studies examining the consequences of a very common excuse among minorities: the claim of test bias. First we noted that in many stereotype threat studies, when students are led to believe that a test was going to be used to diagnose their abilities, they claimed that standardized tests were far more biased than if they were led to believe the same test was nonevaluative. Like a warrior going into battle, they raised the self-protective notion of bias like a shield. In our own studies, we wanted to see how their heightened sense that the test was biased would affect their performance. We tested this by having Latino students take a long standardized test, which we divided into two parts. During a "rest period" between the two parts, half the test takers were asked if they thought standardized tests were biased. Those who were asked this question solved significantly fewer of the items on the second half of the test than those who were not asked. It was also the case that those who were asked about bias were less upset about their overall performance than those who
were not. Thus, the shield effectively protected their self-esteem, but it undermined their performance. The disruptive power of suspicions of bias is underscored by a study conducted by Steven Spencer and his colleagues (1999), which showed how preventing students from making an attribution to bias can reduce anxiety and lift performance. In this experiment, women's performance on a math test improved dramatically when they were assured that the test had never shown gender differences.

Suspicions of bias extend well beyond testing. There is a clear tendency among African-Americans and Latinos to reject critical yet instructive feedback from white evaluators as a means of protecting self-esteem (e.g., Cohen, Steele, & Ross, 1999; Crocker & Major, 1989; Rosenkrantz, 1994), a rejection based on the presumption of bias. But such presumptions are a double-edged sword here, too, as motivation and learning from the feedback are traded away for self-esteem protection. Cohen and Steele (Chapter 15 in this volume) discuss ways that teachers can deliver critical feedback in a way that maximizes trust and, thus, minimizes this trade-off.

Avoidance of Challenge

A recent study I performed with Catherine Good (see Good & Aronson, 2001) illustrates another, perhaps more pernicious self-protective tendency among stereotype targets. We had sixth grade girls and boys (both Latino and white) take tests under evaluative (stereotype threat) or nonevaluative (no stereotype threat) conditions. Before they took the test, we told them that they would be taking a second test of both math and reading, but that on this second test, they would get to select the difficulty of the problems. We then offered them a choice of solving problems that were easy, right at their level, or very challenging. The results showed a clear effect of the stereotype threat manipulation: the girls selected easy problems in math (where they are stereotyped to lack ability), whereas the Latinos selected easier problems in reading (where they are stereotyped to lack ability). The implications of this are very clear. One way to cope with stereotype threat is to arrange things so that you are at the least risk of confirming the stereotype. Thus when there is a choice between challenge and high performance, stereotype threat leads people to play it safe by avoiding the challenge. It is a truism in educational psychology that challenge is required for intellectual growth and for developing the kind of skills and confidence needed to do well. Thus settings that are highly evaluative may actually impede the learning, not just the performance, of stereotype targets. Every year the Princeton Review offers free standardized test preparation to minority and low-income students. Jay Rosner, who runs this program, reports that despite the fact that African-Americans could raise their scores by hundreds of points by taking this course, they seldom avail themselves of the opportunity, even when the price of the course is reduced or waived. Rosner's explanation, based on years of working with
minority students, is that for these students, even the prospect of practice is threatening.

**Self-Suppression**

Stereotypes, by creating expectancies for performance, also send messages about who is valued by the norms of the setting and who is not, who is "in" and who is "out." In an eloquent essay introducing the notion of stereotype threat, Claude Steele (1992) described this aspect of the predicament as a significant part of the barrier that keeps African-Americans from fully embracing academic achievement: "Black students quickly learn that acceptance, if it is to be won at all, will be hard won." Looked at through this lens, the withdrawn behavior of my junior high classmates 25 years ago is less surprising. In some settings they belonged, they were not suspected of inferiority so they were free to be themselves; in other settings, they were afraid to make a wrong move. One black woman I interviewed told me this about her experience in college: "When I talk in class, I feel as though I'm totally on stage, like everyone's thinking, 'oh what's the black girl going to say?' I pretty much never speak up in class though, so I guess it's not a big problem." The effects of this feeling of not fitting in and attempts to cope with it have been compellingly documented for women in the male-dominated domains of math and science. Seymour and Hewitt (1996), for example, report that female math majors feel less free to be their true selves when interacting with their peers in the major. They show an interesting trend of "dressing down," that is, dressing less femininely in their math classes than in their humanities classes. This suggests that in situations where people feel at risk of confirming a negative stereotype, they cope both by suppressing themselves and by adjusting or concealing themselves, or certain aspects of themselves, to better fit the image of those who do seem to belong (see also Pronin, Steele, & Ross, 2001). Although one could argue about how "self-defeating" such defenses are, it seems clear that one price students pay to cope with stereotype threatening environments is the free expression of their genuine selves. As I discuss below, self-suppression can make persevering in a threatening domain especially difficult.

**Disidentification**

After a failure or a mistake of some kind most people have a tendency to rationalize it in some way. When a person claims to not care about math after a failure on a math test, we refer to this response as devaluing, and everyone does it to some degree (e.g., Aronson, Blanton, & Cooper, 1995). It is a natural reflex. But when the response becomes so chronic that the person adjusts her or his self-concept, divesting self-esteem from the threatened domain, this response can have disastrous effects on achievement. We call this chronic adaptation disidentification. I noted earlier that stereotype threat is strongest.
among students who are most invested in doing well, those who are highly identified with an intellectual domain. Disidentification solves the problem for students because it removes sensitivity to failure. Although failure in and of itself is enough to prompt disidentification, stereotype threat appears to make it a far more common response among blacks and Latinos because the stereotype suggests not only a general lack of ability, but also, as discussed above, limited belongingness in the domain (Osborne, 1997; Steele, 1997). The problem with disidentification is the same as with a number of other modes of self-esteem protection—one trades away motivation and engagement for protection from self-threat. Commenting on the basic human need for psychic insulation, the critic Louis Menand recently observed that “if we didn’t learn how not to care, our failures would destroy us.” Disidentification with particular domains of academics is to be expected as children mature and their interests and specialties narrow. We all must choose what to major in and what domains of competence to build our self-esteem on. Disidentification with areas of weakness is natural and adaptive. But for blacks and Latinos, whose performance and belongingness are broadly threatened in the academic arena, disidentification with academics can be maladaptive. Thus, if we cannot succeed in reducing stereotype threat, perhaps what we need to do for these students is help them learn alternate ways “not to care.” Biographical portraits of successful black Americans often make reference to the critical insight offered by a parent or mentor, which helped them persevere in the face of adversity: learning not to care about what others think (e.g., Jordan, 2001). Perhaps we can teach this kind of disidentification to our students, and thereby prevent wholesale divestment from academics.

**REDUCING STEREOTYPE THREAT:**
**WHAT TEACHERS CAN DO**

**Presenting Tests Differently**

Reducing Diagnosticity

The initial studies we performed offer some practical clues as to how to reduce stereotype threat. Recall that we improved performance among black students by presenting a test, not as a measure of ability, but rather as a nonevaluative task. This might be hard to pull off in a school setting, particularly with the recent drive toward “standards and accountability” that is turning the modern elementary school into a standardized testing center. It is unlikely that one could convince a child that you do not care about his or her performance when so much of the curriculum gets dictated by what is on the statewide standardized test. Yet there are some possible variations in presentation that can reduce the onus on the child. Consider the clever idea of a teacher, who, after hearing about this research, tried the following with her students: she
introduced the test as a measure of how well we (the school administration) are doing our job of teaching. According to the teacher, the students were more relaxed and performed better. The Spencer et al. studies further suggest that presenting a test as not showing gender or race differences can accomplish similar results. What teachers should try to avoid is anything that unduly raises the stakes in an effort to motivate the students.

**Learning Curve Protection**

Earlier I noted that stereotype threat seems especially disruptive to individuals who believe that intelligence is fixed. In a number of studies, researchers have improved performance by reminding people of the malleability of human ability and skill. These studies suggest practical ways of reducing stereotype threat in educational contexts.

In one study, Josephs and Schroeder (1997) successfully reduced the underperformance of women taking a math test by manipulating these women’s performance on a prior unrelated task. Women in this condition were given problems and feedback on their performance that emphasized that they had made substantial gains in skill improvement throughout the course of this first task. Awareness of this “learning curve” appears to have inoculated these participants from the deleterious effects of stereotype threat. Women given this prior experience completed a later math test with performance equal to that of a male control group, and better than that of women who completed the same set of problems and solved the same number correct, but who were not given the impression that their performance was improving. Thus in this study the attribution that participants could improve their performance seemed to reduce stereotype threat.

**Malleable Skill versus Fixed Ability**

In a similar study performed with African-American college students (Aronson, 1999), I presented a difficult verbal test as a test of an ability that was either malleable or fixed, reasoning that one would experience more anxiety if the test measured an ability of which a person had little hopes of improving. As predicted, the African-Americans, as well as the whites, performed much better and reported lower performance anxiety when the test was said to diagnose an ability that could be expanded with practice. Many teachers have told me that they have had good success with students by presenting tests to their students in this way—as a marker of their current level of skill rather than a measure of their permanent ability. This experiment backs up their perceptions.

The usefulness of thinking of ability as malleable is further underscored in a similar study (Aronson, 1997). In this study, undergraduates were led to believe they had either performed well or poorly on a test measuring their speed-reading ability. Prior to receiving the feedback, the test takers had been led to
believe either that speed reading was a highly improvable skill or that it was an endowed ability that could not be improved much with practice. At issue was how the feedback and the conception of the ability would interact to influence how much students ultimately valued the importance of speed reading. The results were quite clear. When speed reading was presented as a trait that could not be improved, test takers who received positive feedback gave it high ratings ("speed reading is an extremely valuable skill"). In contrast, test takers who received negative feedback did not believe that speed reading was an important skill. This devaluing did not occur when the test takers were led to believe that they could get better at speed reading. In this condition, both those who received positive feedback and those who received negative feedback said that speed reading was an important skill. Thus thinking of a skill as malleable can reduce the tendency to disidentify in the face of failure.

Reconceptualizing Intelligence

Two larger-scale interventions (Aronson, Fried, & Good, in press; Aronson & Good, 2001b) built on these two findings. One program involving African-American and European-American college students employed numerous tactics of attitude change to get them to adopt—and make highly accessible—the belief that intelligence expandable. Attitudes toward academic achievement and actual performance were assessed 4 months later at the end of the school year. The results were highly encouraging. Not only did the African-American students who took part in the intervention report enjoying and feeling more identified with academics, their GPAs at year's end reflected these positive attitudes. On average these African-American students improved their grades (overall GPA) by four-tenths of a grade point. In a second program college students mentored Latino and European-American junior high students. The mentors conveyed to their students different attitudes that we hypothesized would help the students navigate the difficult transition year from elementary school to junior high school. For one group of students, the mentors focused on the idea that intelligence is expandable; for another group of students, the mentors discussed the perils of drug use. At year's end, students mentored in the malleability of intelligence received higher scores on the statewide standardized test of reading ability than students who received the antidrug message. Similar results were found for girls' math performance on the statewide test. When the malleability message was not incorporated into the mentoring, girls underperformed relative to boys. When they were taught about the expandability of intelligence, their performance increased substantially.

Reducing Stereotype Threat Through Contact

The research by Inzlicht and Ben-Zeev (2000) suggests that just mixing students together can spoil minority student performance and their enjoyment of
classroom activities. But if structured properly, diversity can be used to reduce stereotype threat. Steele, Spencer, Hummel, Carter, Harber, Schoem, and Nisbett (1997) designed a comprehensive program for first-year students at the University of Michigan. This program sought to reduce stereotype threat through three means: (1) Students were "honorifically" recruited by emphasizing that they had already met the tough admission standards at the University of Michigan. (2) Students participated in weekly seminars through the first semester that allowed students to get to know one another and to learn some of the common problems they shared. (3) Students participated in subject master workshops in one of their courses that exposed the students to advanced material that went beyond material in the class. The elements sought to convey the message that instructors and peers thought they could excel academically, would not stereotype them, and believed they belonged at the University. Several years of the program demonstrate that such practices can lead to a substantial increase in African-Americans' performance in school. On average African-Americans randomly assigned to the program do four-tenths of a grade point better than African-Americans randomly assigned to a control group. In addition, this increase in performance, although it diminishes, is evident throughout the college years and leads to higher retention rates. Why is the program effective? Analysis of survey data collected from the program participants and the control group suggests that the program decreases stereotype threat, which in turn promotes identification with school, which leads to better grades.

Cooperation

Stereotypes and intergroup tensions flourish in competitive settings. There have been numerous interventions that have yielded impressive gains in the academic achievement of minority youth by structuring classroom or study environments in a way that minimizes the performance-undermining processes akin to those I have discussed here. E. Aronson and colleagues' "Jigsaw classroom" (e.g., Aronson & Patnoe, 1997; E. Aronson, Chapter 10 in this volume) and Uri Treisman's work (e.g., Treisman, 1992) with African–American math students are outstanding examples in this regard. Studies on the Jigsaw classroom show that the technique typically raises the minority students' grades (by about a letter grade), raises their self-esteem, increases friendships between ethnic group members, and leads to greater enjoyment among students of all backgrounds. In Treisman's work, group study in a calculus workshop that stressed challenge lifted the African–Americans' achievement to surprising levels; they earned grades as high as those of the Asian students in Treisman's classes. Importantly, part of the success of Treisman's work depends on presenting difficult work, which stresses challenge—as opposed to remediation. Getting children or adult students to work cooperatively on highly challenging work not only reduces prejudice (and thus stereotype threat), it also
ensures that all students feel a sense of belongingness. These studies are touchstones; they prove that the group differences are tractable, that they can disappear under the proper social conditions. If I could make only one change in classrooms, I would adopt cooperative learning techniques because they elegantly address so many of the causes and consequences of stereotype threat.

CONCLUSION

Decades of psychological research shows us that stereotypes are more than just benign "pictures in the head." Rather, they are expectations that can undermine performance, either through prompting differential treatment of the stereotyped or by inducing stereotype threat in the stereotyped. Most likely, both processes occur at the same time in a self-confirming spiral of low expectations, hindered performance, and threatened belongingness. Our research suggests that how people contend and cope with these unnerving expectations can have a dramatic effect on their academic achievement. The good news that I hope has come through in this chapter is that because stereotype threat is partly induced by situations, such as the situations that turned bright kids like Ricky and Darryl into low-performing students, there is much that concerned educators can do to reduce stereotype threat in classrooms and other academic settings.

Teachers' Questions and Answers

Q: Your research makes me wonder if students at schools or in classrooms where they are not in the minority might fare better than when they are outnumbered by majority group members. Is there any research on this?

A: There has been some research that bears on these issues. Recall the research by Inzlicht and Ben-Zeev (2000), showing that it takes only one male to undermine the performance of women taking a math test. This would seem to suggest that any level of integration is disruptive. But it is not that simple. Bryant Marks (e.g., Marks & Jackson, 2001) conducted an interesting study comparing the test performances of African-Americans at primarily black colleges versus primarily white colleges, essentially a replication of the Steele–Aronson studies I described earlier, but examining the role of school environment. The other twist that Marks added was to look at the difference between freshmen and seniors. With freshmen, he found the same pattern of results: the students underperformed on a standardized test under stereotype threat conditions. But the seniors were not affected by stereotype threat. Marks interprets these results as indicating that the seniors learned to cope effectively with stereotype threat—to develop their abilities as well as some useful
attitudes that unseated their vulnerability. Thus, under certain conditions at least, integration can be detrimental, but people can learn to be less vulnerable. What remains to be seen, however, is how students like Marks’ seniors fare at higher levels of schooling, like graduate or medical school, where they may find themselves in the minority, in an extremely challenging and competitive environment.

Q: Not all stereotypes are negative. For example, Asians are widely perceived to be smarter and harder working than other students. Do these positive stereotypes have any effects comparable to the negative stereotypes you have discussed?

A: Indeed they do, and it’s a very interesting story. When stereotypes are subtly activated, it appears that people tend to behave or perform in line with the stereotype. But when the stereotype is so salient that it is brought to conscious awareness, people can get caught up in trying to prove or disprove the stereotype. Thus, in a remarkable study conducted by Margaret Shih and her associates (Shih, Pittinsky, & Ambady, 1999), Asian women were subtly reminded (with a questionnaire) of either their Asian identity or their female identity prior to taking a difficult math test. The results were clear: the women reminded of their Asianness performed better than the control group, whereas those reminded of their female identity performed worse than the control group. Sapna Cheryan and Galen Bodenhausen (2000) found that when Asian women were made conscious that their Asian identity was relevant to a math test they were taking, they choked. Thus, model minority status can be a burden or a boon, depending on whether one consciously thinks about it. The implications of negative stereotypes for blacks and Latinos are also clear: whether or not the stereotype is so salient that one thinks about it is, to some degree, irrelevant; with or without conscious awareness, the stereotype undermines performance.

Q: You have described a number of laboratory studies that are very compelling. But I wonder how applicable these studies are to real-world testing. Does stereotype threat have as big an effect on the real tests that students take?

A: This is an important question. Our studies were designed to test a theory, and as such, we constructed a very controlled—some would say sterile—environment in which to test it. So you are right to wonder if stereotype threat has effects on performance in the real world, where so much else is going on that cannot be controlled for. A number of researchers, including us, have conducted studies in schools with children, outside the sterile confines of our university psychology laboratories. The results have generally paralleled the laboratory studies. But there is even more compelling research that bears on your question. Not long ago researchers at the Educational Testing Service, which develops many of the college entrance examinations like the SAT, conducted a series of studies to see if stereotype threat depressed the performances of women and minorities on real tests, with real-life consequences.
These studies are notable in that it was clear from the reporting that the researchers wanted dearly to show that stereotype threat has no effects on actual test performances outside the laboratory. After all, our research had raised the possibility that their tests were unfair to women and minorities, a claim they have been disputing for decades.

In one notable study (Stricker, 1998), the test administrators had students indicate their ethnicity and gender either before or after a difficult test, the Advanced Placement (AP) test of calculus. This is an important test, one that determines whether students get college credit for their high school studies; it can also play a big role in college admissions. Although stereotype threat should have been high for women and minorities taking either version of the test, it should have been even higher for those who indicated their gender and ethnicity before the test (which, incidentally, is the way the test is actually administered by the College Board). And to the apparent chagrin of the researchers, this is exactly what was found. Above and beyond the stereotype threat already depressing performance, there was a clear effect on the female and minority students asked about ethnicity and gender before the test—their test scores were lower. The author of this study was clearly unhappy with these results, and therefore argued that the performance differences, although statistically significant, were nonetheless trivial—that the small number of items missed as a result of indicating gender or ethnicity could hardly add up to much in the real world. I disagree, and so do most of the scientists who have read this report. A commentary by social psychologist Christian Crandall, who carefully analyzed the report, makes clear precisely why. Crandall notes that if the College Board made the simple change of asking for the ethnicity and gender information after the test, in a typical year approximately 2837 additional young women (out of about 17,000) would start college with calculus credit—and stand a better chance of getting into the college of their choice. I think that most of us would agree that this is not trivial, especially if you happen to be one of the thousands of students who take these tests every year. In sum, all the available data suggest that stereotype threat is a real phenomenon with real consequences for students.

References


A short time ago, a friend of ours began a job as a teacher in an inner-city school. He had studied education for several years, and now he had a chance to practice what he loved. For the first weeks, however, he found the work far more demanding than he had anticipated. The academic theory he had learned concerning the classroom had failed, it seemed, to prepare him for what actually occurred there. What surprised him most was the significance of race. Even among his young students, most of whom were ethnic minorities, racial stereotypes had shaped their expectations about him as a white teacher and about their prospects in school more generally. His students talked about the images that the media, and society at large, painted of their groups—and how these images presented, at worst, an insulting portrayal of their ethnic groups, and at best a pessimistic one. They worried that such images might bias the treatment they received not only from teachers but from other
gatekeepers of educational opportunity. In a system tarnished by racism, they wondered, what assurance did they have that their efforts in school today would lead to advancement tomorrow?

While this anecdote raises several issues, we use it here to illustrate an often underappreciated concept in the psychology of motivation—trust. To excel at almost any endeavor, people need to trust that relevant authority figures have their best interests at heart (see also Tyler, Smith, & Huo, 1996). Of course, a given teacher, school, or institution may not deserve trust. But when trust is warranted, students are best served if they can feel certain that educators believe in their potential and care about their welfare.

Given the key role that trust plays in academic settings, members of historically oppressed groups may suffer a disadvantage, insofar as the past treatment of their groups in society gives them grounds to mistrust authority figures. In fact, personal experience alone may provide African-Americans, Latino-Americans, and Native Americans with ample reason to fear being judged or treated prejudicially. Without trust in the integrity of educators and academic institutions, their motivation in school may falter, particularly in situations that trigger concerns about their group's acceptance. Indeed, much of the well-documented scholastic achievement gap between ethnic minority students and their white peers reflects, we argue, the devastating consequences of racial mistrust (see Steele, 1997). A crucial challenge faced by educators working across racial lines, the present chapter thus suggests, is to forge trusting relationships (Marx, Brown, & Steele, 1999; Steele, 1999; see also Bryk & Schneider, 1996).

The analysis presented in this chapter rests on three claims. The first claim asserts that stigmatization impedes trust. Being a member of a socially devalued group can cause a student to question whether teachers, schools, or societal institutions more generally will provide reliably fair and kind treatment. The second claim asserts that the mistrust elicited by stigmatization can, in turn, cause motivation and performance to suffer. Students will feel reluctant to invest themselves in a domain where they could be subjected to biased judgment or treatment. The final claim asserts that allaying the threat of stigmatization will help to create trust and to improve motivation. Students who feel assured that they will not be viewed through the lens of a negative stereotype, that is, will be more likely to trust their educators. They will thus feel safe to invest their effort, and even their identity, in scholastic pursuits.

Below we present a selective review of research to buttress each of these three theoretical claims. Next, we describe work conducted in our own laboratory, where we applied this theory to a key educational dilemma—the challenge to provide critical but constructive feedback across lines of difference, specifically across the racial and gender divides. In a later section of the chapter, we use the same conceptual framework to understand how a "stigma of racism" may hamper the performance of teachers who work in demographically diverse classrooms. Then, in a final section, we review several additional
intervention strategies. Each one boosts the achievement of minority students, we argue, by allaying the threat of stigmatization and thus creating a basis for trust.

STIGMATIZATION IMPEDES THE ESTABLISHMENT OF TRUST

Because minority students know that members of their ethnic group have long faced prejudice, and because they may have experienced such prejudice personally, they may rightfully feel wary of people who do not belong to their ethnic group, especially in evaluative situations where negative racial stereotypes could be used against them. Theorists have long noted the potentially large costs incurred by trusting someone who could ultimately prove untrustworthy (Gambetta, 1990; see also Fukuyama, 1995; Lewis & Weigert, 1985). For that reason, minority students may reasonably view white teachers with suspicion until they have evidence that they are worthy of trust.

The default assumption may thus be that people outside one's ethnic group are biased, even when these outsiders do not explicitly harbor prejudicial beliefs. In one study, both black undergraduates and their white classmates vastly overestimated the degree to which peers of the other racial group stereotyped their own race (Krueger, 1996). In fact, members of both ethnic groups reported similarly positive feelings toward blacks and whites. Nevertheless, they predicted that members of the other race would express far more negative evaluations of their own race than they actually did. Because they are aware of our country's history of racial prejudice and conflict, people may reasonably suspect—sometimes accurately, sometimes inaccurately—that the hearts and minds of those beyond the boundary of their ethnic group are biased.

In any specific interaction, racial mistrust is apt to prove particularly acute when the possibility of being discredited on the basis of one's race is plausible rather than implausible. Features of the situation that alter the salience or relevance of one's race—and thus affect its potential to bias another person's response—can dramatically influence trust. In one study, black college students and their white peers received negative interpersonal feedback from a white student who, they were led to believe, sat on the other side of a one-way mirror (Crocker, Voelkl, & Major, 1991). Black students proved more likely than white students to believe that the feedback was motivated by the evaluator's prejudice. However, this race difference in trust was most pronounced when the curtains of the one-way mirror were open rather than closed and, students thus could presume that the evaluator was aware of their race. Stigmatization leads to mistrust primarily when group members recognize that a stereotype could plausibly be used against them, in situations, that is, where their race is known, and where the stereotype
impugns their general worth or their specific abilities at the task at hand (Crocker, Major, & Steele, 1998).

Not only may members of ethnic minority groups show decrements in trust as a result of stigmatization. Rather, anyone who fears being rejected on the basis of a personal characteristic might anticipate being judged with prejudice rather than viewed with respect (Goffman, 1963). Even ordinarily nonstigmatized individuals may thus respond mistrustfully when the situation causes them to feel suspect in the eyes of others. In one classic experiment, for example, subjects were temporarily given a stigma by having a simulated scar cosmetically applied to their face (Kleck & Strenta, 1980). While ostensibly touching it up, however, the experimenter wiped off the scar without the subject’s knowledge. Feeling physically disfigured gives people grounds to wonder if others will accept them (Davis, 1961; Goffman, 1963; Hastorf, Wildfogel, & Cassman, 1979). Subjects in the present study, believing that a scar was visible on their face, thus had reason to question whether others would treat them with fairness and kindness.

In fact, the results of the study yielded dramatic support for this reasoning (Kleck & Strenta, 1980). After the scar had been removed, subjects participated in a discussion with a fellow student, and then later commented on their partner’s demeanor. Subjects reported that the scar had caused their partner to treat them in an awkward and patronizing manner—the person, they felt, had been unable to get past their physical disfigurement. However, the scar’s removal prior to this interaction ensured that subjects were not treated differently on the basis of a facial deformity, and in fact independent observers found no evidence of systematic differences in the partner’s behavior as a function of whether subjects believed they possessed a scar or not. Rather, subjects who thought that they appeared facially disfigured engaged in a fine-grained analysis of their partner’s behavior, finding evidence of bias in nonverbal cues that they would otherwise overlook (Strenta & Kleck, 1984; see also Vorauer & Ross, 1993).

Clearly, it is an oversimplification to equate the stigmatization felt by subjects in the present study with that faced by ethnic minorities. In many cases, the prejudice minority students sense is real rather than merely perceived. Their mistrust, moreover, derives not from an illusory scar, but from the lessons of history and personal experience. Because racism can be subtle in its manifestations, and because its effects can prove costly, it is adaptive to be vigilant for prejudice (see Frable, Blackstone, & Scherbaum, 1990). Nevertheless, the results described in this experiment offer at least one important lesson: The relationship between stigmatization and trust is general rather than specific to any one group. Even a transitory stigma, conferred to persons from a historically nonstigmatized group, can create mistrust, wherein the good will of other people comes to be questioned rather than assumed (see also Aronson, Lustina, Keough, Brown, & Steele, 1999; Leyens, Désert, Croizet, & Darcis, 2000).
Persistence in an endeavor is sustained by a faith that one will both be viewed as an individual and be included in important relationships. Negative stereotypes erode this trust, and thus reduce the likelihood of scholastic success. Students who suspect racial bias, for example, may prove less motivated to comply with teachers' specific instructions for improvement. Black students in one study thus discounted the objectivity of performance feedback more from a white evaluator than from a black one; and they also chose to perseverate in their own strategies rather than adopt those recommendations made by the white evaluator (Banks, Stitt, Curtis, & McQuarter, 1977). Moreover, people who fear being stereotyped are apt to suffer dramatic decrements in self-confidence (Stangor, Carr, & Kiang, 1998).

At each level of achievement, one's race may raise doubts about the quality of treatment that one can expect from relevant authorities. Students may thus be discouraged from fully investing themselves in school. As much research attests, the quality of relationships with school authorities conveys important information about one's standing and general prospects within relevant academic domains (see Tyler et al., 1996). Unfair, inattentive, or disrespectful treatment suggests that the student (and perhaps the student's race) has a low standing and unfavorable prospects. By contrast, fair, attentive, or respectful treatment communicates good standing and favorable prospects. As social psychologists have long noted, people who evaluate their position and prospects favorably within a group are apt to internalize relevant group norms and values, and they seek to fulfill group-based standards of behavior and performance (Tyler et al., 1996; Huo, Smith, Tyler, & Lind, 1996). To the extent that minority students believe that they might be excluded or rejected on the basis of race, they may thus view school as irrelevant to their self-interests and identity.

In an impressive line of research, Tom Tyler, Allan Lind, and their colleagues underscore the role of trust in motivation. In a variety of settings, including school, family, and work, they find that judgments about the quality of one's relationships with authorities prove to be among the strongest predictors not only of whether individuals comply with the decisions of authorities, but also of whether they adopt the values of their organization (Huo et al., 1996; Tyler et al., 1996). Employees are more likely to embrace the ideals of their company, and they even will go beyond the formal requirements of their position, when they feel that management is "on their side" and generally responsive to their needs. In fact, trust appears more important in determining identification with an organization (and subsequent motivation) than the objective rewards and punishments provided by the authority (Smith, Tyler, Huo, Ortiz, & Lind, 1998; Tyler et al., 1996; Huo et al., 1996).
People decide whether to trust individuals or organizations by assessing the consistency with which they apply rules and the fairness with which they make decisions (Tyler et al., 1996; Huo et al., 1996). The objective grades and feedback students receive thus seem to matter less than the perceived fairness of the system that provides them. If students believe that the academic system is fair—if they trust the legitimacy of the procedures it uses—they will maintain motivation in the face of most decisions or outcomes. Only when students think that the system could be biased against them or their ethnic group will they focus on a given outcome and the potential bias that motivated it.

The reasoning outlined here dovetails with the body of research on "stereotype threat" (Aronson, Quinn, & Spencer, 1998; Spencer, Steele, & Quinn, 1999; Steele & Aronson, 1995; Steele, 1997; see also Aronson, Chapter 14 in this volume). As that work demonstrates, minority students working on a standardized GRE test, or for that matter on any demanding intellectual task, may worry about confirming a negative stereotype about their ethnic group. They must contend with the threatening possibility that, should their performance falter, it could substantiate the racial stereotype's allegation of limited ability. In the short term, stereotype threat can cause anxiety and distraction debilitating enough to undermine academic performance. In the long term, it can lead students to disidentify from scholastic pursuits, prompting them to invest their efforts and identity in areas where they are less subject to doubt. Stereotype threat, it could be argued, sprouts from a crack in social trust. Students cannot trust that their performance will be judged fairly, inasmuch as they worry that a specific failure on their part could be viewed as evidence of racial inferiority.

A recent study conducted by Joseph Brown and Claude Steele specifically highlighted the role of trust in stereotype threat. They began by documenting a familiar pattern: black college students performed worse than did their white peers on a difficult GRE test (see Marx, Brown, & Steele, 1999). The researchers wondered, however, if black students would do better if they could trust that the test would not be used to substantiate racial stereotypes—if they were assured, in Tyler's language, that it was procedurally fair. Students in one experimental condition were presented with the same GRE test, but they were first informed that the designers of the test, many of whom were said to be black, had ensured that it was racially fair. Students thus knew that their poor performance would not be taken as evidence of a racial inferiority, because any biased test content that would produce a racial difference had allegedly been removed. In fact, the performance of black students in this condition improved so dramatically that it equaled that of their white peers. Notably, more commonplace strategies to enhance performance, such as boosting self-efficacy, proved ineffective. It was not low self-confidence that hurt black students on the test; it was a lack of trust.
ALLAYING STIGMATIZATION ENHANCES
MOTIVATION AND PERFORMANCE

Both teacher and student thus face a challenge. The teacher must communicate that he or she is trustworthy, despite the potential for racism that exists both in the academic system in particular and in society more generally. The student, in turn, has to make a risky leap of faith, going beyond at times inconclusive evidence to assume that a given teacher or academic institution is worthy of trust. The first step, we believe, lies with teachers and the schools they represent. They must educate in a "wise" manner, that is, in a way that communicates to students that they will neither be viewed nor be treated in light of a negative stereotype. The term wise is borrowed from the sociologist Erving Goffman (1963), who had borrowed it from the gay subculture of the 1950s. In its original usage, the term referred to straight individuals who were recognized for their ability to see the full humanity of gay men and women. The present use of the term wise evokes a similar connotation. Wise strategies are those that assure stigmatized students that they will not be judged or treated stereotypically—that their abilities and belonging are assumed rather than doubted. Such strategies lift the threat of stigmatization, allowing minority students both to trust their educators and to safely invest themselves in school.

Assuring students of the racially fair nature of the testing and decision procedures, as in the study conducted by Brown and Steele noted above, can constitute one wise intervention. But even strategies that do not explicitly refer to race can be wise. The effectiveness of such strategies is suggested by the many educators and intervention programs who, in defiance of troubling statistics on minority achievement, have raised the grades, test scores, and college prospects of at-risk and minority youth (see Cohen, Steele, & Ross, 1999, for a review). The educators in these programs all refute negative stereotypes by conveying a faith in each student's intellectual potential. But they do not impart this message by assigning easier work to ensure student success, or by offering heavy doses of unstinting praise—all-too-common tactics of well-meaning but unwise teachers. In fact, several researchers offer detailed discussions of the dangers of "overpraising" and "underchallenging" students (Barker & Graham, 1987; Massey, Scott, & Dornbusch, 1975; Brophy, 1981; Mueller & Dweck, 1998). Rather, minority students in all of these otherwise diverse success stories are challenged with high performance standards, standards that presume their motivation and ability to succeed. The educators in these programs often go an important step further by explicitly assuring students of their capacity to meet those standards through greater effort.

Jaime Escalante (whose work was portrayed in the movie Stand and Deliver and documented in a book by Mathews, 1988) challenged his East Los Angeles Latino students to take and pass the advanced placement (AP) exam in
calculus (see Cohen et al., 1999). Escalante's students met this standard. In fact, for a time, they accounted for 27% of all Mexican Americans receiving college credit on their AP exam, and the rate of advanced placement compared favorably with that obtained in many privileged suburban schools. Xavier University, which despite its small size and scant endowment, sends more black students to medical schools than any other university, and Georgia Tech, which enjoys exceptional success in graduating minority students from its engineering curriculum, similarly set highly demanding standards (see also Rosenthal, Chapter 2 in this volume; Rosenthal & Jacobson, 1968).

The benefits conferred by the invocation of high standards are apt to be limited unless the student is also assured, implicitly or explicitly, that he or she is capable of reaching the higher standards (Cohen et al., 1999). Effective interventions thus continually convey the message that students can succeed through effort and persistence. In a sense, the message is that academic ability, or even so-called intelligence, is not fixed or immutable (Dweck, Chiu, & Hong, 1995; see also Chapter 3 by Dweck and Chapter 14 by Aronson in this volume). Rather, it can be enhanced through effortful practice and the cultivation of specific skills. Norman Francis, the president of Xavier University, explains his institution's educational philosophy eloquently: "From the very beginning, we always believed that every youngster could learn, that the mind was an unlimited facility, that if you gave the support, provided the environment and the teachers, young people would exceed even their own potential" (quoted in Cose, 1997). To drive home that message, Xavier's prospective premedical students are bombarded with information on careers, especially those in the areas of science and health, from the outset. The lesson conveyed is clear: "success is attainable becoming a physician is not an impossible dream" (Cose, 1997).

**THE MENTOR'S DILEMMA: A SPECIFIC APPLICATION**

In a series of experiments conducted with our colleague Lee Ross, we focused on what we call the "mentor's dilemma"—the challenge to provide critical but constructive feedback without undermining the student's motivation to succeed (Cohen et al., 1999). Along with tutorial instruction, the quality of feedback that students receive constitutes one of the strongest predictors of scholastic accomplishment (Bloom, 1984; Walberg, 1984). The mentor's dilemma, we reasoned, should prove particularly acute when critical feedback must be conveyed across racial lines. Because they know that their abilities are negatively stereotyped, minority students may mistrust the person providing the feedback. Following the receipt of critical feedback, they may consequently feel less motivated to undertake further efforts to improve their work.

The real-world success stories noted above highlighted the effectiveness of combining an invocation of high standards with an assurance of students'
capacity to reach those standards. Such a strategy should prove particularly helpful to the mentor who is obliged to provide critical feedback across racial lines. The invocation of high standards would encourage students to view the critical nature of the feedback as a reflection of rigorous performance standards rather than racial bias. Moreover, the assurance would allay students' fear of confirming the stereotype by failing to meet the critic's demanding standards. The explicitness of these two messages, we reasoned, would prove disproportionately important for minority students. White students receiving rigorous criticism, that is, should be more inclined than minority students to automatically infer that high standards are being applied and to further assume that they are seen as capable of meeting those standards.

In our first study, African American undergraduates and their white peers wrote a letter of commendation for their favorite teacher. They were informed that the best letters would be published in an education journal. The following week, students returned and received a "revise and resubmit" verdict on their letter, ostensibly from a member of the journal's editorial board, along with critical feedback pointing out areas of weakness and suggesting strategies for improvement. Our experiments pitted the effect of "unbuffered" criticism, that is, criticism unaccompanied by any additional information, against that of "wise" criticism, that is, criticism accompanied by the stigmatization-dispelling combination of high standards and personal assurance.

Two experimental details were added to lead black participants to view the feedback as potentially biased. At the first session, prior to receiving the criticism, students had their photograph taken with an instant camera, and this photograph was then appended to their letter. Students were thus alerted that anyone who evaluated their letter would be aware of their race. In addition, at the second session, students learned the name of the reviewer who ostensibly evaluated their letter, and this name was recognizably Caucasian: "Dr. Gardiner Lindsay."

When provided with unbuffered feedback in this manner, black students proved more inclined than white students to suspect bias on the part of the evaluator. This mistrust, in turn, undermined motivation: black students felt less interested than their white classmates in undertaking a revision of their letter. However, when the same critical feedback was accompanied by the combination of an invocation of high standards and a personal assurance of the student's capacity to reach those standards, black students suspected little if any bias on the part of the evaluator, and their motivation improved so dramatically that it surpassed, slightly, that of their white peers. In addition, all students in this treatment condition reported greater interest in pursuing career possibilities that demand writing skills. The wise, two-faceted intervention proved more effective than the commonplace tactic of preceding critical feedback with a buffer of performance praise. Indeed, one striking result was that although the criticism suggested that a major revision of their work was necessary, black students receiving "wise criticism" felt as efficacious and
motivated as students in an additional condition who received only positive feedback.

A later study disentangled the effect of invoking high standards from that of assuring students of their capacity to reach those standards. Accompanying critical feedback with only a warning that high standards would be imposed deflected attributions of racial bias, but by itself failed to raise motivation on the part of black students. Indeed, in the absence of the personal assurance, such a forewarning of heightened standards seemed to exacerbate threat. Black students still had to wonder if their capacity to reach such daunting standards was in doubt, and they thus benefited from the additional personal assurance featured in fully wise feedback.

**GENERALIZING THE FRAMEWORK: WOMEN WORKING IN THE NATURAL SCIENCES**

The theory outlined here asserts that stigmatization impedes trust, which in turn undermines motivation. Dispelling stigmatization, for example, with the wise intervention used in our research, establishes a basis for trust, and thus improves motivation. The theory should generalize to other populations who face group-based doubts about their abilities. In fact, women working in math, science, and engineering have long confronted negative stereotypes about their potential and belonging in these fields (Spencer, Steele, & Quinn, 1999). As early as elementary school, girls receive less encouragement than boys in math and science; and as late as college, women abandon the study of math and science at a rate nearly three times that of men, even though they earn grades in relevant coursework that equal and even slightly exceed those of their male peers (see Steele, 1997).

We began with the observation that women working in scientific disciplines are apt to receive much of their instruction from male superiors. It seemed plausible that the male–female achievement gap in the sciences may be due, at least in part, to gender mistrust and its detrimental effects on motivation and performance. In fact, one study found that doctoral graduates who had worked with a mentor of the opposite sex later achieved an average publication rate only a fourth that of graduates who had worked with mentors of the same sex (Goldstein, 1979; see also Crosby, 1999). Because they know that their scientific abilities are negatively stereotyped, women may wonder if they are granted as much respect as men in pursuits that demand such skills, and this mistrust could diminish their prospects for success.

In one of our studies, science and engineering majors of both sexes received either wise or unwise critical feedback on a task relevant to their skills and long-term prospects in scientific pursuits—preparing and delivering a research presentation. One week later, they received a critical review of their performance ostensibly from a male science professor. Our study went beyond self-
report measures of motivation to examine the effect of feedback on performance. Specifically, upon receiving feedback about their initial performance, students had an opportunity to give their presentation again, after being provided with sufficient time to incorporate the suggestions for improvement offered in the context of the feedback.

Compared with men, women receiving unbuffered critical feedback responded mistrustfully. They felt that the reviewer had been unfair and biased in his assessment of their presentation. Women receiving this unbuffered feedback also proved less likely, in their revisions, to comply with the reviewer's recommendations for improvement. Finally, women in this condition also produced worse overall presentation revisions, and they communicated less technically difficult subject matter, than did subjects in any other condition of the experiment. Interestingly, the performance of female students showed only slight improvement when the same critical feedback was accompanied only by a personal assurance of their capacity to "do better." Without the additional invocation of high standards used in fully wise feedback, it seems, such an assurance can send the discouraging message that hard work on the student's part can only raise the level of their performance from utter deficiency to mere adequacy.

When, however, the same critical feedback featured the wise combination of high standards and assurance, women felt greater trust, and they showed stunning gains in performance. In fact, the percentage of women who complied with a central suggestion made by the critic—to incorporate an outline at the beginning of their presentation—was far greater in the wise criticism condition (72%) than it did in the condition featuring unbuffered criticism (11%). Indeed, in the wise criticism condition, women's overall performance improved so dramatically that the average overall quality of their presentations proved superior to that of subjects—male or female—in any other condition of the experiment.

The explicit invocation of high standards and assurance of personal capacity will prove particularly beneficial, we believe, at junctures where students receive feedback more critical than what they believe their performance merits. In such cases, they may be particularly liable to mistrust the evaluator's motives. Teachers, managers, and coaches may recall analogous situations, where the feedback they provided or the decisions they made conflicted with what their subordinates expected or simply wanted to be told. Beyond the confines of the lab, such situations often arise in academic settings when students go from one scholastic environment to a more rigorous one—moving from high school to college, or from college to graduate school—and the standards for what constitutes an adequate performance rise sharply (Dweck et al., 1995). At these transitions, students may be surprised to find that the amount of effort that they had previously invested in their work no longer suffices to earn them the praise or favorable grades that they had once received. How they make sense of the abrupt increase in critical feedback
and scholastic frustration will affect their motivation and sense of belonging in school.

Nonstereotyped students may readily view the increased difficulty they experience as a reflection of elevated performance standards. Stereotyped students, by contrast, could potentially view it as a sign that they do not belong, as evidence that they have reached, in the eyes of others and perhaps in their own eyes as well, the limitation in ability alleged by the stereotyped. It may be no coincidence that, in at least one large longitudinal study, black students saw their GPA fall more than three times that of their white peers during the first major academic transition— as students left elementary school to enter junior high school (Simmons, Black, & Zhou, 1991). No doubt, this result reflects the institutional racism, school tracking policies, and inadequate academic preparation that put many black students at a disadvantage relative to white students. But the abrupt nature of the decline in achievement also raises the possibility that racial mistrust grows particularly acute when high standards are abruptly imposed without explanation or forewarning.

The wise intervention used in our studies is beneficial, it seems, because it makes explicit to negatively stereotyped students precisely the message that is apt to be implicit at least for the more privileged of nonminority students. Minority students and female science majors, that is, have grounds to wonder if the critical feedback they receive or the newly encountered academic hurdles they face imply that their race or gender puts them at risk. Our findings, we believe, offer an optimistic message about the potential to remedy such mistrust. Both minority students and female science majors seem eager to believe that they belong. In fact, they responded to the critical feedback provided in our studies as favorably as their nonstereotyped peers (indeed, somewhat more favorably), as long as that feedback was delivered in a manner that assured them that the stereotype would not be used against them.

THE OTHER SIDE: SOME EFFECTS OF STIGMATIZATION ON TEACHER FEEDBACK

The present chapter has focused on the role of stigmatization in undermining the achievement of students who face negative stereotypes. However, stigmatization may also undermine the performance of teachers who work across ethnic lines. Because they know that their group is stereotyped as being racially biased, white teachers working with minority students may worry that they will be viewed as insensitive or even prejudiced. In numerous studies, in fact, whites and other ordinarily nonstereotyped individuals seem to feel stigmatized when interacting with members of socially devalued groups. Their body language thus stiffens, their speech becomes fragmented, and they seek to end the interaction sooner rather than later (Word, Zanna, & Cooper, 1974; see also Kleck, Ono, & Hastorf, 1966). Majority group members may also hold "meta-
stereotypes"—beliefs about what members of a minority group think about members of a majority group (Vorauer, Main, & O'Connell, 1998). Specifically, whites and members of other majority groups tend to believe that minority group members stereotype their group as prejudiced, unfair, or complacent about existing power imbalances; and they may fear being personally assimilated to that stereotype (Vorauer et al., 1998). In fact, in at least one study, meta-stereotypic beliefs on the part of whites proved superior to conventional measures of prejudice at predicting aversion to cross-race interaction (Vorauer et al., 1998). Both white educators and their minority students may thus face a similar dilemma. They both want to break free of an identity to which they fear the other has consigned them.

Inasmuch as white educators cannot trust that minority students will interpret their behavior charitably, their performance may suffer accordingly. They may focus less on teaching effectively, and more on projecting an egalitarian self-image, than they otherwise would. When working with minority students, white teachers may thus use critical feedback only sparingly for fear of appearing prejudiced and, instead, offer generous dollops of performance praise. Empirical research, in fact, buttresses this reasoning. Several studies find that, in the classroom, minority students are praised more and criticized less than their nonminority peers (for notable exceptions, see the review by Ferguson, 1998). In a schoolwide survey, black students reported receiving the most praise of any ethnic group, even though they spent the fewest number of hours on homework and received the worst grades (Massey et al., 1975). Moreover, white evaluators in a series of experiments responded to a poorly written essay with more positive feedback when they were led to believe that its author was black rather than white (Harber, 1996, 1998).

A stigma of racism appears to motivate the provision of the favorable commentary provided to minority students. In one study, the positive feedback bias proved most acute when evaluators’ egalitarian self-image had been threatened (Harber, 1996). Subjects who were told that they had scored poorly on a test of racial tolerance thus offered the most positive assessments of a black student’s essay. The number of favorable comments made also rose sharply if the subject provided the feedback publicly, and the black student responded with a sullen demeanor, neither smiling nor making eye contact, and thereby insinuated a suspicion that the evaluator was racist (Harber, 1996). The results suggest that instructors use positive feedback to fend off a stigma of racism, and that their minority students may thus be provided with more positive feedback and less negative feedback than their white peers.

At first consideration, such a practice might seem beneficial. Both conventional wisdom and empirical research attest to the pedagogical value of praise. Students receiving positive feedback in laboratory studies tend to like their evaluator more, feel more intrinsically motivated, and perform better at relevant tasks than do students receiving negative feedback or even no feedback (see Koestner, Zuckerman, & Koestner, 1987; Miller, Brickman, & Bolen, 1975).
On further consideration, however, it becomes clear that although praise can confer benefits, it can also exact costs (see Dweck, Chapter 3 in this volume; also Graham, 1990). In an illustrative study outside the classroom, for example, high school athletes who received the lion’s share of praise from their coaches were, by the end of the season, the least confident in their athletic skills, even after individual differences in preseason ability were statistically controlled (Horn, 1985).

At least in certain circumstances, it seems, positive feedback can thus prove counterproductive. To the extent that teachers substitute praise for criticism, and easily achieved success for hard-won accomplishment, students are apt to learn less than they otherwise would. In addition, recent research underscores the negative motivational consequences of superfluous praise. As Carol Dweck and her colleagues have found, teachers who praise students’ intelligence can send the harmful message that current performance provides evidence of innate ability rather than of the application of effort or the use of appropriate strategy (Mueller & Dweck, 1998; see also Dweck, Chapter 3 in this volume). Students who are praised for their ability may thus respond to later failure not by trying harder, or by implementing a new problem-solving strategy, but by concluding that they lack the requisite skills to continue. Ability praise communicates that scholastic performance provides a gauge of intelligence and even of self-worth, and it can thus lead students to view the inevitable scholastic setback as reason to withdraw effort.

Positive feedback can cause further harm to the extent that it communicates low expectations for future achievement. Praise for substandard performance, or for easy work, can send the message that little more is expected from the student (see Anderson, Evertson, & Brophy, 1979). Inasmuch as students recognize that the positive feedback provided was motivated by low expectations rather than by the merit of their work, they may suffer a drop in self-confidence. In one study, students who had been praised for their performance on an easy task felt less confident that they would do well on a new, more difficult set of problems (Meyer, Plöger, & Bachman, 1978, cited in Meyer, Bachmann, Biermann, Hempelmann, Plöger, & Spiller, 1979). By contrast, students who had received criticism felt more confident in the likelihood of future success. Critical feedback sent the galvanizing message that their initial performance, though perhaps adequate for another student, was not worthy of their potential.

Beyond communicating low expectations, the superfluous praise provided to minority students may exact at least two additional costs. First, it may lull students into accepting low performance standards, or otherwise deter them from trying to attain a higher level of achievement. The study by Massey and colleagues (1975) noted above found that although black high school students spent the least time on homework and earned the lowest grades, they rated their effort and performance in school as high as their white and Asian peers did. Positive feedback may have led them to believe that they were doing better in school than they actually were (Massey et al., 1975).
Teachers who overpraise minority students may also exacerbate racial mistrust rather than assuage it. Inasmuch as minority students recognize that the evaluation they receive is more positive than what their performance merits, they may view it as patronizing and even insulting. In one study, black students and their white peers were praised for their interpersonal qualities by a white stranger (Crocker et al., 1991). White students saw the feedback as a reflection of their own social graces, and subsequently their self-esteem increased. By contrast, black students who thought that the evaluator was aware of their race could reasonably wonder if the feedback was motivated by racial sympathy, and their self-esteem decreased. Minority students presumably recognized that the evaluator, having had no previous contact with them, had little if any basis for providing such a positive assessment. The feedback thus signaled that they had been viewed not as an individual, but as a token of their race (see Harber, 1996). Over time, moreover, minority students may rightfully come to doubt the genuineness behind whites' displays of approval, and they may thus ultimately discount even well-earned positive feedback.

The same theoretical framework used to understand the role of stigmatization in student performance can thus be used to understand its role in teacher performance. Educators may mistrust the way that their feedback in particular and their actions more generally could be interpreted in the minds of minority students. Their ability to teach in racially diverse classrooms may thus suffer because their attention is drawn from teaching effectively to deflecting charges of racial bias. Ironically, however, the feedback that teachers offer to entrust and encourage minority students may sow the seeds of further mistrust and discouragement.

**ADDITIONAL STRATEGIES FOR CREATING TRUST**

The need to combat the effects of stigmatization does not oblige the educator to withhold critical feedback, to lavish praise, or to otherwise lower performance standards in the hope of sustaining student motivation. Indeed, as noted above, doing so may cause the student more harm than good. Rather than alter the content of instruction, the educator (and student) might be better served by modifying the context in which such instruction occurs (Cohen et al., 1999). In the case of the highly selected black students and female science majors featured in our own research on feedback, motivation and performance were raised not by diluting the critical feedback offered or by softening its tone. What proved effective was providing that criticism in a context where its critical nature could be readily attributed to the existence of high and consistent standards and to the instructor's belief in the student's capacity to reach them. The challenge to the wise mentor, accordingly, is to establish a learning context that assures students that they will neither be judged nor be treated stereotypically. Beyond invoking high standards, and assuring students of their
capacity to reach those standards, other strategies may prove effective in the classroom, business, or playing field contexts outside the narrow confines of the psychology laboratory. The effectiveness of each strategy derives, at least in part, from its ability to lift the situational threat of stigmatization. Students are thus free to trust their teachers and to safely invest their effort, and their identity, in school.

Providing Sufficient Support

Wise educators and interventions succeed not simply by imposing high standards and assuring students of their capacity to reach them. They also provide the resources and guidance—in the form of teacher feedback, student services, and tutoring opportunities—that students need to attain the level of performance demanded. Selective colleges, for example, offer more generous financial aid programs, generally provide smaller classes with more personal attention, and supply more counseling and support services than do less well-endowed institutions. Such colleges yield graduation rates nearly twice the national average, and produce students who go on to earn salaries almost 70% greater than those of their peers who attend less selective schools; in fact, 10 to 50% of the advantage of attending a well-endowed, selective college remains even after student socioeconomic status, SAT scores, high school grades, and gender are statistically controlled (Bowen & Bok, 1998). Furthermore, attendance at elite schools appears to confer greater benefit to black students than to white students (Bowen & Bok, 1998). Even students who enter such schools with fewer academic credentials than their peers, for example, those admitted under affirmative action or through athletic scholarships, on average achieve superior graduation rates, earn higher salaries, and even become more civically involved than do similarly qualified peers who attend less competitive schools (Bowen & Bok, 1998).

Cultivating Relationships

Criticism delivered in the context of a trusting relationship, where recipients can effortlessly attribute such feedback to benevolent intentions, may not require explicit assurances or evocations of standards to prove beneficial. Outside such a relationship, it seems, minority students may reasonably view academic authorities with mistrust. But as they develop a close relationship with a teacher or mentor, they may come to view racial bias as an increasingly implausible explanation for the treatment they receive, at least in the context of that specific relationship (see also Slavin & Cooper, 1999). Indeed, stereotype-based suspicions exert far less influence on judgment once people have gathered even minimally diagnostic information about another person (e.g., Locksley, Borgida, Brekke, & Hepburn, 1980). The messages of respect and regard that at first must be made explicit may thus become implicit in the
context of a trusting relationship. The mentor's continuing support and demonstrated concern, that is, can communicate that the student is accepted and viewed as capable.

Conveying a Message of Personal Concern

It is likely that the rigor of the feedback featured in our own studies communicated the critic's interest in helping the student to reach the higher standard (Cohen et al., 1999). Many students in our own studies remarked in the post-experimental debriefing session that they had felt impressed by the attentiveness of the criticism, and that seldom in their undergraduate careers had a teacher or professor taken their efforts so seriously. In fact, students who face negative stereotypes may feel particularly uncertain about whether their mentors, teachers, and even academic institutions support and care about the welfare of students from their gender or racial group. Detailed critical feedback, at least when accompanied by personal assurance and evidence of high standards, may help to resolve this uncertainty.

Beyond communicating high standards and a belief in the student's capacity for success, the mentor may thus be obliged to convey, implicitly or perhaps even explicitly, a personal concern for the student. While this notion is consistent with our theoretical analysis, it also resonates with research examining the factors that distinguish effective intervention programs from ineffective ones (Comer, 1988, 1997; Schorr, 1997). According to one recent review, it is an ethos of care and commitment that is essential. In fact, "In their responsiveness and willingness to hang in there, effective programs are more like families than bureaucracies" (Schorr, 1997). Effective teachers are likely to take similar steps to communicate a personal interest in their students, often an interest that goes beyond scholastic concerns. For example, the ability of teachers to connect with the lives of students outside of school appears critical to the success of several academic intervention programs (see Schorr, 1997). Indeed, strategies as simple as providing opportunities for high-risk youth to develop caring relationships with peers, teachers, and role models in the context of extracurricular activities dramatically reduce rates both of high school dropout and of criminal arrest (Mohnen, 2000).

Cross-cultural research on Japanese preschool and elementary education offers a similar lesson. According to one comprehensive ethnography, the Japanese place importance on the development and maintenance of caring relationships between teachers and children, an emphasis that arguably accounts for their superior achievement on international tests of science and mathematics (Lewis, 1995). Through the cultivation of close relationships, Japanese students come to view school "as a place that has their best interests at heart," and they thus feel motivated to persist even when faced with challenging work (Lewis, 1995).
Managing Attributions

Small features of the situation can override the effects of race or gender on students' expectations and attributions. In our research, the invocation of high standards led black students to attribute the criticism to the reviewer's demands for excellence rather than to personal or group animus. Even simpler attributional strategies may also prove effective. Presenting the evaluator as motivated by self-interest can, surprisingly, help to deflect attributions of bias. In one study, for example, black students' reluctance to trust a white evaluator's feedback was eliminated when they were told that the evaluator would win money if participants excelled at the task (Banks et al., 1977). Because they knew that their evaluator had a stake in their performance, participants could feel certain that the feedback was fair and objective. Of course, we do not suggest that mentors let self-interest motivate their actions. Our point is merely that simple interventions can ward off counterproductive attributions.

Other attributional strategies are suggested by observations of expert tutors. Rather than cater to the presumed deficiencies of at-risk children with an abundance of positive feedback, such tutors present the work in a manner that forestalls destructive attributions on the part of the student (Lepper, Aspinwall, & Mumme, 1990, see also Lepper & Woolverton, Chapter 7 in this volume). They might, for example, describe a problem as particularly difficult so that the student can readily attribute frustration to the demands of the work rather than to a personal limitation (Lepper et al., 1990). Expert tutors wisely use attributional techniques to keep the child optimistic in the face of challenge (Lepper et al., 1990). They are thus able to produce gains in student achievement of up to two standard deviations, more than twice the effect size of any other conventional educational intervention (Bloom, 1984; Walberg, 1984).

Framing Ability as Malleable Rather Than Fixed

Much of the effectiveness of the wise intervention used in our own feedback studies may lie in the message that it conveys about the malleable nature of ability—the message that abilities are enhanced through practice and effort, and that more practice and greater effort will yield performance that surpasses the capacities demonstrated to date (Dweck et al., 1995; see also Dweck, Chapter 3 in this volume). The malleability message should prove particularly important for students who are targets of ability-stigmatizing stereotypes, because these stereotypes are accompanied by the implicit assumption or even explicit claim that ability (or lack of ability) is a fixed group limitation rather than a malleable aspect of the self (Aronson, Chapter 14 in this volume; Cohen et al., 1999).

At least one intervention specifically illustrated the possibility of raising black students' GPA by leading them to view intelligence as expandable (Aronson, Chapter 14 in this volume). More generally, the guiding philosophy
of many of the most successful programs aimed at minority youth is an emphasis on the malleable nature of academic ability—the message that "Intelligence can be taught" (Whimbey, 1975). Effective educators and academic programs convey an unflagging faith in their students' potential. But, like our wise criticism, they do not hesitate to call attention to the gap between students' current performance and the level they could achieve with unstinting effort.

**Increasing Diversity**

Increasing the representation of historically excluded racial or gender groups, it seems obvious, should also help to counteract the effects of stigmatization. Students are apt to trust that same-race educators will not use the stereotype against them. Indeed, one ethnographic study found that graduate students of color derive great benefit by working with African American mentors who can help them to negotiate the trials and challenges of being a minority in academia (Antony & Taylor, in press). The benefits of diversity are further underscored by experimental evidence that being a token minority, or simply a solitary group member, can activate concerns about being judged stereotypically and thereby cause motivation and performance to suffer (Inzlicht & Ben-Zeev, 2000; see also Stangor et al., 1998).

But increasing diversity alone may not automatically help minority students. For example, research suggests that inner-city black students do not necessarily achieve higher test scores when working with same-race teachers (Alexander, Entwisle, & Thompson, 1987; Ferguson, 1998). Rather, they perform better with black teachers of low socioeconomic status and worse with black teachers of high socioeconomic status (see Ferguson, 1998). It is possible that even minority teachers may be perceived as potentially biased beneficiaries of a white system, inasmuch as high socioeconomic status serves as cue that a given minority teacher is more "white" than "black." Poignantly, minority teachers may thus face a double barrier of mistrust. Minority students may wonder if they have sold out to a white system. Moreover, nonminority students may doubt their expertise and thus question the validity of the criticism they provide (Sinclair & Kunda, 1999). Nevertheless, many minority teachers surmount such barriers, and examining the strategies they use constitutes a fruitful topic for future research (see Antony & Taylor, in press).

We also think that mentors and students alike can derive great benefit not only by working within racial and gender lines, but also by working across them. Clearly, individuals are apt to learn new perspectives by establishing working relationships with members of different ethnic and gender groups. Furthermore, cross-race and cross-gender mentoring can offer unique motivational benefits to students. The power of the wise intervention used in our research, for example, might rest in its affirmation of respect despite racial difference. The white reviewer may have been perceived as reaching out across the racial divide—as a person willing to provide honest and validating treatment despite
his group's reputation for prejudice. Such a gesture may allay doubts on the part of minority students about whether academic authorities in a predominantly white institution care about the welfare of their ethnic group. In addition, receiving respectful help from someone who is different or dissimilar can confer benefits to self-esteem, inasmuch as the recipient attributes the assistance to the uniquely kind motives of the person who provides it or to the uniquely special merit of his or her own performance (see Fisher & Nadler, 1974).

Promulgating a Positive Ideology

The potential for mistrust may also be attenuated when feedback is interpreted in light of a shared ideology or value system. For example, the usual effect of race and socioeconomic status on student achievement may vanish in certain liberal Catholic schools (Bryk, 1993; Bryk & Schneider, 1996). These religious institutions succeed, it seems, by creating a shared and inspirational ideology (Bryk, 1993). Practitioners in such schools stress the fundamental worth of every individual, and emphasize the importance of ethical treatment in even the most mundane interactions. These values are woven into the school curriculum, and their effect is to establish "organic trust" (Gambetta, 1990). Students come to trust their educators because of shared assumptions about mutual benevolence and regard.

CONCLUSION

Educators who work across racial or gender lines must communicate that they are not biased, despite the potential for prejudice that exists in the larger system. The strategies reviewed here may help teachers, managers, and tutors to accomplish just this. But even if students feel convinced that they personally are accorded respect, they may still face the threat that other members of their ethnic or gender group could be judged or treated stereotypically. With our colleague Julio Garcia, we have documented a phenomenon called "collective threat," and it refers to the shame, embarrassment, and doubt an individual feels in situations where the reputation of his or her group might be damaged. As such, collective threat can be elicited not only by one's own actions, but by those of fellow group members who could also confirm a negative stereotype about one's group.

African-American students in one study simply observed a black student who appeared likely to flunk an intelligence test and thereby substantiate a racial stereotype. Compared with their black peers who did not witness this event, subjects showed many of the symptoms of stigmatization, including a large drop in self-esteem. The situation caused distress not because it posed a specific threat to subjects' sense of personal worth based on their own performance. Rather, the situation imperiled their self-worth due to its impli-
cations for the larger representation of their racial group. Intervention programs may thus need to assure students that respect is granted not only to them personally but to members of their group more generally.

The present chapter focused on minority students, but we believe that the theoretical framework offered here applies to any individuals who fear that their abilities or worth is doubted rather than assumed. The threat of stigmatization may be felt by whites in the arena of competitive sports, where their group is stereotyped as lacking ability (Stone, Lynch, Sjomeling, & Darley, 1999), by students plagued with low self-esteem (Brockner, 1979; Brockner & Hulton, 1978), by children from low socioeconomic backgrounds (Croizet & Clair, 1998), by people making the transition to a more rigorous school or job (Simmons et al., 1991), and so on. In each case, people may question whether others view them with respect, and their motivation and performance may thus falter.

Perhaps it would have been equally useful to have focused much of our analysis not on stereotyped students performing in the classroom, but on nonstereotyped students (cf. Miller, Taylor, & Buck, 1991). In our own work, for example, we were surprised to find that nonstereotyped students responded to the criticism in an equally favorable manner regardless of whether it was accompanied by a personal assurance or not. For them, it seems, such assurances are implicit. At least among the highly select populations used in our own research, nonstereotyped students may thus enjoy a social-psychological advantage. They navigate the demands of the classroom equipped with trust. They can feel assured that neither their personal worth nor the worth of their group is automatically subject to doubt. Our attention is thus turned from stigma to privilege. Exploring both concepts, and their implications for mentoring and other teacher-student relationships, constitutes a central challenge for educators and researchers alike, as is using such relationships to cultivate the fertile ground of trust.

**Teachers' Questions and Answers**

**Q:** I find your research on trust very compelling. At the same time, I wonder if you have any research or ideas on how I could facilitate this kind of trust-building dynamic in a classroom full of 30 or so kids, rather than the one-on-one situation you used to test your theory.

**A:** While we have not investigated this issue empirically, it is a very interesting question worthy of further research. We suggest, however, that many of the intervention strategies we describe in this chapter could be applied in a classroom context. For example, teachers could emphasize, at the beginning of the year, that they hold their entire class to high standards, and that they will help each student to reach those standards. In fact, it seems possible that some of the interventions we describe could prove more effective in a classroom context rather than less effective. For example, anecdotal
evidence suggests that many successful teachers instill in their students a sense of shared fate and common identity. Jaime Escalante, while holding his students to a high standard, also communicated to students that they would work together to reach that standard—indeed, that they would be unable to succeed without one another’s help. [Several intervention programs, such as E. Aronson’s jigsaw classroom (see Chapter 10 in this volume), also promote a spirit of cooperation.] Students in Escalante’s class thus came to view one another as members of a team striving for a shared goal. Rather than merely mentioning his high standards and belief in students’ potential, Escalante made his personal belief in the importance of scholastic success a publicly shared group norm. And, as much research in social psychology attests, group norms can be powerful determinants of behavior.

Q: Is there not also an identity problem for the teacher when kids misbehave? For example, urban teachers face twice the problems—academic and disciplinary. Since the inception of the zero tolerance policies in schools, I hear teachers ask “How am I supposed to handle discipline problems with minority children when their peers think I’m unfair to that minority group?” Doesn’t this exacerbate the problem of a teacher then bending over backward not to look unfair, and the students mistrusting the classroom authority?

A: This is an important question, and only further research could do this issue the justice it deserves. We can only suggest that teachers can preserve trust, especially when they must make decisions unpopular among their students, by making the justification for their actions explicit rather than leaving it implicit. If the rules of good conduct are laid down in a clear manner, at the beginning of the school year, and if students can be encouraged to see the merit of those rules—indeed, perhaps they can even help to generate those rules—then they may be less likely to view disciplinary action on the part of their teachers with mistrust. Teachers could frame any punitive steps they must take as the necessary response to the rules of good conduct that the students themselves helped to establish.

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References


15. A Barrier of Mistrust


