Stereotype Threat in School and at Work: Putting Science Into Practice

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Abstract

In any diverse society, public policy can help to provide equal access to opportunities for achieving one's potential in school and work. However, even as policies in the United States have sought to eradicate institutionalized discrimination on the basis of race or sex, women and minorities continue to underperform academically and are systematically underrepresented in the highest earning occupations. Social psychological research suggests that negative stereotypes about women and minorities can create subtle barriers to success through *stereotype threat*. This occurs when individuals become concerned that they might confirm a negative stereotype about their group. This article outlines current research on the processes that underlie stereotype threat and how this work informs effective policies to reduce its effects. Using an evidence-based analysis, we review the risks and the benefits of four policies to narrow gender and racial gaps in academic and workplace performance: affirmative action, diversity training, creating identity-safe environments, and teaching coping strategies. Policies informed by social psychological theory and research can help recover the lost human potential due to stereotype threat without disadvantaging or cuing backlash among the majority.

Keywords

stereotype threat, prejudice, gender, race and ethnicity, academic achievement, organizations

Tweet

Stereotype threat can prevent women and minorities from excelling in school and at work. Policy remedies have pros and cons.

Key Points

- Stereotype threat is an individual's concern with confirming a negative stereotype about his or her group.
- Stereotype threat can undermine academic and work performance for women and minorities.
- Identifying and evaluating policies and programs that reduce stereotype threat can unleash untapped human potential.
- Current policies designed to benefit disadvantaged groups can worsen stereotype threat and create backlash.
- Knowing the mechanisms that underlie stereotype threat can inform the most effective public policy.

Introduction

Public policy attempts to maximize economic, social, and psychological well-being by providing citizens with the equal opportunity to succeed. In 1964, the Civil Rights Act aimed to dismantle institutionalized barriers that block the advancement of diverse segments of the U.S. population. Despite great progress toward equality, ethnic disparities in academic performance remain and a gender gap persists in women's interest and advancement in science and technology. Social psychological research has examined how negative stereotypes (cultural beliefs about different people) can create subtle barriers that produce unequal outcomes for different groups. These barriers can include cultural stereotypes that bias how people perceive different groups. In addition, two decades of research on *stereotype threat* also reveals that the mere awareness of these stereotypes by those who are stigmatized can systematically impair performance and perpetuate the appearance of group differences in ability. The present article reviews scientific knowledge of stereotype threat and critically analyzes policies and programs that could reduce this subtle barrier to success.

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Scientific Evidence That Stereotype Threat Contributes to Group Disparities

The theory of stereotype threat, first outlined by Claude Steele (1997), sought to understand how situations themselves can trigger a concern that one's actions might be viewed through the lens of a negative stereotype. Contrasted against long-standing debates over the role of nature (e.g., genetic variation) or nurture (e.g., early socialization) in explaining racial and gender differences in performance, stereotype threat revealed how the immediate context can change people's mind-sets in ways that prevent them from performing to their potential. Providing support for the theory, early experiments demonstrated that the test scores of women on math tests and minorities on verbal tests improve when the context does not bring intellectual stereotypes to mind or actively seeks to dispute them (Spencer, Steele, & Quinn, 1999; Steele & Aronson, 1995). For example, when told verbal ability problems were diagnostic of intellectual ability, African American undergraduates underperformed relative to their White peers (even after controlling for college entrance exam scores). However, describing a test as a simple laboratory exercise significantly increased African American students' performance (Steele & Aronson, 1995).

What became clear from these early studies is that isolating the role of stereotype threat in testing was critical, as test scores are so often gateways to opportunities. As a result, these initial laboratory studies generated one of the most studied ideas in social psychology and a phenomenon already labeled a "modern classic" in psychological research (Fiske, 2003). Meta-analyses—quantitative summaries across studies—estimate that stereotype threat significantly reduces female and minority students' performance on standardized tests and in academic courses (Nguyen & Ryan, 2008; Walton & Spencer, 2009). These estimates come both from controlled laboratory experiments and from interventions in classrooms, answering a critique that these effects occur only in the lab (Sackett & Ryan, 2012). Taken together, the preponderance of evidence suggests that stereotype threat can impede the advancement of certain segments of society.

Although originally aimed at racial and gender gaps in testing, the phenomenon applies much more broadly. The constant experience of stereotype threat in an academic context can erode a sense of belonging at school, reduce academic motivation, and undermine women's and minorities' interest in pursuing science and technology degrees (Good, Rattan, & Dweck, 2012; Woodcock, Hernandez, Estrada, & Schultz, 2012). Although its developmental trajectory is unclear, the phenomenon can occur early in elementary school (Galdi, Cadinu, & Tomasetto, 2014).

Stereotype threat does not only systematically disadvantage educational pursuits but is also experienced in organizational settings (Kalokerinos, von Hippel, & Zacher, 2014; Kray & Shirako, 2012). In the workplace, stereotype threat

can lead to burnout and job disengagement (Holleran, Whitehead, Schmader, & Mehl, 2011). These outcomes can contribute to greater employee turnover with real economic costs to companies, as well as personal costs to employees. In sum, policies that reduce stereotype threat could narrow group differences in performance both in educational and occupational settings and could free untapped human resource potential in certain disadvantaged segments of the population.

Understanding the Process of Stereotype Threat

Mechanism matters. Identifying policy to minimize stereotype threat requires knowing what triggers stereotype threat and how it impairs performance. Furthermore, anyone can experience stereotype threat in the right context (e.g., men underperform women when they believe their emotional sensitivity will be assessed, Whites underperform Blacks when they believe their natural athletic ability will be assessed). Yet, stereotype threat is likely most frequent and acute for individuals with certain characteristics and in specific kinds of situations. Just as research on public health seeks to identify both the risk factors that increase a person's susceptibility to contagious disease, as well as environmental conditions that affect threat of infection, so too the basic science of stereotype threat seeks to identify the kinds of people and situations that magnify the risk of stereotype threat.

When Does Stereotype Threat Occur?

A key reason why public policy could reduce stereotype threat is that situations themselves trigger the experience. Broad policies can seek to shape these situational influences. Because stereotype threat occurs in contexts where people are concerned about confirming a negative stereotype of their group, three key situational factors can elicit these concerns. First, situations that bring stereotypes to mind are common triggers to stereotype threat. Although this trigger can be an explicit mention of expectations for low performance among a group of people, often the cues are more subtle. For example, on academic tests framed as diagnostic of ability, people stereotyped to do poorly can become more aware of these stereotypes about their group (Steele & Aronson, 1995). Second, situations that bring one's negatively stereotyped identity to mind can also trigger threat. For example, women perform more poorly on a math test in direct proportion to being outnumbered by men taking the test (Inzlicht & Ben-Zeev, 2000). Finally, high-stakes performance situations such as testing and interviews can cue stereotype threat because the personal motivation to clear these hurdles is very high, so the threat of confirming a stereotype is more severe.

For Whom Does Stereotype Threat Occur?

Regardless of the situation, three key factors can make some individuals more susceptible to experiencing stereotype threat. First, only those who have knowledge (either conscious or unconscious) of the stereotype will feel its effects; people who have never had any exposure to the stereotype cannot experience stereotype threat. Second is one's connection to the stereotyped group. For example, a woman will experience stereotype threat in math if she identifies strongly with being female (Schmader, 2002). Finally, to be concerned about confirming a negative stereotype, a person must care about that domain (Steele, 1997). Ironically, those women and minorities most focused on overcoming the obstacles created by negative stereotypes might also experience stereotype threat most profoundly.

How Does Stereotype Threat Impair Performance?

Besides identifying when and for whom stereotype threat occurs, known processes explain why these situations undermine performance, despite an individual's often heightened motivation to excel (Schmader, Johns, & Forbes, 2008). First, the threat of confirming a negative stereotype induces uncertainty about one's performance: This activates a physiological stress response (e.g., increased blood pressure, cardiovascular threat reactivity, sympathetic nervous system arousal; Mendes & Jamieson, 2012). Accompanying these physiological changes, people become more vigilant for signs of failure and anxiety, and they experience self-doubt. Finally, people expend basic cognitive resources trying to push these negative thoughts and feelings out of mind. The mental fatigue that results from these additional cognitive and physiological changes undermines their ability to pay attention and impairs their performance on complex cognitive tasks.

As the basic science of this phenomenon reveals, stereotype threat is more common in some situations and for some individuals. The resulting group differences in ability are at least partly created by situations that are experienced in very different ways for different groups. The experimental findings also reveal that groups perform more equally in "identity-safe" environments (i.e., those that do not remind people of their status in a negatively stereotyped group during a valued task). Moreover, even when situations pose a high risk of stereotype threat, interventions can better equip people to cope with its effects.

Policy Implications of Stereotype Threat

The core evidence that stereotype threat can undermine performance and contribute to disparities between different groups in society can inform an evidence-based analysis of relevant policies and programs. Although some of these policies are already in place, they vary considerably in how they are implemented. Others are suggested specifically by an understanding of the phenomenon. In all cases, policies will be more or less successful at reducing stereotype threat depending on how they are implemented.

Affirmative Action Policies, Seeking to Increase Representation of Negatively Stereotyped Groups

Affirmative action refers to any proactive efforts made by an organization to avoid discrimination against women and minorities (Crosby, Iyer, & Sincharoen, 2006). In education and organizations, such efforts might include outreach to diversify the pool of applicants or considering broader organizational goals for diversity when hiring or admitting comparably qualified candidates. Because such policies can be controversial, have been challenged, and sometimes overturned in court, a careful look should consider whether affirmative action might or might not mitigate stereotype threat.

Three empirical analyses suggest that affirmative action can help to combat stereotype threat. First, opponents of affirmative action policies most often claim that such policies are antithetical to meritocratic decision making (Kang & Banaji, 2006). However, a clear understanding of stereotype threat suggests that affirmative action can arguably increase the odds that decisions regarding stigmatized candidates are meritocratic (Walton, Spencer, & Erman, 2013). For example, a recent meta-analysis estimated that stereotype threat could reduce African American and Latino students' SAT scores by an average of 40 points (Walton & Spencer, 2009). If the SAT systematically underrepresents minority students' true potential, then the more meritocratic decision might be to use affirmative action to admit minorities ahead of majority group members with similar scores. Also, holistic admissions approaches consider the obstacles a student has overcome. These can provide a more accurate evaluation of a students' true potential. In this way, affirmative action policies can support fair decision making by accounting for barriers constraining past performance.

Affirmative action policies, by increasing an organization's diversity, can also protect others from experiencing stereotype threat. First, the exposure to a more diverse environment mitigates the effects of stereotype threat on test performance (Inzlicht & Ben-Zeev, 2000; Shapiro, Williams, & Hambarchyan, 2013). Over time, the impact of broader representation in educational and organizational environments is that group-based stereotypes begin to break down. People tend to infer a group's traits and abilities based on the roles they enact, but as social roles change over time, so too do people's stereotypes (Diekman & Eagly, 2000). This change can happen quickly in those exposed to positive role models. For example, female college students who take math or science classes from female instructors show both less

association of only men with science and leadership and more self-confidence (Dasgupta & Asgari, 2004; Stout, Dasgupta, Hunsinger, & McManus, 2011).

Although some evidence supports affirmative action to combat stereotype threat, such policies also carry risks. Improperly implemented affirmative action can appear to lower standards for disadvantaged groups (Pierce, 2012). As research demonstrates, stigmatized individuals are already susceptible to *belongingness threat*—a worry that they do not truly belong in a context where they are underrepresented (Walton & Cohen, 2011). If women and minorities sense that they have been admitted or hired "only" because of their gender or race, stereotype threat and belongingness threat can intensify (van Laar, Levin, & Sinclair, 2008). Moreover, those in the majority might believe that such programs are not only unnecessary but also counterproductive.

Informed implementation of affirmative action can use three strategies to mitigate possible negative consequences. First, education about the prevalence of stereotype threat and other sources of subtle bias helps contextualize the continued role of such programs in actively counteracting discrimination. When majority groups learn about continued discrimination, they support affirmative action as a means to achieve meritocratic ends (Son Hing, Bobocel, & Zanna, 2002). For those in the minority, understanding that affirmative action programs are designed to recover lost human potential might reduce their concerns that their outcomes are undeserved. In addition, clear communication that all candidates are qualified is essential. In one study, women who learned that they were selected for a leadership position based both on their merit and their gender were equally likely to recognize that they had the skill and ability for the job as those who believed that only merit had played a role (Major, Feinstein, & Crocker, 1994). The final component of this informed approach is advocacy for the policy from the central leadership of the organization. In organizational studies, affirmative action programs have been most effective when visibly supported by those at the top (Crosby et al., 2006).

Diversity Training, Designed to Promote Inclusive Values and Reduce Intergroup Bias

Another common policy, already implemented in many organizations, is diversity training that raises awareness and support of institutional goals promoting diversity and aiming to reduce intergroup biases. Such programs take many forms, but evidence supports the utility of these programs to mitigate stereotype threat. A recent meta-analysis suggests that diversity training programs can be effective in changing people's beliefs and intentions toward stigmatized groups (Kalinoski et al., 2013).

Diversity training can reduce stereotype threat in three ways. First, by having an official mission statement to encourage diversity (and by devoting resources to those aims), an institution signals that it values underrepresented groups. For minority groups, these messages can instill greater trust and acceptance even without a critical mass (Purdie-Vaughns, Steele, Davies, Diltmann, & Crosby, 2008). Second, diversity training programs help establish positive norms in the organization (Yoshida, Peach, Zanna, & Spencer, 2012). Such norms reduce behavior that can trigger stereotype threat during interpersonal interactions (Richeson & Shelton, 2012). Third, diversity training can gain the most if it successfully changes stereotypes about underrepresented groups.

However, many diversity training programs are not properly grounded in theory or evidence, contributing to the mixed success of these programs (Moss-Racusin et al., 2014; Paluck, 2006). These programs, done poorly, can even exacerbate stereotype threat. When programs heighten rather than reduce intergroup tensions and mistrust in the organization (e.g., by creating an "us versus them" mentality), feelings of stereotype threat can be triggered in both the majority (concerned with being labeled prejudiced) and the minority (concerned with being seen as inferior). Such concerns can lead people to avoid developing cross-group friendships that are effective at reducing prejudice (Pettigrew & Tropp, 2006).

Based on social psychological evidence, three key elements could make diversity training programs most effective. First, convince people of the value of diversity as an organization goal. For example, group decision making among diverse team members is less prone to biases, and homogeneity might be particularly pernicious in stifling creative group problem solving (Apfelbaum, Phillips, & Richeson, 2014). Moreover, framing prejudice as often resulting from a tendency to seek out and prefer those who are similar, rather than overt hostility to those who are dissimilar, is not only a more accurate portrayal of subtle bias (Greenwald & Pettigrew, 2014) but can also reduce people's resistance to diversity training.

Second, instead of emphasizing explicit discrimination and harassment, discuss implicit biases (i.e., the automatically activated cognitive group associations that need not relate to one's more explicit attitudes). Implicit biases are often shared to some degree, regardless of majority or minority status, leading to bias even among egalitarian-minded decision makers (Moss-Racusin, Dovidio, Brescoll, Graham, & Handelsman, 2012). Those who value diversity and inclusion override these biases if they are aware of them. So training on how best to identify and counteract one's bias can equip individuals with strategies for reducing the kinds of encounters that might trigger stereotype threat. In fact, programs that educate people about the nature of unconscious or implicit biases or multicultural values do weaken those biases (Devine, Forscher, Austin, & Cox, 2012; Richeson & Nussbaum, 2004). Finally, when diversity training programs encourage a shared commitment to creating an inclusive environment, this superordinate goal can reduce the intergroup conflict and mistrust that diversity training can instill (Gaertner & Dovidio, 2000).

Creating Identity-Safe Environments

Perhaps the clearest recommendation that comes out of the research on stereotype threat is for organizations to take active efforts to create "identity-safe environments" (Walton & Spencer, 2009). Because contextual reminders of negative stereotypes cue stereotype threat, managers can look for features in the context that reinforce traditional stereotypes and replace these with visible artifacts that instead signal inclusion.

Colleges and workplaces can take simple steps to create more identity-safe spaces, and many already do. This can start with the recruitment materials designed to attract new students or employees. Both the stated policy on inclusions and visual representation of diversity are independent cues that reduce stereotype-based concerns among prospective students and employees. For example, ethnic minorities trust least those organizations that promote a "colorblind" approach and also lack any evidence of having a diverse workforce (Purdie-Vaughns et al., 2008). When an organization that does lack diversity is seeking to recruit a more diverse pool of applicants, it can signal inclusion and minimize stereotype threat by advertising its commitment to valuing diversity.

Organizations and educational settings can maximize retention by monitoring aspects of the environment that appeal only to the majority, as these might also subtly signal exclusion and stereotype threat for members of underrepresented groups. For example, workspaces littered with objects that are stereotypic of computer science programmers (e.g., a narrow range of interest in science fiction) reduce women's but not men's motivation to enter into this lucrative field (Cheryan, Plaut, Davies, & Steele, 2009). Similarly, advertising how certain fields serve broader goals for community can foster greater interest among women and minorities, who are more likely to value communal goals above their own personal advancement or competition (Diekman, Brown, Johnston, & Clark, 2010).

Creating identity-safe environments also has risks. First, visible signals of identity fairness (e.g., recruitment materials) can be detrimental when they do not accurately portray the reality of a workspace. For example, a clearly stated diversity policy can actually decrease one's ability to recognize discrimination in an organization when it does occur, deflecting attention from needed organizational change (Kaiser et al., 2013; Kay et al., 2009). Second, implementation of these strategies needs to be mindful of the distinction between making the negative stereotypes of the identity salient and signaling broad support, acceptance, and respect for members of underrepresented groups. Research has yet to clearly delineate these distinctions. However, an example of an ineffective attempt can be found in a controversial advertisement by the European Commission in 2012 that sought to recruit women into scientific careers with a video showing scantily clad women in heels and short skirts posing with microscopes and makeup (Khazan, 2012). Contrast this against their newer campaign that instead portrays a series of real world profiles of successful female scientists ("Science: It's a Girl Thing," 2014).

Applying social psychological research can overcome many of these risks. Promoting identity-safe cues that signal a culture of inclusion cannot replace actual change: procedures that allow for accountability in decision making and reporting policies that reduce discrimination and harassment. Appointing an equity advisor can both empower a person or committee with the task of identifying possible sources of stereotype threat, but can also provide members of an organization with a neutral third party that individuals can confidentially consult to discuss concerns when and if they do arise.

Programming to Provide Underrepresented Groups Ways to Cope With Stereotype Threat

The policies and programs described so far primarily aim either to neutralize the stereotypic beliefs that create stereotype threat or at least to minimize the likelihood of cuing these beliefs. Given that oversight is not always possible, another type of program includes training designed to equip members of underrepresented groups with better strategies for coping with stereotype threat. Research in the lab and the field has identified several successful interventions that have beneficial effects for improving performance outcomes for women and minorities while posing no risk to members of the majority group. Here, we highlight four such interventions.

First, because those who are negatively stereotyped are especially susceptible to feeling a lack of belonging in environments where they are underrepresented, mentoring programs or other efforts to communicate acceptance are especially effective. For example, African American students who receive messages about the struggles of adjusting to college from senior students improved their grades and had a better sense of day-to-day belonging than African Americans in a control group (Walton & Cohen, 2011). White students were unaffected by this simple intervention.

Second, stereotype threat concerns are especially pronounced when an emphasis is placed on diagnosing a fixed ability rather than facilitating mastery toward a goal. In several studies, interventions designed to encourage students to frame performance in terms of marking progress toward mastery significantly alleviated stereotype threat and elevated academic performance (Alter, Aronson, Darley, Rodriguez, & Ruble, 2010; Good, Aronson, & Inzlicht, 2003). Changing mind-sets about intelligence can level the playing field. Yet, this approach is somewhat at odds with current educational policy focusing on the increasing use of standardized tests to reveal weaknesses among teachers, students, and schools.

Third, another successful mind-set intervention encourages people to spend time (often only 15 min at a transition point in their lives) reflecting on their core values, particularly those that encourage a sense of social connectedness. In several randomized control trials, this simple intervention has improved grades and test scores and significantly reduced the achievement gap between racial and gender groups (see Cohen, Purdie-Vaughns, & Garcia, 2012 for review). This strategy is effective because it encourages a more abstract perspective on one's experiences that allows at-risk students to cope with situations where they feel personally evaluated (Shapiro et al., 2013; Sherman et al., 2013).

Finally, a fourth successful intervention encourages those at risk of experiencing stereotype threat to better understand the additional anxiety they might feel at work or at school. Research shows that performance is improved, especially in situations of stereotype threat, when people reappraise stress and anxiety, not as a sign of failure or weakness, but as fueling their motivation to do well (Schmader et al., 2008). Such messages can have long-term performance benefits for everyone (not just those who are academically stigmatized; Jamieson, Mendes, Blackstock, & Schmader, 2010). Even understanding that anxiety can be a symptom of stereotype threat can reduce the gender gap in math performance (Johns, Schmader, & Martens, 2005).

On the surface, two key risks threaten programs designed to benefit underrepresented groups. One is backlash by members of the majority who might feel that such programs put them at a competitive disadvantage. A second risk is that such programming seems to communicate to members of the minority that they require remedial interventions because they are somehow deficient in their skills or abilities (Cohen, Steele, & Ross, 1999). The implication of remedial efforts exacerbates stereotype threat. For example, when special programs on leadership development are offered only to women and minorities, organizations run the risk of backlash from the majority and mixed benefits to those who are underrepresented.

In contrast to skill-development programs, however, the interventions highlighted here have not only been effective at reducing group differences in performance but also avoid the two risks just described. In each case, the inventions (which are very low cost) have worked for both majorities and minorities. Sometimes they benefit both groups, although often the benefits to the minority group are most pronounced, whereas the majority group incurs no cost to performance. Providing these coping strategies or shifts to mind-set thus seems to level the playing field rather than redistribute advantages. In addition, most of these interventions are not explicitly about stigma, stereotypes, or social equality. They are designed to operate at the level of individual psychology rather than the sociology of group difference. Because of that, they can reduce group differences in performance without explicitly mentioning anything about group differences in performance.

Conclusion

Two decades of research on stereotype threat suggest that concerns about negative stereotypes can undermine performance and create group differences in the educational and organizational outcomes achieved by stigmatized groups. Originally developed to explain gender and racial gaps in academic achievement and testing, stereotype threat research reveals underlying psychological processes and identifies interventions that reduce its effects. This article outlines how our knowledge of the processes that underlie stereotype threat can inform policy options. Policy designed with social psychology in mind can help to recover the human potential lost from stereotype threat. However, only informed implementation can reduce the risk that policies inspire backlash from the majority or exacerbate stereotype threat among minority group members.

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