

Discussion paper:

The contributions of stereotype threat research to social psychology

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Stereotype threat describes the experience of being viewed through the lens of a negative stereotype. This social-psychological phenomenon demonstrates the deleterious effects that negative societal stereotypes can exert on performance. The current article provides a general overview of the past two decades of stereotype threat research, and highlights the generality of these effects across a diverse range of tasks and populations. This article also appraises critically the mechanisms that have been proposed to moderate and mediate stereotype threat effects, interventions developed to ameliorate it, and provides future avenues for research. This theory showcases the importance of recognising how our social world, and not inherent differences between groups, may underwrite social inequality. In addition to its contribution to the field of social psychology, this theory has far-reaching implications for schools and educational reform, particularly in reducing achievement gaps among minority groups.

Introduction

DO SOCIAL PSYCHOLOGICAL PROCESSES play a significant role in the academic under-achievement of certain minority groups? Twenty years ago, Steele and colleagues set out to answer this question. In their seminal experiments, Steele and Aronson (1995) assigned African Americans and Caucasian students to one of two experimental conditions. In one condition, students were primed that a verbal ability test would be evaluative of their intellectual aptitude. In the second condition, students were told that the test was a problem solving exercise that was not linked to their ability. Results indicated that African American students underperformed in relation to their Caucasian peers when a negative societal stereotype about their group identity was made salient. However, their performance did not suffer when the same test was presented as non-diagnostic of ability. Steele and Aronson (1995) termed this phenomenon ‘stereotype threat’ to refer to the situational predicament that an individual experiences when they perceive that their performance will confirm a negative stereotype about a group to which they

belong. Offering more than the reductive suggestion of genetic differences in intellectual ability between groups (c.f. Jackson & Rushton, 2006), this theory suggests that the mere salience of negative societal stereotypes may be great enough to hinder performance.

Since this pioneering work, researchers have extended and replicated these effects across a diverse range of groups, situations, and tasks. For example, stereotype threat effects have been demonstrated for women’s mathematical achievement (Spencer, Steele & Quinn, 1999), older adults’ memory recall (Hess, Hinson & Hodges, 2009), and drug users’ cognitive ability (Cole et al., 2005). Given these robust effects, researchers have turned their efforts to elucidate the underlying mechanisms of stereotype threat.

Moderators and mediators of stereotype threat

Research has focused on factors that may exacerbate performance decrements and has identified numerous moderators that heighten individuals’ vulnerability to stereotype threat. For example, stereotype threat

effects are more pronounced for difficult tasks, particularly for those who have lower working memory (Régner et al., 2010). Moreover, research indicates that individuals are more susceptible to stereotype threat effects when they value the performance domain, identify strongly with their social group, and for those high in stigma consciousness (c.f. Nguyen & Ryan, 2008, for a meta-analysis).

Although evidence has been accrued regarding the moderating variables that may influence the strength and direction of the stereotype threat-performance relationship, research aiming to elucidate mediating mechanisms has been met with varying degrees of empirical support. For example, although Spencer et al. (1999) found that increased anxiety partially mediated the stereotype threat-performance relationship, further studies were unable to replicate this effect (e.g. Keller & Dauheimer, 2003). In addition, numerous proposed mediators such as self-handicapping, evaluation apprehension, cognitive interference and performance confidence have resulted in non-significant findings (c.f. Smith, 2004).

Furthermore, it is plausible that different mediators govern the effects of stereotype threat for diverse groups and performance outcomes (Shapiro & Neuberg, 2007). For example, converging evidence suggests that working memory may mediate the effects of stereotype threat on women's mathematical performance. However, research has also demonstrated that stereotype threat harms proceduralised skills, such as golf putting, which operate largely outside of conscious awareness and thus, do not rely on working memory (Beilock et al., 2006). This research, therefore, supports the notion that stereotype threat may operate through multiple affective, cognitive and motivational pathways to bring about performance deficits, and may be induced by independent mechanisms in different tasks (Shapiro & Neuberg, 2007).

Reducing stereotype threat

Given that stereotype threat is an environmental construct, there is reason to suggest that researchers can reduce the effects of stereotype threat and improve the performance of stigmatised social groups. Existing interventions include asking individuals to self-affirm a positive personal characteristic that is unrelated to the stereotyped domain (Martens et al., 2006) and enhancing the salience of a non-stigmatised social identity (e.g. multiple social identities; Rydell, McConnell & Beilock, 2009). Theory and research regarding the efficacy of same-sex schooling has also informed the development of stereotype threat interventions. For example, stereotype threat effects are lessened when targeted group members are exposed to positive role models (Marx & Roman, 2002), complete a test in same-sex environments (Inzlicht & Ben-Zeev, 2000), and view their intelligence as a malleable rather than fixed trait (Aronson, Fried & Good, 2002). These interventions are particularly noteworthy as they may help to explicate the underlying mechanisms of stereotype threat, which have received less support. Nevertheless, the practical effectiveness of these remedial strategies has also been questioned (Johns, Schmader & Martens, 2005). Overcoming such issue, Johns et al. (2005) proposed that teaching individuals about the harmful effects of stereotypes might present as a particularly effective and convenient remedial strategy to bolster performance. Replicating the typical stereotype threat effect, they found that women solved fewer mathematical problems compared to men when they perceived a mathematical test to be diagnostic of gender-related ability. However, women who learned about stereotype threat and the anxiety that it may evoke did not show these performance impairments. This research therefore suggests that informing people about the pervasive nature of group stereotypes may present as a practical means of reducing their deleterious effects.

Limitations of stereotype threat and future directions

Despite the success of stereotype threat research over the years, researchers have argued that studies have been based upon small and non-representative samples in laboratory settings, thus, raising concerns about the theory's external validity (Brown & Day, 2006). Recent research, however, has begun to document the applied efficacy of stereotype threat. For example, in a naturalistic study, Rothgerber and Wolsiefer (2013) demonstrated that females' chess ability was undermined by the presence of a male component. Furthermore, stereotype threat has been found to occur in job promotion contexts, with African Americans underperforming in comparison to Caucasians on a written knowledge test (Chung et al., 2010). Such findings add weight to the assertion that stereotype threat is a very valuable construct for understanding and reducing real-world achievement (Aronson & Dee, 2011).

Issues have also been raised regarding the ecological validity of stereotype threat primes. In real world testing environments, it is unlikely that educators would indicate to test takers that they were examining, or expecting to find, race differences on a test of cognitive ability (Brown & Day, 2006). Similarly, it is unlikely that a teacher would explicitly state a negative stereotype regarding women's mathematical ability before a maths test commences. Nevertheless, research has suggested that the pervasive nature of negative cultural stereotypes may be ingrained in the educational system, and may be transferred to students by their parents and teachers (Gunderson et al., 2012). In a similar vein, studies have shown that seemingly benign factors in the testing environment, such as the gender composition of the classroom, may elicit stereotype threat effects, and have demonstrated that these effects may be heightened when a stereotype is implicitly primed (c.f. Nguyen & Ryan, 2008, for meta-analysis). As such, it is plausible that when targeted group members take standardised ability tests, such

as in educational admission or employment selection contexts, their performance may be undermined when they encounter cues that evoke the salience of a discredited social identity.

The past two decades of research have advanced our understanding of how negative societal stereotypes can hamper achievement and limit opportunities for success. A closer look at the literature, however, reveals that stereotype threat has been traditionally perceived as a singular construct, experienced similarly across individuals, groups and situations (Shapiro & Neuberg, 2007). That is, stereotype threat is viewed typically as a threat to social identity; a situational predicament which occurs when individuals perceive their social group to be devalued by others. Nevertheless, targeted individuals may also experience stereotype threat when they perceive that their performance to be self-characteristic of personal ability (e.g. Steele & Aronson, 1995). As such, previous research has overlooked the distinction between the self and the social group as potential targets of stereotype threat, although most stereotype threat manipulations focus on one or the other. More recently, Shapiro and Neuberg (2007) developed the multi-threat framework, which acknowledges the existence of multiple stereotype threats that operate through qualitatively distinct pathways. According to this theory, individuals may experience a self-as-target stereotype threat when they apprehend that stereotype-relevant performance will reflect poorly on one's own abilities. Conversely, individuals may experience a group-as-target stereotype threat when they perceive their performance to confirm, or reinforce, the view that their social group lacks a valued ability. Moreover, this theory acknowledges that different experiences of stereotype threats may emerge due to concerns about who will evaluate performance (i.e. the self, outgroup others, or ingroup others). Nevertheless, to date, no research has empirically examined the effects of these distinct stereotype threats on

performance, and generally utilises the overarching term 'stereotype threat' when examining this phenomenon. Future research would therefore benefit from distinguishing between different stereotype threats as this may assist in the elucidation of underlying mechanisms and the development of remedial strategies to lessen performance deficits.

Conclusion

The past two decades have documented the pervasive effects that negative societal stereotypes exert on performance. Over the years, research has advanced our knowledge of this situational phenomenon to elucidate the underpinning mechanisms of the stereotype-threat performance relationship and has replicated these effects across a diverse range of social groups. Stereotype threat therefore presents as a high-impact theoretical framework to explain the damaging effects that negative stereotypes can exert on test performance and, more generally, signifies the consequences of societal stigma and inequality. From this perspective, the theory

of stereotype threat demonstrates the power of social psychology. It identifies social barriers that hinder achievement and allows for the development of interventions to bring about long-term improvement. Given that stereotype threat is inherently a social psychological phenomenon, there is reason to suggest that we can: Challenge negative societal stereotypes, improve the achievement outcomes and opportunities for minority group members, tackle inequality and stigma, and ultimately, promote social change. It is, therefore, hoped that this article enables readers to consider how negative societal stereotypes may impact and imperil those targeted by them, and appreciate the practical educational findings that Steele and Aronson (1995) presented to us 20 years ago.

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