

*Brief report***'Be prepared': An implemental mindset for alleviating social-identity threat**Tara C. Dennehy^{1*}, Avi Ben-Zeev² and Noriko Tanigawa³¹Department of Psychology, University of Massachusetts, Amherst, USA²Department of Psychology, San Francisco State University, San Francisco, USA³Department of Linguistics, Philology, & Phonetics, Oxford University, UK

Stereotype threat occurs when people who belong to socially devalued groups experience a fear of negative evaluation, which interferes with the goal of staying task focused. The current study was designed to examine whether priming socially devalued individuals with an implemental (vs. a deliberative) mindset, characterized by forming *a priori* goal-directed plans, would help these individuals to overcome threat-induced distracting states. Participants from low and high socioeconomic status backgrounds (measured by maternal education; SES_m) completed a speeded mental arithmetic test, an intellectually threatening task. Low-SES_m individuals performed comparably and exhibited similar confidence levels to high-SES_m counterparts only when induced with an implemental mindset, suggesting that implemental mindset priming may help to create equity in the face of stereotype threat.

To be 'quick on the uptake', 'think on one's feet', and a 'quick study' are cultural idioms that speak to the perception of an intelligent person as someone able to process information and to respond to situations extemporaneously. This notion is not limited to lay theories of intelligence (e.g., Sternberg, 1985) but is integral to several commonly used IQ and aptitude subtests, such as speeded mental arithmetic in the Wechsler Adult Intelligence Scale (WAIS; see Vernon, 1987). The utility of speeded standardized tests notwithstanding the mere fact that they are perceived to assess intelligence has been shown to adversely impact individuals from socially devalued groups (e.g., African Americans, Latinos, and people from lower socioeconomic status), leading to documented underperformance relative to higher-status peers (Croizet, Desert, Dutrevis, & Leyens, 2001; Gonzales, Blanton, & Williams, 2002; Spencer & Castano, 2007). This underperformance has been linked with fear of negative evaluation – a phenomenon known as *stereotype threat* (Steele, 1997), a type of social-identity threat.

Stereotype threat has been implicated in a plethora of negative outcomes for stigmatized individuals. Beyond the broadly documented performance effects (Nguyen & Ryan, 2008), stereotype threat has been linked to executive resource depletion (Johns, Inzlicht, & Schmader, 2008), physiological stress (Blascovich, Spencer, Quinn, & Steele, 2001), inflexible perseverance (using previously successful problem-solving strategies that are no longer effective or appropriate; Carr & Steele, 2009), mind-wandering (Mrazek

*Correspondence should be addressed to Tara Dennehy, Department of Psychology, University of Massachusetts, 135 Hicks Way, Tobin Hall 629, Amherst, MA 01003, USA (email: tdennehy@psych.umass.edu).

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et al., 2011), poorer learning and knowledge acquisition (Taylor & Walton, 2011), lower confidence (Spencer & Castano, 2007), and heightened anxiety (Bosson, Haymovitz, & Pincel, 2004; Osborne, 2001), among other consequences.

Changing a deliberative into an implemental mindset: A novel intervention designed to alleviate stereotype threat

Schmader, Johns, and Forbes' (2008) Integrated Process Model of stereotype threat delineates how concern with negative evaluation evokes heightened self-monitoring and increased arousal (also see Ben-Zeev, Fein, & Inzlicht, 2005), which co-conspire to deplete working memory resources and to cause underperformance. The concomitant activation of the task-relevant achievement goal of performing quickly and accurately and a task-irrelevant social-evaluation goal of appearing competent and avoiding failure – such that the concern with accuracy comes at the expense of speed (Seibt & Förster, 2004) – gives rise to what Gollwitzer (2012) has termed a *deliberative mindset*. A deliberative mindset is characterized by selecting 'from among various wishes and desires, those few that one wants to realize' (Gollwitzer & Bayer, 1999, p. 405) and by heightened sensitivity to incidental information (Fujita, Gollwitzer, & Oettingen, 2007). In the context of stereotype threat, the parallel goals to succeed (task relevant) and to appear competent (task irrelevant) vie for attentional resources. The deliberation between task-relevant and task-irrelevant (or