

Title of Presentation

Stereotype Threat versus Stereotype Boost

Poster Description

Women have been historically underrepresented in STEM fields. The U.S. Census Bureau (2013) reported that in 2011, only 26% of STEM workers were women, as compared with 74% of men. This underrepresentation is also reflected in the college education of women and is particularly astounding in computer science, engineering, and physics. In 2010, only 18.2% of women received bachelor's degrees in computer science, 18.4% in engineering, and 20.3% in physics (NSF, 2013). Stereotype threat has been identified as a key factor responsible for this underrepresentation. Stereotype threat is a state of discomfort that arises when one is at risk of confirming a negative stereotype about one's group (Steele and Aronson, 1995). Many studies have demonstrated women underperform in math tests under stereotype threat (Steele, 1997; Spencer *et al.* 1999; Brown and Josephs, 1999). For example, Spencer *et al.* (1999) found that women performed worse on math tests when the tests were described as producing gender difference, whereas they performed as well as men when the tests were presented as gender blind. In trying to understand the mechanism behind stereotype threat, it has been proposed that stereotype threat can undermine performance through anxiety, physiological arousal, negative cognition, decreased performance expectation, and impaired self-efficacy (Brown and Josephs, 1999; Spencer *et al.* 1999; Blascovich *et al.* 2001; Cadinu *et al.* 2003; Osborne, 2006; Schmader *et al.*, 2008; Brodish & Devine, 2009; Appel *et al.* 2011; Deemer *et al.* 2013).

Although most work so far has been focused on the effect of negative stereotypes, some scholars have sought to understand the effect of positive stereotypes. However, the research findings on positive stereotypes have been mixed. Some suggest that activating positive stereotypes could boost one's performance (Levy, 1996; Shih *et al.* 1999; Shih *et al.* 2006). For instance, Shih *et al.* (1999) found that Asian American women performed better on math tests when their Asian identity was made salient and worse when their female identity was made salient. Others indicate that positive stereotype can create a "choking" effect and compromise performance (Baumeister, 1984; Cheryan & Bodenhausen, 2000).

This literature review will examine previous efforts relating to stereotype threat, stereotype boost theory, and the mechanisms behind these effects. This presentation will also discuss the implications for women and other minority groups' participation in STEM careers based on the literature, and make recommendations for educational organizations to eliminate minorities' underrepresentation in STEM fields.

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Poster: No audiovisual equipment required.