

Stereotype threat: The Case of Women in science, technology, engineering, and mathematics (STEM)

Subtle situational cues, such as numerical under-representation for women in science, technology, engineering, and mathematics (STEM), can be powerful triggers of *stereotype threat*. Stereotype threat refers to a type of social identity threat, which occurs when members of devalued groups experience a fear of being evaluated through the lens of a negative stereotype (e.g., Steele, 1997).

Recently, Murphy et al. (2007) provided compelling evidence for a *cues hypothesis*, such that the salience of situational cues was complicit in women's underperformance in quantitative domains. Specifically, they found that when women from STEM backgrounds viewed a STEM conference video in which women were outnumbered, women experienced increased physiological vigilance and decreased feelings of belonging and desire to participate in the conference.

My colleagues and I have found that the numerical representation cue has been strongly linked to signaling intellectual threat in STEM women over several research projects. When stereotype threat research was at its infancy, Mickey Inzlicht and I (**Inzlicht & Ben-Zeev, 2000**) showed that when men were simply present in the testing environment, women who identified highly with success and achievement in the math domain underperformed on a math, but not on a verbal test. Furthermore, we found that women's underperformance was proportional to the number of men in the environment, in agreement with the cues hypothesis (also see **Inzlicht & Ben-Zeev, 2003** for how this effect occurs in private and **Ben-Zeev, Fein, & Inzlicht, 2005** for how arousal is implicated in stereotype threat effects). Taken together, these findings indicate that gender under-representation acts as a powerful trigger for creating "threat in the air" (Steele, 1997) – independent of women's interest, confidence, and proven achievement in STEM domains (also see **Ben-Zeev, Dennehy, Sackman, Olides, and Berger, 2011** for behavioral ramifications of threat; such as increased women's nonverbal flirtation) (for how stereotype threat affects men, see **Ben-Zeev, Scharnetzki, Chan, & Dennehy, 2012**).

We are currently investigating several interventions to mitigate STEM women's susceptibility to stereotype threat with the kind cooperation of the College of Science and Engineering, at San Francisco State University.