



# Talk with Faculty Colleagues About Stereotype Threat

*Stereotype threats inhibit performance, reduce effort, and negate aspirations of motivated students*

Students' true intellectual ability and interest are masked in situations of "stereotype threat," according to more than 300 experiments and field studies. Awareness of negative stereotypes associated with their "group" (male/female/young/old, majority/minority race, etc.) inhibits students' performance on complex or creative tasks, interest, confidence, and feelings of belonging. Stereotype threat especially affects the most able students who care about their achievement.

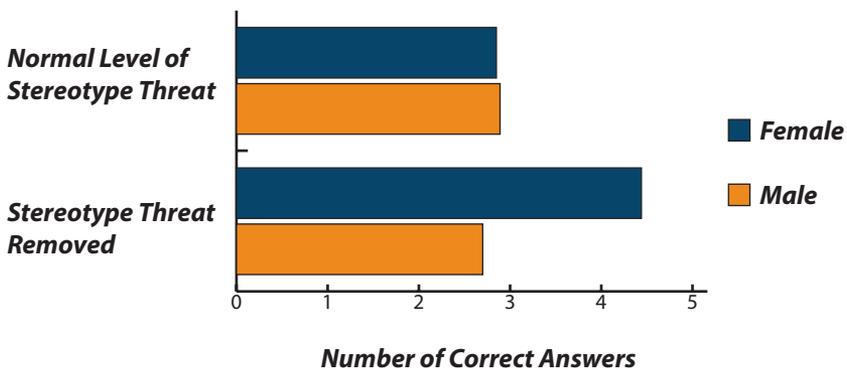


## *Examples of effects from stereotype threat*

- Men and women showed no gender difference in grades in their advanced calculus class until the ambient stereotype of women having less math ability than men was removed. As shown in the graph, removing the threat and its inhibiting effect let the women outperform the men on a test of calculus questions from the GRE Math Subject exam.<sup>1</sup>
- Invoking the stereotype that Asians are better than Whites at math led White men to underperform on a math test.<sup>2</sup>
- Women's performance on a challenging engineering test suffered when men behaved in a dominant, sexist way, even though the women were unaware of feeling stereotyped.<sup>3</sup>
- Women were less able to learn from mistakes they made on a test that was described as measuring women's ability relative to men's, a description that invoked stereotype threat.<sup>4</sup>



### *Advanced Calculus Test Performance Reflects Presence or Absence of Threat*



Source: Good, C., Aronson, J., & Harder, J. A. (2008). Problems in the pipeline: Stereotype threat and women's achievement in high-level math courses. *Journal of Applied Developmental Psychology, 19*, 17–28.

## *Stereotype threat is easily triggered*

Women's scarcity in computing subjects them to stereotype threat, unless specific action is taken to minimize the threat. Faculty who want talented students, regardless of their gender, will avoid situations like the following:

- Classrooms, labs, or lounges with Star Trek posters, comics, video game boxes, soda cans, junk food, electronics, computer parts, software, and technical books and magazines. These kinds of environments reduce women's interest and sense of belonging in computer science.<sup>5</sup>
- The seemingly trivial use of "he" instead of inclusive or gender-neutral pronouns. Using the pronoun "he" when describing a job negatively affects women's motivation to pursue that job.<sup>6</sup>
- Images of mostly men at a quantitative conference. Gender-imbalanced images reduce women's feeling of belonging and interest in participating.<sup>7</sup>

In sum, décor, language, images, or behaviors that call attention to gender increase stereotype threat for those portrayed as unsuited for a particular activity.

## Create a stereotype threat-free environment for attracting able and diverse students to computing

Learn more:

- Share *Stereotypes and Stereotype Threat Affect Computing Students* (slide deck and notes, [www.ncwit.org/stereotypethreatslides](http://www.ncwit.org/stereotypethreatslides)) with your faculty colleagues.
- Appel, M. & Kronberger, N. (2012). Stereotypes and the achievement gap: Stereotype threat prior to test taking. *Educational Psychology Review*. doi: 10.1007/s10648-012-9200-4
- *How Does the Physical Environment Affect Women's Entry and Persistence in Computing? Design Physical Space that Has Broad Appeal (Case Study 1)* ([www.ncwit.org/physicalspaceuw](http://www.ncwit.org/physicalspaceuw))
- *How Do Stereotype Threats Affect Retention? Better Approaches to Well-intentioned but Harmful Messages (Case Study 1)* ([www.ncwit.org/stereotypethreatmessages](http://www.ncwit.org/stereotypethreatmessages))





## Sources

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3. Logel, C., Walton, G.M., Spencer, S.J., Iserman, E.C., von Hippel, W., & Bell, A. (2009). Interacting with sexist men triggers social identity threat among female engineers. *Journal of Personality and Social Psychology, 96*, 1089–1103.
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5. Cheryan, S., Plaut, V.C., Davies, P.G., & Steele, C.M. (2009). Ambient belonging: How stereotypical cues impact gender participation in computer science. *Journal of Personality and Social Psychology, 97*, 1045–1060. doi: 10.1037/a0016239.
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7. Murphy, M.C., Steele C.M., & Gross J.J. (2007). Signaling threat: How situational cues affect women in math, science and engineering settings. *Psychological Science, 18*, 879–885.

