

Stereotypes lead to underperformance, says expert

April 17 2013, by Krishna Ramanujan

(Phys.org) —African-Americans with the same grades, test scores and motivation as their white high school counterparts got lower grades in college compared with other groups. And women with the exact same level of preparation received lower grades in advanced math courses, when compared with men.

"Our explanation for this underperformance, in big part, we think it's due to [stereotype threat](#)," where [negative stereotypes](#) about certain groups – such as the false notions that African-Americans are less bright than others or that [women](#) are deficient at math – can affect performance, said Claude Steele, dean of the Graduate School of Education at Stanford University. He who delivered the Robert L. Harris Jr. ADVANCEments in Science Public Lecture April 11 in Statler Auditorium.

In experiments, Steele found that when pressures were removed, the same stereotyped groups performed as well as their counterparts.

Stereotype threat "happens to everybody," said Steele. The idea is that when a person's identity has a negative stereotype attached to it and that person engages in important activities that are relevant to that stereotype, he or she will become distracted and anxious and then underperform in a manner consistent with the stereotype, Steele said.

In experiments, Steele and colleagues gave women and men who had equal and excellent [math skills](#) and motivation part of the Graduate

Record Exam for math majors. Steele believed that on top of the frustration of the material faced by both groups, the women would face extra pressures as they fought negative stereotypes about being viewed by society as deficient in math. "Because it's hard, it's frustrating, that makes the stereotype about the group relevant as an interpretation of personal experience," Steele said. In the test, the women "did a whole standard deviation lower than men," he said.

But when the women were told ahead that "you may have heard that women are not as good at math, ... but that's not true for this test, this is a test where women always do as well as men ...," Steele said, "the women did just as well as equally skilled men. The difference completely went away."

The same results proved true in a test of racial stereotypes, where African-American and [white students](#) were given a standard IQ test where each question involved patterns with different sized squares. Again, "blacks performed a full [standard deviation](#) worse than white students, which is the exact size of the IQ difference between blacks and whites in the general population," said Steele.

But when the groups were told the test was simply a puzzle that has nothing to do with abilities and to have fun with it, "under that instruction, black students performed exactly the same as white students on that test," he said.

On the institutional level, it is important to promote diversity and frame it as being "essential to excellence," where diverse perspectives lead to fresh thinking and solutions to issues, he said. "Presented that way, one realizes one's identity contributes to a situation rather than being a detriment ... and that reduces the threat," he added. He also said role models are important for reducing stereotype threat by showing people that someone who shares their identity can be successful.

Steele has published a book on the subject, "Whistling Vivaldi: And Other Clues to How Stereotypes Affect Us and What We Can Do" (2010).

Provided by Cornell University

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