

Psyched out by stereotypes: Research suggests thinking about the positive

May 4 2009



This is Robert Rydell from Indiana University. Credit: Indiana University

In a new study, cognitive scientists have shown that when aware of both a negative and positive stereotype related to performance, women will identify more closely with the positive stereotype, avoiding the harmful impact the negative stereotype unwittingly can have on their performance.

The study, led by Robert J. Rydell, assistant professor in the Department of Psychological and Brain Sciences at Indiana University, focused on women and math ability. While studies -- including this one -- have

shown that women will perform worse on mathematical tasks if simply made aware of the negative stereotype that women are weaker at math than men, this is the first study to examine the influence of concurrent and competing stereotypes, one negative and one positive.

The study also demonstrates how the negative stereotype encroached on [working memory](#), thus leaving less brain power for the mathematical task at hand. The positive stereotypes had no such effect, however, and when coupled with the negative stereotype erased its drain on working memory.

"This research shows that because people are members of multiple social groups that often have contradictory performance stereotypes (for example, Asian females in the domain of math), making them aware of both a positive group stereotype and a negative stereotype eliminates the threat and underperformance that is usually seen when they dwell only on their membership in a negatively stereotyped group," Rydell said.

"People seem motivated to align themselves with positively stereotyped groups and, as a byproduct, can eliminate the worry, stress and cognitive depletion brought about by negative performance stereotypes, increasing actual performance."

The study, "Multiple Social Identities and Stereotype Threat: Imbalance, Accessibility, and Working Memory," appears in the May issue of the [Journal of Personality and Social Psychology](#).

Stereotype threat -- where just the awareness of a stereotype can influence performance regardless of actual ability -- has been demonstrated in many domains, from driving cars to cooking. In academics, high-stakes tests, such as college entrance exams, often ask test-takers to select demographic information, such as gender and level of education, before beginning the test.

One of the experiments in Rydell's study followed this format, with some test-takers asked to identify only their gender -- all were women -- before working on the math problems. These study participants did not perform as well as the students who were asked to provide additional demographic information, such as their education level, which was considered a positive stereotype.

"A stereotype that might be positive for one person could be considered negative to another," Rydell said. "The easiest fix would be to ask for demographic information after the test."

The study involved four experiments in which female undergraduate college students were asked to perform difficult math problems. Some were given no information about the stereotypes before working on the problems. Some students were made aware only of the negative stereotype, that men were better at math than women. Some students were only made aware of the positive stereotype, that college students performed better at math than non-college students. Some of the students were made aware of both stereotypes.

Each experiment involved between 57 and 112 college students, using new students with each experiment. Here are some of the findings:

- In all four experiments, the women who learned only of the negative stereotype performed worse than the women in the other three groups, who on average showed no difference in performance level.
- One experiment used a word association exercise to gauge which social group the study participants identified with more strongly -- being female or a college student. When presented with both stereotypes, the women identified more with their college student

identity and less with their gender identity.

- One of the experiments measured the students' working memory once they learned of one or both stereotypes. The women who learned only of the negative stereotype demonstrated less available working memory.

Rydell said people become aware of stereotypes in different ways. For [women](#), simply sitting between two men while taking a math test can activate the negative gender stereotype.

"The activation of the stereotype is relatively automatic and hard to control," he said. "Whether you choose to endorse or believe the stereotype, however, is under your control. One option is to think about the positive groups you're associated with that are related to the task at hand."

Source: Indiana University ([news](#) : [web](#))

Citation: Psyched out by stereotypes: Research suggests thinking about the positive (2009, May 4) retrieved 16 April 2024 from

<https://medicalxpress.com/news/2009-05-psyched-stereotypes-positive.html>

<p>This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.</p>
--