Effects of Self-Affirmation on Balancing Gender and Math Identity

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INTRODUCTION

- As many of us may know, women are regularly faced with the stereotype that men generally do better in science, technology, engineering, and mathematics (STEM), thus creating a gender gap in these fields.
- Implicit association tasks (IATs) measure an individual's implicit bias by measuring how quickly a participant responds to stimuli presented to them (Woodcock & Monteith, 2013).
- IAT scores are measured independently and look at the assumed association between the stimuli and the participant's feeling of association to that category (Greenwald et al., 2002).
- The self-affirmation theory is based on the notion that an individual is motivated to maintain their perceived worth and integrity and affirming their value will spill over and counteract the negative effect of stereotype (Sherman, 2013). This is emerging as a powerful interventions to close achievement gaps in the STEM fields.
- Cohen and Sherman (2014), state that by affirming one's self-integrity, it does not necessarily mean praising ourselves for our qualities that we admire, but instead to use that to act in meaningful ways to demonstrate the values and integrity about ourselves.
- students who wrote about their core personal values have been shown to significantly reduce the gender gap in STEM fields and lowered the stereotype threat they face (Kinias & Sim, 2016).

PURPOSE

- The purpose of this study was to test the impact of an Affirmation on implicit identity, implicit stereotypic association, and identity balance.

HYPOTHESIS

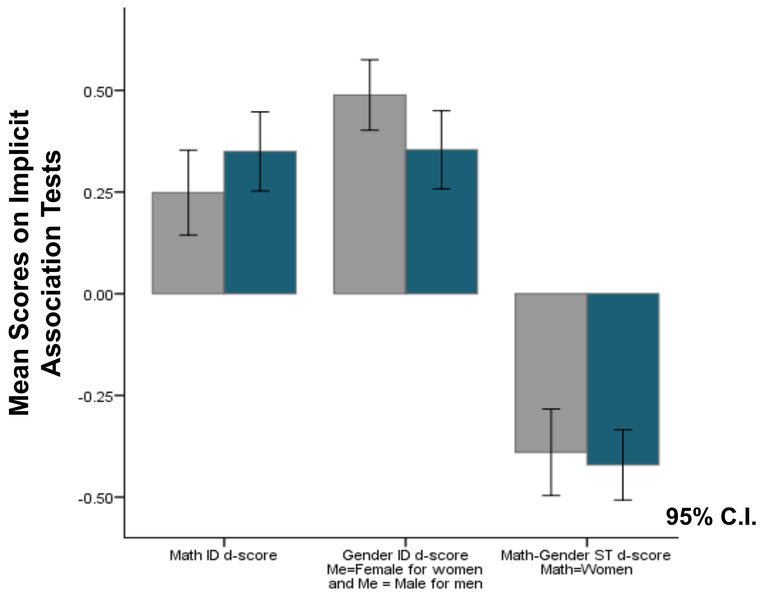
- The affirmation condition would increase performance on a mechanical aptitude test, increase math identity, and increase gender identity.

METHOD

Participants & Procedure

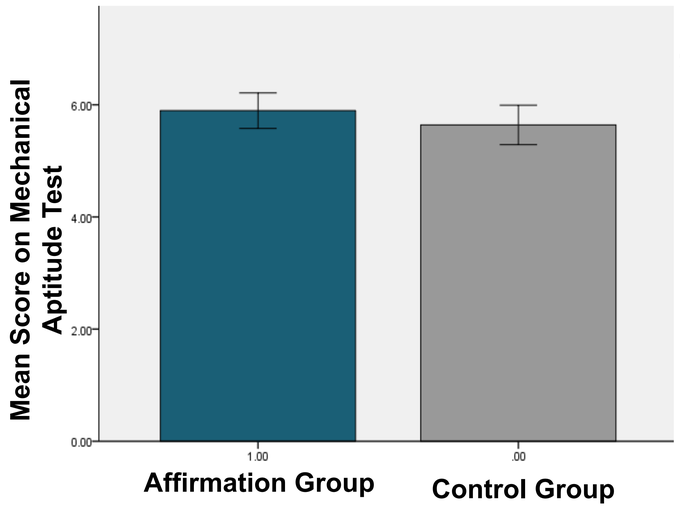
- 169 undergraduates
- 42.4% Hispanic, 31.9% White
- Participants were first given a mechanical aptitude test, which consisted of 57 items
- Four facets used to measure mechanical aptitude were mechanical knowledge, mechanical insight, shop geometry and arithmetic, and tool knowledge.
- Participants were randomly assigned to either receive an affirmation intervention or control intervention
- Once participants completed the affirmation intervention, they played a series of 3 games to measure implicit identity.
- The 3 IATs measured implicit math identity, implicit math-gender stereotypes, and implicit gender identity

RESULTS



Affirmation Group vs. Control Group

RESULTS CONT.'



RESULTS/DISCUSSION

1. Of women in the affirmation intervention condition compared to women in the control condition. The affirmation condition decreased gender identity, increased math identity, and did not change math-gender stereotype. $F(1.95, 318.02) = 3.20$, $p = .04$.

2. The overall level of balance between the groups did not differ, but the affirmation changed the nature of the balance.

3. Women in the affirmation condition scored higher on the mechanical aptitude test compared to women in the control condition. $F(1,163) = 4.004$, $p = .047$.

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