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Understanding Scientific Evidence in Court: The Moderating Role of Gender Stereotype Threat in Verdict Decisions

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National Science Foundation
WHERE DISCOVERIES BEGIN



1. Introduction

Differences in Verdict by Gender (Golding, Bradshaw, Dunlap, & Hodell, 2007)

- Women are more likely to change their verdict decisions
 - Usually change from not guilty to guilty
- Men talk about pro-defense more than women
 - Women talk about prosecution and defense equally
 - However, there is little research in civil cases.

Stereotype Threat

- Stereotype threat can negatively impact the performance of members in stigmatized groups (Woodcock, Hernandez, Estrada, & Schultz, 2012).
- Women are susceptible to stereotype threat, especially in STEM fields (Steele, 1997).

Scientific Testimony

- Women are significantly less represented in STEM fields, which decreases their involvement in science and scientific identity (Stoute et al., 2011).
- It is a common gender role that men are better performers in STEM than women (Hyde et al., 2008).
- A person's confidence is an influence of using and performing science in real life situations (Williams & George, 2014).

2.) Research Hypotheses

Does Stereotype Threat, particularly for women, influence verdict decision-making when presented with scientific evidence?

(H1) There will be a negative association between a woman's understanding of scientific testimony and their verdict.

(H2) This relationship will be moderated by high levels of stereotype threat for women.

(H3) This relationship will not be moderated by stereotype threat for men.

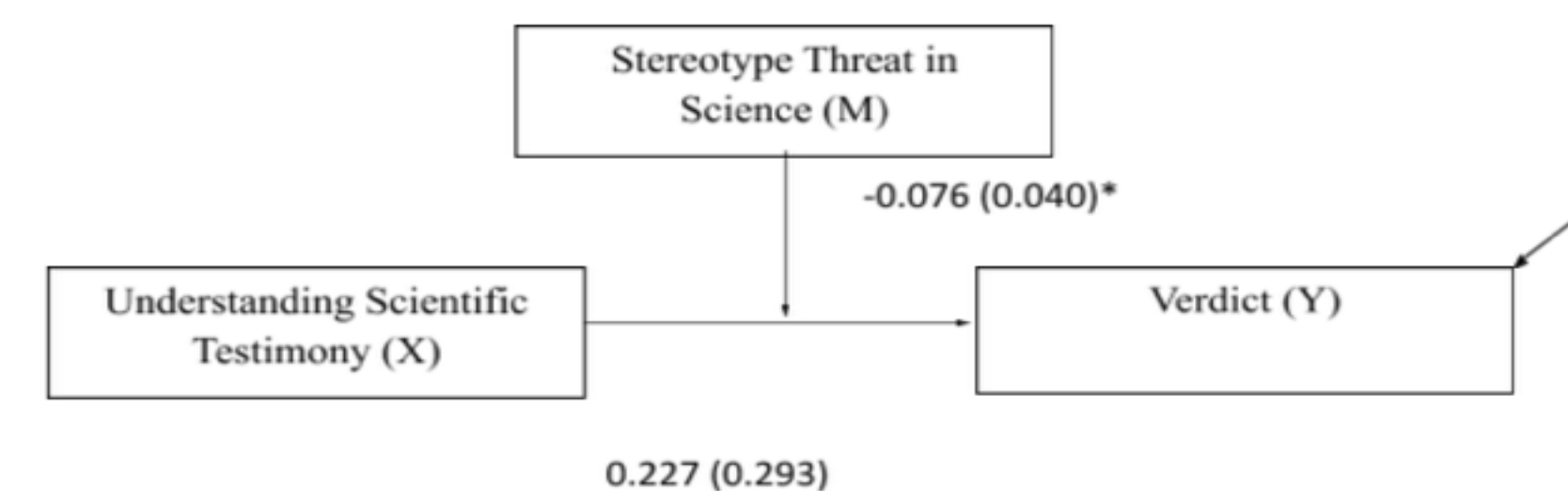


Figure 1
Conceptual Model: Stereotype Threat in Science Moderates the Relationship between Understanding Scientific Testimony and Verdict.

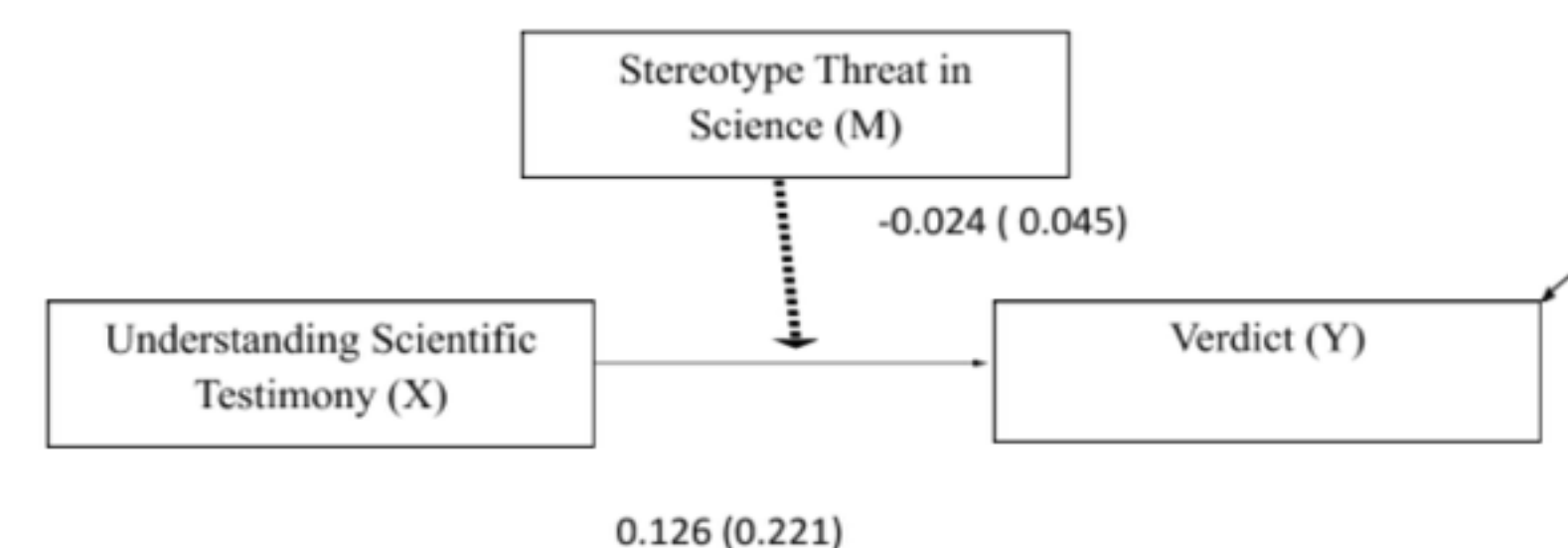


Figure 2
Conceptual Model: Stereotype Threat in Science Moderates the Relationship between Understanding Scientific Testimony and Verdict.

3.) Methods

Participants:

- 224 women and 243 men ($N = 467$)
- Age range: 19 to 70 years ($M = 26.35$, $SD = 9.20$)
- Gathered from Mturk, SONA in lab and SONA online, and community sample

Materials:

- **Stereotype Threat in Science** (Deemer, Lin, Graham, & Soto, 2014).
 - Asks how often one is uncomfortable identifying with a negative stereotype
 - Higher scores indicate more frequent discomfort
- **Understanding Scientific Testimony**
 - Measurement of how much one understands the scientific evidence in the testimony
- **Verdict Decision**
- **Demographics Questions**

Procedure:

- Participants filled out an array of measures before watching a mock trial featuring scientific evidence about brain functioning. As a mock jury, the participants decided whether the defendant was liable or not liable.

4.) Results

1. For women, greater stereotype threat in science is correlated with less scientific testimony comprehension ($r = -.169$, $p = .011$)
2. There is a nearly significant interaction between stereotype threat for women and scientific testimony comprehension as predictors of juror verdicts shown in Figure 1. (unstandardized coefficient = -0.076 , $SE = 0.040$, $p = .060$)
 - a. significant at moderate and high levels of stereotype threat.
3. For men, this interaction was not found shown in Figure 2. (unstandardized coefficient = -0.024 , $SE = 0.045$, $p = .593$).

5.) Discussion

- Results suggest that stereotype threat in science may be a mechanism that influences how women's understanding of scientific testimony impact their verdicts.

Future Research and Limitations

- Little research was found for understanding scientific evidence for civil trials, so it is possible that there are other variables that influence stereotype threat.
- It may be beneficial to get a larger sample size of participants in order to increase power.
- Instead of using a conglomeration of sample methods, it may be more beneficial to reconduct the study using one of the four methods.