Children's evaluations of peers who confront gender bias in science contexts

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INTRODUCTION

- Stereotypic beliefs about gender and science, technology, engineering, and math (STEM) abilities emerge early in childhood.
- These stereotypes negatively impact girls' STEM motivation, belonging, and identity which can further limit them from pursuing careers in the STEM field.
- When evaluating unfair treatment, children may choose to directly challenge it, or they may refrain from doing so due to the powerful influence of group norms

Research Question: How do children and adolescents evaluate and reason about peers who confront gender bias in the context of science leadership opportunities within peer groups?

METHOD

PARTICIPANTS

- Initial Sample: 28 children ages 8-14 years old (M_{age} = 10.99 years, SD_{age} = 1.98 years
- Recruited from middle-income households, evenly divided by gender, and representative of the racial/ethnic diversity of the Mid-Atlantic region of the U.S.

PROCEDURE

- Participants completed individual interviews and viewed vignette-based stories.
- Vignette consisted of a group of kids their age at a science competition and participants were asked to give predictions, evaluations, and reasoning about the characters in the story.

MEASURES

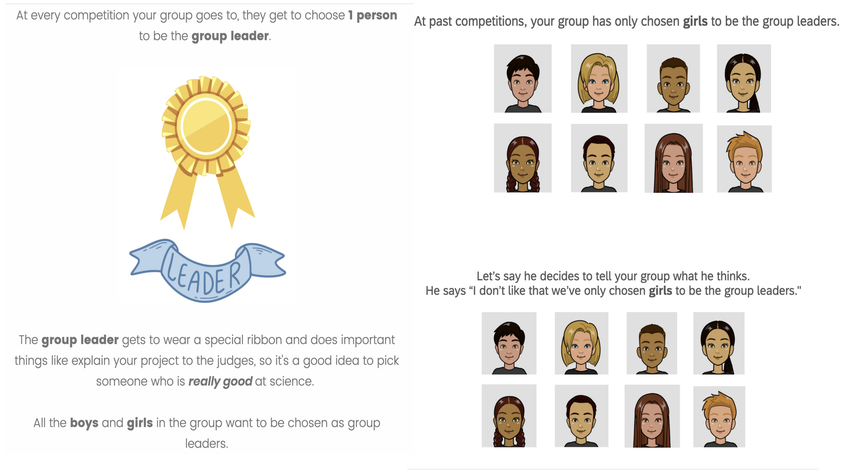
Likelihood of Peer Confrontation

- "How likely do you think your group would be to tell [peer] they can't be in the group anymore because of what they said?"
- Likert-type scale from 1(Really Unlikely) - 6(Really Likely)

Perceived Peer Confrontation Effectiveness

- "If [peer] said this, how likely would your group be to choose a [disadvantaged gender group member] as the group leader at the next competition?
- Likert-type scale from 1(Really Unlikely) - 6(Really Likely)

DESIGN



RESULTS

LIKELIHOOD OF PEER CONFRONTATION

- Children and adolescents expected peers disadvantaged by bias (M = 4.57, SD = 1.26) to be more likely to confront the group's bias than peers advantaged by the bias (M = 4.07, SD = 1.25).

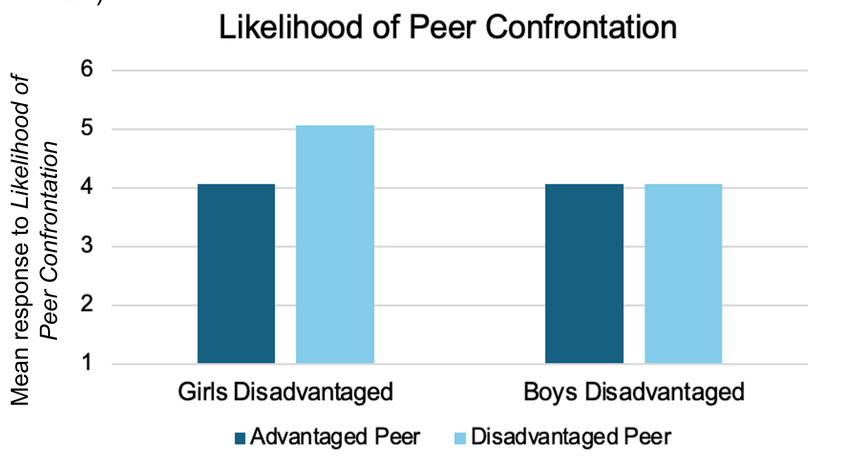


Figure 1. Mean expectation of likelihood of peer confrontation by group disadvantaged by bias and confronter status.

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RESULTS

PERCEIVED PEER CONFRONTATION EFFECTIVENESS

- Participants viewed peers advantaged by bias as more effective in their confrontations (M = 4.46, SD = 1.29) compared to peers disadvantaged by bias (M = 4.11, SD = 1.13).
- This pattern was stronger in the Girls Disadvantaged condition than the Boys Disadvantaged condition.

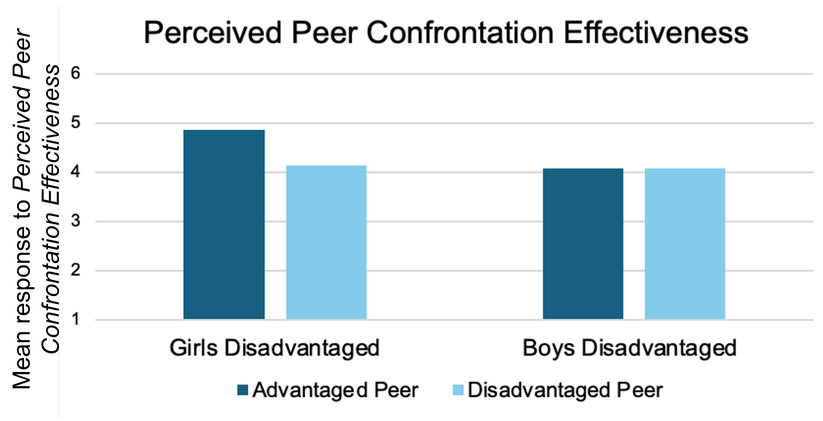

Figure 2. Mean perceived peer confrontation effectiveness by group disadvantaged by bias and confronter status.

DISCUSSION

- When gender bias is present in peer groups in science contexts, children and adolescents expect disadvantaged peers be more likely to confront the group than advantaged peers, especially when girls are the disadvantaged group.
- However, children and adolescents tend to view confrontations from advantaged peers as more effective at changing the group's bias than confrontations from disadvantaged peers, especially when girls are the disadvantaged group.
- Future research should investigate peer confrontations when considering other dimensions of group identity (e.g., race, ethnicity, SES) in STEM settings.
- These findings have implications for intervention programs aimed at enabling children to be more STEM inclusive.

Acknowledgments: Thank you to the participants, programs, staff, and families who participated in this research. We appreciate the guidance of Marley B. Forbes and Dr. Melanie Killen. This work was supported by the Student Proposed Innovation & Research Experience (SPIRE) program at the University of Maryland.