



# Effects of Social Context on Racially Biased Perceptions of Threat

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## BACKGROUND

- Research on the neurocognitive underpinnings of racial bias has found that White participants show greater amygdala activity<sup>1,2</sup> and early attention<sup>3,4</sup> for Black than White faces.
- One proposed mechanism is that processing differences primarily reflect a threat response resulting from pre-existing stereotypes associating Blacks with danger or threat<sup>4,5</sup>.
- However, given socio-cognitive research indicating that the context in which racial stimuli are presented affects racial attitudes<sup>6,7</sup>, it is possible that perceivers may not associate Black individuals with threat in every situation.
- Nonetheless, many neurocognitive studies ignore context effects on racial biases by presenting racial stimuli without a social context.
- Thus, the present research sought to re-examine the assumption that Black individuals are *always* perceived as threatening.
- **Research Question:** Does social context play a role in the perception of outgroup threat?
- **Hypotheses:** Perceptions of threat associated with racial outgroup members depend on the social context.
  - Athletic Context: Black faces viewed as more threatening than Asian and White faces.
  - Academic Context: Asian faces viewed as more threatening than Black and White faces.

## METHODS

### Participants:

- 267 participants were recruited through Amazon Mechanical Turk (MTurk)
  - 85 participants were excluded due to problems with data collection, prior experience with the faces, and identifying as a race other than White
  - **Basketball Game:** 63 White participants
  - **Math Competition:** 61 White participants
  - **Rock-Paper-Scissors Competition:** 58 White participants

### Materials:

- Chicago Face Database<sup>8</sup> (CFD)
  - 50 Asian male faces, 50 Black male faces, & 50 White male faces

### Procedure:

In this survey, you will be viewing a series of faces. When viewing each face, you should imagine that you will be competing against that person in a basketball game. Your task is to use the scale that is provided to indicate how threatened you would feel if you had to compete against that person in a basketball game.



Not at all threatened

Slightly threatened

Moderately threatened

Very threatened

Extremely threatened



Not at all threatened

Slightly threatened

Moderately threatened

Very threatened

Extremely threatened



Not at all threatened

Slightly threatened

Moderately threatened

Very threatened

Extremely threatened

## METHODS (CONT.)

### Procedure (cont.):

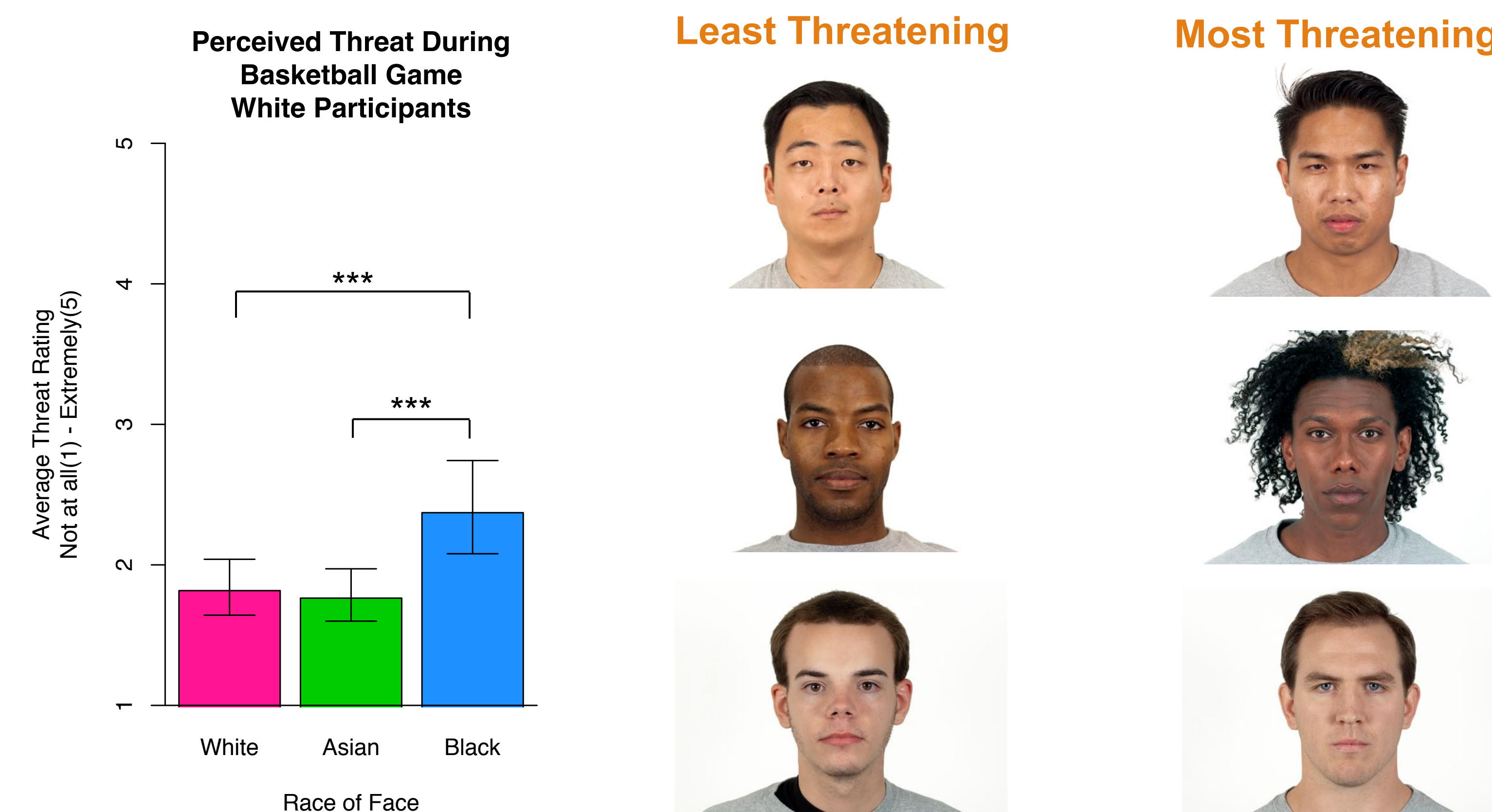
- Motivation to Control Prejudiced Reactions Scale<sup>9</sup>
- Demographic Questions
- Feeling thermometer<sup>10</sup> and Racial attitudes question

### Data Analysis:

- Due to a non-Gaussian distribution of threat ratings, a generalized linear model (GLM) using a Poisson distribution was used to model threat ratings with race as a predictor variable.

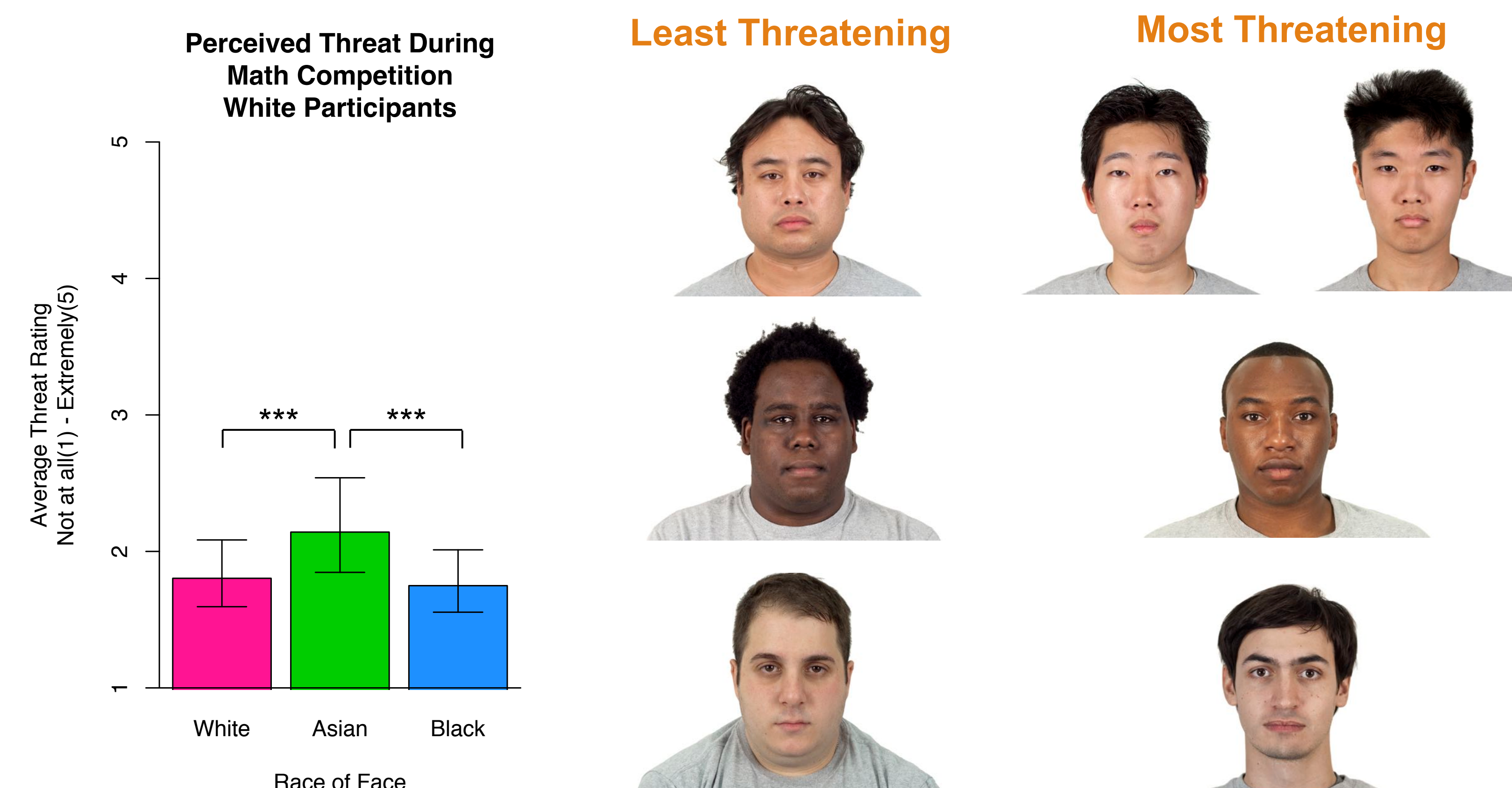
## RESULTS

### Basketball Game: Black faces rated as more threatening than Asian and White faces.



A parametric bootstrap resampling of the data with 1,000 simulations of a likelihood ratio test comparing a model with race as a factor and a model without it indicated that race was a statistically significant predictor,  $X^2(2) = 145.99$ ,  $p = .001$ .

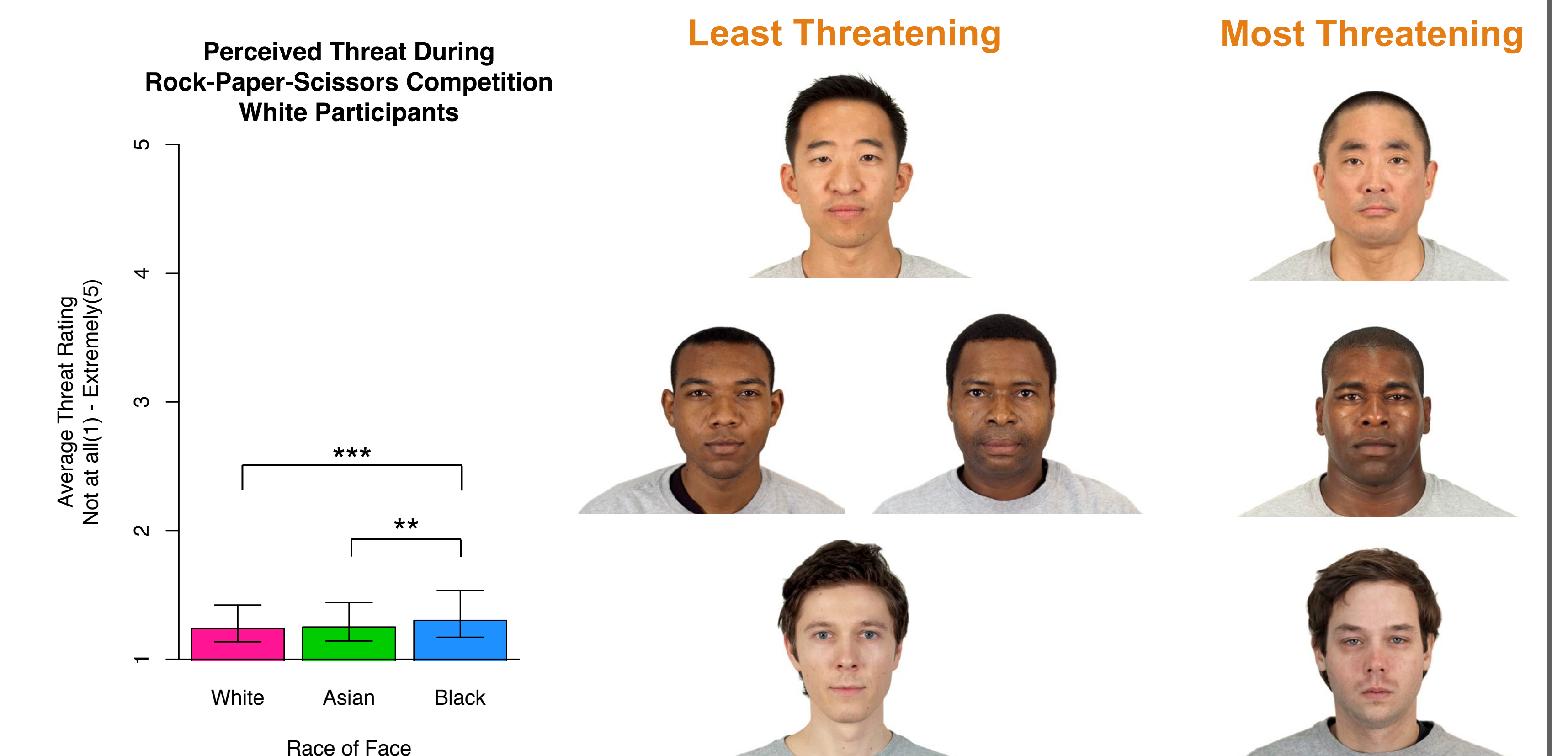
### Math Competition: Asian faces rated as more threatening than Black and White faces.



A parametric bootstrap resampling of the data with 1,000 simulations of a likelihood ratio test comparing a model with race as a factor and a model without it indicated that race was a statistically significant predictor,  $X^2(2) = 102$ ,  $p = .001$ .

## RESULTS (CONT.)

### Rock-Paper-Scissors Competition: Black faces rated as more threatening than Asian and White faces.



A parametric bootstrap resampling of the data with 1,000 simulations of a likelihood ratio test comparing a model with race as a factor and a model without it indicated that race was a statistically significant predictor,  $X^2(2) = 21.05$ ,  $p = .001$ .

## DISCUSSION

- Racially biased threat perceptions differed based on the social context:
  - Basketball Game: Black faces perceived as more threatening than Asian and White faces.
  - Math Competition: Asian faces perceived as more threatening than Black and White faces.
  - Rock-Paper-Scissors: Black faces were perceived as slightly more threatening than White faces.
- It is likely that factors other than the stereotype associating Black individuals with threat, underlie neurocognitive processing differences between Black and White faces.
  - Results indicate that Black individuals are not *always* perceived as more threatening than other racial groups.
  - Results also suggest that individuals may apply the stereotype that Black individuals are threatening during ambiguous contexts.
- Asians, a racial group that is not stereotypically associated with threat, may be perceived as threatening in certain social contexts.
- We are currently using eye-tracking to examine whether the social context affects early and late visual attention biases to racial ingroups and outgroups.
- Future research will need to further examine the role of social contexts on racially biased neurocognitive processing.

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