The Effects of Race-Related Rejection Sensitivity on Detection of Emotion in Faces

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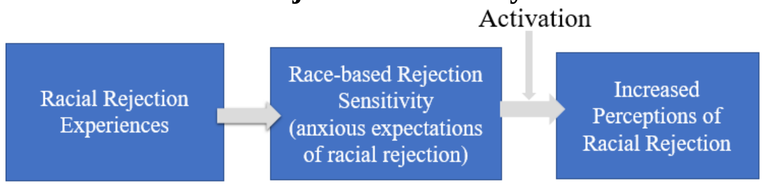
Introduction

Race-Based Rejection Sensitivity Model



*Model adapted from Levy et al. (2012)

Hypotheses: Black/African American participants who are higher in race-based rejection sensitivity are:

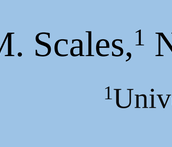
1. More likely to detect anger on the ambiguous facial expressions of White individuals than Black individuals
2. Less likely to detect happiness on the ambiguous facial expressions of White individuals than Black individuals

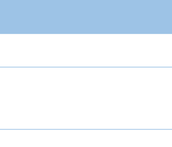
Experimental Design

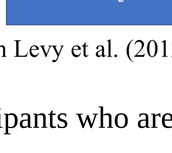
Study Participants: 121 Black/African American online participants (60.3% female; M_{age}=21.69, Sd_{age}=2.21)

Stimuli:

- Faces taken from Chicago Face Database[2]
- Used to create morphs ranging in emotional intensity







Procedure:

1. Emotion Detection Task[3]

2. Race-Based Rejection Sensitivity (RS-race) Questionnaire[1]

Emotional Detection Task:

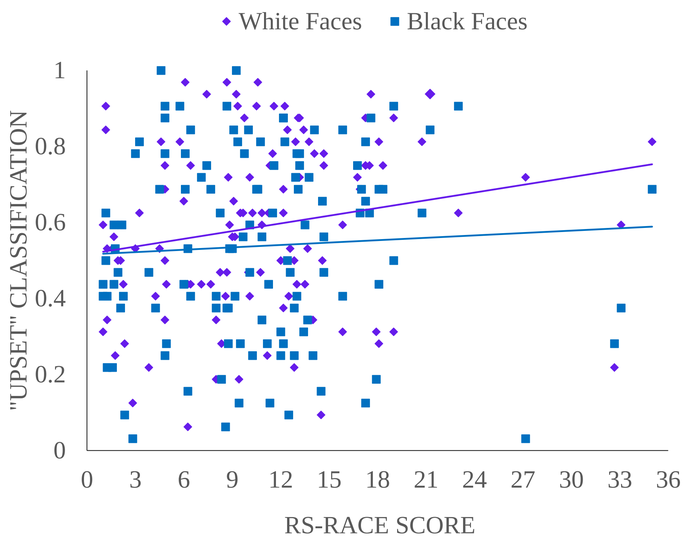
- Participants viewed 96 unique morphs
- Indicated whether the face was upset, calm, or excited

Results

ANCOVA Analyses: RS-race score (covariate) x target race (Black, White) x morph percentage (40%, 45%)

- **Angry Face Morphs**: Marginally significant 2-way interaction (RS-race score x target race) on classification of angry morphs as "Upset" (before the exclusion of outliers), $F(1, 119) = 3.918$, $p = 0.050$
  - Higher RS-race scores associated with higher number of "upset" attributions for White faces, $r(119)=0.197$, $p=.03$
  - RS-race did not predict attributions for Black faces, $r(119)=0.056$, $p=.542$
- **Happy Face Morphs**: No significant 3-way interaction on classification of happy morphs as "Excited", $F(1,119) = 0.014$, $p = 0.907$

Scatterplot of RS-Race predicting "Upset" Classifications on Angry Faces



Discussion

Main Finding:

- Participants higher in race-based rejection sensitivity were more likely to detect anger (a rejection cue) on the ambiguous faces of White targets
- This has potential implications for cross-race interactions in settings where minorities can feel excluded[1]

Why no 3-way interaction (possibilities)?

- Showing participants angry White faces was not sufficient to initiate anxious expectations of race-based rejection[1]
- Participants perceived the facial expressions to be disingenuous, unlike facial expressions produced in response to real life situations.

Limitations and Future Studies

- Low variance in RS-race scores
  - Future study: Conduct with a wider range of RS-race scores
- Possibility that faces weren't viewed as threatening
  - Future study: Induce race-based rejection (e.g., with Cyberball task) and examine face classifications

References

1. Mendoza-Denton, R., Downey, G., Purdie, V. J., Davis, A., & Pietrzak, J. (2002). hugen. *Journal of personality and social psychology*, *83*(4), 896
2. Ma, D. S., Correll, J., & Wittenbrink, B. (2015). The Chicago face database: A free stimulus set of faces and norming data. *Behavior research methods*, *47*(4), 1122-1135.
3. Plate, R. C., Wood, A., Woodard, K., & Pollak, S. D. (2018;2019;). Probabilistic learning of emotion categories. *Journal of Experimental Psychology: General*, *148*(10), 1814-1827. doi:10.1037/xge0000529
4. Levy, S. R., Ayduk, O., & Downey, G. (2012). The role of rejection sensitivity in people's relationships with significant others and valued social groups. () doi:10.1093/acprof:oso/9780195130157.003.0010