Scroll and See: Reducing Own-Ethnicity Bias Through Parasocial Exposure

FRIEDRICH-SCHILLER-UNIVERSITÄT JENA

Elli Beyreuther, Janika Rühle, Kira Kröning, Matilda Schäfer, Maurice Reitzig

Head of the EMPRA group: Yeliz Dinç

Introduction:

The Own-Ethnicity Bias (OEB) refers to the superior recognition of faces from one's own ethnic group compared to those from other ethnic groups, a robust phenomenon in social-cognitive psychology (Mukudi & Hills, 2019). The Perceptual Expertise Model explains this bias as a result of limited exposure to out-group faces. Parasocial interactions can reduce out-group prejudice (Bond, 2021), raising the question: **Can parasocial engagement via social media influence cognitive processes such as face recognition and thereby reduce the OEB?**
This study investigates whether parasocial interaction (PSI) with African American influencers on Instagram—as an example of an out-group—can improve recognition performance for Black faces and thus reduce the OEB. We hypothesized that after a two-week PSI intervention, participants would show shorter reaction times, higher accuracy, and increased sensitivity (d′) for Black faces compared to a control condition of Asian faces.

Methods:

- **2** (Time: Pre- vs. Post-Intervention) **× 2** (Stimulus Ethnicity: Black vs. Asian) **design**
- **Dependent variables:** mean reaction time (mean RT), accuracy, d-prime (d′)
- Data were analysed using **mixed-effects ANOVAs**, modelling participants as random intercepts to account for interindividual variability.

Participants

- 20 psychology students were recruited, predominantly female.
- A preliminary questionnaire assessed social media usage, ethnic background, and familiarity with the stimuli.
- Due to data loss and dropouts, the final sample consisted of 12 participants (10 female, 2 male; M age = 21,3 years, SD = 2.1).

Power Analysis: A paired t-test indicated that with n = 20 and α = .05, a detectable effect would need to be d ≥ 0.66 to reach 80% power—meaning that only large effects were likely to be detected.

Materials

- Stimuli consisted of neutral-expression faces from a publicly available database.
- Parasocial content was selected from African American influencers (e.g., @jackieaina, @denzeldion) and posted daily via private Instagram accounts over two weeks.
- Content included images and short videos.
- Interaction frequency was monitored every two days through self-report questionnaires.

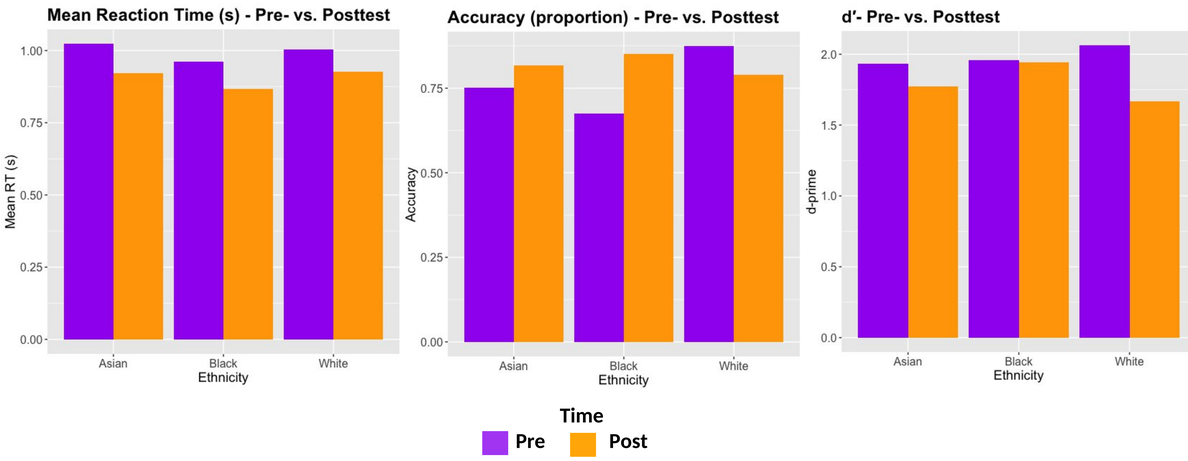
Procedure

- **Pre-Test:** Old/New face recognition task with 24 training faces (8 each: Black, Asian, White) and 48 test faces.
- **Two-Week PSI Phase:** Participants followed designated influencer accounts and engaged with daily content.
- **Post-Test:** Same task with a new set of stimuli.

Sources:
Bond, B. J. (2021). The Development and Influence of Parasocial Relationships With Television Characters: A Longitudinal Experimental Test of Prejudice Reduction Through Parasocial Contact. Communication Research, 48, 573–593. https://doi.org/10.1177/0093650219900632
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. https://doi.org/10.3758/s13428-014-0532-5
Mukudi, P. B. L., & Hills, P. J. (2019). The combined influence of the own-age, -gender, and -ethnicity biases on face recognition. Acta Psychologica, 194, 1–6.

Results:

- **accuracy and d-prime:** No significant main effects of time or interaction effects with stimulus ethnicity
- **reaction time:** Significant main effect of time → Slightly faster responses for post-training
  → Effect independent of the stimulus ethnicity making it irrelevant for our hypothesis
- **no differences in recognition performance** between the stimulus ethnicities
- no significant correlation between the PSI-scores and accuracy change scores from pre- to post-training
- **no predictive value of PSI-scores** for recognition performance in pre- and post-sessions
  → No better recognition of Black faces after the PSI-intervention of two weeks



Discussion:

- **After 2 weeks of following the influencers, students did not recognize Black faces any better than before**
  → initial idea was not confirmed

- Several methodological limitations may have contributed to these null findings:
  - sample consists of mainly female participants and psychology students → possible distortions in the effect
  - power analysis showed a required sample size of 20 participants in order to detect an effect of d=0.66. Due to dropouts and data loss, we only have complete data from 12participants → the effect would have to be very large to be detected.
  - diversity of the influencers' content: participants followed different influencers, which also created different content. Some of them posted more videos, some more photos → might have influenced intensity of the PSI
  - personal preference of theme-specific content could have affected the PSI intensity
  - possible similarity between the influencers due to posed photos, makeup or surgically made faces
    → may have reduced structural variability, making recognition difficult even with repeated exposure
  - training phase of two weeks might have been too short for the participants to establish a PSR with the influencers

Ⓟ **Future studies should consider duration, intensity and quality of the PSI as well as a larger and more diverse sample size.**