

Examining Cognitive-Affective Reactivity to Racial Stigma:

Implications for Risk Behavior

M Pease, Audrey Birgin, Kate Quiroga, Natalie Reardon,
Alyson Leininger, Kara Davis

Faculty Mentors: Cristina Risco and Edward Bernat



UNIVERSITY OF
MARYLAND



FIRE: THE FIRST-YEAR
INNOVATION & RESEARCH
EXPERIENCE
ADDICTION SCIENCE

Racial stigma increases cognitive-affective reactivity to threat stimuli, potentially increasing stress response and vulnerability to risk behavior.

Background

- Racial minority young adults experience **health disparities** especially relating to substance use
- **Stigma-stress-substance use pathway** suggests experiences of racial discrimination and stigma lead to negative affective responses, which increase one's susceptibility to health-relevant risk behavior (Derks & Scheepers, 2017)
- We examine African American young adults' **cognitive and affective responses** to visual stimuli before and after exposure to racial stigma cues

Objectives

- Establish preliminary validity for a novel cue-based paradigm for assessing cognitive-affective reactivity to racial stigma cues
- Analyze late positive potential (LPP) responses, hypothesizing LPP will be heightened after exposure to racial stigma cues, indicating greater cognitive-affective reactivity to threat stimuli

Methods

- 31 African American young adults $M_{age} = 21.75 \pm 2.56$
- Recruited from DMV area via online ads, flyers, & organization outreach
- Within-subjects electroencephalography (EEG)
- Negatively Valenced, Non-Stigma Cues- ~20 images depicting threat/mutilation from the **International Affective Picture System** (Cuthbert et al., 2000)
- Racial Stigma Cues- ~60 images (from the public domain) portraying various forms of racial stigma (e.g., negative stereotypes, racial epithets)

Discussion

- Heightened LPPs in response to negatively-valenced images can be explained by **heightened affective reactivity due to exposure to racial stigma cues**
- These stress patterns contribute to inequities in health extending into adulthood
- Greater attention to sociocultural determinants, psychological mechanisms, and other conditions that increase risk-taking vulnerability among African Americans young adults is needed
- **Public policy** should reflect the unique stressors and risk factors underlying racial health disparities

Results

Figure 1: Topographical maps and waveform comparing neural activity during threatening IAPS images pre- and post-exposure to racial stigma cues



- **Cognitive-affective reactivity to negative stimuli was heightened after viewing the racial stigma image set**
 - LPP after 300 milliseconds reflects emotional reactivity
 - Early Wave Central Electrode (CPZ) Wilcoxon Test: $z = -2.39, p = 0.017, r = -0.31$



Take a picture to download the full paper including references.

