Research Questions

- Do Black Americans suppress (negative) emotional expression more than White Americans?
- Is discrimination experience associated with suppression of emotional expression?
- Is suppression of emotional expression associated with cardiac health?

Method and Design

Midlife in the United States (MIDUS) MIDUS 2 (n = 271) and Refresher (n = 114) samples:

- N = 385, M_{age} = 53.33, (SD = 11.47), range_{age} = 26-84
- 130 (33.8%) Black Americans, 255 White Americans; 213 female, 172 male

Emotional Picture Viewing Task, see Figure 1

Corrugator EMG muscle activity, recorded during emotional picture viewing task

Systolic blood pressure, recorded day before emotional picture viewing task

Self-report picture valence and arousal, rated after picture viewing task

- N = 108, M_{age} = 48.83, (SD = 11.38), range_{age} = 26-76, 30.6% Black Americans
- Rated valence and arousal using 1-9 SAMs (Bradley & Lang, 2004)

Self-report expressive suppression, collected day before picture viewing task

- 2 items from the 4-item shortened ERQ (Ellis, Prather, Grené, & Ferrer, 2019)

Self-report Daily Discrimination, collected 0-61 months (M = 25.3) before other tasks

- N = 384, 9 items (Williams, Yu, Jackson, & Anderson, 1997)

Results

Figure 1: Emotional Picture Viewing Task

1s fixation

0.5s picture with border

3.5s picture no border

14-18s ITI

Task:

- 30 positive, 30 negative, 30 neutral IAPS images (Lang, Bradley, & Cuthbert, 2005)

Figure 5: Multigroup Mediated Moderation

Effect of Race: F(2, 798) = 6.30, p = 0.010

Figure 4: Valence Ratings by Valence and Race

Positive Images

Negative Images

Main Effect of Race: F(1, 106) = 5.14, p = 0.025

Figure 3: Corrugator EMG by Valence and Race

Main Effect of Race: F(2, 766) = 6.30, p = 0.010

Figure 2: Self-Reported Expressive Suppression by Race

Effect of Race: t(260.95) = 3.18, p = 0.002

Figure 6: Systolic BP by Negative Corrugator EMG Activity and Race

Analysis control for age, sex, antihypertension medication, BMI, and BMI by race interaction

Simple Slopes by Race

b_{White} = -0.34, (376) = 3.18, p = 0.731

b_{Black} = -0.72, (274) = 2.74, p = 0.006

Summary of Findings

- Black Americans report using expressive suppression more & express less negative emotions to unpleasant stimuli than White Americans
- Daily discrimination partially mediates the relationship between expressive suppression & negative expression (EMG) in Black Americans
- Expression of negative emotions measured with EMG is related to higher systolic blood pressure in Black Americans

Background

- Black Americans report suppressing the expression of (negative) emotions more than White Americans, potentially to cope with and avoid racial stressors (Wilson & Gentzler, 2021)
- Expressive suppression usually measured via self report, e.g. Emotion Regulation Questionnaire (ERQ) (Gross & John, 2003)
- Corrugator muscle activity measured via EMG, a physiological measure of negative emotion expression/suppression (Mohammed, Kosonoganov, & Lysusin, 2021)
- Expressive suppression may negatively impact cardiovascular health depending on cultural context (Butler, Lee, & Gross, 2009)

Method section

- Corrugator EMG, Suppression of Emotional Expression, and Daily Discrimination in Black and White Americans

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