

# Self-reported and Psychophysiological Differences in Negative Emotional Expression by Race

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## Background

- Black Americans may suppress expression of (negative) emotions compared to White Americans (Wilson & Gentzler, 2021)
  - Potentially adaptive reaction to cope with/avoid racial stressors
- Expressive suppression usually measured via self report, including the Emotion Regulation Questionnaire (ERQ) (Gross & John, 2003; 4-item version: Ellis, Prather, Grenen, & Ferrer, 2019)
- Corrugator muscle activity measured via EMG, an objective measure of negative emotion expression/suppression (Jackson, Malmstadt, Larson, & Davidson, 2000)

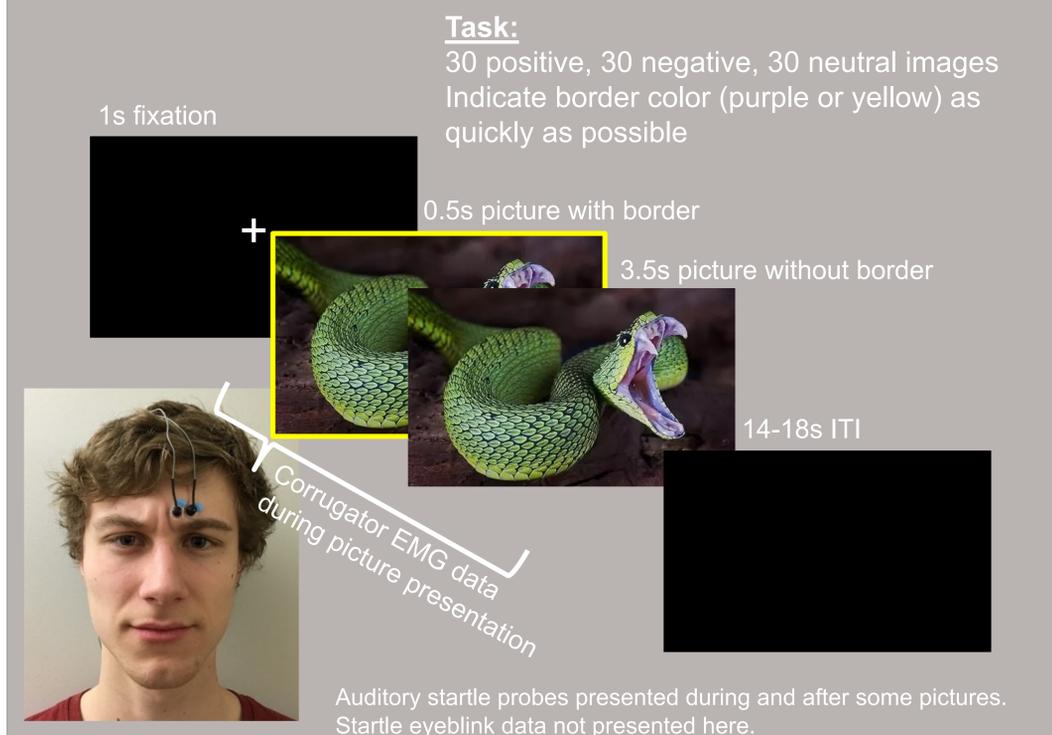
## Method

- Data from the Midlife in the United States (MIDUS) Neuroscience and Biomarker Projects, collapsed across MIDUS 2 ( $n = 271$ ) and MIDUS Refresher ( $n = 114$ ) data collection waves
  - $M_{age} = 53.33$ ,  $SD_{age} = 11.47$ ,  $range_{age} = 26-84$
  - 130 (33.8%) Black Americans, 255 White Americans
  - 213 female, 172 male
- Self-report measure of **expressive suppression** (Biomarker Project), 2 items, from 1 Strongly Disagree to 7 Strongly Agree (4-item shortened ERQ, Ellis, Prather, Grenen, & Ferrer, 2019)
  - "I keep my emotions to myself."
  - "When I am feeling negative emotions (such as sadness or anger), I make sure not to express them."
- Corrugator EMG muscle activity** (Neuroscience Project), recorded during emotional picture viewing task, see Figure 1
  - 30 positive, 30 negative, 30 neutral IAPS images
  - Baseline corrected data Z-scored within participant, averaged across 4s picture viewing

## Hypotheses

- Black Americans will self-report suppressing emotional expression more than White Americans
- Black Americans will display less corrugator muscle activity during negative images than White Americans
- Higher self-reported emotional suppression will be related to less corrugator muscle activity during negative images, particularly for Black Americans.

## Figure 1: Emotional Picture Viewing Task



## Results

Figure 2: Suppression by Race

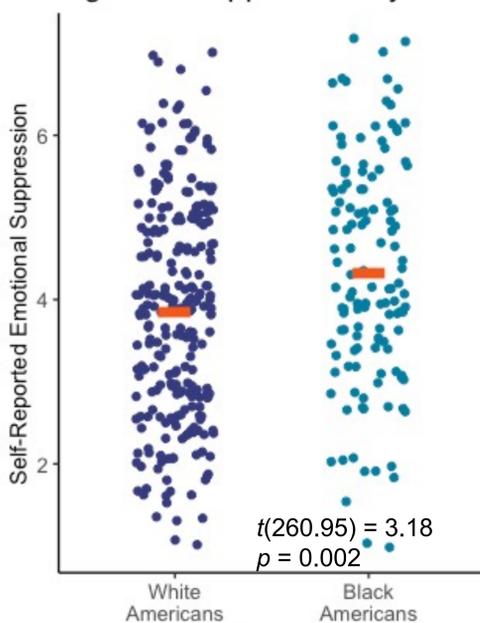


Figure 3: Corrugator EMG by Valence and Race

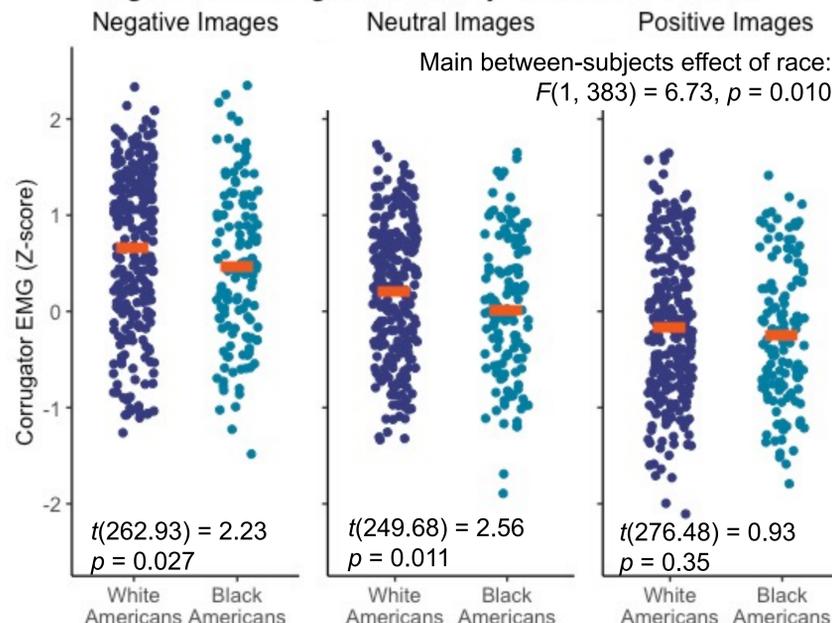
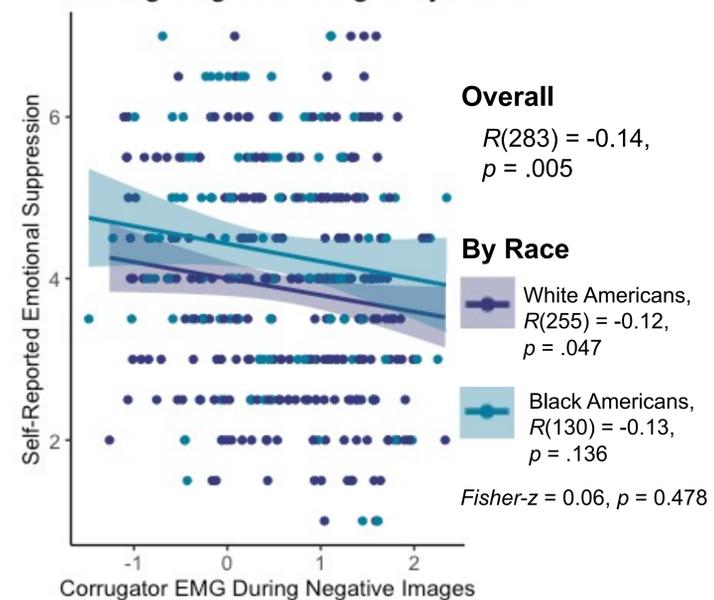


Figure 4: Suppression and Corrugator During Negative Images by Race



## Conclusions

- Black Americans self-reported using more emotional suppression than White Americans
- Black Americans had less corrugator activity during negative and neutral images than White Americans
- Individuals who report using emotional suppression more have less corrugator activity during negative images regardless of race
- Future work should look at self-reported emotional responses to emotional images in addition to facial EMG and self-report use of emotional suppression
- Highlights the importance of diverse samples in emotion research

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