INTRODUCTION

• We are interested in whether racial disparities in pain care and pain management (e.g., Anderson et al., 2009) in the US stem from a perceptual source (Mende-Siedlecki et al., in prep).

• However, prior to this project, there was a lack of stimuli representing facial expressions of physical pain.

• Other available stimuli sets are small, relatively low quality, and lacking in racial diversity and variability of expressions (e.g., Simon et al., 2008).

OTAINING THE STIMULI

• Stimuli were collected over 2 years at UD and NYU.

  • Participants (203 total; see below for demographics) received either course credit or $5 for their time.

Procedure:

• Participants posed neutral expressions, as well as various experiences of pain (e.g., heat pain, electric shock, etc.) at three levels of pain – a 2, 5, and 8 on a scale from 1 to 10.

• Photos taken 4 feet away in response to prompts; researchers took multiple images for each prompt using an iPhone 5S for the NYU set and a Nikon Coolpix l330 for the UD set.

DATABASE DEMOGRAPHICS

<table>
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<tr>
<th>Male Participants (N=95)</th>
<th>Female Participants (N=108)</th>
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- 21% White, 54% Asian, 8% Multiracial
- 35% White, 30% Asian, 16% Multiracial

NORMING THE STIMULI

• To be able to equate stimuli of different races and genders on dimensions relevant to pain perception, two groups of MTurkers rated all neutral and painful faces.

Neutral Faces:

• 252 participants (Age: Mean = 34.41, SD = 10.65; Female = 130) rated a randomized subset of 25 neutral faces (~30 ratings per face) on the following dimensions:

  - Demographic features (Perceived age, gender, race/ethnicity, racial prototypicality)

  - Social evaluations (Attractiveness, dominance, masculinity, femininity, intelligence, status, unusualness, strength, babylfacedness, competence, trustworthiness)

  - Emotional content (Sadness, disgust, surprise, threat, happiness, anger, fear, and physical pain)

  - The sequences of demographic and non-demographic blocks and of all questions inside of each block were counterbalanced.

Pain Expressions:

• 407 participants (Age: Mean = 35.75, SD = 11.16; Female = 223) rated a randomized subset of 30 emotional faces (~30 ratings per face) on the following dimensions:

  - Emotional content (Sadness, disgust, surprise, threat, happiness, anger, fear, and physical pain)

  - Believability of expressions

  - Rating order was randomized within each expression.

  - 82 decoy expressions of other emotions (happiness, sadness, fear, surprise) were intermixed with pain faces (~5 decoys per subject).

CURRENT & FUTURE DIRECTIONS

• Using the neutral and painful stimuli, we created morphs (Morpheus PhotoMorpher) which can be used in subsequent tasks designed to examine racial bias in pain perception.

  - 100% neutral
  - 75% neutral, 25% pain
  - 50% neutral, 50% pain
  - 25% neutral, 75% pain
  - 100% pain

• Specifically, we can test whether the threshold for perceiving pain on a face varies as a function of race.

• In an initial pilot, 77 White UD participants viewed sets of Black & White morphs (8 sets each; 11 morphs per set) and rated the pain intensity of each morph on a 1 (“definitely not in pain”) to 7 (“definitely in pain”) scale.

• Results suggest that White perceivers show more conservative thresholds for pain on Black faces, compared to White faces

Race Shifts the Threshold for Pain Perception

(N = 77)

- These stimuli can be altered further to manipulate other psychological constructs relevant to pain perception.

  - For example, we’re currently developing follow-up studies that manipulate status, individuation, and social group membership.
