Introduction

Prior research suggests that Native American experience higher rates of chronic pain than potential confounders, and other racial and ethnic groups. The current study was conducted to understand the mechanisms contributing to this pain disparity. Results of our pilot study suggests that Native American populations may experience increased rates of chronic pain.

To examine the mechanisms by which Native American populations may experience improved upon our pilot work by assessing pain processing in a larger sample of Native American and non-Native American participants.

Objective

To assess the mechanisms of pain disparity in Native Americans.

Questionnaires:

- McGill Pain Questionnaire—Brief Form
  - This scale was administered to assess sensory and affective reactions to stimuli.
  - Participants completed the McGill Pain Questionnaire—Brief Form section of the survey.
  - The McGill Pain Questionnaire—Brief Form report measures how it is used to describe the quality of pain.

- Pain Catastrophizing Scale (Situation Specific)
  - This scale was altered to assess situation-specific pain catastrophizing in individuals in each of the four categories of catastrophizing.
  - The scale consists of 13 items, with a rating of 0 (not at all) to 7 (very much).

- Pain Anxiety Inventory
  - This scale assesses the degree of participant anxiousness in response to painful stimuli.
  - Participants rate their anxiety on a scale of 0 (not at all) to 10 (very much).

- Catastrophizing Scale
  - This item measures whether a particular experimental pain stimulus makes participants feel injured.
  - Participants complete the Catastrophizing Scale, which assesses catastrophic thinking.

Methods: Heat Pain Testing

- Thermal Probe
  - Participants were tested on their left finger with a thermal probe.
  - The probe was set to a temperature of 32°C, which is the maximum tolerable temperature.
  - Participants were instructed to rate their pain intensity on a scale of 0 (no pain) to 100 (worst possible pain).

- Cold Pain Tolerance
  - Participants were tested on their left hand using a cold pressor test.
  - The probe was set to a temperature of -5°C, and participants were instructed to rate their pain intensity on a scale of 0 (no pain) to 100 (worst possible pain).

- Ischemia Pain Tolerance
  - Participants were tested on their left hand using an ischemia pain test.
  - The probe was set to a pressure of 50 mmHg, and participants were instructed to rate their pain intensity on a scale of 0 (no pain) to 100 (worst possible pain).

Data Analysis/Results

- Results
  - Participants were compared to non-Native American (NHW) participants.
  - Results were analyzed using the following statistical tests:
    - ANOVA
    - Tukey's HSD
    - Chi-square

- Conclusion
  - While NHAs reported lower cold pain tolerance, this group also reported greater anxiety, affective, pain-related anxiety, and catastrophic thinking.
  - Potential for anxiety and catastrophic thinking to amplify pain,

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