Is a history of interpersonal violence associated with emotional modulation of pain?

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Introduction
Many chronic pain states are associated with a history of trauma, however the current understanding of this relationship is limited. A higher number of adverse events experienced in childhood is associated with greater chronic pain severity in later life, and previous findings suggest that survivors of interpersonal violence (IPV; instances of physical or sexual assault) exhibit altered pain processing in response to laboratory pain tasks. Specifically, trauma exposure is associated with altered thresholds of the nociceptive flexion reflex, a physiologic measure of spinal pain processing in which the leg reflexively withdraws from a painful stimulus. Further, chronic pain is associated with lower NFR thresholds. Given that pain is influenced by emotional procedures (e.g., negative emotions enhance pain, pleasant emotions inhibit pain), trauma exposure, specifically interpersonal violence could amplify pain via emotion. The presented results are preliminary findings, as data collection is still ongoing.

Objective
To determine whether a history of interpersonal violence is related to the effectiveness of emotional modulation of pain.

Participants
- Healthy, pain-free men and women N= 145
- Characteristics: Females = 49.2%, Average Age = 29.3 yrs, White/Caucasian non-Hispanic = 36.4%, Married = 14.6%, College graduate= 20.9%, and Employed full time = 22.4%
- Exclusion criteria:
  - < 18 years of age
  - BMI > 35
  - Current acute illness or chronic pain condition
  - Cardiovascular, neurological, and/or circulatory problems
  - Recent use of analgesic, antidepressant, anxiolytic, antihypertensive medications

Methods: Emotional Controls of Nociception (ECON)
- Overview, Informed Consent & Eligibility Determination (Health Status Screening)
  - part of a larger study with additional tests or something
  - Test order was pseudorandomized
  - Informed consent was obtained
- Life Events Checklist Administered
  - Self-report measure that indicated the number of traumatic events an individual has experienced in their lifetime
- Sensor Applied
- Emotional Controls of Nociception Paradigm (ECON) was administered among additional experimental pain procedures
  - Participants received electrocutaneous stimulations (at intensity which elicited the NFR) during and in between viewing:
    - Unpleasant Pictures (e.g., injured bodies)
    - Neutral Pictures (e.g., household objects)
    - Pleasant Pictures (e.g., couples engaging in sexual acts)

Results
Both groups modulated pain similarly (p < .001)
This finding suggests that relative to neutral photos, unpleasant pictures appeared to enhance pain, while pleasant pictures appeared to inhibit pain

Conclusions
- Although findings from the present analyses suggest that a history of IPV does not influence emotional modulation of pain, the IPV group consistently rated stimuli as more painful than the no IPV group.
- These findings suggest survivors of IPV may be hypersensitive to painful stimuli, however this effect is not due to altered emotional pain.

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