Pain catastrophizing is associated with threat-enhanced pain in women

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Introduction

Catastrophizing is related to pain perception but not spinal nociception (as assessed by the nociceptive flexion reflex; NFR). This implies catastrophizing enhances pain at the brain level not the spinal level. Furthermore, catastrophizing may explain some sex differences in pain given evidence that women engage in more catastrophic thoughts. The present study extended this work and examined the relationship between catastrophizing and pain outcomes (pain, NFR) during a threat paradigm.

Methods: Pain Outcomes

Threat Paradigm

- Abdominal shock was given 22.5 s after onset of 10% of danger to evoke threat
- Abdominal shock was given 22.5 s after onset of 50% of danger to evoke threat
- NFR and pain were measured in response to ankle stimulations during every period, 9-21, following period onset

Results: Associations between Catastrophizing and Threat-enhanced NFR

- There was no significant relationship between situation-specific catastrophizing and a threat-enhanced NFR in men or women.

Results: The Effects of Threat on Pain and NFR

- Threat significantly enhanced pain and NFR in both men and women

Results: Associations between Catastrophizing and Threat-enhanced Pain

- There was a significant interaction between sex and SS catastrophizing in the prediction of threat-enhanced pain intensity. A significant relationship was only seen in women.
- Trait catastrophizing was unrelated to pain intensity in either sex.

Conclusions

- These results provide further support that catastrophizing does not enhance pain processing at the spinal level (as assessed from NFR).
- This extends prior studies to show catastrophizing may have a sex-dependent effect on pain enhanced by threatening contexts.