

5-2024

An Exploratory Study Investigating the Potential Application of Coping Strategies for Pain Used by Athletes and Their Potential Application to Patients Dealing with Chronic Pain

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Recommended Citation

Harrington, BS, Joseph D.; Manning, PhD, MD, MPH, Erika L.; and Diecidue, DMD, MD, MBA, MSPH, Robert J., "An Exploratory Study Investigating the Potential Application of Coping Strategies for Pain Used by Athletes and Their Potential Application to Patients Dealing with Chronic Pain" (2024). *Department of Oral and Maxillofacial Surgery Posters*. 3.

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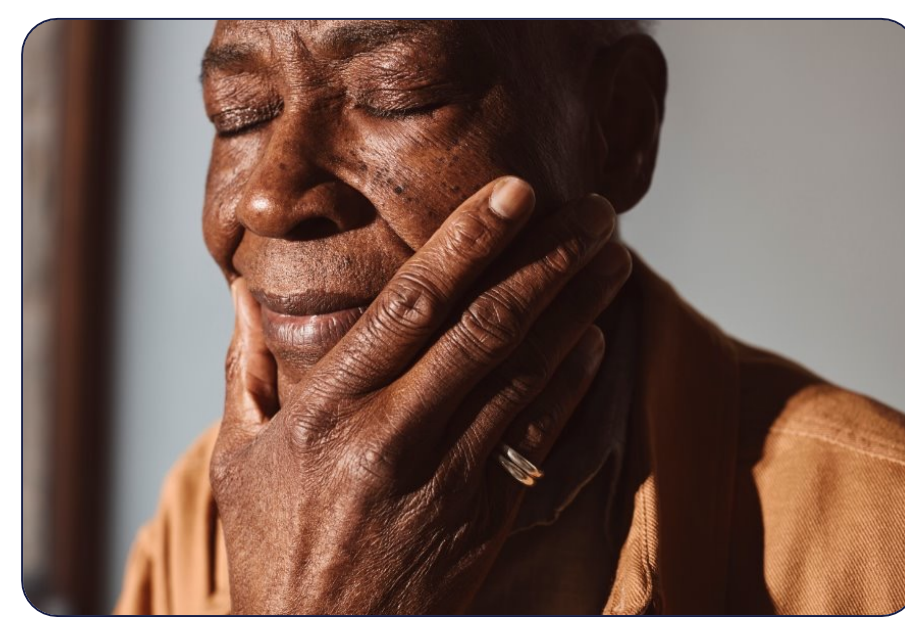
Abstract

- High-level athletes often have elevated tolerance for experimental pain methods.¹
- Research has not focused on the specific mechanisms behind this.
- The current study was designed to assess the potential role of coping strategies in this elevated pain tolerance - Phase 2 will examine if they can be taught to chronic orofacial pain patients.
- During Phase 1, the Coping Strategies Questionnaire² was modified for athletes and was distributed to 50 athletes to assess how athletes dealt with pain.
- In comparison to TMD patients, more of the athletes reported that they chose to ignore or reinterpret the pain, or increase behavioral activities. Athletes do not appear to catastrophize as much as TMD patients.³



Introduction

- Pain tolerance refers to the maximum amount of pain that one can endure.
- Studies have shown that athletes have greater pain tolerance than pain patients.¹
- This may be due to regular exposure and conditioning to intense levels of pain that must be overcome for training.¹
- It is thought that during this training, athletes employ unique and potentially more effective ways of psychological coping.⁴
- The authors predicted that athletes would tend to employ different methods to cope with their pain than chronic pain patients.
- If differing strategies can be identified, the goal would involve examining whether these can be taught to pain patients to more effectively deal with their pain.



Methods

Materials

- Athletically tailored version of the Coping Strategies Questionnaire,² (83 questions).

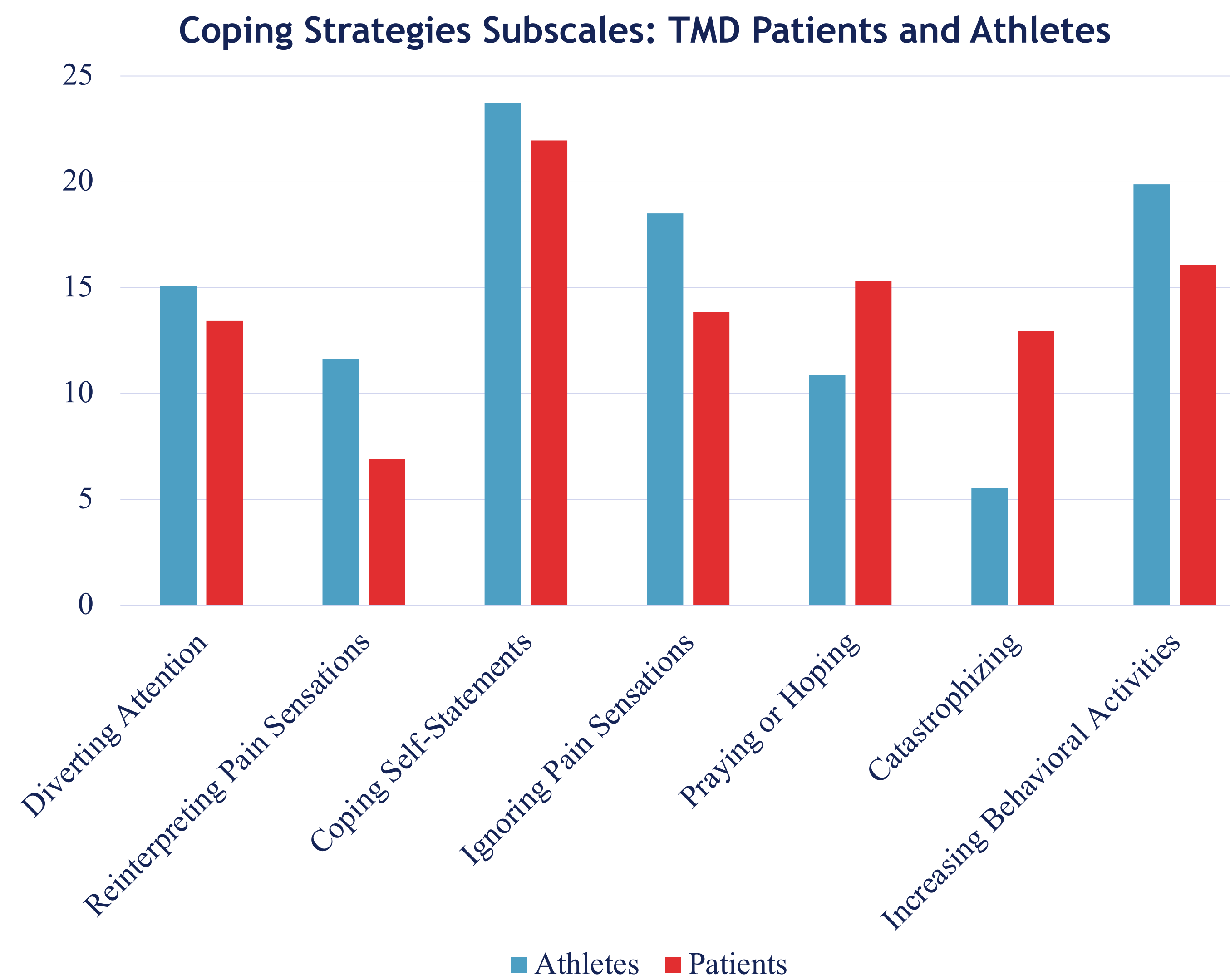
Participants

- 50 participants from a local Philadelphia CrossFit gym
 - Had to exercise ≥ 5 days a week and participate in CrossFit for a minimum of 2 years.
- Control group data from a previous study of 39 TMD patients³

Procedure

- Following informed consent, participants received a questionnaire link. Numerical data was created where possible (numerical ratings, number of times a specific issue was discussed). Free response data were analyzed for major themes.
- The athletes' CSQ data was then compared to data from a cohort of TMD patients to assess for uniqueness between groups.³

Results



Coping Strategies with Higher Ratings for Athletes (Median > 4 on 6 point Likert Scale)

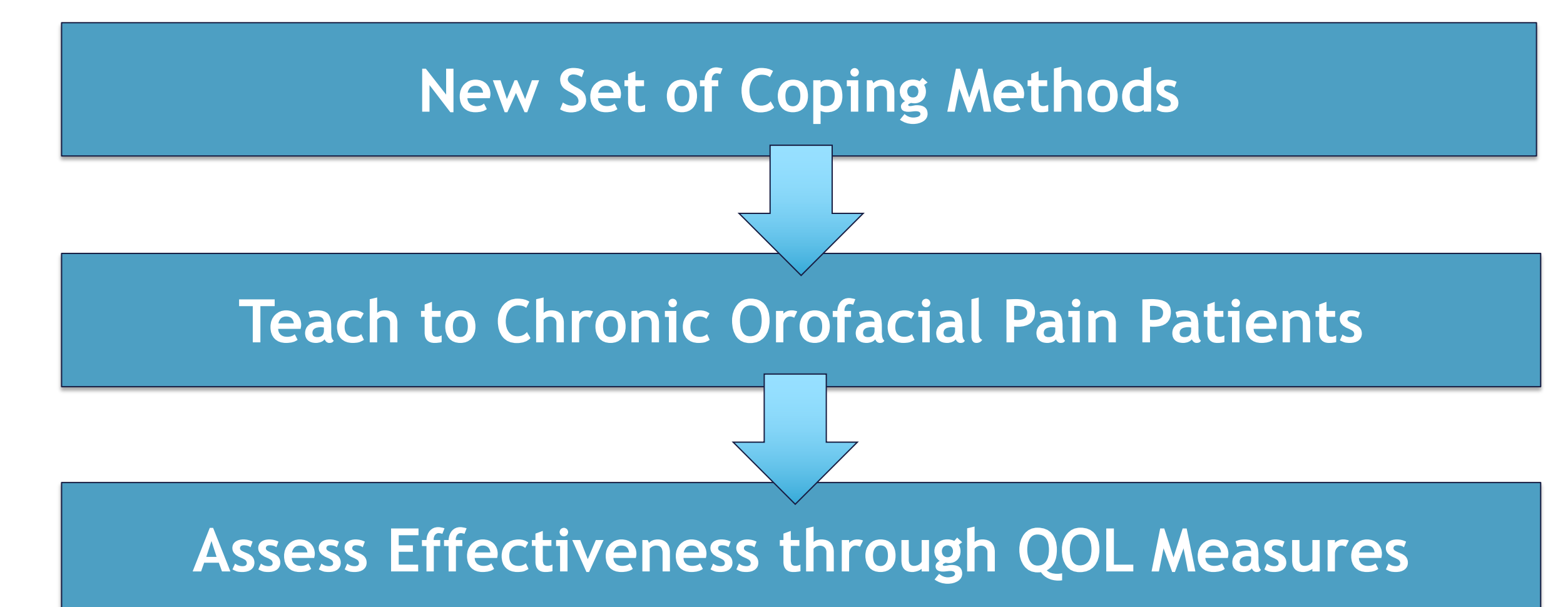
- I focus on the end of the game or training session, to be able to push through the pain.
- I compete with myself.
- I try to distract myself from the pain.
- I set a goal of getting through the training session or the game, then I can deal with the pain.
- I focus on the things that I can change.
- I trust in my coaches and athletic trainers that they will let me know if I need to stop.
- I listen to music.
- I stretch.
- I massage the area that is hurting.
- I practice deep breathing.
- I try to address issues of nutrition.
- I try to address issues of hydration.
- I try to rest/relax.
- I try to sleep.
- I use physical therapy exercises.
- I use humor/laughter.



Conclusions

- Certain strategy themes appeared more frequently for athletes than patients, such as reinterpreting the pain ($t(87) = 2.58, p = 0.011$), ignoring pain sensations ($t(87) = 2.83, p = 0.006$) or increasing behavioral activities ($t(87) = 2.31, p = 0.02$).
 - This may hint at more effective strategies.
- The use of praying or hoping was much greater for TMD patients than for athletes ($t(87) = -2.61, p = 0.01$) as well as much less use of catastrophizing for athletes compared to TMD patients ($t(87) = -4.22, p = 0.00006$).
 - Possibly showing sub-optimal coping methods.
- Further research should also be conducted to determine if there is a physiological basis to the differences in pain coping abilities between these groups, such as if this can be attributed to differences in endogenous opiates.

Next Steps: Phase 2



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