

No Pain, No Empathy?

A systematic review on the effects of (psycho)pharmacological pain modulation on social emotions and behavior

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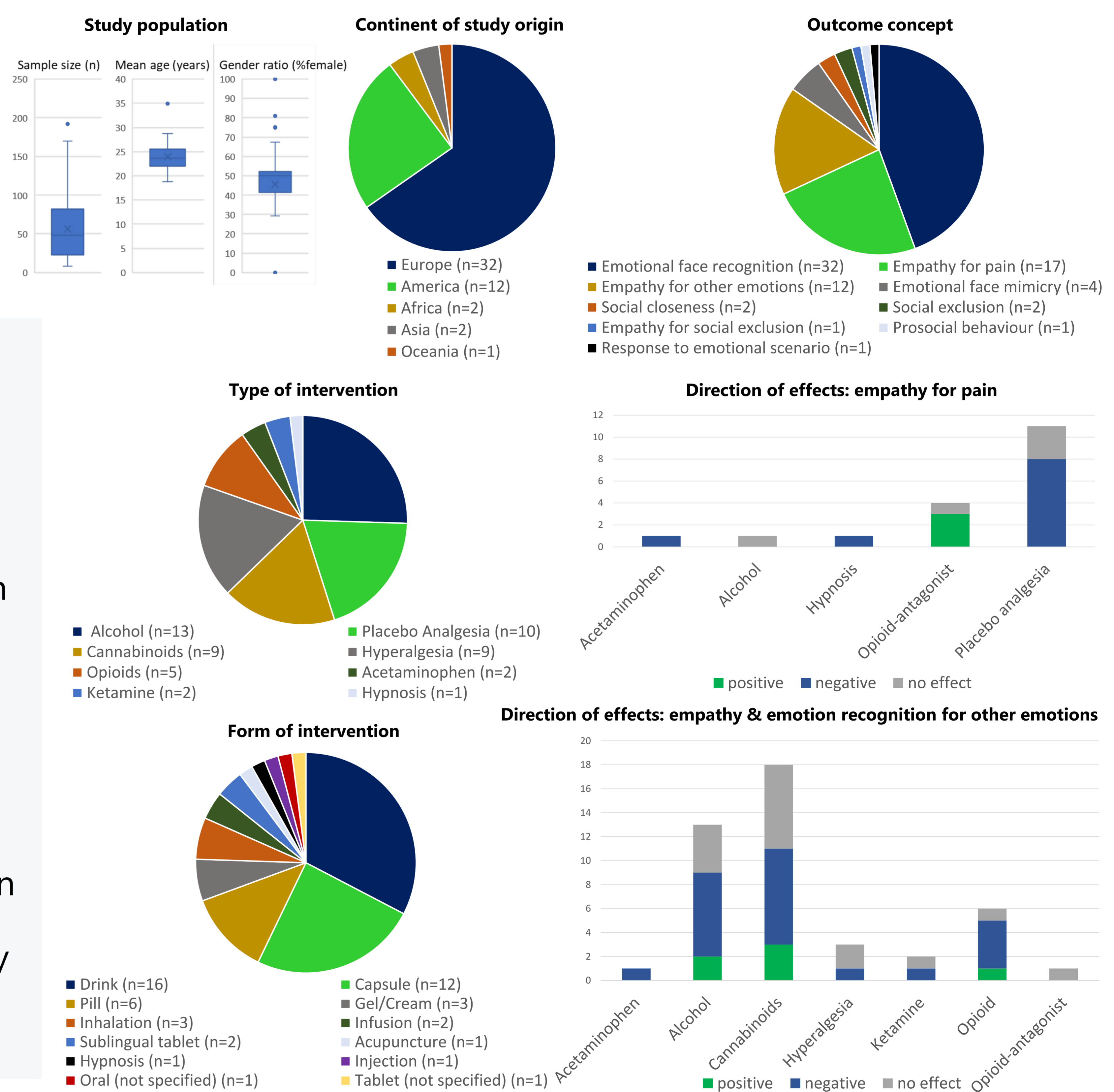
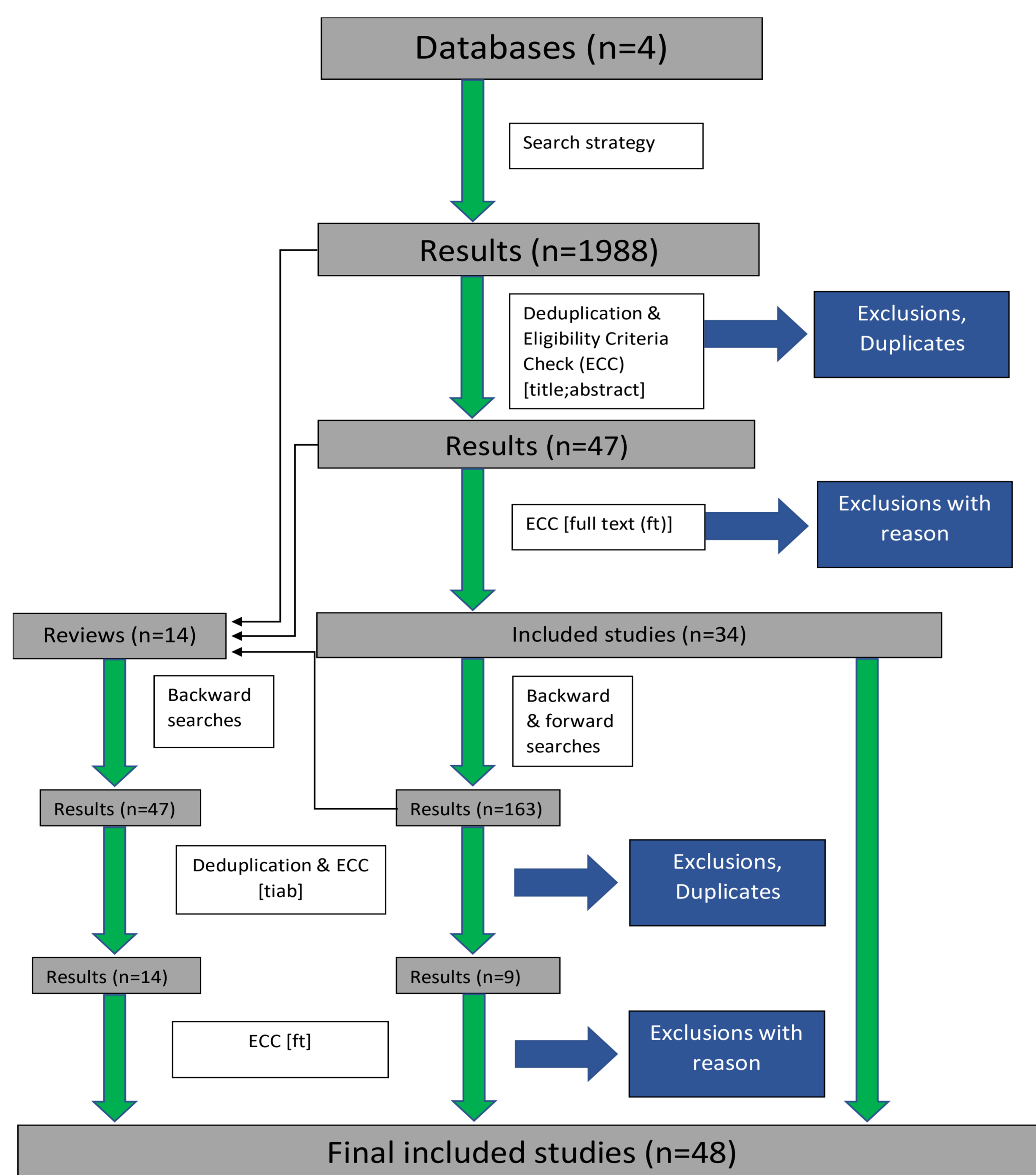
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Introduction

- The theory of shared representations suggests similar neural mechanisms during the experience of first-hand pain and empathy for pain^{1,2}, but evidence so far is scattered and selective to specific outcomes.
- How does a manipulation of one's own pain perception affect our abilities to perceive and react to pain in others?
- Hypothesis: A manipulation of one's own pain perception results in a modulation of empathy for pain and following this affecting prosocial behaviour.

Material & Methods³

- Databases: Scopus, Web of Science, Pubmed, and PsyArXiv
- Eligibility criteria⁴:
 - Population:** Healthy adults
 - Intervention:** Direct, established modulation of pain perception
 - Control:** Within- or between-subject control of no modulation
 - Outcome:** Assessment of ability to identify, process or react to emotions in other individuals
- Assessment of risks: Selection, Performance, Detection, Attrition, and Reporting Bias
- Narrative data synthesis: conclusions of study results, overview of given and lacking evidence, future research directions



Results

- Study population:
 - Mean sample size $n = 56.01$ (range = 8-192)
 - Mean age = 24 years (range = 18.8-34.98)
 - Mean gender ratio = 45,60% f
- Acetaminophen, placebo analgesia, hypnosis and opioid-antagonists show corresponding effects on first-hand pain and empathy for pain
- No evidence for such an effect of alcohol
- The opioid-system is likely to be involved
- Reduction of empathy for pain through analgesia and enhancement of empathy for pain through opioid-antagonists seem to rely mainly on the affective component of pain
- No evidence for a reduction of empathy for pain in a somatosensory-specific way
- Single study shows analgesia reducing prosociality
- No clear evidence for alteration of empathy for other emotions

Conclusion

Results are in line with the theory of shared representations. They show that pain-modulating substances and processes influence pain perception both in oneself and others. These findings support the thesis that one's own pain perception and empathy for pain rely on similar neural mechanisms.

References

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