Poster P170

Another's pain in my social brain: How does placebo analgesia affect decisions to exert effort to reduce another's pain?

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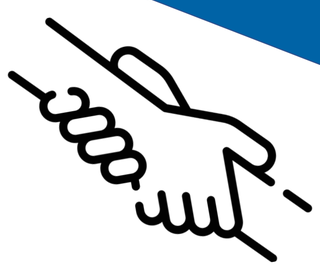
Introduction

- First-hand experience and empathy for pain rely on similar neural functions: shared representations account[1]
- Placebo analgesia reduces both one's own pain as well as empathy for pain[2-4]
- Empathy is positively correlated with prosocial behavior[5]
- Previous studies were mainly correlational and used trait measures or donation behavior[6]
- In everyday life, spontaneous prosocial acts require actual effort exerted in that exact moment in time[7]



Research Question

Does placebo analgesia affect decisions to exert physical effort to reduce another's pain?

Methods

Sample

- N = 90 (45 per group, 24 females each, mean age = 23.7 ± 3.6 years)
- No group differences in trait empathy, prosocial behavior or clinical impairments
- No doubts about study setup or confederate

Individual pain and effort calibrations

Anonymous role assigment of participant and confederate: „Decider" and „Receiver" of pain

Group 1
Placebo induction („analgetic" pill + conditioning procedure)

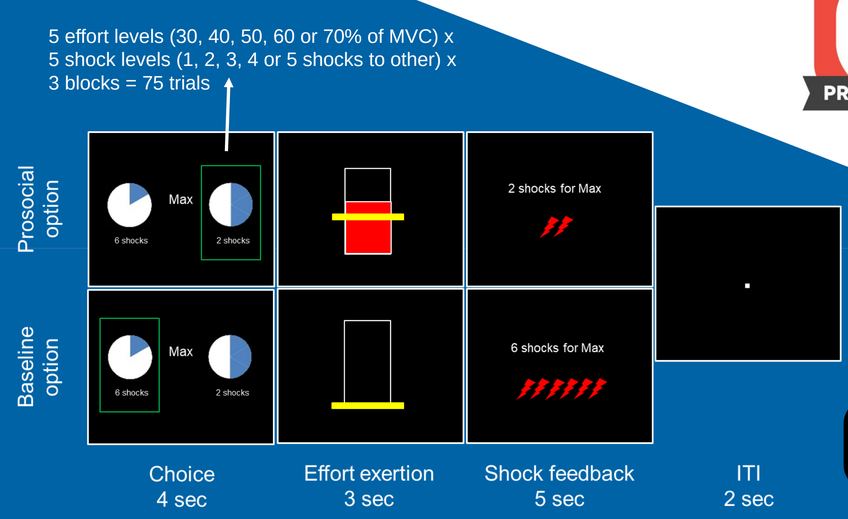
Group 2
Control (no pill + equal waiting time)

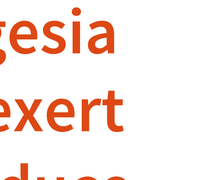
Placebo analgesia induction

2 targets (self, other) x
2 intensities (pain, no pain) x
5 trials per condition = 20 trials

Prosocial effort task

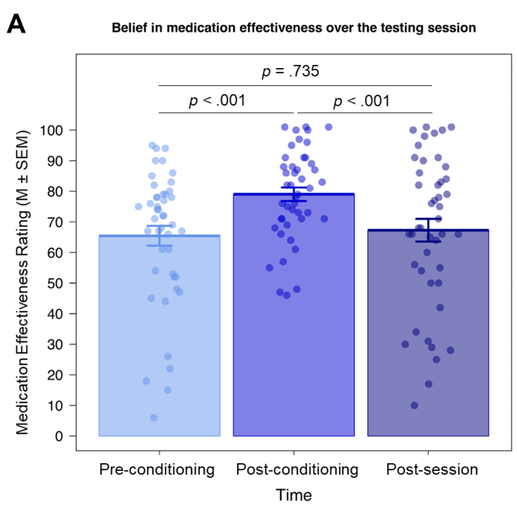
5 effort levels (30, 40, 50, 60 or 70% of MVC) x
5 shock levels (1, 2, 3, 4 or 5 shocks to other) x
3 blocks = 75 trials

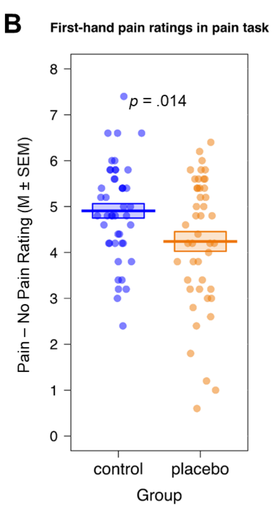




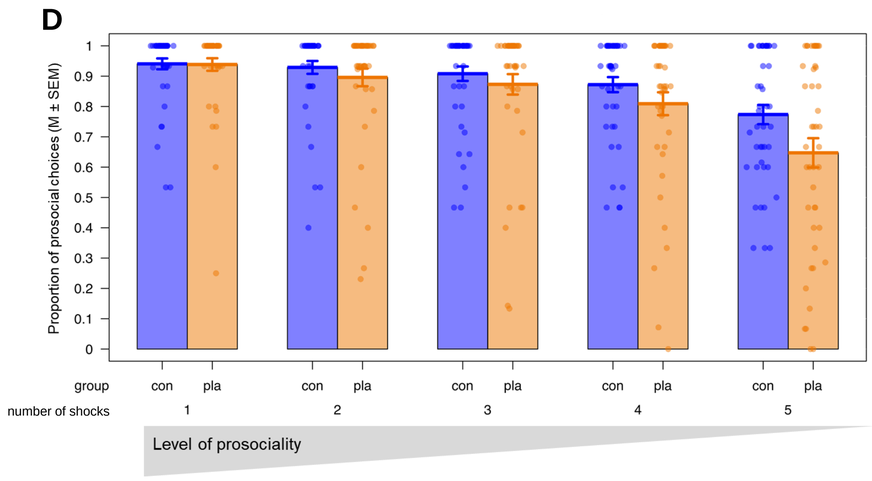
Results

Significant first-hand placebo analgesia effect





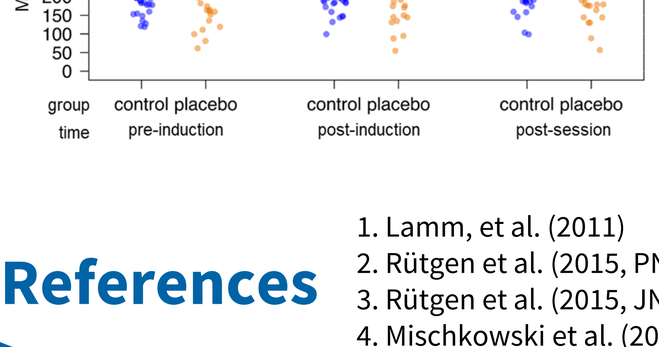
Placebo group displays reduced prosocial behavior when being able to help less

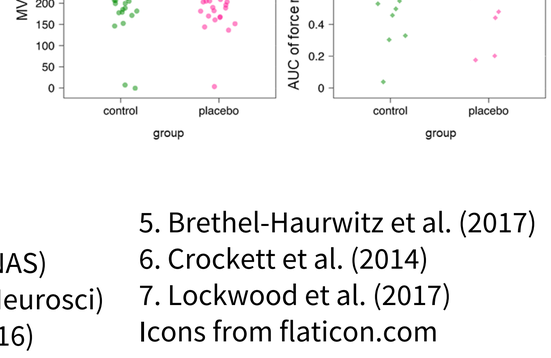


First-hand and empathy for pain task

No transfer of placebo effect to empathy for pain

No effect of placebo on general motivation to exert effort or to gain money for oneself





Conclusion

Specific effects of placebo analgesia on prosocial decisions dependent on the level of possible helping

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FWF Der Wissenschaftsfonds.

WWTF

OSF

Preregistration:
osf.io/g3acp

References

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2. Rütgen et al. (2015, PNAS)
3. Rütgen et al. (2015, JNeurosci)
4. Mischkowski et al. (2016)
5. Brethel-Haurwitz et al. (2017)
6. Crockett et al. (2014)
7. Lockwood et al. (2017)

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