



INVESTIGATING NOCICEPTIVE NEURAL RESPONSES UNDER FOCUSED HYPNOANALGESIA: LOCAL AND REMOTE EFFECTS

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BACKGROUND AND AIM

Hypnoanalgesia refers to pain reduction using hypnotic suggestions. Among the different techniques, focused hypnoanalgesia (FHA) has attracted recent interest. Corresponding to the selective modulation of pain by inducing analgesia on a restricted body part [1], it is among other things used for wound care and surgical procedures. However, the underlying mechanisms are still unclear. The aim of this study is to investigate whether FHA can selectively modulate cortical responses to nociceptive stimuli originating from one body limb without affecting those from another limb.

METHODS

Stimuli:

- Contact heat nociceptive stimuli, 62°C
- Randomly applied between the arms

Participants:

- 28 healthy volunteers: 5 low, 18 medium & 6 high hypnotizable (Elkins hypnotizability scale, EHS) [2]

Measures:

- Amplitude of contact heat evoked-potentials (CHEPs)
- Perceived intensity (numerical rating scale): 0 = no sensation, 100 = most intense sensation imaginable

Procedure:

- 3 time points: Before, During & After FHA
- 2 arms: Protected & unprotected
- 40 stimuli / arm / time point

Analyses:

- 40 stimuli/arm/time point divided into quarters (10 stim) analyzed separately
- 3*2 ANOVA's for repeated measures (time*arm) on perceived intensity & CHEPs

Pre-experiment

EEG set up

Experimental phase

BEFORE: 40 stimuli, 5' break, 40 stimuli

Start of FHA

DURING: 40 stimuli, 5' break, 40 stimuli

End of FHA

AFTER: 40 stimuli, 5' break, 40 stimuli

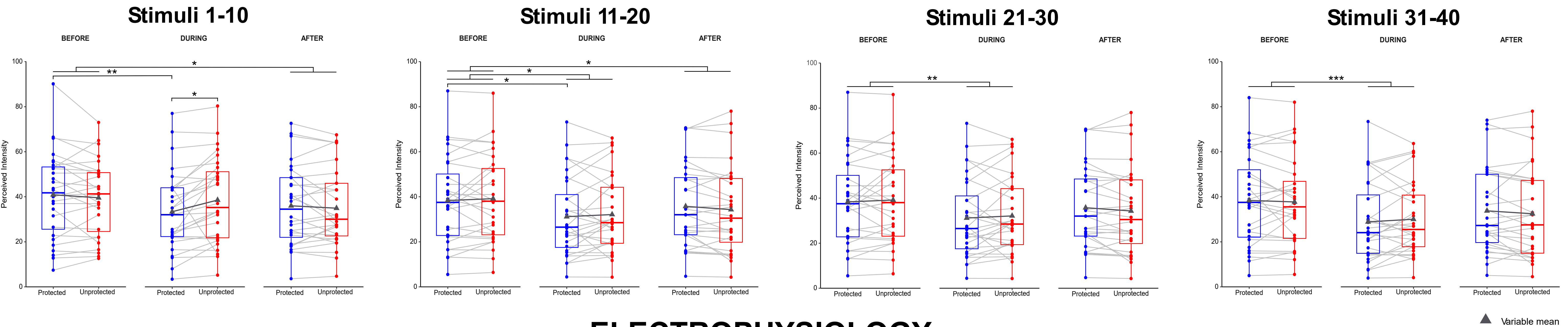
Post-experiment

EHS

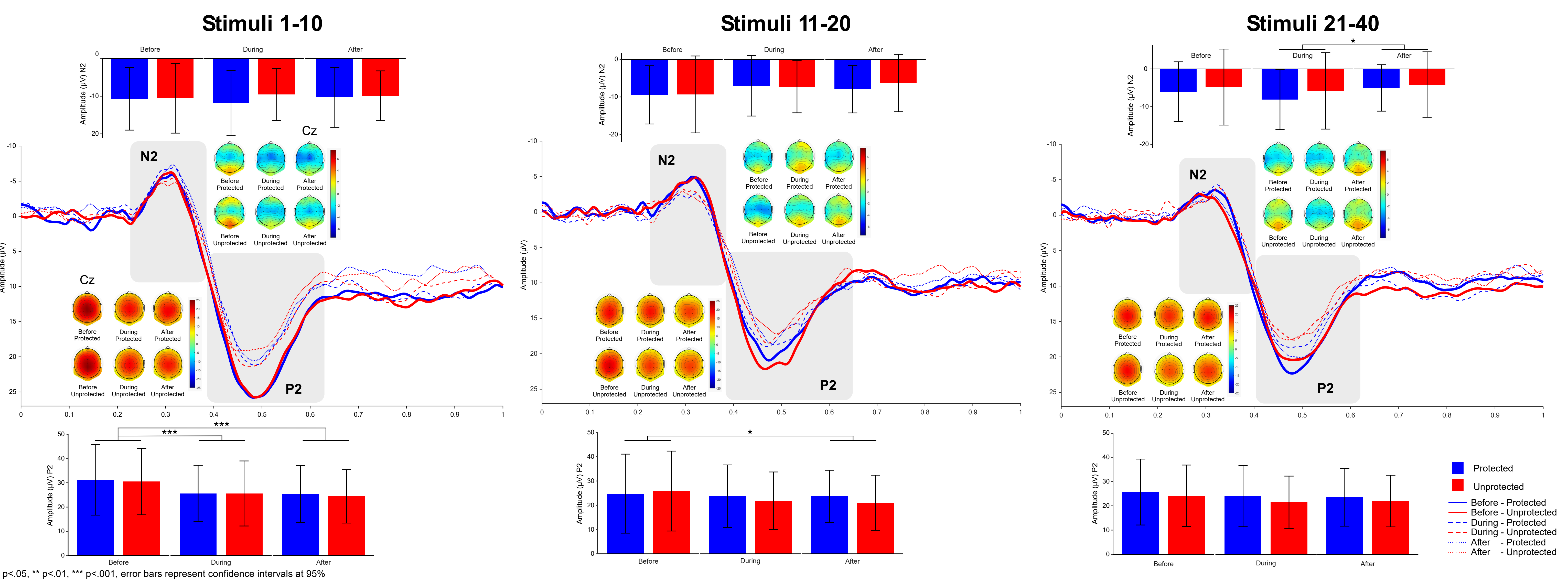
Debriefing

RESULTS

BEHAVIOURAL



ELECTROPHYSIOLOGY



CONCLUSION

The selective effect of FHA on intensity perception appears to be short-lived, diminishing with stimuli repetition. This transient nature may reflect either the inherently short duration of the effect or a generalization of the analgesic response across the body. Electrophysiological data did not match the behavioural modulation, suggesting that the selective changes in perception observed at the behavioural level are not captured at the electrophysiological one.

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REFERENCES

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[2] Elkins GR, Johnson AK, Johnson AJ, Sliwinski J. Factor Analysis of the Elkins Hypnotizability Scale. International Journal of Clinical and Experimental Hypnosis 2015;63:335-345.

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