

# Interoception as a function of hypnotizability during rest and a heartbeat counting task

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## Abstract

Interoception is mainly related to morpho-functional characteristics of the insula, which shows hypnotizability-related differences in grey matter volume. Interoceptive accuracy (IA, measured by the heartbeat counting task and by HEP, heartbeat evoked cortical potential) is lower in high (highs) than in low hypnotizables (lows). The aim of the present study was to investigate IA in highs, lows, and medium hypnotizables (mediums), who represent most of the population (according to the Stanford Hypnotic Susceptibility Scale (SHSS), Form A), during a session including a simple relaxation (Part 1) and three trials of consecutive open eyes, closed eyes, heartbeat counting and post-counting conditions (Part 2). ECG and EEG were recorded in 14 highs, 14 mediums and 18 lows. HEP were extracted throughout the entire session and IA index was obtained for the heartbeat counting task. In Part 1, significant hypnotizability-related differences were observed in the right central region in both early and late HEP components, with lows showing positive and highs/mediums negative HEP amplitudes. In Part 2, the same group differences were limited to the early HEP component. Moreover, in the left frontal regions, only mediums modified their HEP during the counting task with respect to the open/closed eyes conditions, whereas highs displayed HEP differences between counting and post-counting rest. In conclusion, highs and mediums seem to be more similar than mediums and lows regarding HEP, despite the absence of differences in the counting task. Nonetheless, a negative correlation between SHSS scores and HEP amplitudes was observed in the regions showing group differences.

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