

HYPNOTIC SUGGESTIONS AND THE STROOP TEST: NEUROCOGNITIVE MECHANISMS OF THE MORE ACCURATE PERFORMANCE IN HYPNOSIS.

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Background: Compelling literature has suggested the possibility of adopting hypnotic suggestions to override the Stroop interference effect. However, most of these studies mainly reported behavioral data and were conducted on highly hypnotizable individuals. Thus, the question of the neural locus of the effects and their generalizability remains open.

Method: In the present study, we recorded the ERP activity during the Stroop task in a within-subject design to test the neurocognitive effects of two hypnotic suggestions: the perceptual request to focus only on the central letter of the words and the semantic request to observe meaningless symbols.

Results: Behavioral results indicated that the two types of suggestions favored more accurate performance compared to the control condition. As for the neurophysiological results, both types of suggestions increased sensory awareness and reduced discriminative visual attention, but the perceptual request selectively engaged more executive control of the prefrontal cortex (PFC), and the semantic request selectively suppressed the temporal cortex activity devoted to graphemic analysis of the words.

Conclusions: The present findings demonstrated that the perceptual and the semantic hypnotic suggestions reduced Stroop errors through common and specific top-down modulations of different neurocognitive processes. Finally, as most of the present subjects expressed a medium level of hypnotizability, the present data might be considered potentially representative of the majority of the population.

Keywords: Hypnosis, Hypnotizability, Stroop, EEG, ERP

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