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## HYPNOTIC SUGGESTION AND PATTERNS OF WHOLE-BRAIN DYNAMICS

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**Background:** While much has been learned about the neural systems involved in responses to hypnosis, a shared mechanism of action across different types of suggestions has not yet emerged and a wider integrating framework remains to be identified.

**Aims:** To map changes in EEG functional connectivity in response to two major types of hypnotic suggestion, in an effort to clarify the specific modulations of neural dynamics related to each one. The original scope of this project has been expanded to investigate the potential occurrence of anomalous anticipatory physiological activity to randomly-presented stimuli.

**Method:** EEG (64-channels), saccadic eye movements and behavioural responses are recorded during a hypnotic induction while the following two procedures are presented. *Amnesia:* A suggestion for amnesia is given and then removed, during a New/Old face-recognition task. *Cognitive-perceptual:* A suggestion for hemianopsia is given and then removed, during an eye movement task towards targets randomly presented to left or right visual fields. The hypothesis of anticipatory physiological activity will be tested by comparing EEG activity related to the emotional valence of presented faces (happy/sad/neutral), and to saccadic responses to L/R visual field stimuli, during the pre-stimulus period. Adopting the above paradigms whose psychological, behavioural and neurophysiological aspects to ordinary responses have been very well studied, may help improve our understanding of how hypnotic suggestions exert their effects, and to closer examine apparent temporal anomalies in physiological responses.

**Preliminary results:** 1113 volunteers have been screened using the Harvard Group Scale of Hypnotic Susceptibility (A), and those who scored  $\geq 9$  (high susceptibility) or  $\leq 3$  (low susceptibility), were re-tested individually using the Stanford Hypnotic Susceptibility Scale (C). 93 individuals who scored either  $\geq 9$  or  $\leq 3$  in both scales were recruited in the experiment. Data collection has been delayed due to the addition of the pre-stimulus physiological activity question, which required changes to the experimental paradigm and procedure and for these along with hypotheses and analysis methods to be pre-registered in an open archive.

**Keywords:** Hypnosis, EEG, saccades, anticipatory physiological activity

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