

HYPNOTIZABILITY AND SPATIAL ATTENTIONAL FUNCTIONS

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INTRODUCTION

Hypnosis is known to modify many aspects of conscious experience. However, the neural mechanisms underlying the hypnotic phenomena and hypnotizability are not well understood.

In the recent research on experimental hypnosis the notion of attention as an integral, determining aspect of the hypnotic process has been largely pointed out. In particular, many theories of hypnotic responding proposed that differences in hypnotic trait rely on differences in frontal attentional functions (for a review cf. (32, 37)). One of the models mostly supported by experimental evidences is the neuropsychological model of hypnosis introduced by Gruzelier (18) and Crawford and Gruzelier (9). According to this model, highly hypnotizable individuals (Highs), due to their peculiar focused attention capabilities, would be engaged in the first stage of hypnotic induction by easily focusing their attention on hypnotist's voice/instructions. A general decrease of frontal functioning associated with the suspension of critical evaluation and reality testing would follow, defining/marketing the transition into the hypnotic state.

While there is large neurophysiological and behavioral evidence that supports the alteration of attentional functioning in hypnotized Highs (5, 14, 17, 20, 21, 22, 27, 36), it is still controversial whether out of hypnosis Highs' anterior attentional system is more efficient than that of low hypnotizable individuals (Lows). In fact, although many of the experiments focused on those attentional functions – i.e. suppressing, concentrating and sustaining – that more frequently have been associated to hypnotic susceptibility and whose anatomical correlates have been fixed in the frontal areas (38), evidence of hypnotizability-related attentional abilities are still very scant (1, 10, 12, 13, 17, 23, 34).

The main purpose of the present study was to verify whether the hypothesized better focused attention characteristics of Highs could be highlighted in the spatial domain. We tested this idea on the Attention Network Test (ANT) (16), that consists of the combination of the classical cueing paradigm (28) and the flanker task (15), in which the ability to focus and select the relevant information among irrelevant distracters, strongly conditions the behavioral outcome. More specifically, ANT allows the independent analysis of the alerting, orienting and executive control components of the spatial attention through measure of specific reaction times.

