

Effects of hypnotizability on EEG and autonomic concomitants of imagery and emotion production

Results:

19 high (H), 12 medium (M) and 12 low (L) hypnotizable subjects participated in 2 experimental sessions - hypnotic (HS) and waking (WS). EEG (19 sites), heart rate (HR) and skin conduction changes (SC) were recorded during the eyes-closed baseline condition, hypnotic relaxation, and recollection of emotionally neutral, positive and negative past events. EEG spectral analysis was applied.

Subjective scores of image vividness and emotion intensity were significantly higher in H subjects compared to L ones. Distinct increase of HR and SC was observed during the recollection of past events depending on emotional load compared to baseline in the group H both in HS and WS. HR and SC changed insignificantly in the group L. The study showed the stable and significant EEG differences between three groups in all functional conditions, including baseline. Three main EEG features distinguished group H from both other groups - increased spectral power (SP) of theta1 and theta2 bands and significantly higher coherence (Coh) within theta1, theta2, and alpha1 bands; SP and Coh within beta2 and gamma1 ranges were lower in H subjects compared to L ones. These differences were generalized. Greater SP and Coh during HS as compared to WS were found within theta - alpha ranges only for H subjects. No clear SP differences between HS and WS and higher Coh in HS only within alpha range were revealed in L group. The reactive EEG changes during the image and emotional loads were revealed in all frequency ranges in H subjects. In L group SP changes were non-significant both at the low (delta - theta) and high (gamma2) frequency ends of the spectrum, and Coh changes didn't involve delta - theta ranges. All M subjects' scores were intermediate between H and L ones. At that, patterns of EEG changes were frequency as well as hemispheric-specific depending on emotional valence only in H subjects. Thus, the ability to experience the emotions and inner images with the close to real life intensity is H subjects' distinctive feature and is related to the high level of information processing.

Published Works:

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