

Imagery and emotion production during hypnosis: an electrophysiological approach

Results:

Thirteen high hypnotizable subjects participated in live hypnotic induction that included deep hypnotic relaxation, recollection of emotionally neutral, positive (P) and negative (N) past events. Eyes-closed waking state was considered as a baseline condition. Traditional spectral analysis of EEG (19 sites) was applied. Heart rate and skin conduction changes under hypnosis paralleled the anticipated increase of arousal level from relaxation to inner imagery and further to P and N emotion recollection, thus verifying the emotional experience. The observed decrease of ongoing EEG oscillations and coherence within all frequency bands under hypnosis session may reflect the specificity of hypnotic state as an altered state of consciousness. Mental imagery led to pronounced blockage of alpha oscillations over the posterior scalp area. The generalized increase of EEG spectral power (SP) was observed during emotional conditions. Delta and theta SP increase was more pronounced during N emotions, whereas alpha SP increase – during P emotions. Beta2 and gamma1 SP was higher at medial and right frontal, central and parietal sites during P emotions as compared to negative ones. Emotion-related patterns of coherence (COH) changes were frequency as well as hemispheric-specific depending on emotional valence. P emotions elicited more pronounced right-hemispheric COH increase within gamma bands. N emotions led to greater increase of left-hemispheric COH within theta, alpha3, and beta1 bands. EEG changes in waking control session had the same direction but were less pronounced than in hypnosis. The obtained results corroborate and extend the existing findings of the role of EEG rhythms in hypnotic state and emotion production.

Published work:

AnnaV. Kirenskaya, VladimirY. Novototsky-Vlasov, AndreyN. Chistyakov, VyacheslavM. Zvonikov. The Relationship Between Hypnotizability, Internal Imagery and Efficiency of Neurolinguistic Programming. *International Journal of Clinical and Experimental Hypnosis*, 2011- v. 59, N 2, p. 225-241.

AnnaV. Kirenskaya, VladimirY. Novototsky-Vlasov, VyacheslavM. Zvonikov. Waking EEG spectral power and coherence differences between high and low hypnotizable subjects. *International Journal of Clinical and Experimental Hypnosis*, 2011- v. 59, N 4, p. 441-453.

T. Stroganova, A.Kirenskaya, V. Novototsky-Vlasov, A. Chistyakov, M.Tsetlin, V.Zvonikov. EEG study of mental imagery and emotion production during hypnosis. *Int. J. Psychophysiol.*, 2006, v.61, N3, P. 359. (13th World Congress of Psychophysiology, Istanbul, Turkey, 2006).

V.Zvonikov, A.Kirenskaya, V.Novototsky-Vlasov, T. Stroganova, A.Chistyakov. The study of autonomic variables' changes during emotional experience of different intensity. Symposium «Psychotherapy in the system of medical sciences in the making of evidence based practice », St. Petersburg, Russia, 2006 (in Russian).

Os textos são da exclusiva responsabilidade dos autores
All texts are of the exclusive responsibility of the authors

Researchers' Contacts:

Viacheslav M. Zvonikov
2-B Molodtcova st., ap. 41, 129221, Moscow, Russia
Telephone: +7-495-4761677
E-mail: neuro11@yandex.ru ; vzvonikov@yandex.ru