

Mechanisms of PSI Performance

Results:

This study combines the methodology of photic stimulation during EEG recordings with a procedure aimed to induce consciousness alterations, in order to investigate possible remote psychophysiological interactions between physically isolated pairs of participants.

An experiment was conducted with three groups of subjects; 13 related pairs (who knew each other well), 5 unrelated pairs (randomly matched strangers) and 5 single participants. Related pairs spent some time alone together before testing, while unrelated pairs did not meet each other until after the session; single participants were told they would be paired with someone (as unrelated pairs) but were not. Both participants in each pair simultaneously listened to a relaxation procedure with instructions aimed to induce a hypnagogic-like state, followed by continuous drumming; this procedure was expected to induce a similar change in conscious state in both participants. EEG was recorded from one person of the pair, while the other was stimulated with randomly timed single photic flashes.

EEG epochs were taken from the "receiver" during periods of photic stimulation of the "sender" and from periods of no stimulation. According to the null hypothesis, no difference was expected between these samples. Event-related alpha power measures showed a tendency for EEG samples from photic stimulation periods to show larger deviations from baseline than control samples; this difference was found to be significant at $p < 0.042$ for all three groups combined. Related and unrelated pairs demonstrated responses of similar magnitude ($p < 0.025$ combined), while recordings from single participants (where no other person was stimulated) showed no such effects.

Published Work:

Kittenis, M., Caryl, P. G., and Stevens, P. (2004). *"Distant psychophysiological interaction effects between related and unrelated participants"*. In Schmidt, S., editor, The Parapsychological Association 47th Annual Convention: Proceedings of Presented Papers. Vienna.

Kittenis, M. (2005). *"Further investigation of apparent correlations in event-related EEG activity between physically isolated participants"*. 29th International Conference of the Society for Psychical Research: Abstracts of presented papers.

Kittenis, M. (2011). Anomalous Anticipatory Event-Related EEG Activity in a Face Recognition Memory Task. *Journal of Parapsychology*, Vol. 75(2), 204-206.

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