

Two papers on ganzfeld hallucinations

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I found a couple of interesting articles while researching the 'Ganzfeld Effect', both involving Peter Pütz.

The first study, done in 2005, found EEG correlates to ganzfeld induced hallucinatory imagery. The second, published in Jun 2008, is more generalized. It is entitled "Ganzfeld-induced hallucinatory experience, its phenomenology and cerebral electrophysiology"

Unfortunately I can't post them here in their entirety, but here's the abstracts:

Ganzfeld-induced hallucinatory experience, its phenomenology and cerebral electrophysiology

AbstractGanzfeld, i.e., exposure to an unstructured, uniform stimulation field, elicits in most observers pseudo-hallucinatory percepts, and may even induce global functional state changes ('altered states of consciousness'). The present paper gives a comprehensive overview of the phenomenology of subjective experience in the ganzfeld and its electrophysiological correlates. Laboratory techniques for visual or multi-modal ganzfeld induction are explained. The spectrum of ganzfeld-induced phenomena, ranging from elementary percepts to complex, vivid, dream-like imagery is described, and the latter illustrated by transcripts of subjects' reports. Similarities and differences to related sensory/perceptual phenomena are also discussed. Earlier findings on electrophysiological correlates of the ganzfeld are reviewed. Our own studies of electroencephalographic (EEG) activity in the ganzfeld are presented in some detail, and a re-analysis of data on EEG correlates of hallucinatory percepts *in statu nascendi* is reported. The results do not support the hypothesis of the hypnagogic origin of the percepts; the ganzfeld-induced steady-state is an activated state, and the spectral EEG dynamics in the alpha frequency range reveals processes of attention shifts and percept formation. The final section is devoted to the controversial topic of allegedly anomalous communication between human subjects ('ganzfeld telepathy'). It is shown that the use of ganzfeld in this research field relies partly on unsupported hypotheses concerning ganzfeld-induced states, partly on a weak conceptual background of the experimental procedure. The rôle of a particular belief system shared by the participants and experimenters is critically discussed.

JiYí Wackermann, Peter Pütz, Carsten Allefeld
Department of Empirical and Analytical Psychophysics, Institute for Frontier Areas of Psychology and Mental Health, Freiburg i. Br., Germany.

EEG correlates of multimodal ganzfeld induced hallucinatory imagery.

Abstract

Multimodal ganzfeld (MMGF) frequently induces dreamlike, pseudo-hallucinatory imagery. The aim of the study was to explore EEG correlates of MMGF-induced imagery. In a screening phase, seven 'high-responders' were selected by frequency and quality of their reported hallucinatory experience in MMGF. Each of these subjects then participated in three MMGF sessions (45 min) with simultaneous 19 channel EEG recordings and indicated occurrences of imagery by pressing a button. Relative spectral power changes during percept formation (30 s preceding subjects' reports) with respect to intra-individual baselines (no-imagery EEG) were analysed. At the beginning of the 30-s 'image formation' period alpha was slightly reduced than in the 'no-imagery' periods. This was followed by increased power in the higher alpha frequency band (10-12 Hz) which then declined in a monotonic fashion. This decline in higher alpha power was accompanied by increased power in the beta frequency bands. Throughout the image formation period there was a steady decline in power of low frequency alpha (8-10 Hz). Correlations between descriptors of subjective experience and EEG power changes were evaluated in terms of their global average magnitude and variability in time. Results indicate that the acceleration of alpha activity is a nonspecific effect of MMGF. In contrast, the tri-phasic profile of faster alpha activity seems to be a specific correlate of the retrieval and transformation of memory content in ganzfeld imagery.

Peter Pütz, Matthias Braeunig, JiYí Wackermann
Department of Empirical and Analytical Psychophysics, Institute for Frontier Areas of Psychology, Wilhemstrasse 3a, D-79098 Freiburg i. Br., Germany.