

Pushing consciousness and selfhood towards their boundaries: An EEG neurophenomenological study

ABSTRACT:

The *Ganzfeld* is a method of perceptual deprivation, involving a reduced patterning of stimulation; participants may experience altered states of consciousness. We look at both phenomenology and electrophysiology (EEG) of our participants immersed in Whole-Body Perceptual Deprivation (WBPD), with two goals to investigate: (1) a shift in state of consciousness and sense of self; (2) the induction of synesthesia. The participants first completed some questionnaires and then a time-production (TP) task. An eyes-closed EEG baseline recording was obtained. The white-illuminated WBPD chamber was then closed, and an eyes-closed recording (WBPD-1) allowed us to test for the immediate effect of WBPD. This was followed by red and indigo light, each presented for 5 minutes, after which a short report of subjective experience was obtained. The participants thus underwent 10 minutes of eyes-open WBPD, with two sounds introduced to facilitate the induction of synesthesia. Then a third eyes-closed EEG (WBPD-2), followed by a short report of subjective experience, and a second TP task were done, followed by an extensive interview. Our participants reported experiences of an unusual character. The differential effect of the colored environments on some of them is quite familiar; a focus on bodily sensations, coupled with a feeling of immersion, is also well known. There are wide individual differences in EEG alpha profile: Male participants should not be pooled with female participants, because their alpha asymmetry profiles are diametrically opposed. There are also wide individual differences in time production: When “time disappeared”, TP becomes haphazard; when “time was slower” or “time was expanded”, TP is lengthened.

Keywords

Alpha, EEG, Ganzfeld, Time perception, Self

Published Work:

Glicksohn, J., & Berkovich-Ohana, A. (2019). When meditators avoid counting during time production things get interesting. *PsyCh Journal*, 8, 17–27. doi: 10.1002/pchj.250

Glicksohn, J., Berkovich-Ohana, A., Mauro, F., & Ben-Soussan, T. D. (2019). Individual EEG alpha profiles are gender-dependent and indicate subjective experiences in whole-body perceptual deprivation. *Neuropsychologia*, 125, 81-92. doi: 10.1016/j.neuropsychologia.2019.01.018

Ben-Soussan, T. D., Mauro, F., Lasaponara, S., Glicksohn, J., Marson, F., & Berkovich-Ohana, A. (2018). Fully immersed: State absorption and electrophysiological effects of the OVO Whole-

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

Body Perceptual Deprivation chamber. *Progress in Brain Research*, 244, 165-184. doi: 10.1016/bs.pbr.2018.10.023

Berkovich-Ohana, A., & Wittmann, M. (2017). A typology of altered states according to the consciousness state space (CSS) model: A special reference to subjective time. *Journal of Consciousness Studies*, 24, 37-61.

Glicksohn, J., Berkovich-Ohana, A., Mauro, F., & Ben-Soussan, T. D. (2017). Time perception and the experience of time when immersed in an altered sensory environment. *Frontiers in Human Neuroscience*, 11:487. doi: 10.3389/fnhum.2017.00487

Researcher's Contacts:

Joseph Glicksohn, Ph.D.
Professor
Department of Criminology and
The Leslie and Susan Gonda (Goldschmied)
Multidisciplinary Brain Research Center
Bar-Ilan University
Ramat-Gan 52900
Israel

Email: jglick@post.bgu.ac.il
Internet: <http://criminology.biu.ac.il/en/jglick>
Fax: 972-3-7384038