

## **Heterogeneity in high hypnotic suggestibility and its implications for the study of anomalous experiences**

### **Results:**

The goal of this project was to examine whether there are discrete subtypes of highly suggestible individuals and to explore the relevance of these subtypes for the occurrence and expression of anomalous perceptual experiences. We conducted a series of studies to test predictions derived from typological models that assert that highly suggestible individuals are comprised of dissociative and imagery/fantasy subtypes who experience hypnosis and hypnotic suggestions through different mechanisms. These subtypes are also expected to report differential patterns of anomalous perceptual experiences.

Our studies provide clear, but qualified, support for the typological models and illustrate the importance of dissociation and hypnotic suggestibility for our understanding of anomalous experiences. Three studies yielded complementary evidence for a dissociative highly suggestible subtype that experienced greater spontaneous alterations in awareness and poorer cognitive control during hypnosis, and greater involuntariness during hypnotic responding and a second subtype that exhibited milder alterations in consciousness and marginally superior cognitive control during hypnosis, and strong baseline imagery. Our fourth study found that the two subtypes differed from low suggestible individuals, but not one another, in self-reported state dissociation and functional connectivity, as measured by EEG, during hypnosis. In a final study, we found that the dissociative subtype reported a greater amount and diversity of anomalous perceptual experiences. The results cumulatively provide support for proposals that there are distinct subtypes of highly suggestible individuals but also point to the importance of similarities in this population.

### **Published work:**

#### *Presentations*

- Terhune, D. B., & Cardeña, E. (2010, April). *Heterogeneity in high hypnotic suggestibility*. Poster session presented at the 8<sup>th</sup> Behind and Beyond the Brain Symposium, Bial Foundation, Porto, Portugal.
- Terhune, D. B., Cardeña, E., Lindgren, M. (2010, March). *Disruption of synaesthesia by posthypnotic suggestion: An ERP study*. Paper presented at the annual meeting of the UK Synaesthesia Association, Brighton, UK.
- Terhune, D. B., & Cardeña, E. (2009, October). *Dissociative tendencies and heterogeneity in high hypnotic suggestibility*. Paper presented at the meeting of the Society for Clinical and Experimental Hypnosis, Reno, Nevada.
- Terhune, D. B., Cardeña, E., & Lindgren, M. (2009, September). *Dissociated control as a signature of typological variability in high hypnotic suggestibility*. Paper presented at the meeting of the International Society of Hypnosis, Rome.

- Terhune, D. B., Cardeña, E., & Lindgren, M. (2009, August). *Typological variability in executive attention in high hypnotic suggestibility*. Paper presented at the annual convention of the American Psychological Association, Toronto.
- Terhune, D. B., & Cardeña, E. (2009, June). *Differential patterns of spontaneous phenomenological response to a hypnotic induction: A latent profile analysis*. Poster session presented at the annual meeting of the Association for the Scientific Study of Consciousness, Berlin.
- Terhune, D. B., Cardeña, E., & Lindgren, M. (2009, May). *Typological variability in executive attention in high hypnotic suggestibility*. Poster session presented at the annual convention of the Association for Psychological Science, San Francisco.

#### *Peer-reviewed publications*

- Terhune, D. B., Cardeña, E., & Lindgren, M. (2011a). Dissociative tendencies and individual differences in high hypnotic suggestibility. *Cognitive Neuropsychiatry*, 16, 113-135.
- Terhune, D. B., Cardeña, E., & Lindgren, M. (2011b). Differential frontal-parietal phase synchrony during hypnosis as a function of hypnotic suggestibility. *Psychophysiology*, 48, 1444-1447.
- Terhune, D. B., Cardeña, E., & Lindgren, M. (2011c). Dissociated control as a signature of typological variability in high hypnotic suggestibility. *Consciousness and Cognition*, 20, 727-736.
- Terhune, D. B., & Brugger, P. (2011). Doing better by getting worse: Posthypnotic amnesia improves random number generation. *PLoS ONE*, 6, e29206.
- Terhune, D. B., Cardeña, E., & Lindgren, M. (2010). Disruption of synaesthesia by posthypnotic suggestion: An ERP study. *Neuropsychologia*, 48, 3360-3364.
- Terhune, D. B., & Cardeña, E. (2010). Differential patterns of spontaneous experiential response to a hypnotic induction: A latent profile analysis. *Consciousness and Cognition*, 19, 1140-1150.
- Cardeña, E., & Terhune, D. B. (2009). A note of caution on the Waterloo-Stanford Group Scale of hypnotic susceptibility: a brief communication. *International journal of clinical and experimental hypnosis*, 57, 222-226.

#### **Area(s) of interest:**

Hypnosis, dissociation, executive functioning, functional connectivity, anomalous experience

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

## **Researchers' contacts:**

Devin Blair Terhune, Ph.D.  
Postdoctoral research fellow  
Department of Experimental Psychology  
University of Oxford  
Tinbergen Building, South Parks Road  
Oxford, OX1 3UD  
UK

Tel: +44 (0) 1865 271302

Fax: +44 (0) 1865 310447

Email: [devin.terhune@psy.ox.ac.uk](mailto:devin.terhune@psy.ox.ac.uk)

Web: <http://cohenkadosh.psy.ox.ac.uk/Devin%20Terhune>

Etzel Cardeña, Ph.D.

Thorsen Professor

Department of Psychology

Lund University

Box 213

22100 Lund

Sweden

Tel:

Fax: +46 (0) 4622 24209

Email: [etzel.cardena@psychology.lu.se](mailto:etzel.cardena@psychology.lu.se)

Web: <http://cercaplund.blogspot.com/>