

## **Interindividual Psychophysiological Differences in Experienced Meditators**

### **Results:**

The connection between mindfulness, a positive evaluation of mystical experiences and a decreased psychopathology could be demonstrated in subjective self-ratings but also in the gamma activity of resting state EEG. The same could be observed in the EEG coherence of beta band activity. This is a surprising match between behavioural self-ratings of the concept of mindfulness and the brain electrical physiology. The results strongly support the idea that a state of mindful presence and an attitude of acceptance are closely related to psychological health and a positive acceptance of mystical experiences.

While meditation essentially was found to be a state of reduced lower frequencies, the beta1 amplitudes seem to increase in parietal areas similarly to the state of presence. High frequency EEG correlations indicate an increased state of presence in experienced meditators compared to the less experienced meditators.

Highly significant brain state changes between various meditative tasks in experienced meditators indicate that meditation trained persons show higher brain dynamics than less experienced people giving rise to the hypothesis that those people may be able to experience themselves in more different ways. This offers meditators a higher range of mental possibilities. As similar results were seen in the most present versus least present participants, we also could say that the self-rated personal trait of being present is connected with the ability of altering the physiological state of presence.

### **Published work:**

#### **Book chapters:**

Hinterberger, T., Kohls, N., Kamei, T., Feilding, A., Walach, H. "Neurophysiological correlates to psychological trait variables in experienced meditative practitioners", Special Issue on Spirituality and Religion, Springer, in press.

#### **Journal articles:**

Hinterberger, T. & Kohls, N., „Physiological markers of a psychological concept of mindfulness”, (in preparation).

Hinterberger, T. & Sauer, S. „The Psychophysiology of Mindfulness in Meditative Practice”, (in preparation).

Halsband, U., Hinterberger, T., „Veränderungen der Plastizität im Gehirn unter Hypnose“, Hypnose: Zeitschrift für Hypnose und Hypnotherapie, Band 5, pp. 33-50, 2010.

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Hinterberger, T., Schöner, J., and Halsband, U., "An Analysis of EEG State Transitions during Hypnosis Induction", *International Journal of Clinical & Experimental Hypnosis*, DOI: 10.1080/00207144.2011.546188. 59(2): pp. 1-15, 2011.

**Areas of Interest:**

Neuroscience, Consciousness Research, Meditation

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