Steirische Gesellschaft für Psychologie
Obfrau: Univ.- Prof. Dr. Karin Landerl
Universität Graz, Institut für Psychologie
Universitätsplatz 2/III, A-8010 Graz, Austria
Tel: +43-316-380-5127, Fax: +43-316-380-9806
E-Mail: karin.landerl@uni-graz.at
Sekretariat: Michaela Krainer
E-Mail: psy.stgp@uni-graz.at
http://www.uni-graz.at/stgp

STEIRISCHE GESELLSCHAFT FÜR PSYCHOLOGIE

E I N L A D U N G
zum Vortrag

SMR Neurofeedback zur Verbesserung von Schlaf und Gedächtnis
Eine Doppelblindstudie zur primären Insomnie

von

Prof. Dr. Manuel Schabus
University of Salzburg, Austria
Laboratory for Sleep, Cognition and Consciousness Research
Schabus, M., Hoedlmoser, K., Heib, D., Griessenberger, H. & Wislowska, M.

A non-pharmacological intervention, namely instrumental conditioning of 12-15Hz oscillations (ISC), for improving sleep quality and memory is tested. EEG recordings over the sensorimotor cortex show a prominent oscillatory pattern in a frequency range between 12-15Hz (sensorimotor rhythm,SMR) under quiet but alert wakefulness. This frequency range is also known to be abundant during light non-rapid eye movement sleep, and is overlapping with the sleep spindle frequency band. Some early findings indicated that ISC of SMR during wakefulness can influence subsequent sleep. In two present studies we intend to clarify the nature of these effects and apply neurofeedback (NFT) to (sub-) clinical insomnia patients. In the first study twenty-four young subjects with sub-clinical symptoms of primary insomnia were tested. A counterbalanced within-subjects design (19 lab visits over the course of 3-6 weeks) was adopted. Each patient participated in an ISC-NFT as well as a sham-NFT training block. Polysomnographic sleep recordings were scheduled before and after training blocks. Data of the first study confirm a significant increase of 12-15Hz activity over the course of the ten SMR training sessions which was also positiviely related to overnight memory consolidation changes. Number of awakenings were reduced and slow-wave sleep was increased following ISC but not following sham-NFT. Last but not least sleep spindles in slow-wave sleep were found to be exclusively enhanced after SMR training. Data of a counter-balanced double-bind follow-up study are currently being analyzed. Yet, preliminary results indicate that patients suffering from more severe insomnia do not benefit in sleep or memory over the 12 SMR NFT sessions. However, all groups including healthy controls, sleep state mispercept patients as well as insomnia patients do enhance SMR-power exclusively in the SMR (but not placebo) condition. Subjectively the sleep complaint decreased over both conditions. Conclusions: Current results indicate that besides healthy individuals also young people suffering from (sub-clinical) primary insomnia can experience subjective as well as objective benefits from ISC-NFT. The results of a comprehensive double-blind study are being integrated.

Acknowledgements: Research was supported by a FWF research (P-21154-B18) fund from the Austrian Science Foundation.

Zeit: Dienstag, 27. Mai 2014, 19.15 Uhr

Ort: HS 02.21 – Institut für Psychologie, Universitätsplatz 2/II, 8010 Graz