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CHANGES IN SUBJECTIVE TIME AND SELF BUT NOT THE TEMPORAL WIDTH OF THE PRESENT MOMENT AFTER MEDITATION

Damisela Linares Gutiérrez¹, Stefan Schmidt^{1,2}, Karin Meissner³, & Marc Wittmann¹

¹ Institute for Frontier Areas of Psychology and Mental Health, Freiburg, Germany

² Department of Psychosomatic Medicine and Psychotherapy, Medical Faculty, University of Freiburg, Germany

³ Division of Integrative Health Promotion, Department of Social Work and Health, University of Applied Sciences Coburg, Germany

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Background: In meditation the three state dimensions of awareness, affect and time can reach extreme levels leading to changes in the sense of self.

Aims: This study examines the effects of meditative states in experienced meditators on the present moment awareness, subjective time and the awareness of the self while exploring its relationship with meditation-induced physiological changes.

Method: Following a within-subject design, a sample of long-term mindfulness meditation practitioners was recruited (n=22; on average 19.5 years of practice; a mean of 3.95 meditation sessions per week over the last two months). Participants accomplished a metronome task, as an operationalization of the present moment awareness, before and after 20-minutes meditation session and a 20-minutes reading session. Electrocardiogram and respiratory activity were recorded during both sessions. Self-report scales related to subjective time and to the awareness of the self were filled in after both conditions.

Results: Concerning physiological indices, there was a mixed pattern of more sympathetic and parasympathetic activity during meditation: breathing intervals were prolonged during meditation; heart-rate variability parameters had higher α -1 and lower α -2 levels in the meditation condition. There were lower levels of ApEn and SampEn, measures of HRV complexity, during meditation. In the metronome task no significant differences between conditions became apparent. Regarding subjective states, participants perceived their body boundaries as less salient during meditation than while reading the story; they also felt time as passing more quickly and they had less attention to time during meditation.

Conclusions: Meditation led to several changes in physiological parameters and subjective experience, i.e. less pronounced body boundaries and less awareness of time but no changes in the accentuation of metronome beats. This is probably the first quantitative study to show how the experience of the duration of the meditation session is altered in relation to the bodily self.

Keywords: time perception, sense of self, present-moment awareness, meditation

E-mail contact: wittmann@igpp.de