

Changes in subjective time and self but not the temporal width of the present moment after meditation

ABSTRACT:

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 the metronome task, no significant differences between conditions became apparent. 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. 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.

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.

Keywords

Time perception, Sense of self, Present-moment awareness, Meditation

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