

**Mindfulness: Relations to attention regulation, decentering,
and psychological well-being**

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Avhandling för filosofie doktorsexamen i psykologi, som med vederbörligt tillstånd av Samhällsvetenskapliga fakulteten vid Göteborgs Universitet kommer att offentligens försvaras tisdagen den 4 juni, 2013, kl. 14.00, sal F 1, Psykologiska institutionen, Haraldsgatan 1, Göteborg.
Fakultetsopponent: professor Harald Walach, Institut für transkulturelle Gesundheitswissenschaften, Europa Universität Viadrina, Frankfurt (Oder).

This thesis is based on a summary and the following studies:

- I. Josefsson, T., & Broberg, A. G. (2011). Meditators and non-meditators on sustained and executive attentional performance. *Mental Health, Religion & Culture*, 14, 291-309.
 - II. Josefsson, T., Larsman, P., Broberg, A. G., & Lundh, L-G. (2011). Self-reported mindfulness mediates the relation between meditation experience and psychological well-being. *Mindfulness*, 2, 49-58.
 - III. Josefsson, T., Lindwall, M., & Broberg, A. G. (2012). The effects of a short-term mindfulness based intervention on self-reported mindfulness, decentering, executive attention, psychological health, and coping style: examining unique effects and mediators. *Mindfulness*, DOI 10.1007/s12671-012-0142-1.
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Abstract

The current research project consists of three separate studies. The general aim of this project was to contribute to previous mindfulness research by exploring fundamental aspects of mindfulness in an effort to increase the understanding of mindfulness as a construct as well as its mechanisms. The purpose of the study I was to investigate the relation between mindfulness and sustained and executive attention by comparing Buddhist and Western mindfulness meditators ($n = 47$) and non-meditators ($n = 45$) in performance on computerized attention. The main purpose of study II was to compare these meditators and non-meditators on self-reported mindfulness, and also to investigate whether facets of mindfulness mediate the relation between meditation experience and psychological well-being. Study III aimed at investigating the unique effects of mindfulness practice as well as the proposed mindfulness mechanism; decentering. A short-term mindfulness-based intervention (MBI) ($n = 46$) was compared with relaxation training ($n = 40$) and a waiting-list group ($n = 40$) on a battery of tests - executive attention, self-reported mindfulness, decentering, psychological well-being, anxiety, depression, and coping styles – in 126 employees with no prior meditation experience.

The results showed no significant differences between meditators and non-meditators either in sustained or executive attention. Meditators rated themselves higher than non-meditators on four of the five facets of mindfulness. The multiple mediation analysis showed that the five mindfulness facets mediated the relationship between meditation experience and psychological well-being but no single facet contributed significantly. Simple mediation analyses indicated, however, that Non-React was the primary mediator. No unique mindfulness effects were found since there were no differences between mindfulness and relaxation in any of the variables. However, the mindfulness group scored higher than the waiting-list group on the Five Facet Mindfulness Questionnaire total scale and psychological well-being.

Meditators may have an increased awareness of internal processes and the ability to quickly attend to them, but this type of refined attentional ability does not seem to be related to performance on attention tests requiring quick responses to external targets. It may be concluded that effects on attention regulation are of less importance compared to other beneficial psychological and physiological health outcomes due to mindfulness meditation. Mediation analyses supported (i) the notion that meditation experience is related to increased mindfulness, which in turn is associated with improved psychological well-being, and (ii) the idea that increases in mindfulness lead to increased decentering abilities which in turn leads to improved psychological well-being. Possible explanations for the absence of unique group differences between mindfulness and relaxation are that the length of the intervention was too short and the sessions too few, similarities between body exercises in MBI and relaxation, and the lack of group differences on decentering.

Investigating unique mindfulness effects to distinguish mindfulness effects from relaxation should be prioritized in future studies. The promising theory of mechanisms proposed in the Buddhist Psychological Model (BPM) needs to be empirically evaluated. MBI-related changes in self-perceptions, value systems, and ethical aspects may play a more important role for improved psychological health than what has previously been recognized. Other Buddhist practices such as loving-kindness meditation and compassion meditation also need to be examined. Finally, an in-depth dialogue between Western researchers, expert meditators, and Buddhist theoreticians may be increasingly important for mindfulness research to advance.

Key words: attention, Buddhism, decentering, mediation analysis, meditation, mindfulness, psychological well-being.

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