

Meditation-State Functional Connectivity (msFC): Strengthening of the Dorsal Attention Network...

Posted At : September 1, 2012 12:26 PM | Posted By : [Tim Brunson, PhD](#)

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Full title: Meditation-State Functional Connectivity (msFC): Strengthening of the Dorsal Attention Network and Beyond.

Meditation practice alters intrinsic resting-state functional connectivity (rsFC) in the default mode network (DMN). However, little is known regarding the effects of meditation on other resting-state networks. The aim of current study was to investigate the effects of meditation experience and meditation-state functional connectivity (msFC) on multiple resting-state networks (RSNs). Meditation practitioners (MPs) performed two 5-minute scans, one during rest, one while meditating. A meditation naïve control group (CG) underwent one resting-state scan. Exploratory regression analyses of the relations between years of meditation practice and rsFC and msFC were conducted. During resting-state, MP as compared to CG exhibited greater rsFC within the Dorsal Attention Network (DAN). Among MP, meditation, as compared to rest, strengthened FC between the DAN and DMN and Salience network whereas it decreased FC between the DAN, dorsal medial PFC, and insula. Regression analyses revealed positive correlations between the number of years of meditation experience and msFC between DAN, thalamus, and anterior parietal sulcus, whereas negative correlations between DAN, lateral and superior parietal, and insula. These findings suggest that the practice of meditation strengthens FC within the DAN as well as strengthens the coupling between distributed networks that are involved in attention, self-referential processes, and affective response.

Evid Based Complement Alternat Med. 2012;2012:680407. Epub 2012 Feb 12. Froeliger B, Garland EL, Kozink RV, Modlin LA, Chen NK, McClernon FJ, Greeson JM, Sobin P. Department of Psychiatry and Behavioral Sciences, Duke University Medical Center, Durham, NC 27708, USA.

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