

A study of the relationship between mindfulness, distraction and brain stimulation

ABSTRACT:

Background

Mindfulness can be measured as a trait (dispositional mindfulness, DM) and be cultivated through meditation or training. While meditation enhances attention and reduce intrusive thoughts, it is unclear whether DM does so.

Aims

We aimed to examine (1) the relationship between DM, meditation, distractive thoughts, emotional regulation, depression and anxiety; (2) the relationship between DM and self-reported and task-measured attention; and (3) whether transcranial direct current stimulation (tDCS) can modulate the relationship between DM and attention.

Method

We carried out (1) a large online survey measuring DM, emotional regulation, attentional control, ruminations, worry, mind wandering, depression and anxiety; (2) cognitive tasks in online and laboratory samples; and an experiment on the effect of tDCS on sustained attention in high vs low DM participants.

Results

Mindfulness reduced depression and anxiety, in part by reducing negative thinking. While our data indicate a correlation between DM and self-reported attentional control, we found no corroborating evidence in cognitive tasks. Finally, the stimulation of the right prefrontal cortex enhanced sustained attention in participants with low DM but had the opposite effect on participants with high DM.

Conclusions

Our data suggest that DM reduces the incidence of intrusive thoughts and contributes to reduce symptoms of depression and anxiety. DM increases self-reported attentional control but does not appear to modulate attentional performance in cognitive tasks. The data nevertheless suggest that individuals with low DM may present with less efficient prefrontal functioning and benefit from tDCS in a sustained attention task.

Keywords

Mindfulness, Attention, Depression, tDCS

Os textos são da exclusiva responsabilidade dos autores
All texts are of the exclusive responsibility of the authors

Published Work:

Parmentier, F., Mauro-García, M., García-Campayo, J., Yañez, A. M., Andrés, P., & Gili-Planas, M. (2019). Mindfulness and symptoms of depression and anxiety in the general population: The mediating roles of worry, rumination, reappraisal and suppression. *Frontiers in Psychology*, *10*:506. doi: 10.3389/fpsyg.2019.00506

Researcher's Contacts:

Fabrice B. R. Parmentier
Institute of Health Research (iUNICS)
University of the Balearic Islands
Ctra de Valldemossa, km 7,5
07122 Palma, Spain
Phone: ++34 971 259889
Fax: ++34 971 25 95 01
Email: fabrice.parmentier@uib.es