

Selected Research on Mindfulness

Document format

Broad Categories: executive functioning, stress and mood management, health benefits, impact on job fulfillment

More specific result/outcome link

Article Title

Article Citation and link to the Abstract or article

Improvement in Job Satisfaction and Job Performance in Physicians and Healthcare Providers

Small group physician intervention improved meaning and engagement in work, reduced depersonalization.

Mayo Clinic conducted a physician intervention using a facilitated small-group curriculum. It improved meaning and engagement in work and reduced depersonalization, with sustained results at 12 months after the study. Physicians had 1 hour of paid protected time to participate in the intervention. Mindfulness was used in the curriculum.

West, CP, Dyrbye LN, Rabatin, JT, et al. Intervention to promote physician well-being, job satisfaction, and professionalism: a randomized clinical trial. *JAMA Intern Med.* 2014; 174(4):527-533.

doi:10.1001/jamainternmed.2013.14387

Full text: <http://archinte.jamanetwork.com/article.aspx?articleid=1828744>

Formal MBSR class effective in reducing healthcare providers' burnout rates

Healthcare providers who completed a formal mindfulness course (2.5 hours/week for 8 weeks and a retreat) significantly improved in burnout and well-being scores.

Goodman MJ, Schorling JB. A mindfulness course decreases burnout and improves well-being among healthcare providers *Int J Psychiatry Med.* 2012; 43(2): 119-128.

doi: 10.2190/PM.43.2.b

Full text: <http://ijp.sagepub.com/content/43/2/119.short?rss=1&ssource=mfc>

Randomized controlled trial shows mindfulness training reduces key drivers of burnout in physicians

Randomized controlled trial with MBI training for PCPs resulted in significant improvements in stress, mindfulness, emotional exhaustion and depersonalization. There were no improvements in the control group.

Schroeder DA, et al. A brief mindfulness-based intervention for primary care physicians: a pilot randomized controlled trial. (In Press). *Am J of Lifestyle Med.* Feb 2016

doi: 10.1177/1559827616629121

Brief ahead of publication: <http://www.mdlinx.com/family-medicine/medical-news-article/2016/02/08/mindfulness-burnout-perceived-stress-resilience/6530485/>

An observational study of physicians and APPs found clinicians who rated themselves as mindful had more patient-centered communication and more satisfied patients.

Beach MC, Roter D, Korthuis PT, et al. A multicenter study of physician mindfulness and health care quality. *Ann Fam Med.* 2013; 11(5), 421-428.

doi: 10.1370/afm.1507

Full text: <http://www.annfammed.org/content/11/5/421.full>

Mindfulness and Brain Functioning

When looking at executive functioning, mindfulness helps enhance inhibitory improvement specifically

Gallant, SN. Mindfulness meditation practice and executive functioning: breaking down the benefit.

Consciousness and Cognition. 2016. 40: 116–130.

doi: [10.1016/j.concog.2016.01.005](https://doi.org/10.1016/j.concog.2016.01.005)

Abstract: <http://www.sciencedirect.com/science/article/pii/S1053810016300058>

Small RCT found mindfulness meditation reduced IL-6 suggesting reduced inflammation

Creswell JD, Taren AA, Lindsay EK, et al. Alterations in resting state functional connectivity link mindfulness meditation with reduced interleukin-6: a randomized controlled trial. *Biological Psychiatry*, 2016.

DOI:[10.1016/j.biopsych.2016.01.008](https://doi.org/10.1016/j.biopsych.2016.01.008)

Alterations in Brain and Immune Functioning Produced by Mindfulness Meditation

Davidson, RJ, Kabat-Zinn J, Schumacher J, et al. Alterations in brain and immune function produced by mindfulness meditation. *Psychosom*. 2003; 65 (4): 564-570.

doi: [10.1097/01.PSY.0000077505.67574.E3](https://doi.org/10.1097/01.PSY.0000077505.67574.E3)

Full text: <http://centerhealthyminds.org/assets/files-publications/DavidsonAlterationsPsychosomaticMedicine.pdf>

A small study that demonstrated that MBSR is associated with changes in gray matter concentration in brain regions involved in learning and memory processes, emotion regulation, self-referential processing, and perspective taking.

Mindfulness practice leads to increases in regional brain gray matter density

[Hölzel, B et al.](#) *Psychiatry Res*. 2011; 191(1): 36–43.

doi: [10.1016/j.psychres.2010.08.006](https://doi.org/10.1016/j.psychres.2010.08.006)

Full text: <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3004979/>

Even short mindfulness meditation training can improve the ability to sustain attention

Zeidan, F, Johnson SK, Diamond, BJ, David Z, Goolkasian P. Mindfulness meditation improves cognition: evidence of brief mental training. *Consciousness and Cognition*. 2010; 19 (2): 597–605.

doi: [doi:10.1016/j.concog.2010.03.014](https://doi.org/10.1016/j.concog.2010.03.014)

Abstract: <http://www.sciencedirect.com/science/article/pii/S1053810010000681>

Supports the hypothesis that mindfulness meditation is brain-protective and associated with a reduced age-related tissue decline. Nevertheless, the observed effects may not only be a consequence of meditating, but also of other factors allowing for a successful long-term meditation practice.

Luders E, Cherbuin N, Kurth F. Forever Young(er): potential age-defying effects of long-term meditation on gray matter atrophy. *Front. Psychol*. 2015; 5:1551.

doi: [10.3389/fpsyg.2014.01551](https://doi.org/10.3389/fpsyg.2014.01551)

Full text: <http://journal.frontiersin.org/article/10.3389/fpsyg.2014.01551/full>

Mindfulness and Health

Meditation programs can result in small to moderate reductions in multiple negative dimensions of psychological stress.

Meditation programs for psychological stress and well-being: a systematic review and meta-analysis. Goyal, M, Singh, S, Sibinga, EMS, et al. *JAMA Intern Med.* 2014; 174(3): 357-368.

doi: 10.1001/jamainternmed.2013.13018

Full text: <http://archinte.jamanetwork.com/article.aspx?articleid=1809754>

Results of meta-analysis suggest that MBSR can be used to help a broad range of individuals cope with clinical and nonclinical problems.

Grossman P, Niemann L, Schmidt S, Walach H. Mindfulness-based stress reduction and health benefits: a meta-analysis. *J Psychosom Res.* 2004; 57(1): 35-43.

doi: 10.1111/j.2042-7166.2003.tb04008.x

Abstract: <http://www.sciencedirect.com/science/article/pii/S0022399903005737>

Possible effects of mindfulness meditation on specific markers of inflammation, cell-mediated immunity, and biological aging, but these results are tentative and require further replication.

Black DS, Slavich GM. Mindfulness meditation and the immune system: a systematic review of randomized controlled trials. *Ann NY Acad Sci.* 2016. [Epub ahead of print]

doi: 10.1111/nyas.12998.

Abstract: <http://onlinelibrary.wiley.com/doi/10.1111/nyas.12998/abstract>

Randomized controlled trial shows benefits of mindfulness on smoking cessation.

Brewer JA, Mallik S, Babuscio TA, et al. Mindfulness training for smoking cessation: results from a randomized controlled trial. *Drug Alcohol Depend.* 2011; 119(1-2): 72-80.

doi: 10.1016/j.drugalcdep.2011.05.027

Full text: <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3191261/>

Mindfulness and Technology

Although many apps claim to be mindfulness apps, most are meditation or guided meditation. Little evidence on efficacy.

Mani M, Kavanagh DJ, Hides L, Stoyanov SR. Review and Evaluation of Mindfulness-Based iPhone Apps. *JMIR mHealth uHealth.* 2015;3(3):e82.

doi: [10.2196/mhealth.4328](https://doi.org/10.2196/mhealth.4328)

Full text download: <http://mhealth.jmir.org/2015/3/e82/>