Abstract

Posters

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The Effects of Mindfulness-Based Interventions on Cognitive Control and Complex Visual Attention: A Meta-Analysis

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Objective: The primary objective of this review is to expand upon a previous meta-analysis that found small to medium effect sizes (ES) for mindfulness-based interventions (MBIs) on cognitive control of adults. In addition to cognitive control, we examined other aspects of complex visual attention and whether duration or intervention type moderates the relationship between MBIs and cognitive performance. Data Selection: Three databases were searched for studies from 2000–2020, yielding 82 initial articles. After systematic filtering of peer-reviewed, pretest-posttest designs, ES from 17 studies were retained. Data Synthesis: The average ES across all studies was small (Hedge's g = 0.23; SE = .05; CI [.13, 0.32]). By individual domain, ES were small to medium for inhibition (Hedge's g = 0.31; SE = .09; CI [0.14, 0.48]) and sustained attention (Hedge's g = 0.40; SE = .09; CI [0.21, 0.58]), but negligible for set-shifting (Hedge's g = −0.0009; SE = .11; CI [−0.22, 0.20]) and weak for complex processing speed (Hedge's g = 0.14; SE = .09; CI [−0.23, 0.32]). Moderator analyses revealed that interventions utilizing mindfulness-based cognitive training (MBCT) had significantly higher ES (Hedges g = 0.82; SE = 0.19; CI [0.44, 1.19] than other interventions. However, intervention duration did not explain variability in ES. Conclusion: This meta-analysis confirmed previous research that MBIs have small to medium ES for complex visual attention/cognitive control, but only for inhibition and sustained attention. Across trainings, MBCT was the most effective in improving cognitive functioning. Future research should explore critical facets of MBCT and neurophysiological correlates of improvement.