## Interventions

*Articles testing the applied science and implementation of mindfulness-based interventions*


Ruskin, D., Harris, L., Stinson, J., McCarthy, E. (2017). *"I learned to let go of my pain": The effects of mindfulness meditation on adolescents with chronic pain: An analysis of*
Participants’ treatment experience. *Children.* [link]


**ASSOCIATIONS**

*Articles examining the correlates and mechanisms of mindfulness*


leukocytes involves genes linked to common human diseases. *Mindfulness.* [link]


**Methods**

Articles developing empirical procedures to advance the measurement and methodology of mindfulness


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**TRIALS**

*Research studies newly funded by the National Institutes of Health (DEC 2017)*

Harvard School of Public Health (D. Eisenberg, PI). 2018 research day on teaching kitchens and self-care practices. NIH/NCCIH project #1R13AT009822. [link]

Michigan State University (H. Brophy-Herb, PI). Trajectories of teacher stress: The roles of coping and prior exposure to trauma. NIH/NICHHD project #1R21HD090406. [link]

University of Southern California (M. Pentz, PI). Cancer control research program. NIH/NCCIH project #5P30CA014089. [link]

VA Connecticut Healthcare System (L. Kachadourian, PI). Effects of stress on reaction time in combat exposed military veterans. Veterans Affairs project #5IK2CX001259. [link]

Wake Forest University (P. Laurienti, PI). How mindfulness modulates craving and brain networks in moderate-to-heavy drinkers. NIH/NIAAA project # 1P50AA026117. [link]
College life is accompanied by many stresses, but few exceed the stress of final exams week—a period of intensive “cramming,” all night study sessions, and fearful anticipation of final grades. It comes as no surprise that approximately half of all college students report a significant degree of test anxiety. Galante *et al.* [Lancet Public Health](#) studied whether an eight-week mindfulness skills program might reduce students’ acute exam-related distress levels during final exams week.

The researchers randomly assigned 616 undergraduate and graduate students at Cambridge College, UK (62% female; 66% White; 92% age 17-30 years) to either an 8-week Mindfulness Skills for Students (MSS) program, or mental health support-as-usual group. Participants were prescreened to rule out severe mental health symptoms. The MSS program consisted of eight 75-90 minute group sessions that included mindfulness meditation, periods of reflection and inquiry, and interactive exercises. MSS participants were encouraged to engage in 8-25 minutes of home practice daily. Mental health support-as-usual consisted of access-as-needed to university counseling services and the National Health Service. No mental health services were offered to the support-as-usual group participants unless they actively sought help from these services on their own.

All participants were asked to complete a self-report distress measure and a wellness measure at post-intervention and again during final exams week. Following the completion of outcome measures, participants were offered monetary vouchers ($4.50 at post-intervention and $7.50 during exams week) that they could either pocket or contribute to charity. If MSS participants missed a session, they were contacted to discover whether they experienced any adverse consequences from participation in the intervention.

Fifty-one percent (51%) of MSS participants attended at least half of the MSS sessions, and 74% of study participants completed their exam period questionnaires. Results were analyzed for all participants, whether or not they attended all the MSS sessions.

The results showed that MSS participants had significantly lower distress levels (moderate effect size) at post-intervention and during exams week. More support-as-usual group participants (57%) reported distress levels within the clinically significant range than did MSS participants (37%)—a one-third relative reduction in risk for MSS participants. MSS participants were significantly less likely to report problems affecting their academic study or university experience than control participants. MSS participants also reported significantly higher well-being levels at both post-intervention and during exam week. Finally, MSS participants were significantly more likely to donate their monetary vouchers to charity. Only one participant reported an adverse effect, feeling that MSS brought unwanted matters to the fore. The report omitted whether the adverse effect was mild or severe.

This is the largest randomized controlled study of mindfulness in a college population to date. It demonstrates that a mindfulness intervention can help reduce distress levels in college students during a stressful exam week, as well as increase altruistic action in the form of donating to charity. As the support-as-usual group was neither an active treatment nor a placebo control, the study cannot prove the superiority of mindfulness over other stress reduction programs. For the same reasons, the positive outcomes experienced by MSS participants cannot be specifically linked to mindfulness training, as they may be due to other factors such as group support or raised expectancies.
One of the biggest difficulties in treating recurrent major depressive disorder (MDD) is that most people with recurrent MDD experience a relapse within two years following recovery from symptoms. Three treatments appear to have some success at limiting the two-year relapse rate to 30-40%: Antidepressant Medication Maintenance Therapy, Cognitive Therapy (CT), and Mindfulness-Based Cognitive Therapy (MBCT).

MBCT and CT attempt to reduce the risk of relapse by promoting different skill sets. CT promotes challenging dysfunctional thinking and increasing physical activity level. MBCT promotes nonjudgmental monitoring of moment-by-moment experience, and decentering from thoughts or seeing thoughts as transient mental phenomena and not necessarily valid. Farb et al. [Journal of Consulting and Clinical Psychology] conducted the first randomized controlled head-to-head comparison of CT and MBCT for relapse prevention in MDD.

The researchers randomly assigned 166 people with MDD (average age = 40 years, 2/3 female; average of 4 past MDD episodes) currently in remission to either a MBCT or CT group. Assessments of diagnosis and symptoms were done through a combined structured clinical interview and a self-report questionnaire. MDD symptoms were assessed bimonthly through an initial brief questionnaire. If the initial questionnaire suggested relapse, it was followed-up with another questionnaire and a structured clinical phone interview. A research psychiatrist confirmed all relapse diagnoses. In addition, participants completed questionnaires measuring decentering and dysfunctional beliefs every three months.

CT was delivered in 8 weekly 2-hour sessions that stressed goal setting, self-monitoring, maintaining thought records, and cognitive restructuring during its initial sessions, and lifestyle modification, environmental mastery, life purpose, self-acceptance, and optimizing interpersonal relationships in later sessions.

MBCT was delivered in 8 weekly 2-hour sessions with an additional retreat day. It emphasized mindfulness meditation, disengaging from habitual ruminative processes, awareness of everyday activities, and regulating negative emotions through approach and curiosity rather than avoidance.

Two-year participant retention rates were 60% for MBCT and 56% for CT. Treatment fidelity ratings were good for both CT and MBCT. Two-year relapse rates were not significantly different for the MBCT (22%) and CT (21%) groups, nor was there any difference in the time elapsed until relapse between groups.

Participants showed a significant linear increase in decentering over time, regardless of therapy group. Those who relapsed had significantly lower decentering levels than those who remained in remission. Dysfunctional beliefs declined significantly for the CT group only, but there was no relationship between the change in dysfunctional beliefs and the risk of relapse.

The results show that MBCT and CT are equally effective in reducing the risk of relapse in people with MDD. Despite differences in curriculum, both therapies seem to achieve their effect by strengthening the metacognitive skill of decentering.

The fact that both treatments appear to be equally beneficial is good news. People with MDD can opt for the treatment that is most consistent with their personal beliefs without needing to worry about receiving an inferior treatment. It is important to note, however, that the patients in this study tended to be White and highly educated. It is unclear how well these results might generalize to other populations.