**Interventions**

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


Joyce, S., Shand, F., Lal, T. J., ... Harvey, S. B. (2019). *Resilience@ work mindfulness program: Results from a cluster RCT with first responders*. Journal of Medical Internet Research. [link]


Lindsay, E. K., Young, S., Brown, K. W., ... Creswell, J. D. (2019). *Mindfulness training reduces loneliness and increases social contact in a RCT*. Proceedings of the National Academy of Sciences. [link]


ASSOCIATIONS

Articles examining the correlates and mechanisms of mindfulness


Singh, N. N. (2019). *Effects of mindfulness-based positive behavior support (MBPBS) training are equally beneficial for mothers and their children with autism spectrum disorder or with intellectual disabilities.* *Frontiers in Psychology.* [link]


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**METHODS**

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


Marx, R. (2019). *Navigating dilemmas in training people to deliver non-eight-week adapted mindfulness-based interventions.* *Mindfulness.* [link]


TRIALS

Research studies newly funded by the National Institutes of Health (FEB 2019)

Texas Tech University (Y. Tang, PI). Brain mechanisms of reducing polysubstance use following a novel body-mind intervention. NIH/NCCIH project #1R61AT010138-01.[link]

University of Illinois at Chicago (A. Friend-Kendall, PI). Reducing HIV/STI risk behaviors among juvenile offenders on probation: a mobile mindfulness-based intervention. NIH/NIDA project #1K99DA047890-01. [link]
Loneliness and social isolation are major risk factors for poor health and increased mortality. Additionally, U.S. loneliness ratings have steadily risen in recent decades. Mindfulness could potentially mitigate this problem by enhancing emotional regulation, thereby improving social relationships.

Lindsay et al. [Proceedings of the National Academy of Science] conducted a randomized controlled study to see if training in mindful attention to sensory and mental experience, both with and without instructions to adopt an accepting attitude towards experience, helps to reduce feelings of loneliness and increase the frequency of social interactions.

The researchers randomly assigned 153 adults reporting higher than average stress levels (67% female; 52% Caucasian; average age = 32) to one of three groups. Participants in each group agreed to watch and listen to fourteen 20-minute lessons delivered via smartphone over the course of two weeks. The lessons all contained a combination of didactic instruction and guided exercises.

Participants in the Monitoring + Acceptance (M+A) group received training in present moment awareness plus training in accepting experience with openness, receptivity, and equanimity. Participants in the Monitoring Only (MO) group received training in present moment awareness without training in acceptance. Those in a third Coping control group received instruction on how to reflect on, analyze, and solve problems.

Participants rated how lonely they felt and recorded their daily social contacts and how many different people they interacted with in diaries completed three days before and three days after the intervention. Participants also reported their immediate feelings of loneliness and real-time social interactions multiple times a day via cellphone (a procedure called “ecological momentary assessment”). Finally, participants completed standardized retrospective self-report measures of loneliness, social isolation, and social support prior to and 6 weeks after the start of the intervention.

Participants completed an average of 13.5 of the 14 lessons. The M+A group’s diary ratings of loneliness significantly declined from pre- to post-assessment ($d = 0.44$), while the MO and control groups’ ratings did not. The M+A group also significantly increased their number of daily social interactions, whether measured by diary ($d = 0.47$) or momentary assessment ($d = 0.31$). The other groups’ social interactions remained unchanged. The M+A group reported a 22% decrease in loneliness and increased their social interactions by two interactions per day. M+A participants also reported a significant increase in the number of different people they interacted with each day ($d = 0.39$), while the other groups did not. In all cases, the outcomes for the M+A group were significantly better than those of the other two groups.

The standardized retrospective self-report measures of loneliness, social isolation, and social support failed to show the same between-group changes as the diary and momentary assessment measures. On these measures, loneliness declined and perceived social support increased for all groups to an equal extent, while perceived social isolation remained unchanged.

This study shows that mindfulness training can decrease daily ratings of loneliness and increase daily social interactions, but only when acceptance training is included in the intervention. This suggests that heightened attention to the present moment alone is not sufficient to reduce loneliness. The authors speculate that mindful acceptance diminishes the perception of social threat, allowing people to lower their internal barriers to social engagement.
First responders such as firefighters, police, and EMTs are regularly exposed to stressful and traumatic experiences. These experiences put them at increased risk for depression, anxiety disorders, PTSD, and alcoholism. There is a considerable interest in developing workplace programs that can increase first responders’ resilience to and recovery from stressful experiences.

Joyce et al. [Journal of Medical Internet Research] tested the efficacy of an online Resilience-at-Work (RAW) Mindfulness Program on firefighter resilience and wellbeing. The researchers randomly selected 12 Australian fire stations as workplaces where firefighters could receive RAW training and 12 additional stations as attention-matched controls. A total of 143 firefighters (96% male, average age = 42) volunteered to participate, 79 of whom were available for post-treatment assessment, and 69 for a 6-month follow-up. Controls had a higher 6-week drop-out rate (54%) than RAW participants (32%).

RAW training consisted of six self-paced 20-25 minute iPad lessons that were to be completed over a period of up to 6 weeks. The lessons included aspects of Mindfulness-Based Cognitive Therapy and Acceptance and Commitment Therapy with additional training in self-compassion. The control condition completed six 20-minute Healthy Living lessons covering a range of topics such as skin health, maintaining a healthy home, and using cell phones wisely.

Self-reports were completed at baseline, post-intervention, and 6-month follow-up on measures of resilience (adaptation to stressful life events), bounce-back resilience, and other psychological measures.

RAW participants completed an average of 3.5 of the six trainings with only 37% completing the entire program. RAW participants increased their resilience scores more than controls. This difference approached significance at immediate post-testing and reached significance by the 6-month follow-up (a moderate-to-large effect). There were no group differences in bounce-back resilience.

In secondary analyses, positive changes in resilience were significantly greater for those who completed the greatest number of sessions. Change scores on a 10-point resilience scale ranged from -1.78 points for controls to +2.6 for RAW participants who completed the program. RAW participants were significantly more optimistic at post-testing, and significantly more likely to seek advice and emotional support from others. These differences were no longer significant at 6 months.

At the 6-month follow-up, RAW participants had higher levels of active coping than controls. RAW participants who completed 5-6 lessons were significantly more mindful than controls at both 6 weeks and 6 months, whereas participants who completed 4 or fewer sessions were not.

The study demonstrates that a targeted mindfulness training program increases some aspects of firefighter resilience (distress tolerance, positive adjustment, and perseverance), but not bounce-back resilience. The more lessons firefighters completed, the greater their improvements in both mindfulness and resilience.

RAW is a promising, inexpensive workplace program that can potentially improve first responder resilience. The study’s weaknesses include its high dropout rate, low level of compliance with the intervention, and reliance on only self-report measures.