

Smartphone-based mindfulness training reduces loneliness, increases social contact

February 11 2019



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Used in the right way, smartphones may not be as isolating as some would think. A new Carnegie Mellon University study suggests smartphone-based mindfulness training may help individuals feel less

lonely and motivate them to interact with more people.

The researchers also found acceptance skills training to be a critical active ingredient for improving these social functioning outcomes.

The Carnegie Mellon study demonstrates a novel approach that harnesses widely available technology to address loneliness and social isolation, a growing public health concern across [age groups](#). The findings have been published in the *Proceedings of the National Academy of Sciences*.

"When we talk about mindfulness interventions, we talk about two key components," said J. David Creswell, associate professor of psychology in CMU's Dietrich College of Humanities and Social Sciences. "The first is learning to use your attention to monitor your present-moment experiences, whether that's noting body sensations, thoughts or images. The second is about learning to adopt an attitude of acceptance toward those experiences—one of openness, curiosity and non-judgment."

For example, someone engaging in meditation might notice pain in his or her knee. Mindfulness training programs instruct participants to mentally note the sensation but not alter their physical state. In the Carnegie Mellon study, participants receiving training in acceptance skills were encouraged to respond to these uncomfortable experiences by saying "yes" in a gentle tone-of-voice to maintain an open and welcoming state of mind.

"Learning to be more accepting of your experience, even when it's difficult, can have carryover effects on your social relationships. When you are more accepting toward yourself, it opens you up to be more available to others," Creswell said.

In the study, 153 adults were randomly assigned to one of three 14-day smartphone-based interventions. For 20 minutes each day, one

mindfulness training group received training in monitoring and acceptance skills, a second mindfulness group received training in monitoring skills only, and a third group received no mindfulness content and instead received guidance in common coping techniques. In addition, they were instructed to complete brief homework practice lasting no more than 10 minutes daily. For three days before and after the intervention, participants completed periodic assessments throughout the day to measure loneliness and [social contact](#).

Participants that received training in monitoring and acceptance skills saw the greatest benefits: they reduced daily life loneliness by 22 percent and increased social contact by an average of two interactions each day. The monitoring only mindfulness group, which did not get acceptance skills training, did not show these benefits—suggesting that acceptance skills training may be a critical ingredient for the social benefits of [mindfulness training](#) programs.

"Loneliness and [social isolation](#) are among the most robust known risk factors for poor health and early death. But so far, few interventions have been effective for reducing loneliness and increasing social contact. Our research shows that a 14-day smartphone-based mindfulness program can target both, and that practice in welcoming and opening to all of our inner experiences—good or bad—is the key ingredient for these effects," said Emily Lindsay, who led the study as a Ph.D. student at CMU and is now a research scientist at the University of Pittsburgh.

The study, "Mindfulness [training](#) reduces loneliness and increases social contact in a randomized controlled trial," is co-authored by Shinzen Young of the University of Vermont, Kirk Brown of Virginia Commonwealth University and Joshua Smyth of the Pennsylvania State University.

More information: Emily K. Lindsay et al., "Mindfulness training

reduces loneliness and increases social contact in a randomized controlled trial," *PNAS* (2019).

www.pnas.org/cgi/doi/10.1073/pnas.1813588116

Provided by Carnegie Mellon University

Citation: Smartphone-based mindfulness training reduces loneliness, increases social contact (2019, February 11) retrieved 14 January 2023 from

<https://medicalxpress.com/news/2019-02-smartphone-based-mindfulness-loneliness-social-contact.html>

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