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Mindfulness Improves Reading Ability, Working Memory, and Task-Focus, say UC Santa Barbara Researchers

If you think your inability to concentrate is a hopeless condition, think again –– and breathe, and focus. According to a study by researchers at the UC Santa Barbara, as little as two weeks of mindfulness training can significantly improve one's reading comprehension, working memory capacity, and ability to focus.

Their findings were recently published online in the empirical psychology journal Psychological Science.

"What surprised me the most was actually the clarity of the results," said Michael Mrazek, graduate student researcher in psychology and the lead and corresponding author of the paper, "Mindfulness Training Improves Working Memory Capacity and GRE Performance While Reducing Mind Wandering." "Even with a rigorous design and effective training program, it wouldn't be unusual to find mixed results. But we found reduced mind-wandering in every way we measured it."

Many psychologists define mindfulness as a state of non-distraction characterized by full engagement with our current task or situation.

For much of our waking hours, however, we are anything but mindful. We tend to replay past events –– like the fight we just had or the person who just cut us off on the freeway –– or we think ahead to future circumstances, such as our plans for the weekend.

Mind-wandering may not be a serious issue in many circumstances, but in tasks requiring attention, the ability to stay focused is crucial.

To investigate whether mindfulness training can reduce mind-wandering and thereby improve performance, the scientists randomly assigned 48 undergraduate students to either a class that taught the practice of mindfulness or a class that covered fundamental topics in nutrition. Both classes were taught by professionals with extensive teaching experience in their fields. Within a week before the classes, the students were given two tests: a modified verbal reasoning test from the GRE (Graduate Record Examination) and a working memory capacity (WMC) test. Mind-wandering during both tests was also measured.

The mindfulness classes provided a conceptual introduction along with practical instruction on how to practice mindfulness in both targeted exercises and daily life. Meanwhile, the nutrition class taught nutrition science and strategies for healthy eating, and required students to log their daily food intake.

Within a week after the classes ended, the students were tested again. Their scores indicated that the mindfulness group significantly improved on both the verbal GRE test and the working memory capacity test. They also mind-wandered less during testing. None of these changes were true of the nutrition group.

"This is the most complete and rigorous demonstration that mindfulness can reduce mind-wandering, one of the clearest demonstrations that mindfulness can improve working memory and reading, and the first study to tie all this together to show that mind-wandering mediates the improvements in performance," said Mrazek. He added that the research establishes with greater certainty that some cognitive abilities often seen as immutable, such as working memory capacity, can be improved through mindfulness training.

Mrazek and the rest of the research team –– which includes Michael S. Franklin, project scientist; mindfulness teacher and research specialist Dawa Tarchin Phillips; graduate student Benjamin Baird; and senior investigator Jonathan Schooler, professor of psychological and brain sciences –– are extending their work by

investigating whether similar results can be achieved with younger populations, or with web-based mindfulness interventions. They are also examining whether or not the benefits of mindfulness can be compounded by a program of personal development that also targets nutrition, exercise, sleep, and personal relationships.

For more information on the mindfulness training program, contact Dawa Tarchin Phillips at (805) 680-3988 or phillips@psych.ucsb.edu.

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