Medical Xpress

Zen training speeds the mind's return after distraction, brain scans reveal

September 3 2008

Experienced Zen meditators can clear their minds of distractions more quickly than novices, according to a new brain imaging study.

After being interrupted by a word-recognition task, experienced meditators' brains returned faster to their pre-interruption condition, researchers at Emory University School of Medicine found.

The results will be published online by the journal *Public Library of Science One (PLoS ONE)*.
http://dx.plos.org/10.1371/journal.pone.0003083

Giuseppe Pagnoni, PhD, Emory assistant professor of psychiatry and behavioral sciences, and co-workers used functional magnetic resonance imaging (fMRI) to examine changes in blood flow in the brain when people meditating were interrupted by stimuli designed to mimic the appearance of spontaneous thoughts.

The study compared 12 people from the Atlanta area with more than three years of daily practice in Zen meditation with 12 others who had never practiced meditation.

While having their brains scanned, the subjects were asked to focus on their breathing. Every once in a while, they had to distinguish a real word from a nonsense word presented at random intervals on a computer screen and, having done that, promptly "let go" of the just processed stimulus by refocusing on their breath.

The authors found that differences in brain activity between experienced meditators and novices after interruption could be seen in a set of areas often referred to as the "default mode network." Previous studies have linked the default mode network with the occurrence of spontaneous thoughts and mind-wandering during wakeful rest.

After interruption, experienced meditators were able to bring activity in most regions of the default network back to baseline faster than non-meditators. This effect was especially prominent in the angular gyrus, a region important for processing language.

"This suggests that the regular practice of meditation may enhance the capacity to limit the influence of distracting thoughts. This skill could be important in conditions such as attention deficit and hyperactivity disorder, obsessive-compulsive disorder, anxiety disorder and major depression, characterized by excessive rumination or an abnormal production of task-unrelated thoughts," Pagnoni says.

Source: Emory University

Citation: Zen training speeds the mind's return after distraction, brain scans reveal (2008, September 3) retrieved 19 April 2024 from https://medicalxpress.com/news/2008-09-zen-mind-distraction-brain-scans.html

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