Meditation May Physically Alter Brain

Research Shows 'Western-Style' Meditation May Slow Age-Related Brain Deterioration

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Nov. 15, 2005 -- Early research suggests that daily meditation can alter the physical structure of the brain and may even slow brain deterioration related to aging.

The study showed that parts of the brain known as the cerebral cortex were thicker in 20 people who meditated for as little as 40 minutes a day, compared with 15 people who did not meditate.

The region plays a critical role in decision making, working memory, and brain-body interactions, researcher Sara Lazar, PhD, tells WebMD.

Lazar is a research scientist at Harvard Medical School's Massachusetts General Hospital. She presented the study at Neuroscience 2005, the annual meeting of the Society for Neuroscience. It also appears in the latest issue of the journal NeuroReport.

Western-Style Meditation

The findings are not the first to suggest that meditation can change the way the brain works and that this change can be measured through brain imaging. Recent studies involving Buddhist monks in Tibet suggest that meditation alters key electrical impulses within the brain.

But the monks in the study had devoted their lives to the practice of meditation. The 20 people who meditated in the latest research did so for an average of about six hours a week, with some meditating for as little as four hours weekly.

"Our findings provide the first evidence that alterations in brain structure are associated with Western-style meditation practice, possibly reflecting increased use of specific brain regions," Lazar says.

Specifically, brain regions associated with attention, sensory processing, and sensitivity to stimulation originating within the body were thicker in the meditators. There was also some suggestion that meditation may protect against age-related thinning of this specific region of the brain.

"We are talking about a small but important region involved in working
memory, which has been shown to decrease rapidly during aging," Lazar says.

**Dalai Lama Weighs In**

The study is one of several exploring the potential impact of meditation on the brain presented at the Society for Neuroscience meeting. The topic was widely covered by the media, thanks to the presence of the Dalai Lama at the meeting.

In a speech to the group on Saturday, the Tibetan spiritual and political leader told the gathered neuroscientists that they should increase their efforts to understand how meditation and similar practices affect brain activity.

The question is getting a lot of attention from the media, but Harvard Medical School professor of psychology Stephen Kosslyn, PhD, tells WebMD that the hype is getting ahead of the science.

Kosslyn moderated a seminar in which the new studies on meditation and brain activity were presented.

"These studies show that it is possible to do science on this topic, but it is much too early to conclude anything at all from them," he says.

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