

Study finds link between daydreaming, Alzheimer's ; Tina Hesman St. Louis Post-Dispatch; ; Charleston Gazette ; 10-31-2005 ;

Study finds link between daydreaming, Alzheimer's

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By the numbers * Alzheimer's disease affects as many as 4.5 million Americans. * The level of activity in the brain is so high that the organ, which comprises about 2 percent of body weight, consumes about 20 percent of the body's energy. s A team of scientists from Washington University and the University of Pittsburgh used five imaging techniques to map the brains of 746 people. * The data could mean that thought wears down more active regions of the brain, leaving them vulnerable to Alzheimer's.

ST. LOUIS - Stop daydreaming and read this story.

It could hold off Alzheimer's disease from vulnerable areas of your brain - for a few more minutes.

A new Washington University study shows that the part of your brain used to daydream is the first to be attacked by Alzheimer's.

A team of scientists from Washington University and the University of Pittsburgh used five imaging techniques to map the brains of 746 people. The researchers found that parts of the brain involved in daydreaming, musing, mulling and reliving memories in young people were the first places where neuron-damaging plaques are deposited in people on the brink of dementia.

The data could mean that thought wears down more active regions of the brain, leaving them vulnerable to attack from Alzheimer's.

The finding, published in the Journal of Neuroscience in August, seems to run counter to the popular keep-your-brain-active theory for staving off the degenerative brain disease.

"How to reconcile the present findings that may suggest use it and lose it with the use it or lose it theory, I just don't know," said Randy L. Buckner, the research team's leader.

Alzheimer's disease affects as many as 4.5 million Americans. It is a degenerative brain disease that erodes thought, language and memory. The disease results when abnormal clumps of protein, called amyloid plaques, and tangles of another protein known as tau, interfere with brain cell function and cause the cells to die.

The finding also seems counterintuitive to most people's impression of the "default state," as another Washington University researcher, Dr. Marcus Raichle, named the resting state of the brain. Raichle was not involved in the current study.

The default state makes itself known consciously through daydreams and random thoughts that pop into your head. It's the system responsible for helping you recall - 20 minutes later - the name attached to that familiar face you just saw.

The brain isn't just relaxing when not actively engaged in thought, Raichle said.

"We are using our brain virtually all of the time and we're using it at a high level," he

said.

The level of activity in the brain is so high that the organ, which comprises about 2 percent of body weight, consumes about 20 percent of the body's energy.

"It's a very expensive gadget to run," Raichle said.

And the parts of the brain most active in the default state never shut off, Raichle said. They consume the most energy when the brain is resting and they work behind the scene of conscious thought processing information.

All that activity could set off metabolic processes that lead to plaque formation, Buckner and his colleagues speculated. But they still don't know how daydreaming and Alzheimer's are connected.

The new study is the first to correlate images showing where amyloid plaques congregate with brain function maps.

The data linking default parts of the brain with the disease are still correlative and don't show that daydreaming causes Alzheimer's, said Dr. Michael Greicius, director of the Stanford Memory Clinic at Stanford University.

"I think it [daydreaming] may be a risk factor, but I think it's impossible to avoid," Greicius said. And default activity is probably necessary to build memories, process information and formulate plans, he said.

Buckner is not ready to say that musing is bad for the brain.

"I'm surely not proposing eliminating daydreaming," he said. "I daydream plenty and I plan to continue to do so."

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