

# Brain Falters Near End of Life, but Games, Puzzles Might Slow Decline

**Researchers suspect several factors may be linked to deterioration, not just Alzheimer's**

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*HealthDay Reporter*

WEDNESDAY, April 4 (HealthDay News) -- New research offers insights into the mysterious phenomenon of rapid cognitive decline in the two or three years before death, and confirms that intellectually challenging activities can help keep your mind sharp.

"Part of what your brain is like in old age has to do with what you're asking it to do on a regular basis," said Robert Wilson, professor of neurological sciences and behavioral sciences at Rush University Medical Center in Chicago and lead author of two new studies. "Engaging in mentally stimulating activities is one course to improving the health of your brain."

One of the studies focused on the rapid decline in cognitive function in the last few years of life. Not everyone suffers from this, but it's a common phenomenon, Wilson said.

Scientists aren't quite sure why this happens. Is the decline caused by aging? The dying process? Or perhaps by Alzheimer's disease?

In the study, the researchers analyzed the lives of 174 members of religious orders, including priests and nuns, who began taking part in a medical research project in 1997. At an average of approximately two-and-a-half years before death, the participants' assorted memory and thinking abilities declined at rates eight to 17 times faster than before this end-of-life period.

The study suggests that while Alzheimer's disease may nudge the mental decline early on, other causes seem to be at play when the decline speeds up in the years just before death, Wilson said. "We think the underlying factors may shift as we move from mild changes to rapid changes," he said.

Because the changes before death affect several areas of the brain's functioning, beyond memory, this suggests that more than a single disease is responsible, said Hiroko Dodge, an associate professor of neurology at Oregon Health and Science University and co-author of a commentary accompanying the study.

Can people do anything to prevent the mind from declining in old age? A second study suggests that's a possibility -- through activities such as reading, playing board games, and doing crossword puzzles.

The concept that mental activity affects mental acuity later in life isn't new. But the second study, which tracked almost 1,100 people -- average age, 80 -- in the Chicago area, does

seem to answer important questions, Wilson said: Does being mentally active protect your mental and thinking skills over time? Or is it the other way around, that your mental and thinking skills affect your mental activity?

"We're asking a chicken-and-egg question," Wilson said. The answer appears to be the first one and not the second one. Even if their mental and thinking skills slipped, the study participants didn't engage any less in pursuits like reading. In other words, they stayed mentally active.

Also, being mentally active translated to better cognitive function, possibly because the brains of mentally active people are better able to handle damage over time, Wilson said.

The next step is to launch a study comparing people who engage in brain-boosting activities to those who don't, commentary co-author Dodge said. Such a study could confirm whether activities such as reading, socializing and playing bridge actually stave off mental decline.

But the logistics of such a study would be a challenge, she said, and finding federal funding another hurdle.

The new studies were published online April 4 in the journal *Neurology*, and were supported by the U.S. National Institute on Aging and the Illinois Department of Health.