



[Back to Education is key to avoiding dementia](#)

## Education is key to avoiding dementia

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People who stay in school longer are better equipped to compensate for the impact of dementia later in life and display fewer symptoms, a new study has found.

Researchers from England and Finland examined the brains of 872 people and found those with more education were just as likely to have physical signs of dementia in their brains after death.

But those with more years of schooling coped better with the deterioration and showed fewer behavioural signs.

"One message would be that formal education is a good thing to stay in as long as possible," said study co-author Dr. Hannah Keage of the University of Cambridge.

"Our study shows education in early life appears to enable some people to cope with a lot of changes in their brain before showing dementia symptoms."

The research, published in this week's edition of the journal *Brain*, showed the risk of dementia decreased by 11 per cent for every additional year of education.

She and her colleagues used data from three major U.K. and Finnish longitudinal studies on aging.

While past studies have shown a correlation, the new research is important because it indicates education is not preventive, but rather it equips the brain to compensate for the physical deterioration that occurs with dementia.

Dementia is a serious loss of cognitive abilities including reasoning, memory, attention and thinking, of which Alzheimer's disease is the most common form.

"This is yet another piece of evidence that you can have the pathology (disease) but not the dementia," said Dr. Jack Diamond, scientific director of the Alzheimer Society of Canada.

He said the symptoms of Alzheimer's occur when connections between nerve cells in the brain start breaking down. One theory is a more enriched environment, which includes education that trains and develops the brain, creates more connections and builds "cognitive reserves" for later in life.

How the brain compensates was beyond the scope of this study, but researchers suggested it could be related to better communication between the brain's nerve cells as a result of more schooling, or better executive functioning or declarative memory.

The researchers said the new study has important implications for public health at a time when populations in many countries are aging.

"It's important to know that education is not just a means to employment but for (long-term) health as well," said Keage.