

# People with more education may recover better from traumatic brain injury

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People with more years of education may be better able to recover from a traumatic brain injury, according to a study published in the April 23, 2014, online issue of *Neurology*, the medical journal of the American Academy of Neurology.

The study examined people with moderate to severe traumatic brain injuries, most of which were from [motor vehicle accidents](#) or falls. All were taken to the emergency department and spent time in the hospital after the injury and also for inpatient rehabilitation.

"After these types of injuries, some people are disabled for life and are never able to go back to work, while other people who have similar injuries recover fully," said study author Eric B. Schneider, PhD, of Johns Hopkins School of Medicine in Baltimore, Md., and a member of the American Academy of Neurology. "We understand some factors that lead to these differences, but we can't explain all of the variation. These results may provide another piece of the puzzle."

The [cognitive reserve](#) theory is that people with more [education](#) have a greater cognitive reserve, or the brain's ability to maintain function in spite of damage. The concept has emerged for brain disorders such as Alzheimer's disease, where

people with higher levels of education have been shown to have fewer symptoms of the disease than people with less education, even when they have the same amount of damage in the brain from the disease. But few studies have looked at how cognitive reserve may affect traumatic brain injury.

The study involved 769 people at least 23 years old and who had been followed for at least a year after their injury. Participants were grouped by [education level](#). A total of 185 participants, or 24 percent, did not finish [high school](#); 390, or 51 percent, had 12 to 15 years of education, or had finished high school and some post-secondary education; and 194, or 25 percent, had obtained at least an undergraduate degree, or had 16 or more years of education.

One year after the injury, 219 of the participants, or 28 percent, had no disability and were able to return to work or school. Only 23 people, or 10 percent, of those with no high school diploma were free of disability, compared to 136, or 31 percent of those with some college education and 76, or 39 percent, of those with a college degree.

"People with education equal to a [college degree](#) were more than seven times more likely to fully recover from their injury than people who did not finish high school," Schneider said. "And people with some [college education](#) were nearly five times more likely to fully recover than those without enough education to earn a [high school diploma](#). We need to learn more about how education helps to protect the brain and how it affects injury and resilience. Exploring these relationships will hopefully help us to identify ways to help people recover better from [traumatic brain injury](#)."

Provided by American Academy of Neurology

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