

# As Minds Get Quicker, Teenagers Get Smarter

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Adolescents become smarter because they become mentally quicker. That is the conclusion of a new study by a group of psychologists at University of Texas at San Antonio. “Our findings make intuitive sense,” says lead author Thomas Coyle, who conducted the study with David Pillow, Anissa Snyder, and Peter Kochunov. But this is the first time psychologists have been able to confirm this important connection. The study appears in the forthcoming issue of [\*Psychological Science\*](#), a journal published by the [Association for Psychological Science](#).

“Our research was based on two well-known findings, Coyle continues. “The first is that performance on intelligence tests increases during adolescence. The second is that processing speed”—the brain taking in and using new stimuli or information—“as measured by tests of mental speed also increases during adolescence.”

To find the relationship between these two phenomena, the UTSA psychologists analyzed the results of 12 diverse intelligence and mental speed tests administered to 6,969 adolescents (ages 13 to 17) in the 1997 National Longitudinal Survey of Youth. Intelligence was measured by performance on cognitive tests of diverse abilities, such as vocabulary knowledge, math facts, and mechanical comprehension. Mental speed showed up in timed tests of computing and coding—matching digits and words and other arithmetic tasks.

In both of these categories, the researchers could see that the older teenagers did better and worked faster than the younger ones. Then, running the data in numerous ways, they discovered that the measured increase of intelligence could be accounted for almost entirely by the increase in mental speed.

This is what they expected to find, says Coyle. After all, “performance on intelligence tests reflects, in part, the speed of acquiring knowledge, learning things, and solving problems.” Those cognitive processes, he says, are related to how fast the brain is working—and all that improves during the teenage years.

The work reinforces earlier theories about the relationship between increasing processing speed in the maturing brain and the cognitive development of children.