



TEEN CANNABIS USERS HAVE POOR LONG-TERM MEMORY IN ADULTHOOD

Heavy use of drug linked to changes in hippocampus, poor memory for life events

MARLA PAUL | MARCH 12, 2015

CHICAGO — Teens who were heavy marijuana users — smoking it daily for about three years — had an abnormally shaped hippocampus and performed poorly on long-term memory tasks, reports a new Northwestern Medicine study.

The hippocampus is important to long-term memory (also known as episodic memory), which is the ability to remember autobiographical or life events.

The brain abnormalities and memory problems were observed during the individuals' early twenties, two years after they stopped smoking marijuana.

Young adults who abused cannabis as teens performed about **18 percent worse** on long-term memory tests than young adults who never abused cannabis.

“The memory processes that appear to be affected by cannabis are ones that we use every day to solve common problems and to sustain our relationships with friends and family,” said senior author Dr. John Csernansky, the Lizzie Gilman professor and chair of psychiatry and behavioral sciences at Northwestern University Feinberg School of Medicine and Northwestern Memorial Hospital.

The study was published March 12 in the journal *Hippocampus*.

The study is among the first to say the hippocampus is shaped differently in heavy marijuana smokers and the different looking shape is directly related to poor long-term memory performance. Previous studies of cannabis users have shown either the oddly shaped hippocampus or poor long-term memory but none have linked them.

Previous research by the same Northwestern team showed poor short-term and working memory performance and abnormal shapes of brain structures in the sub-cortex including the striatum, globus pallidus and thalamus.

“Both our recent studies link the chronic use of marijuana during adolescence to these differences in the shape of brain regions that are critical to memory and that appear to last for at least a few years after people stop using it,” said lead study author Matthew Smith, assistant professor of psychiatry and behavioral sciences at the Feinberg School of Medicine.

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The study also found that **young adults with schizophrenia** who abused cannabis as teens performed about **26 percent more poorly on memory tests** than young adults with schizophrenia who never abused cannabis.

In the U.S., marijuana is the most commonly used illicit drug, and **young adults have the highest — and growing — prevalence of use. Decriminalization of the drug may lead to greater use.** Four states have legalized marijuana for recreational use, and 23 states plus Washington D.C. have legalized it for medical use. ■

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————— **OPPOSE the Decriminalization of Marijuana SB 753 & HB 218** —————



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