

Past marijuana use linked to worse verbal memory later in life

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Highlight: In adults, past exposure to marijuana was associated with worse verbal memory.

Body

Past exposure to marijuana is associated with worse verbal memory in middle age, but it does not seem to affect other areas of cognitive function, according to a study published in *JAMA Internal Medicine*.

In addition, researchers found that current marijuana use is not only associated with worse verbal memory, but it is also associated with reduced processing speed.

The study included 3,385 participants from the ***Coronary Artery Risk Development in Young Adults (CARDIA) study***, a cohort of black and white men and women aged 18 to 30 years at baseline from March 25, 1985, to June 7, 1986 (year 0). Each participant in the ***CARDIA study*** was followed for more than 25 years, from June 7, 1986, to August 31, 2011.

Reto Auer, MD, MAS, and colleagues analyzed 3 domains of cognitive function that were assessed at year 25: verbal memory (via the Rey Auditory Verbal Learning Test), processing speed (via the Digit Symbol Substitution Test), and executive function (via the Stroop Interference Test).

A total of 2,852 (84.3%) participants reported past [marijuana](#) use, with 392 (11.6%) continuing use into middle age. The researchers found an association between current marijuana users and worse verbal memory and processing speed.

Initially, cumulative lifetime marijuana use was associated with worse verbal memory, processing speed, and executive function. The researchers then adjusted the results for possible confounders, including demographic factors, cardiovascular risk factors, tobacco smoking, use of alcohol/illicit drugs, physical activity, depression, and results of the mirror star tracing test that participants took at year 2. After adjustment, there was no association between past marijuana use and lower executive function or processing speed; only verbal memory retained its association. For every 5 years of past exposure, verbal memory was reduced by 0.13 standardized units.

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"The public health challenge is to find effective ways to inform young people who use, or are considering using, marijuana about the cognitive and other risks of long-term daily use. Young adults may be skeptical about advice on the putative adverse health effects of marijuana, which they may see as being overstated to justify the prohibition on its use. More research on how young people interpret evidence of harm from marijuana and other drugs would be useful in designing more effective health advice," said Wayne Hall, PhD, of the University of Queensland, Australia, and Michael Lynskey, PhD, of Kings College London, in a related commentary.

References

Auer R, Vittinghoff E, Yaffe K, et al. Association between lifetime marijuana use and cognitive function in middle age: The **Coronary Artery Risk Development in Young Adults (CARDIA) Study**. *JAMA Intern Med*. Published online February 1, 2016. doi:10.1001/jamainternmed.2015.7841. Hall W, Lynskey M. Long-term marijuana use and cognitive impairment in middle age. *JAMA Intern Med*. Published online February 1, 2016. doi:10.1001/jamainternmed.2015.7850.

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