



Marijuana: Breaking Down the Buzz

Attitudes and laws are changing, but what does science have to say? And what can we learn from the history of cigarette smoking?

As lawmakers in some states legalize marijuana for adults and people with certain medical conditions, you may be confused about how safe it is.

But the science shows: Smoking marijuana on a regular basis can harm the developing teen brain. (See next page.)

We still have a lot to learn about marijuana's effects on health. But applying lessons from tobacco's past and understanding what scientists have already learned about marijuana can help us break down the hype.

The Tale of Tobacco

In the 1920s, researchers first linked smoking cigarettes to cancer. In 1957, the nation's top doctor—the U.S. Surgeon General—warned that cigarette smoking could cause lung cancer. In spite of this, until the 1970s, nearly half of adults in the United States smoked.¹ Tobacco

smoke was everywhere—including restaurants, bars, airplanes, offices, and theaters.

Because of mounting scientific evidence, limits were placed on smoking in public. But it wasn't until the mid-1960s (40 years after the lung cancer link was discovered!) that smoking rates began to significantly drop. From 1965 to 2011, rates for adults dropped 55 percent.² For teens, from 1991 to 2011, the drop was 34 percent.³ Although these decreases are an improvement, 480,000 people in the United States still die prematurely every year from smoking or secondhand exposure to smoke.⁴ In fact, tobacco, along with alcohol, is responsible for more drug-related disease and deaths than all illegal drugs combined.⁵

Is Marijuana the Next Tobacco?

Legalizing marijuana will likely make it easier to get and may increase the number of people who use it. But its use may also decline over time, as it did with tobacco, if people fully understand its harmful effects.

However, fewer young people now think marijuana is harmful than in the past.⁶ So how harmful is marijuana for teens? The science has a lot to say.



SCIENTIFIC FACTS ABOUT MARIJUANA

▶ Brain Effects

- Long-term, regular use of marijuana—starting in the teen years—may impair brain development and lower IQ, meaning the brain may not reach its full potential.⁷

- Decision making, memory, and concentration can suffer for days after use, especially in regular users.⁸

▶ Addiction Risk

- The risk for marijuana addiction almost *doubles* for people who begin using as teens (16 percent vs. 9 percent).⁹ Daily use increases the risk for addiction—to about 25–50 percent.¹⁰

- Risk for addiction depends on a person's genes, as well as his or her environment (social, economic, and emotional) and age. The younger the starting age, the greater the chances of addiction.

▶ Life Effects

For teens, frequent use of marijuana is linked to higher dropout rates, poorer grades, and driving accidents.¹¹

For adults, continued regular use is linked to financial struggles, unemployment, and life dissatisfaction.¹²

▶ Other Drug Use

Teens who use marijuana are more likely to use other drugs and develop drug problems compared with teens who don't. Researchers don't yet know if this is because of changes to the brain caused by marijuana or if it's because marijuana smokers may hang out with people who also use other drugs.

▶ Possible Increased Risk for Mental Disorders



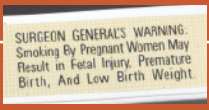
Marijuana use in adolescence has been linked to anxiety, depression, and schizophrenia, but scientists don't yet know whether it directly causes these diseases.

HASH OIL ALERT The honey-like resin from the marijuana plant has three to five times more THC (the main active ingredient in marijuana) than the plant itself. Smoking it (also called “dabbing”) can lead to dangerous levels of intoxication requiring emergency treatment.

Fire Warning: People have been burned in fires and explosions caused by attempts to extract hash oil using butane (lighter fluid).

Lessons From Tobacco: Back to the Future

If you want a clue how attitudes can change with facts, take a look at tobacco.

<p>1913 First modern cigarette introduced.</p>	<p>1920s–50s The height of tobacco advertising.</p> 	<p>1920s–40s Research links cancer to burned tobacco.</p>	<p>1957 The U.S. Surgeon General warns cigarette smoking can cause lung cancer.</p> 	<p>1964 <i>Surgeon General's Report on Smoking and Health</i> is issued.</p>	<p>1964 70 million people in the U.S. spend a total of \$8 billion per year on cigarettes.</p> 	<p>1960s–90s Warnings appear on cigarette packs. Cigarette ads are banned on TV and radio. Smoking is banned on U.S. commercial flights.</p>	<p>1998 Tobacco industry is fined \$206 billion for tobacco-related deaths and diseases.</p>	<p>2003–07 E-cigs (electronic cigarettes) are introduced worldwide.</p>	<p>2014 Worldwide, tobacco kills 6 million people each year. 600,000 are nonsmokers who die from secondhand smoke.¹³ Health officials urge limits and research on e-cigs.</p>
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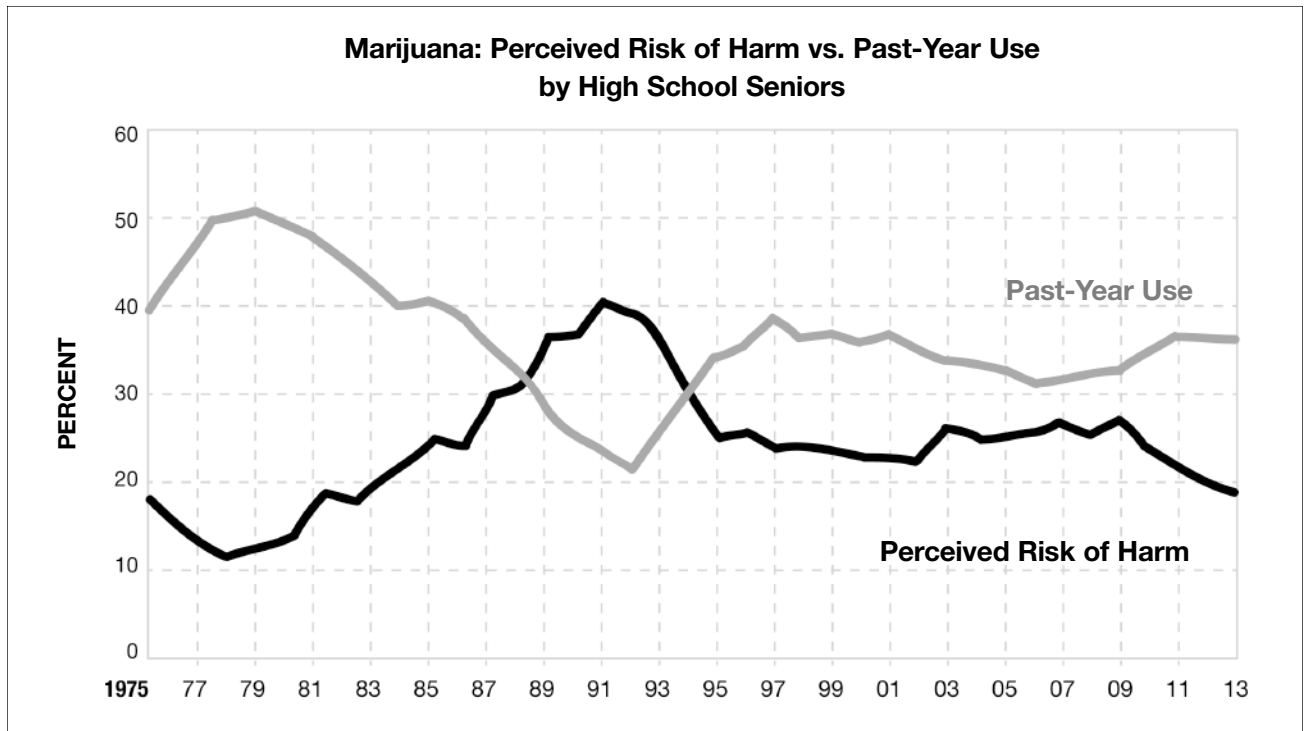
▶ **More Info:** For additional facts about the brain and drugs, visit scholastic.com/headsup and teens.drugabuse.gov.

More Info on Marijuana: <http://teens.drugabuse.gov/blog/mj>

SOURCES: ¹GALLUP; ²CENTERS FOR DISEASE CONTROL AND PREVENTION; ³THE LANCET; ⁴MONITORING THE FUTURE; ⁵THE LANCET; ⁶BRAIN; ⁷A JOURNAL OF NEUROLOGY AND PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA; ⁸JOURNAL OF ADDICTION MEDICINE; ⁹THE LANCET; ¹⁰W.D. HALL & P.L. PACULA; ¹¹ADDICTION JOURNAL; ¹²AMERICAN JOURNAL OF EPIDEMIOLOGY; ¹³ADDICTION JOURNAL. Photos: ad with doctor, courtesy of Gaslight; ad with woman, © Krista Kennell/Sipa Press/AP Photo; no-smoking symbol, © Racha Maysaluk/123RF.

Marijuana: Perception of Harm vs. Use

Science shows that smoking marijuana on a regular basis can impair development of the teen brain, lower IQ, and also increase the risk for addiction. But recent studies show that fewer young people now think marijuana is harmful than in the past. To find out more, study the graph below and then answer the questions that follow.



SOURCE: University of Michigan, 2013 Monitoring the Future Study

Questions *(Write your answers on separate paper as needed.)*

- a)** According to the graph, around what year did high school seniors increasingly start thinking of marijuana as harmful? _____ When did this trend change? _____

b) When did past-year use of marijuana among high school seniors begin to rise? _____
- According to the graph, how does understanding the harms of marijuana affect use?

- Referring to the article "Marijuana: Breaking Down the Buzz," identify at least two harmful effects marijuana could have on teens.

- Referring again to the article, why might teens today be confused about how safe marijuana is?
