

SUBSTANCE ABUSE PREVENTION

PROFESSIONAL DEVELOPMENT



FACT SHEET

HOW ADOLESCENT SUBSTANCE ABUSE IMPACTS LEARNING

The Adolescent Brain

During adolescence the brain goes through rapid development and wiring changes. The brain's frontal lobes, essential for functions such as emotional regulation, planning and organization, continue to develop through adolescence and young adulthood (American Academy of Pediatrics).

Adding substance use to the evolving adolescent brain can have devastating, long-lasting effects in and out of school.

For example, a huge burst of brain development occurs during adolescence and drinking alcohol during this crucial brain growth period can damage parts of the brain that control memory, judgment and decision making, impulse control and motor control – all essential brain functions that impact a student's learning and behavior in school and at home.¹

The Illinois Youth Survey Past 30-day Use Rates show us that alcohol is the drug of choice among teens, followed by e-cigarettes and then marijuana.² The nicotine in e-cigs stimulates the central nervous system and increases blood pressure, breathing, and heartrate. E-cigarette aerosol is not harmless. Nicotine exposure during adolescence can cause addiction and can harm the developing brain.³

Marijuana use has negative effects on attention, memory, and learning which can last for days or weeks. Students who smoke marijuana tend to get lower grades and are more likely to drop out of high school.⁴ A recent study showed that if teens begin regular marijuana use, an average of eight IQ points are lost forever, even if the drug use stops.⁵

Adolescent Substance Abuse and Academic Performance

Adolescent substance abuse increases the potential for declining grades, absenteeism from school and other activities, and increased potential for dropping out of school.⁶

Researchers report that heavy drinking during adolescence leads to lasting impairments in memory, reasoning and attention. Alcohol use in adolescents can result in up to a 10 percent reduction in verbal and non-verbal information recall, lower scores on vocabulary and memory tests as well as visual-spatial tests. Alcohol and other drug use also result in disturbed sleep cycles, which again impacts learning and memory.⁷

Underage drinking and other drug use can hinder a teen's brain-wiring development, damaging the impulse control and good judgment area of the brain, and harming the learning and memory parts of the brain. While the damage may not show up right away, when the person has to solve difficult relationship problems or perform complex higher-level math problems, performing those mental tasks may be more difficult for him or her.⁸

Additional Resources

[NIAAA Underage Drinking Fact Sheet](#)

[The Impact of Underage Drinking-Academic Success](#)

[The Impact of Underage Drinking-Brain Development](#)

References:

1. Prevention First-Virtual Clearinghouse. Underage Drinking Infographic – How Alcohol Affects the Teenage Brain. Web. 2 Dec. 2019.
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3. U.S. Department of Health and Human Services. E-Cigarette Use Among Youth and Young Adults: A Report of the Surgeon General. 2016. Web. 3 Dec. 2019.
4. Gonzalez and Swanson “Long-term effects of adolescent-onset and persistent use of cannabis” Proceedings of the National Academy of Sciences, October 2012, Vol 109, No 40, 15971
5. Office of Juvenile Justice and Delinquency Prevention. Drug Identification and Testing Summary: Extent of Substance Abuse Among Youth Involved in the Juvenile Justice System – Consequences of Youth Substance Abuse. May 1998. Web. 2 Dec. 2019.
6. Just Think Twice: How Does Drug Use Affect Your High School Grades? U.S. Government, DEA Website. n.d. Web. 2 Dec. 2019.
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8. South Carolina Department of Alcohol and Other Drug Abuse Services. South Carolina's Underage Drinking Discussion Guide. n.d. Web. 3 Dec. 2019.