THE EFFECTS OF ALCOHOL ON STUDENT SUCCESS



The prefrontal cortex – often called the control center of the brain – is responsible for judgment, behavior, and impulse control. Even low levels of alcohol have a negative impact on planning, organizing, managing time, and paying attention.



The hippocampus is key for memory and learning. Alcohol can block an important receptor responsible for processing and storing memories – an effect that's more pronounced in adolescents than in adults with fully developed brains.



The cerebral cortex is where higher brain functions (language, memory, consciousness) occur. Teen brains can be less reactive than adult brains to signals that it's time to stop drinking, and more susceptible to dangerous behaviors like binge drinking.

- Use of alcohol, especially excessive use (binge drinking), can negatively affect a student's ability to balance schoolwork with social life. - By Impairing hippocampus function, alcohol use disrupts learning and memory, which can impact studying and class performance. Alcohol also disrupts sleep, which is essential for transferring information to long-term memory - like when you study for a test. - Brains of people in their teens and early twenties are less responsive than brains of older adults to signals that it is time to stop drinking. The high alcohol levels achieved with binge drinking can cause safety and legal issues.







The hypothalamus releases hormones as a way





STOP UNDERAGE DRINKING.

The medulla controls vital functions such as breathing

The cerebellum controls balance and muscle coordination.

to manage emotions and impulses. Alcohol suppresses normal hormonal responses to stress in adolescents; heavy drinking may lead to life-long changes in how this system responds to stress.

- Alcohol can shift decision-making away from the pre-frontal cortex toward emotional and impulse drives, often resulting in risky behaviors and unhealthy decisions. and the beating of the heart. When a person has been drinking heavily, it's possible for these functions to slow down or even stop completely.

 Excess drinking can cause breathing and heart issues that may require emergency medical assistance. Drinking alcohol inhibits motor function and slows reaction time – which is why it's so difficult and dangerous to drive after drinking.

 Alcohol impairs many aspects of athletic performance.
It is also a reason why it is difficult and dangerous to drive after drinking alcohol and why heavy drinking can lead to accidents and emergency room visits.

START THE CONVERSATION.

talkitoutnc.org

0U

Sources:

S.K. Acheson, C. Bearison, M.L. Risher, S.H. Abdelwahab, W.A. Wilson, and H.S. Swartzwelder, "Effects of Acute or Chronic Ethanol Exposure During Adolescence on Behavioral Inhibition and Efficiency in a Modified Water Maze Task," PLOS ONE 8:10: (2013), doi: 10.1371/journal.pone.0077768
L. S. Swartzwelder, W.A. Wilson, and M.I. Tayyeb, "Differential Sensitivity of NMDA Receptor-Mediated Synaptic Potentials to Ethanol in Immature Versus Mature Hippocampus, "Alcoholism: Clinical and Experimental Research 19: 320-23, 1995b. PMID: 7625564.
A.M. White and H.S. Swartzwelder, "Hippocampal Function During Adolescence: A Unique Target of Ethanol Effects," Annals of the New York Academy of Sciences 1021: 206-20, doi: 10.1196/annals.1308.026.
M.L. Logrip, C. Rivier, C. Lau, S. Im, J. Vaughan, and S. Lee, "Adolescent Alcohol Exposure Alters the Rat Adult Hypothalamic-Pituitary-Adrenal Axis Responsiveness in a Sex-Specific Manner," Neuroscience 235 (2013): 174-86, doi: 10.1016/j.neuroscience.2012.12.069.
Melissa L. Langhan, "Acute Alcohol Intoxication in Adolescents: Frequency of Respiratory Depression," The Journal of Emergency Medicine 44, Issue 6 (June 2013): 1063-69.
Luo, "Effects of Ethanol on the Cerebellum: Advances and Prospects," Cerebellum 14, (2015): 383-85, doi: 10.1007/s12311-015-0674-8.