

Montclair State University
Counseling and Psychological Services (CAPS)
Alcohol and Memory/Learning

Alcohol inhibits a part of your brain called the hippocampus. It is this region of the brain that is vital to the formation of new memories. So if you have alcohol in your system while you are in class or studying calculus you are less likely to store this information in your memory. Learning and storing memories are a complex process so it is not that simple as to just avoiding alcohol while you are studying for a big test of memorizing intricate plays. Rather, your brain is working hard to turn the information you have studied into memories even after you have stopped thinking about it. So going out drinking after spending the day in the library studying will likely negate all your hard work, as your brain is unable to turn that information into memories.

Alcohol And Your Brain

Alcohol is a depressant. The more you drink, the more "depressed" your brain activity becomes. As you continue to drink and alcohol levels increase, specific parts of the brain are affected more significantly.

The cerebrum is the part of your brain that controls advanced functions like recognition, vision, reasoning, and emotion. At the lowest levels, alcohol lowers inhibitions, and affects judgment. As alcohol levels increase, vision, movement, and speech are impaired. This occurs at a blood alcohol level of .01% -.30%.

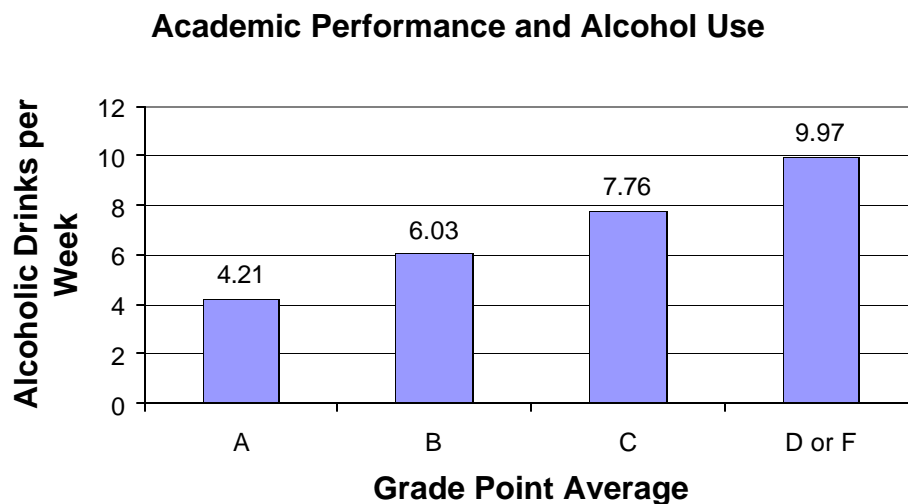
The cerebellum is the part of your brain that is involved with coordinating movement. Alcohol consumption causes problems with coordination, reflexes, and balance. This occurs at a blood alcohol level of .15-.35%.

The medulla is the part of your brain that controls basic survival functions such as breathing and heartbeat. When you've consumed so much alcohol that the medulla is affected, your brain's ability to control respiration and heart rate is severely diminished. Your heart rate can drop and breathing cease, causing death, at blood alcohol levels as low as .30%.

In fact, a recent study suggests that brain damage can occur even after a few days of "binge drinking." The equivalent of 10 drinks on two consecutive days damaged the brain's structure in rats responsible for smell, which is comparable to the frontal cortex in humans involved in judgment and

The Cost to Your Body: Academic Performance

If doing well in school is important here is some valuable information. A 1997 survey of over 197 colleges and universities and 93,000 students, conducted by CORE Institute found that grade point average steadily decreases the more students drink each week.



➤ **As depicted in the graph, students who often receive A's have on average 4.21 drinks per week while those students who receive D's and F's have about 9.97 drinks per week**

How Many Drinks Did You Have This Past Week?

Adapted from:

Pumped: Straight Facts for Athletes about Drugs, Supplements, and Training, C. Kuhn, S. Swartzwelder, and W. Wilson (New York: W.W. Norton, 2000).

Obernier, J.A., Bouldin, T.W., & Crews, F.T. (2002). Binge Ethanol Exposure in Adult Rats Causes Necrotic Cell Death. *Alcoholism: Clinical & Experimental Research*, 26:547-557

Presley, C.A., Leichliter, J.S., & Meilman, P.W. (1998). Alcohol and drugs on college campuses: A report to college presidents. Third in series 1995, 1996, 1997. Carbondale, Illinois, the Core Institute.

The information provided is for educational purposes only and in should not substitute consultation with a trained professional.

Counseling and Psychological Services

Gilbreth House 973-655-5211