



## Effects of Binge Drinking on Adolescent Girls

The effects of binge drinking on the brain appear to be more pronounced in adolescent girls than in adolescent boys. Binge drinking is defined as 4-5 or more drinks on one occasion. A recent study found that [binge drinking](#) can affect a teens' spatial working memory. This may cause teens to be unable to perceive the space around them and then work with that information.

The study, led by researcher Susan F. Tapert of the VA San Diego Healthcare System, looked at adolescent female and male binge drinkers and controls who did not binge drink. Tapert notes, "Even though adolescents might physically appear grown up, their brains are continuing to significantly develop and mature, particularly the frontal brain regions that are associated with higher-level thoughts, like planning and organization." The study found that heavy drinking could affect normal brain cell growth. Differences, especially in the frontal brain regions, can cause interference with teens' ability to perform in school and sports. This interruption of brain cell growth could also have long term effects.

“

Even though adolescents might

---

physically appear grown up, their  
brains are continuing to significantly  
develop and mature...

Researchers interviewed 95 teens and tested their spatial working memory during a brain scan. The findings were that binge drinking teen girls had less activation of several brain areas than non-drinking girls when doing the same spatial task.

Because of the biological differences between boys and girls, researchers note that they represent distinctive groups which require separate or parallel study. They suggest that hormonal or metabolic differences between boys and girls may be the cause of the differences. Boys who binge drink showed less pronounced effects of binge drinking.

## Research in Action

Discuss [binge drinking](#) with your children. Make sure they know to call 911 if anyone ever passes out after drinking. Alcohol poisoning can be deadly.

Stress gender differences with teen girls. They need to know that you do not approve of underage drinking. Explain that it is especially dangerous to keep up with boys who drink a lot.