

Brain activity may predict teens' heavy drinking

August 8 2012

Heavy drinking is known to affect teenagers' developing brains, but certain patterns of brain activity may also help predict which kids are at risk of becoming problem drinkers, according to a study in the September issue of the *Journal of Studies on Alcohol and Drugs*.

Using special [MRI scans](#), researchers looked at 40 12- to 16-year-olds who had not started drinking yet, then followed them for about 3 years and scanned them again. Half of the teens started to drink alcohol fairly heavily during this interval. The [investigators](#) found that kids who had initially showed less activation in certain [brain areas](#) were at greater risk for becoming [heavy drinkers](#) in the next three years.

Then once the teens started drinking, their [brain](#) activity looked like the heavy drinkers' in the other studies – that is, their brains showed more activity as they tried to perform memory tests. This pattern of heavy drinking typically included episodes of having four or more drinks on an occasion for females and five or more drinks for males.

"That's the opposite of what you'd expect, because their brains should be getting more efficient as they get older," said lead researcher Lindsay M. Squeglia, Ph.D., of the University of California, San Diego.

The findings add to evidence that heavy drinking has consequences for teenagers' developing brains. But they also add a new layer: there may be [brain activity](#) patterns that predict which kids are at increased risk for heavy drinking.

"It's interesting because it suggests there might be some pre-existing vulnerability," Squeglia said.

That doesn't mean [teenagers](#) are going to start having MRI scans of their brains to see which ones might start drinking. But the findings do give clues into the biological origins of kids' problem drinking.

These findings also reinforce the message that heavy drinking may affect young people's brains right at the time when they need to be working efficiently.

"You're learning to drive, you're getting ready for college. This is a really important time of your life for cognitive development," Squeglia said. She noted that all of the study participants were healthy, well-functioning kids. It's possible that teens with certain disorders -- like depression or ADHD -- might show greater effects from heavy drinking.

More information: Squeglia, L. M., Pulido, C., Wetherill, R. R., Jacobus, J. Brown, G. G., & Tapert, S. F. (September 2012). Brain response to working memory over three years of adolescence: influence of initiating heavy drinking. *Journal of Studies on Alcohol and Drugs*, 73(5), 749.

Provided by Journal of Studies on Alcohol and Drugs

Citation: Brain activity may predict teens' heavy drinking (2012, August 8) retrieved 25 April 2024 from <https://medicalxpress.com/news/2012-08-brain-teens-heavy.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.