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Research finds similar neural reactions among drinkers, abstainers

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College students who are light alcohol drinkers or abstainers react the same when they see alcohol as those who drink regularly or binge drink, according to a researcher at The University of Alabama.

Dr. Philip Gable, associate professor of social psychology at UA, recently completed a follow-up study to 2014 findings in which he concluded that alcohol cues, like pictures of alcoholic beverages, can cause the same myopic state, or narrowing of focus, in college students as drinking alcohol.

In the follow-up, Gable used Electroencephalography, or EEG, to measure activity of the left frontal lobe of the brain, a hemisphere of the brain related to approach motivation.

Gable found that, as with the previous study, the alcohol cues caused greater attentional narrowing than neutral cues. In this round, though, he found that brain activity in the left frontal lobe was greater in both drinkers and non-drinkers, which signaled equal motivation toward the visual cues of alcohol.

"Half of the sample were light drinkers or abstainers, and half reported binge drinking in the past month," Gable said. "What's interesting is that we weren't able to find differences between those groups.

"That's evidence that it's not related to drinking behavior. What is it about these college student who have never had a drink of alcohol, but

when they see a picture, they have this response? What is it that's causing this? Is it advertisements, is it culture, is it media?"

The motivations to drink alcohol and patterns of future drinking can be related to the attentional narrowing – or zeroing-in – one has to a photograph of an alcoholic beverage.

And while the current study showed no difference to attentional response and brain activity based on one's drinking habits, Gable concluded that the more a person drinks, the stronger the effect of alcohol cues.

Heavy drinkers will suffer a greater myopic effect in response to alcohol cues. The myopic effect on both light and heavier drinkers can help researchers predict future drinking patterns.

Gable said the study is built on other studies that show alcohol alters brain activity. But Gable's recent findings illustrate that even the idea of alcohol may change the way we see the world around us and the way our brains activate.

Provided by University of Alabama in Tuscaloosa