

# Stress increases motivation, amount spent for alcohol, research finds

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James MacKillop, a former member of the UGA department of psychology, led research helping to explain cravings for alcohol and other drugs. He is now the Peter Boris Chair in Addictions Research at McMaster University. Credit: Peter Frey/UGA

The effects of stress can change the way heavy drinkers seek alcohol-and how much they're willing to spend to get it, a new University of Georgia study has found.

Co-authored by James MacKillop, a former UGA associate professor in the department of psychology, and Max Owens, a second-year graduate student in the Franklin College of Arts and Sciences' clinical psychology program, the study analyzes the way in which drinkers are motivated to purchase and use [alcohol](#) based on their recent life events.

"In brief, we are interested in using behavioral economics, which combines aspects of psychology and economics, to improve the measurement of an individual's motivation for alcohol and other drugs," said MacKillop, who is now the Peter Boris Chair in Addictions Research at McMaster University.

"The findings reveal that in addition to increasing desire for alcohol, acute stress increases the value for alcohol in several ways. For example, after the stress induction, the participants reported being willing to spend more money on alcohol and drinking to higher prices."

Mentored by MacKillop, Owens looked at data of non-treatment-seeking heavy drinkers, ones who had scores of eight or higher out of 40 on the Alcohol Use Disorders Identification Test. These AUDIT scores, often used in addiction research, indicate risky and harmful alcohol use.

"We found that, in the case of heavy drinkers, recalling [stressful life events](#) increased their estimated consumption of alcohol," Owens said.

"People from a variety of income levels were willing to spend more on alcohol after exposure to stress," he explained. "The participants were also less affected by the price of alcohol after exposure to stressful life events."

Individuals of a certain genotype of a gene called CRH-BP were also found to be more susceptible to the [effects of stress](#). Participants with this genotype reported a greater sensitivity to the stress induction in the

lab sessions. Therefore, heavy drinkers with this genotype of the CRH-BP gene may be more inclined to consume alcohol after stressful life events.

After being selected for the study, the [heavy drinkers](#) each participated in two in-person lab sessions. During the first session, participants were asked to describe both recent stressful and neutral life events. A detailed script was then written and recorded about the events described.

When the participants returned for the second session, they were exposed to two recordings of their recent visits. One was about the neutral events, while the other was about the stressful events mentioned in the previous visit.

Each neutral and stressful event exposure was followed by alcohol cues. In the cues, [participants](#) were asked to assess their urge for alcohol and the steps they would take to purchase it. Participants took alcohol assessments to indicate if the negative events changed their motivations and cravings.

"Negative mood states, and stress in particular, are very commonly reported as the triggers that lead to problematic drinking and relapse after treatment," MacKillop said. "More fully understanding the relationship between stress and drinking may ultimately inform improvement in treating [alcohol use disorders](#)."

Owens hopes the study's findings can be used to better understand, and subsequently develop, treatment of [alcohol addiction](#).

"The ultimate goal of this research is to inform the understanding of alcohol use," Owens said. "Treatment for addiction doesn't always work. It is important to understand what causes shifts in motivation for alcohol. Once it's understood, treatment of alcohol addiction can be better

designed."

**More information:** The full article, published online ahead of print, is available at [onlinelibrary.wiley.com/doi/10 ... 02/jeab.114/abstract](https://onlinelibrary.wiley.com/doi/10.1111/jeab.114)

Provided by University of Georgia

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