

Hold the Red Bull: Energy drinks don't blunt effects of alcohol, study finds

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Marketing efforts that encourage mixing caffeinated "energy" drinks with alcohol often try to sway young people to believe that caffeine will offset the sedating effects of alcohol and increase alertness and stamina.

But a new study led by researchers from the Boston University School of Public Health [BUSPH] and the Center for [Alcohol](#) and Addiction Studies at Brown University has found that the addition of caffeine to alcohol -- mixing Red Bull with vodka, for example -- has no effect on enhancing performance on a driving test or improving sustained attention or reaction times.

"There appears to be little or no protective benefit from the addition of caffeine to alcohol, with respect to the safe execution of activities that require sustained attention with rapid, accurate decisions," says the study, published in the February edition of the journal *Addiction*.

"The results of this study suggest that public education, via media and [warning labels](#), should be considered regarding the safety of CABs [caffeinated [alcoholic beverages](#)], and that regulators should scrutinize energy drink and CAB advertising as it relates to promoting safety-related expectancies."

The study, headed by Jonathan Howland, professor of community health sciences at BUSPH, comes amid increased government scrutiny of energy drinks, particularly when mixed with alcohol. Denmark has banned the sale of energy drinks, and the governments of Canada and

Sweden have issued warnings about mixing energy drinks with alcohol.

In 2009, the US [Food and Drug Administration](#) issued a statement expressing concern about a lack of safety data on CABs, after survey results showed that the consumption of such beverages correlated with risky behavior among college students.

Howland and his co-authors note that while energy drink companies do not explicitly advertise that their products should be mixed with alcohol, "non-traditional youth-oriented marketing strategies" include claims that such drinks will "enhance attention, endurance, performance, weight loss, and fun, while reducing performance decrements from fatigue or alcohol."

In the new study, the research team randomized 129 participants, ages 21 to 30, into four groups: one group that consumed caffeinated beer; a second that consumed non-caffeinated beer; a third that consumed caffeinated non-alcoholic beer; and a fourth that consumed non-caffeinated, non-alcoholic beer. Those receiving alcohol attained an average blood alcohol level of .12 g% - somewhat higher than 0.8 g%, the legal per se level for driving under the influence.

Thirty minutes after drinking, the participants were tested on a driving simulator and on a sustained attention/reaction time test.

The results indicate that caffeine does not mitigate the impairment effects of alcohol. On the driving test, the effect of alcohol on performance was significant -- but the addition of caffeine did not make a noticeable difference. On the test for sustained attention and reaction times, the addition of caffeine made only a slight difference that the study deemed "borderline significant."

Howland summed up the study results: "It is important that drinkers

understand that adding caffeine to alcohol does not enhance safety."

Consumption of [energy drinks](#) mixed with alcohol has mushroomed since 2001, with some surveys showing that one in four college students report mixing the two. Some studies have found that caffeine reverses alcohol-related performance impairment on tests of reaction time, attention and psychomotor speed, but not on error rates. Other studies have found that caffeine does not significantly impact alcohol-induced impairment of motor coordination.

Howland said the new study was one of the first to provide "a controlled evaluation of the acute effects of [caffeine](#) on driving impairment" after drinking to intoxication levels. The institutional review boards of Boston Medical Center, Brown University and the University of Michigan approved the study.

More information: The full study is available at:
[onlinelibrary.wiley.com/doi/10 ... 106.issue-2/issuetoc](https://onlinelibrary.wiley.com/doi/10.1002/ajim.106)

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