

Energy drink use patterns among young adults: Associations with drunk driving

MAJOR FINDINGS:

For several reasons, researchers have long speculated that energy drink (ED) consumption might increase the risk for drunk driving. First, ED consumption has been linked to heavier alcohol involvement in general. Second, other research has shown that bar patrons are more likely to plan on driving after drinking if they have been consuming EDs along with their alcohol (as opposed to just drinking alcohol).

This new study focused on how ED consumption might contribute to drunk driving risk in different ways. Young adult participants in the study were asked about the ways they consumed energy drinks. Because EDs are often consumed with alcohol, either mixed in a cocktail or during the same drinking session, it was important to account for all types of consumption (i.e., the number of times they drank alcohol and EDs on the same occasion, and the number of times they drank alcohol and EDs on separate occasions). These data were then entered simultaneously into a statistical model predicting drunk driving frequency, while accounting for demographics, other caffeine use, and other background risk factors.

Results indicated that ED consumption was common: 57% consumed EDs at least once during the past year. Those individuals could be further divided into 9% who drank EDs exclusively with alcohol, 16% who drank EDs exclusively without alcohol, and another 32% who drank EDs both with and without alcohol depending on the occasion. Drunk driving was also fairly common, with one in four (25%) having driven drunk at least once during the past year. Drunk driving prevalence varied depending on the pattern of ED and alcohol use, ranging from 14% among those who drank alcohol but not EDs, to 41% among those who drank EDs both with and without alcohol depending on the occasion.

Results of the structural model supported two distinct pathways from ED consumption to drunk driving. First, echoing prior research, more frequent consumption of EDs

mixed with alcohol predicted heavier alcohol drinking patterns overall (i.e., consuming more alcohol drinks on a given day), which, in turn, contributed to more frequent drunk driving. Second—and unexpectedly—more frequent consumption of EDs without alcohol also contributed directly to drunk driving frequency, regardless of alcohol drinking patterns.

Of major interest to:

- College Administrators
- Parents
- Educators
- Health Professionals
- Students
- Law and Policy Makers



Practice and Policy Suggestions:

Based on this study's findings that ED use both with and without alcohol contributed to more frequent drunk driving, parents and health care professionals should regard ED consumption as a possible marker for heavy alcohol consumption, drunk driving, and other alcohol-related consequences—even if EDs are consumed exclusively without alcohol. Drunk driving prevention strategies should specifically target ED users and caution against the risks of consuming EDs with alcohol. Parents and young adults should be made aware of the potential harms of mixing energy drinks and alcohol. Future research should explore the possibility that ED consumption might be a marker for underlying psychosocial characteristics that increase the propensity for drunk driving.

The complete publication referenced in this research brief can be found here: Arria, A.M., Caldeira, K.M., Bugbee, B.A., Vincent, K.B., O'Grady, K.E. (2016). Energy drink use patterns among young adults: Associations with drunk driving. *Alcoholism: Clinical and Experimental Research*. 40(11), 2456-2466. doi: 10.1111/acer.13229; PMC5074694

**About the College Life Study (CLS)**

The CLS is a longitudinal study of 1,253 college students at a large, public, mid-Atlantic university. This study is one of the first large-scale scientific investigations that aims to discover the impact of health-related behaviors during the college experience. Any first-time, first-year student between 17 and 19 years old at the university in the fall of 2004 was eligible to participate in a screening survey. The researchers then selected students to participate in the longitudinal study, which consisted of two-hour personal interviews administered annually, beginning with their first year of college. A full description of the methods used is available.^{1,2} Inherent to all self-reporting research methods is the possibility for response bias. Because the sample is from one large university, the ability to generalize the findings elsewhere is uncertain. However, response rates have been excellent and attrition bias has been minimal.

For more information about the study, please visit www.cls.umd.edu or contact Amelia M. Arria at the University of Maryland School of Public Health at aarria@umd.edu.

¹ Arria, A.M., Caldeira, K.M., O'Grady, K.E., Vincent, K.B., Fitzelle, D.B., Johnson, E.P., Wish, E.D. (2008). Drug exposure opportunities and use patterns among college students: Results of a longitudinal prospective cohort study. *Substance Abuse*. 29(4), 19-38. doi:10.1080/08897070802418451; PMC2614283

² Vincent, K.B., Kasperski, S.J., Caldeira, K.M., Garnier-Dykstra, L.M., Pinchevsky, G.M., O'Grady, K.E., Arria, A.M. (2012). Maintaining superior follow-up rates in a longitudinal study: Experiences from the College Life Study. *International Journal of Multiple Research Approaches*. 6(1), 56-72. doi:10.5172/mra.2012.6.1.56; PMC3255097

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