

Trajectories of energy drink consumption and subsequent drug use during young adulthood

MAJOR FINDINGS:

Highly caffeinated energy drinks are especially popular among youth and young adults.¹ Previous cross-sectional studies have found that young adults who consume energy drinks are more likely to also use tobacco, alcohol, marijuana, and other substances.^{2,3} However, little is known about the long-term relationship between substance use and energy drink consumption.

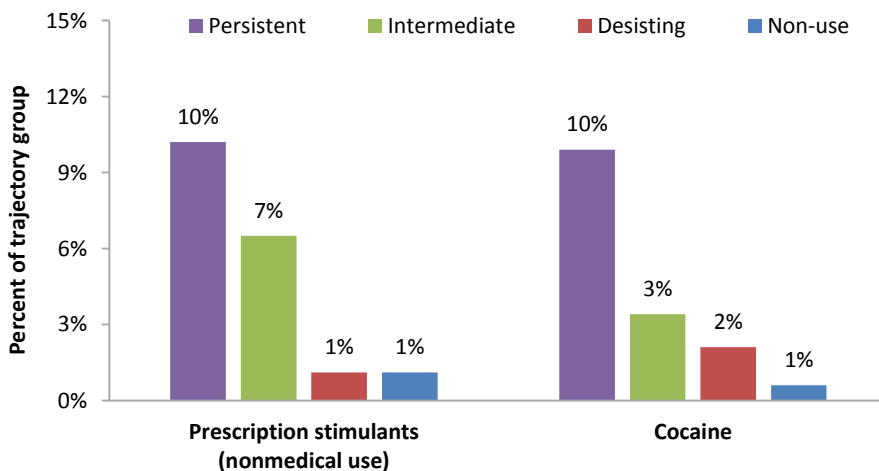
This study examined energy drink consumption and other substance use among a large sample of young adults during a five-year period (from age 21 to 25). At age 21, 63% of the sample reported consuming energy drinks during the past year, in contrast to 49% at age 25. There was also a decrease in how often energy drinks were consumed, from an average of 35 days per year at age 21 to 26 days per year at age 25.

The sample was categorized into four groups based on whether or not they consumed energy drinks each year from ages 21 to 24:

- **Non-users** (21% of the sample) had a low chance of consuming energy drinks during each year.
- **Desisting** users (11%) had a decreasing chance of consuming energy drinks from age 21 to age 24.
- **Intermediate** users (17%) had a consistently moderate chance of consuming energy drinks.
- **Persistent** users (51%) had a consistently high chance of consuming energy drinks. However, even among this group, the consumption of energy drinks decreased from age 21 to 24.

Substance use was measured both at age 21 and age 25. The Non-users generally had the lowest levels of substance use at both ages, whereas substance use was most common among the Persistent users. Persistent users were also more likely to meet criteria for an alcohol use disorder. Compared with Non-users, the Desisting group did not have an elevated risk for using any substances. Marijuana use and tobacco use was not different between the four groups. However, and most importantly, Persistent and Intermediate users had a higher risk than Desisting or Non-users for using prescription stimulants nonmedically and cocaine use.

Past-year substance use at age 25, by trajectory group



Of major interest to:

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



Practice and Policy Suggestions:

The most common pattern of energy drink consumption among this sample was continual use from age 21 to 24, confirming that energy drink consumption is a prevalent behavior among young adults. The results of this study suggest that energy drink consumption might be a potential target for preventing subsequent substance use, particularly the use of stimulants such as cocaine. Further research on the relationship between energy drink consumption and long-term health consequences is needed to develop effective policies governing the regulation and labeling of energy drinks.

References:

- ¹ Packaged Facts. (2013). Energy drinks and shots: US market trends. Rockville, MD.
- ² Miller, K. E. (2008). Energy drinks, race, and problem behaviors among college students. *Journal of Adolescent Health*, 43(5), 490-497. doi:10.1016/j.jadohealth.2008.03.003
- ³ Terry-McElrath, Y. M., O'Malley, P. M., & Johnston, L. D. (2014). Energy drinks, soft drinks, and substance use among United States secondary school students. *Journal of Addiction Medicine*, 8(1), 6-13 doi:10.1097/01.ADM.0000435322.07020.53

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. (2017). Trajectories of energy drink consumption and subsequent drug use during young adulthood. *Drug and Alcohol Dependence*. 179, 424-432. doi:10.1016/j.drugalcdep.2017.06.008



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

This research brief was prepared by Maddie McGann and Hannah Allen.

