



The Association between Age of First Drink and Binge Drinking in the Past 30 Days among Americans



Sol Grossman, Applied Data Analysis, Wesleyan University

Introduction

- It is estimated that greater than 50% of alcohol-related deaths each year are caused by binge drinking (CDC, 2024).
- Age of first drink (AFD) has been shown as a strong predictor for alcohol use, especially in high school-aged youth (Holligan et al., 2019).
- Race has also been established as a metric related to binge drinking, with some studies indicating that White individuals have reported higher levels of binge drinking on average (Krieg & Kuhl, 2017).

Research Questions

- Is there an association between Age of First Drink and Binge Drinking in the Past 30 days among Americans of all ages?
- Does this relationship differ depending on the race of individuals?

Methods

Sample

- Respondents (n=58,633) were drawn from the National Survey on Drug Use and Health (NSDUH 2024), a representative sample of civilians in the U.S. aged 12 and older. The data was subset to include only those who have consumed alcohol (n=41,531).
- The median AFD for this sample was 17 years old.

Measures

- AFD was measured with the question: "Think about the first time you had a drink of an alcoholic beverage. How old were you the first time you had a drink of an alcoholic beverage? Please do not include any time when you only had a sip or two from a drink."
- Binge drinking in the past 30 days was measured with the question: "During the past 30 days, that is since [today's date], on how many days did you have [4 or more]/[5 or more] drinks on the same occasion? By 'occasion,' we mean at the same time or within a couple of hours of each other."

Results

Bivariate (Figure 1)

- ANOVA showed that AFD was significantly, negatively associated with number of days of binge drinking in the past 30 days. ($p < .0001$).
- As age of first drink increases, on average, the average number of days of binge drinking in the past 30 days decreases.

Multivariate (Figure 2)

- Multiple linear regression analysis showed that even after controlling for education (significant before high school) and income (significant across levels), the relationship between AFD and binge drinking days remained significant ($p < .0001$, $B = -.11$).
- Race significantly moderates the relationship between AFD and binge drinking days. ($p < .0001$)
- For White individuals, the relationship between AFD and binge drinking days was stronger compared to that relationship for Black, Hispanic, and Asian individuals.

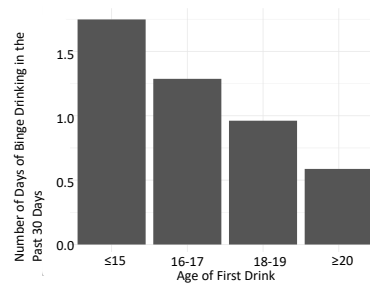


Figure 1: Mean Number of Days of Binge Drinking in the Past 30 Days vs. Age of First Drink

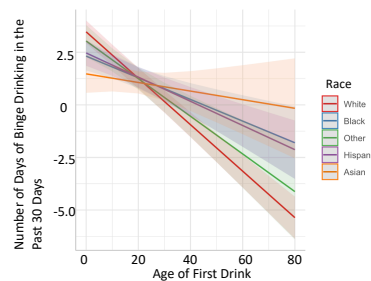


Figure 2: Mean Number of Days of Binge Drinking in the Past 30 Days vs. Age of First Drink by Race

Discussion

- As AFD increases, number of days of binge drinking in the past 30 days decreases, with this association being the strongest among White individuals.
- Since age of first drink and binge drinking in the past 30 days are self-reported, we cannot be fully certain that we have accurate data for these variables.
- These findings may provide a key argument for campaigns aimed at delaying the use of alcohol in adolescents.
- Future research is needed to determine if this association exists for other substances (e.g. marijuana, caffeine).

References

- "Facts about U.S. Deaths from Excessive Alcohol Use." Centers for Disease Control and Prevention, Centers for Disease Control and Prevention, www.cdc.gov/alcohol/facts-stats/index.html.
- Holligan, Simone D., et al. "Age at first alcohol use predicts current alcohol use, binge drinking and mixing of alcohol with energy drinks among Ontario Grade 12 students in the compass study." *Health Promotion and Chronic Disease Prevention in Canada*, vol. 39, no. 11, Nov. 2019, pp. 298–305. <https://doi.org/10.24095/hpcdp.39.11.02>.
- Krieg, Andrea G., and Danielle C. Kuhl. "Race, Adolescent Binge Drinking, and the Context of Neighborhood Exposure." *Deviant Behavior*, vol. 37, no. 6, 17 Mar. 2016, pp. 615–633. <https://doi.org/10.1080/01639625.2015.1060804>.