



The Correlation between Alcohol Usage and Sleeping Habits among Adults

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Introduction

- In America, about 81% of people over the age of 18 have had at least one alcoholic drink during their lifetime and 62% of them currently still drink alcohol (NESARC)
- Around 14.5 million Americans suffer from Alcohol use disorder (AUD) and there around 3 million alcohol related deaths in the world every year. In the US alone there are 214,000 alcohol related emergencies and deaths in the United States every year
- The amount of alcohol drank has been discovered to negatively correlated to sleep quantity and quality and between 70%-91% of people who have alcohol use disorder (AUD) suffer from alcohol-induced sleep problems (Gendy, M., Lagzdins, D., Schaman, J., & Le Foll, B. (2020)).
- In America alone, between 50-70 million people face sleeping problems regardless of age or socioeconomic status (NIAAA) and it is clear that consuming alcohol is not helping this.

Research Questions

- Do those with underlying sleeping conditions purposely binge drink alcohol so that they will receive poor sleep rather than no sleep at all?
- Is someone more likely to have AUD because they cannot sleep, or is someone more likely to have sleeping issues because they have AUD?

Methods

Sample

- The NESARC surveyed 43,093 people and represents the civilian, non-institutionalized adult population of the United States along with an oversampling of the Black, Hispanic, and young adult (18-24) communities

Measures

- For some of the NESARC questions about sleep, people had the option to not answer (BL/NA) and at times this could account for up to 94% of the 43,093 people interviewed
- All the questions that pertained to sleep dealt with frequencies and patterns while the questions that pertained to alcohol dealt with quantities and frequencies of alcohol and drinking.
- Although the alcohol questions were originally quantitative (1-12), I changed them to be coded dichotomously so that both alcohol and sleeping questions could be categorical and easier to interpret.

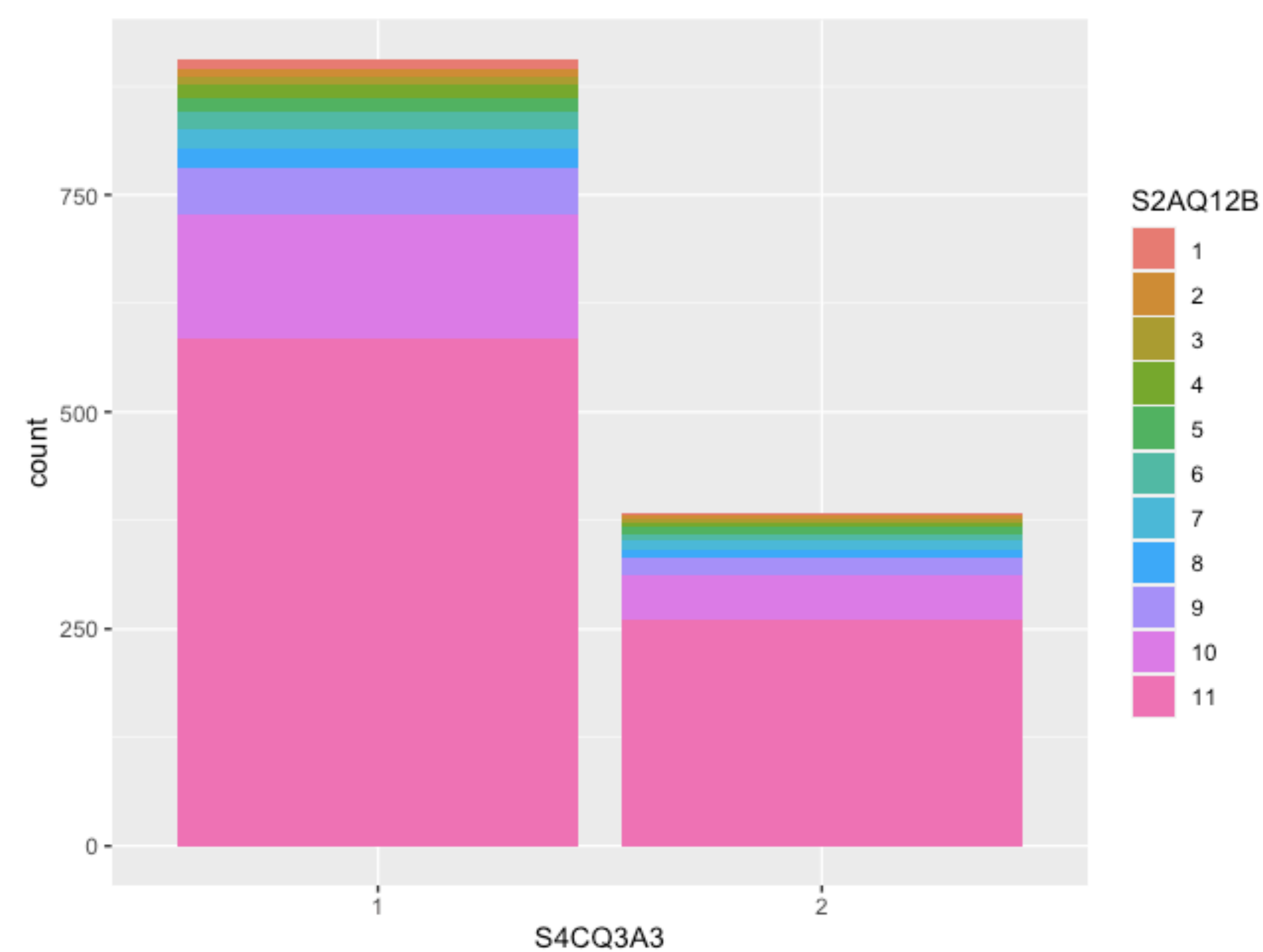
Results

Univariate

- 19.5% of respondents often or sometimes drink after midnight
- 69.5% of respondents have had trouble falling asleep for 2 weeks
- 16.3% of respondents often or sometimes drink at home alone.
- 20% of respondents often have trouble sleeping as effects of alcohol wear off
- 70% of respondents have trouble falling asleep or staying awake

Bivariate

- A Chi-Square correlation test showed that **drinking after midnight** was not significantly associated with both **trouble sleeping for 2 weeks** ($X^2=3.81$, $p<0.148$) and **trouble sleeping or staying awake** ($X^2=4.36$, $p<0.929$).



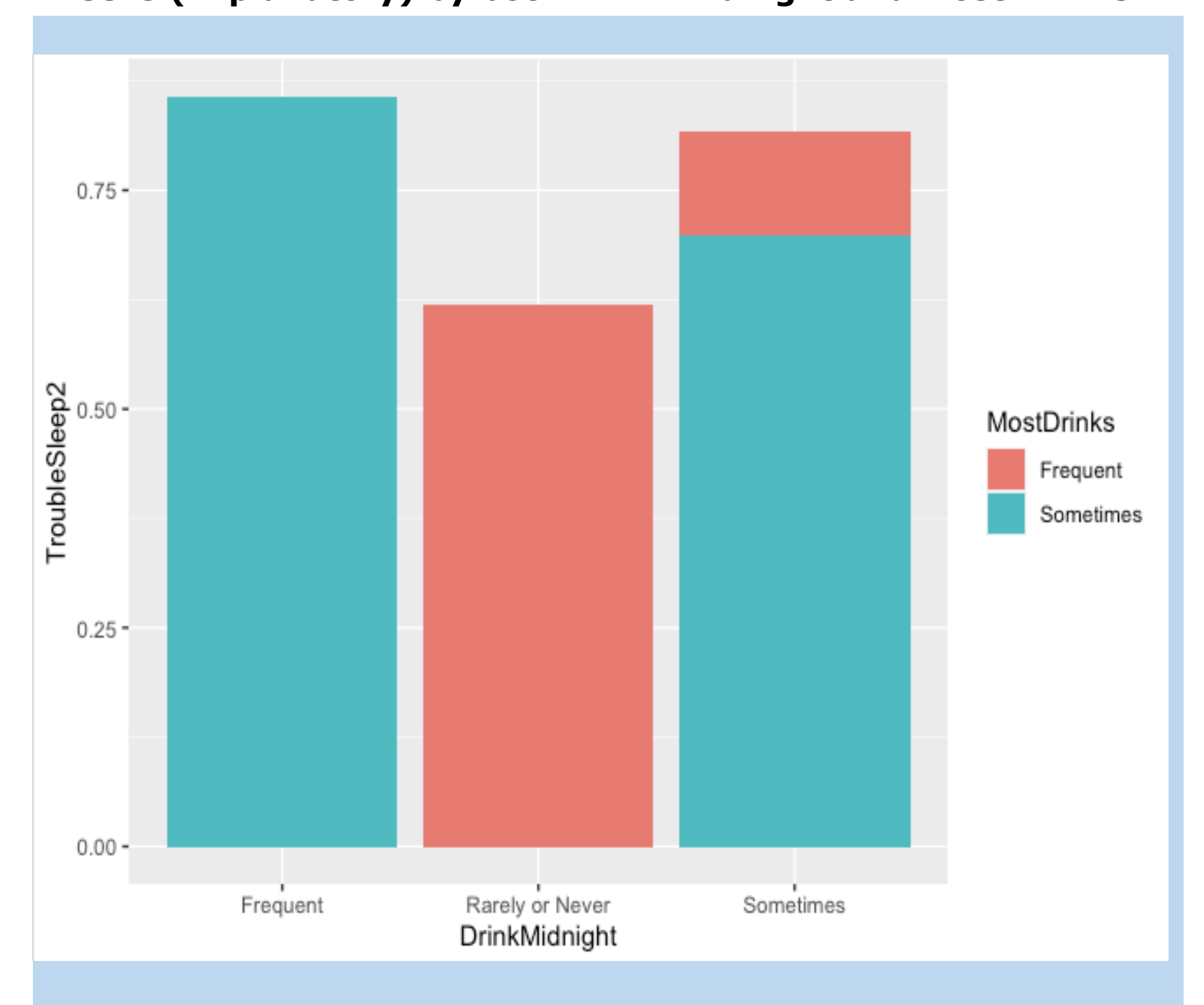
Another Chi-square also showed that **drinking your most amount of drinks** was significantly associated with having **trouble sleeping as alcohol effects wear off**. ($X^2 = 4.98$, $p=0.025$)

Figure 1 Shows the bivariate graph of the relationship between drinking after midnight (x) and trouble sleeping or staying awake

Multivariate

- People who rarely drink past midnight seem to all have trouble sleeping when they binge drink. The also goes for those who don't often binge drink as they have issues sleeping when they do binge drink. (Fig.2)
- My logistic regression of Fig. 2 shows that with the intercept of .03, p-value of .2991, that the relationship between Trouble sleeping and drinking past midnight is a non-significant positive relationship

Figure 2. Multivariate graph between Trouble sleeping for 2 weeks (Explanatory) by both Drink Midnight and Most Drinks



The same logistic regression shows that the intercept of -0.054 and p-value of 0.032 the relationship between Trouble sleeping and having the most number of drinks has a significant negative relationship.

Discussion

- Drinking alcohol leads to having less efficient and less overall sleep, however I believe that many people (with or without Alcohol Use Disorder (AUD)) will binge drink alcohol so that they will receive poor sleep rather than no sleep at all.
- Individuals are willing to before bed as alcohol wearing off is significantly related to having trouble sleeping.
- people who try to go sober with Alcohol induced sleeping problems are more likely to relapse into drinking again
- Individuals with AUD who binge drink at night and receive poor sleep are more likely to continue drinking in the morning to stay awake.
- Further research is needed to determine if there is any point at which alcohol can provide both falling asleep quicker while also not interfering with the effectiveness of sleep.