



# The Association Between Family Income and Heavy Drinking Status

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## Introduction

- Alcoholism, alcohol abuse, alcohol dependence, and other alcohol-related issues are extremely prevalent issues in the world today. Excessive alcohol use is responsible for more than 95,000 deaths in the United States each year (CDC, 2021).
- Existing literature shows that the odds of alcohol use decreased if a household was unemployed or insecurely employed (Bentley, *et al.* 2021).
- Other research explained that low income shows the difficulty to age out of alcohol dependence (Zemore, Lui & Mulia, 2020).
- More than half of alcohol-attributable deaths are due to health effects from drinking too much over time, such as various types of cancer, liver disease and heart disease (CDC, 2021).
- With some conflicting research it remains unclear whether there is a relationship between family income and heavy drinking status.

## Research Questions

- Is there a negative relationship between family income and heavy drinking status? That is, does the more an individual's family makes per year, decrease the individuals likelihood of being a heavy drinker?
- Does the relationship between total family income and heavy drinking status differ based on the sex of an individual?

## Methods

### Sample

- Respondents (**n=42,758**) were drawn from the first wave of the U.S. National Epidemiological Survey on Alcohol and Related Conditions (NESARC). This sample is representative of the adult, non-institutionalized population in the United States.

### Measures

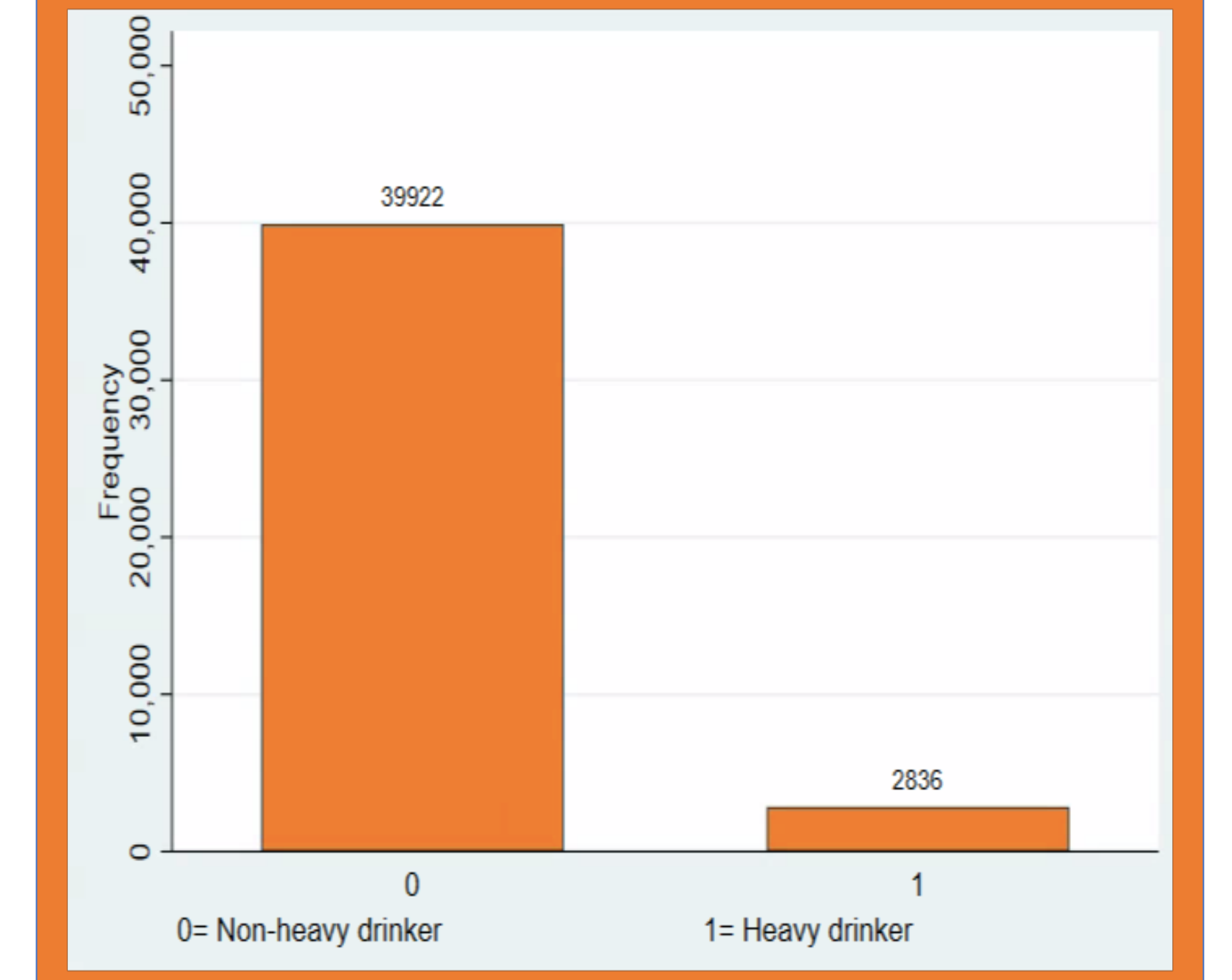
- Family income was measured quantitatively, as participants answered the question of how much money their family made in the past 12 months.
- Heavy drinking status was coded dichotomously, taking on the value 0 for a non-heavy drinker, and the value 1 for a heavy drinker.
- A heavy drinker for males is more than 780 drinks per year, and a heavy drinker for females is more than 416 drinks per year.

## Results

### Univariate

- 6.63%** of respondents met the criteria for heavy drinkers (Figure 1).
- The mean family income for all respondents is **\$45,686.04**.
- 47.38%** of respondents have a family income of **\$31,040 or less**.
- 57.03%** of respondents are female.

Figure 1. Frequency of Heavy Drinking Status



### Bivariate

- The mean family income for non-heavy drinkers is \$45,612.70, while the mean family income for heavy drinkers is \$46,783.80.
- After running a logistic regression, it is apparent that there is **no significant association between family income and heavy drinking status** (O.R. 1, CI .9999997-1.000001, p-value>0.05).

### Multivariate

- Regardless of family income, if an individual is male, then the probability of being a heavy drinker increases (Figure 2).
- Sex appears to moderate the relationship between family income and heavy drinking status (Figure 3).
- There **is a significant positive association** between family income and heavy drinking status for **females** (O.R. 1.000002, CI 1.000001-1.000002, p-value<0.05).
- There **is a significant negative association** between family income and heavy drinking status for **males** (O.R. .9999968, CI .9999954-.9999981, p-value<0.05).

Figure 2. Probability of being a Heavy Drinker based on Family Income Level and Sex

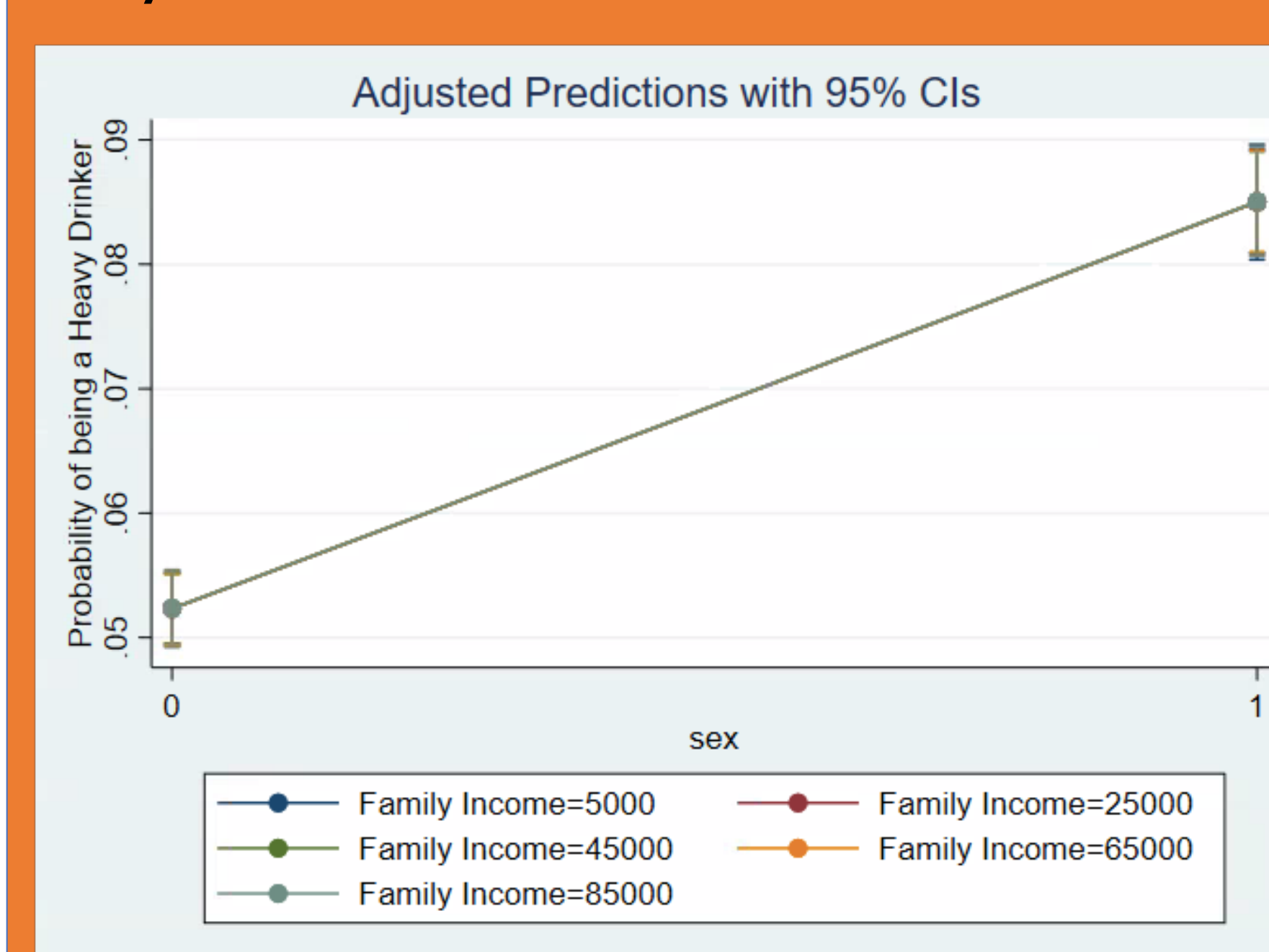


Figure 3. Mean Family Income and Heavy Drinking Status Grouped by Sex



## Discussion

- For females, as family income increases, the more likely the individual will be a heavy drinker.
- For males, as family income decreases, the more likely the individual will be a heavy drinker.
- At first it appeared that there was no association between family income and heavy drinking status. However, the relationship between family income and heavy drinking is quite different based on sex.
- Further research is needed to determine what the underlying factors are that contribute to the difference in the relationship between family income and heavy drinking status based on the sex of an individual.
- Regardless of heavy drinking status, these findings are important as it could be another reason to help find a way to close the income gap, solve income inequality, and address poverty as a major issue.
- It is important to increase awareness around alcohol dependence and get those individuals help who are heavy drinkers.

Bentley, R., Baker, E., Martino, E., Li, Y., & Mason, K. (2021). Alcohol and tobacco consumption: What is the role of economic security? *Addiction*. doi:10.1111/add.15400

CDC (2021). Deaths from Excessive Alcohol Use in the U.S. Retrieved from <https://www.cdc.gov/alcohol/features/excessive-alcohol-deaths.html>

Zemore, S. E., Lui, C., & Mulia, N. (2020). The Downward Spiral: Socioeconomic Causes and Consequences of Alcohol Dependence among Men in Late Young Adulthood, and Relations to Racial/Ethnic Disparities. *Alcoholism: Clinical and Experimental Research*, 44(3), 669-678. doi:10.1111/acer.14292