

# The association between alcohol consumption and social phobia symptoms, intensity, and length

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## Introduction

- The relationship between alcohol and drug abuse and social phobia has been a major research concern since the 1980s.
- There exists co-occurrence tendencies between alcohol dependence and social phobia. (Kushner, Sher, 1990; Frojd, Ranta, Kaltiala-Heino, Marttunen, 2011; Dahne, Banducci, Kurdziel, MacPherson, 2014)
- The co-occurrence of alcoholism and mild social fear is higher than that of alcoholism and severe social disorder. (Crum, Pratt, 2001)
- Different symptoms of social phobia co-occur with alcoholism at varying rates. (Lepine, Pelissolo, 1998)
- People with diagnosed social phobia generally perform better in public speaking after consuming alcohol. (Abrams, Kushner, Lisdahl, Voight, 2001)

## Research Questions

- Can whether drinking purposefully to ease social anxiety influence the relationship between alcohol and social phobia?
- Is there any relationship between whether or not a patient drinks heavily and the symptoms, intensity, and length of their social phobia?

## Methods

### Sample

- The sample includes 5,411 respondents who answered social phobia related questions from the Wave 1 of the National Epidemiologic Survey on Alcohol and Related Conditions (NESARC). This is a nationally representative survey with high (81%) response rate.

### Measures

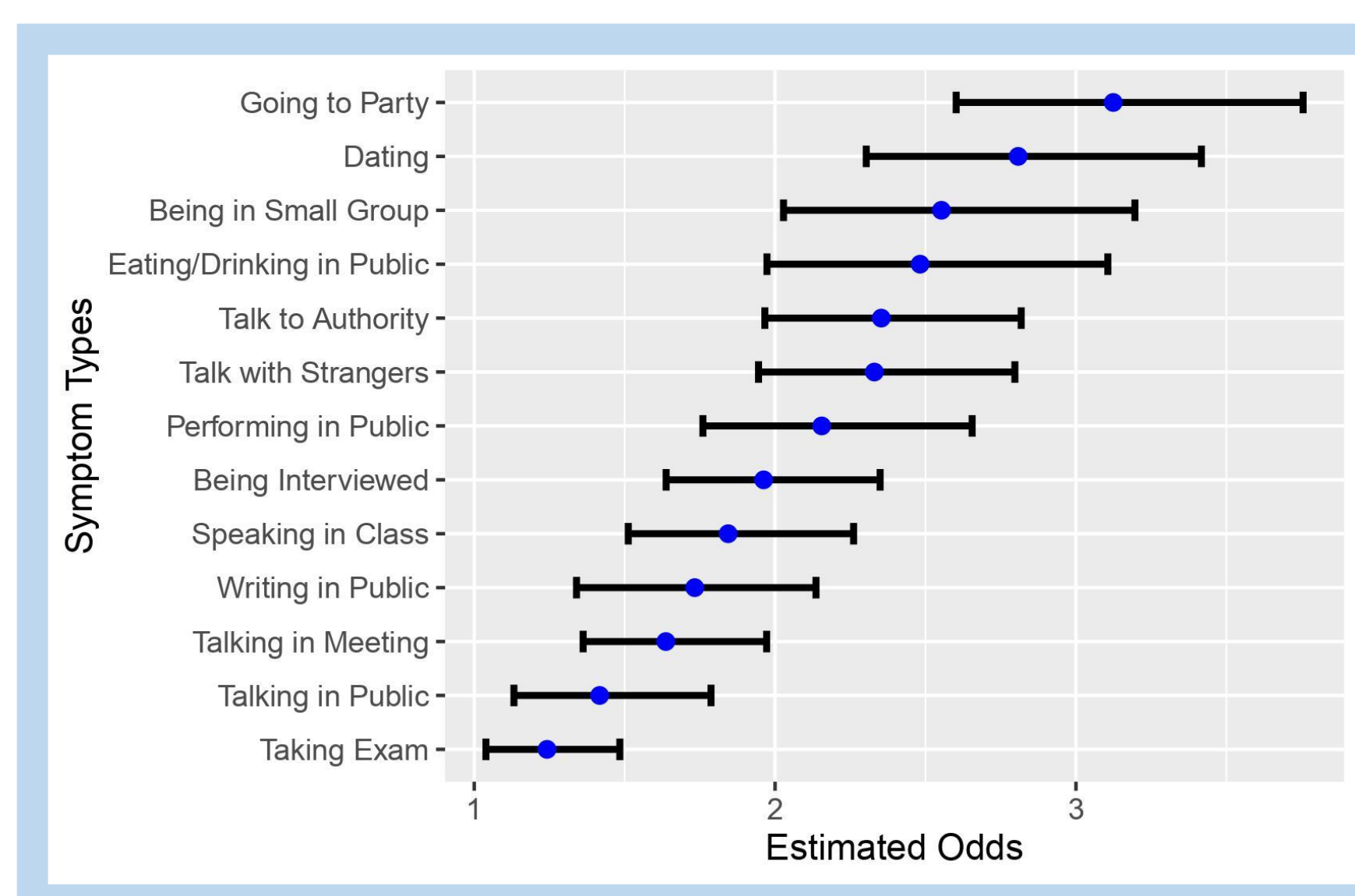
- Alcohol use: Based on the quantity of alcohol drinks consumed in last 12 months (range from 0 to 4,000). Also based on the question "Whether you drank alcohol to avoid social phobia."
- Social phobia symptoms: Based on the thirteen binary questions about whether ever had those symptoms.
- Social phobia intensity: Based on the quantitative variable "Intensity Index" range from 0 to 13 indicating number of social phobia symptoms ever occurred.
- Social phobia length: Based on the length of the most recent episode, a quantitative variable ranges from 0 to 4435, indicating the number of weeks.

## Results

### Social Phobia Symptoms

- Multiple logistic regression showed that for all 13 symptoms, last year's total drinking amount did not associate with possibilities of having those symptoms (all  $p > 0.05$ .)
- However, for all 13 symptoms, whether drink purposefully significantly associates with possibilities of having symptoms (all  $p < 0.02$ .) Their odds values as long as their 95% confidence interval varies. See Figure 1 below:

Figure 1. Estimated Slope for Different Social Phobia Symptoms



### Social Phobia Intensity

- An ANOVA analysis showed that there is not a significant association between annual drinking amount and social phobia intensity ( $F = 1.48$ ,  $p = 0.18$ .) See Figure 2.
- However, a multiple linear regression showed that there are association between drinking amount and intensity ( $B = -0.001$ ,  $p = 1.19e-05$ ,) also between whether drink purposefully and intensity ( $B = 1.894$ ,  $p < 2e-16$ .) See Figure 3.

Figure 2. Relation Between Annual Drinking Amount and Social Phobia Intensity

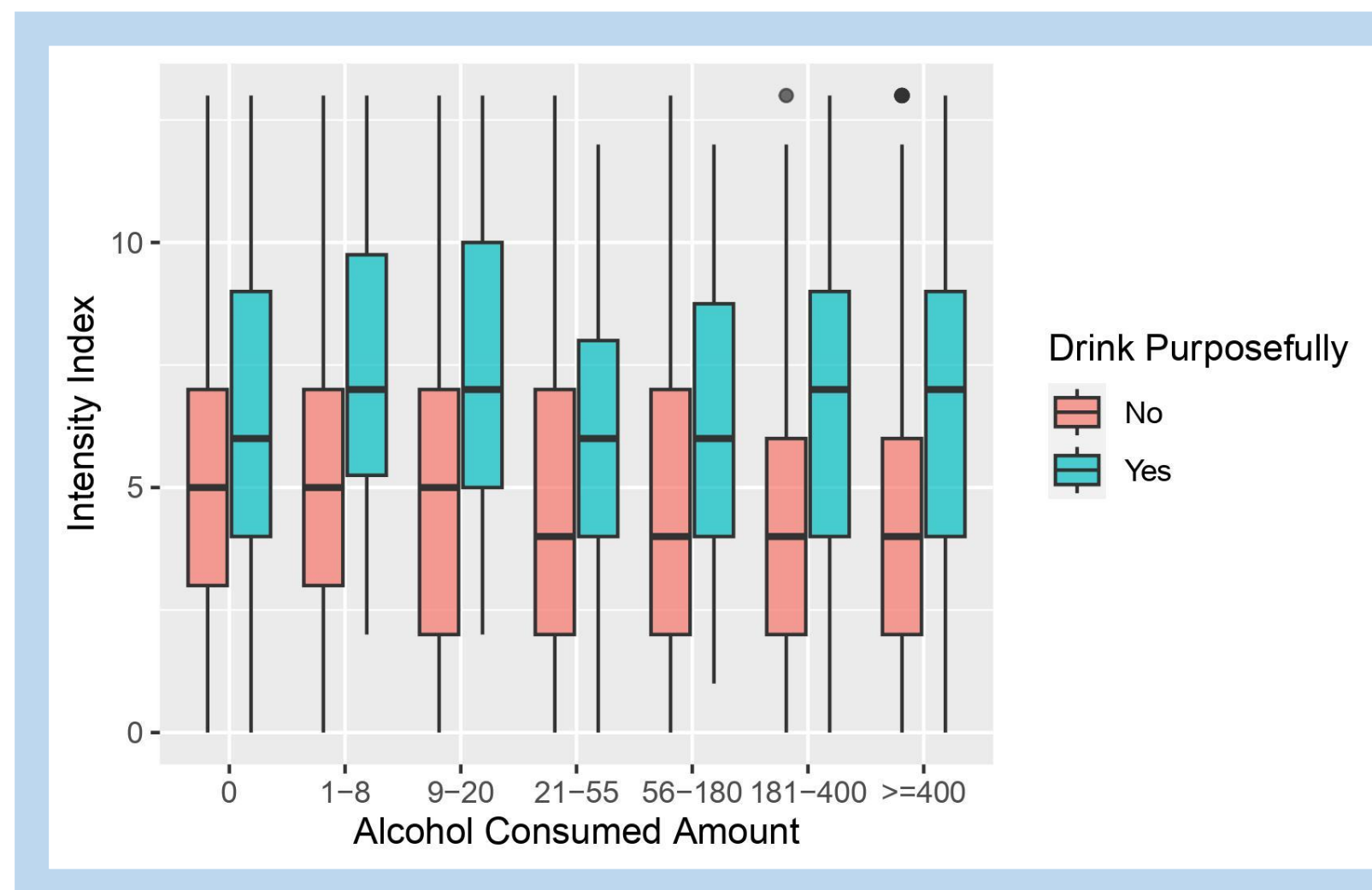
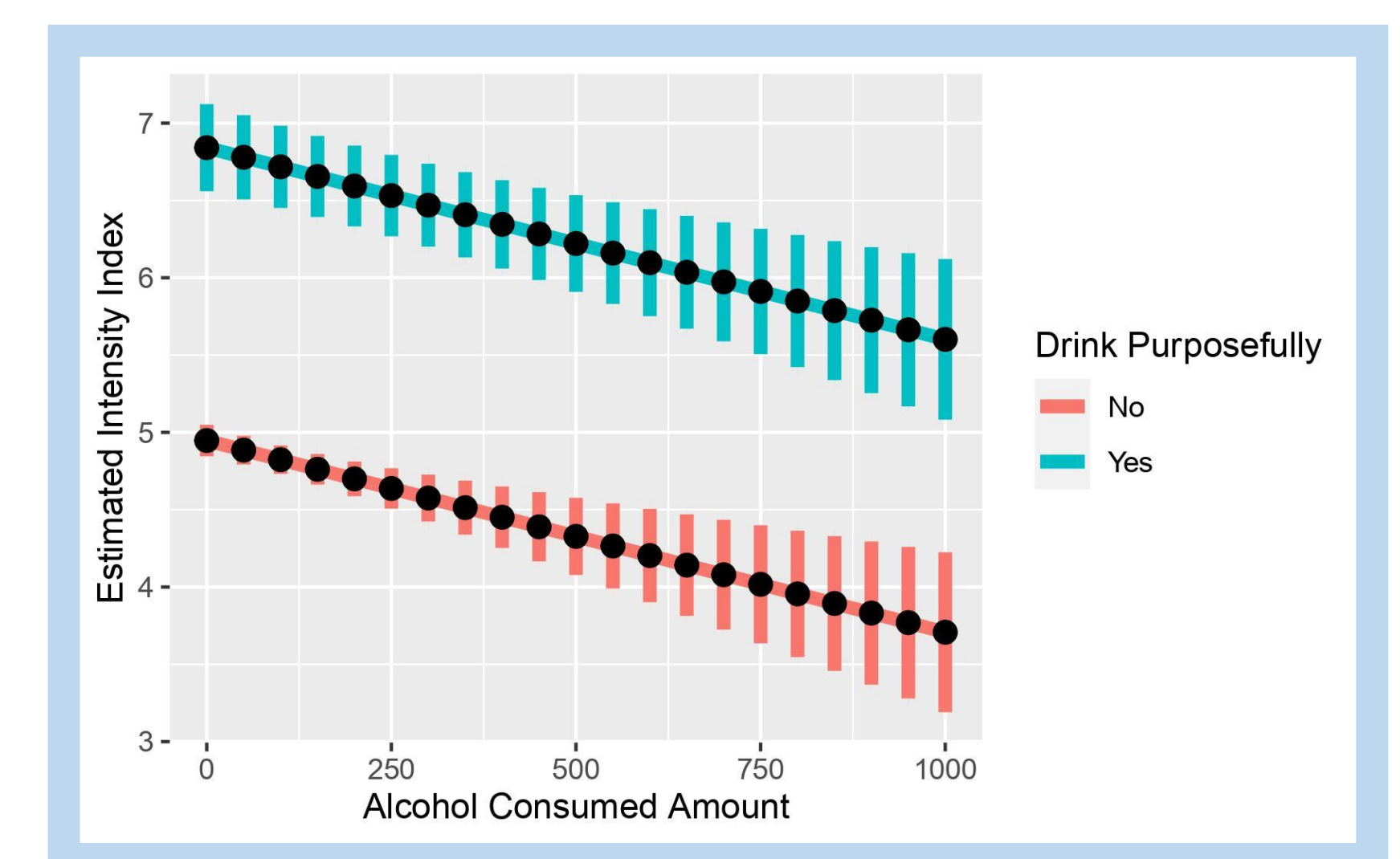


Figure 3. Linear Regression for Social Phobia Intensity



### Social Phobia Length

- A multiple linear regression showed that there is a significant association between annual drinking amount and social phobia length ( $B = -0.305$ ,  $p = 6e-4$ .)
- There is also a significant association between whether drink purposefully and social phobia length ( $B = 236.555$ ,  $p = 1.79e-07$ .) See Figure 4.

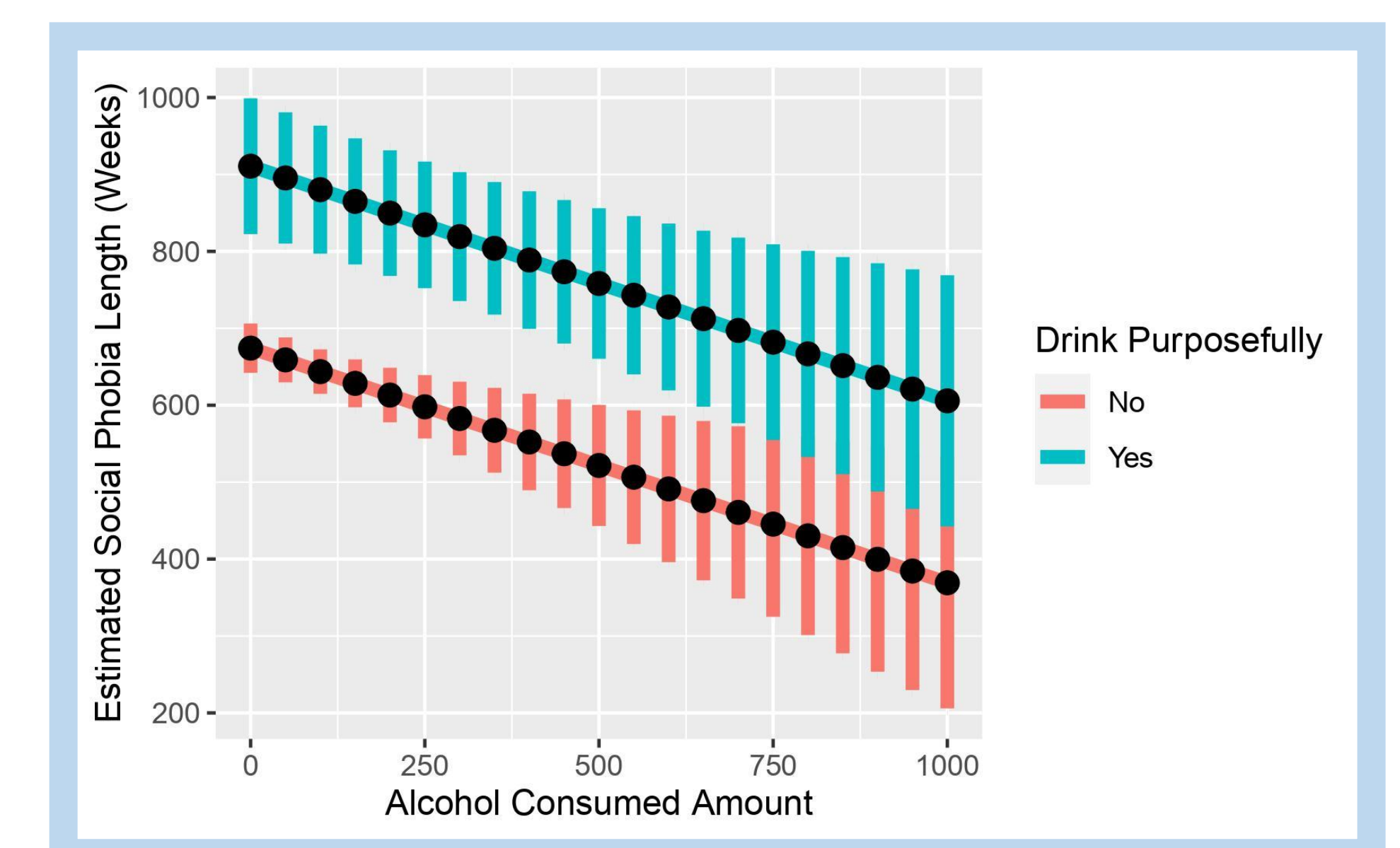


Figure 4. Linear Regression for Social Phobia Length

## Discussion

- People who drink purposefully to avoid social phobia have roughly 2 more symptoms than those who do not. For every thousand extra drinks in a year, people have, on average, one less social phobia symptom than those who do not.
- For people who drink purposefully, they are more likely to get all thirteen social phobia symptoms than those who do not. But the difference of getting ill varied by symptom. For some symptoms (taking exam), people who drank purposefully were only 0.5 times more likely to have the disease; for others (going to party), they were 1.5 to 2.5 times more likely to have the disease.
- On average, people who drink purposefully have their social phobia episodes 236 weeks longer. For every extra alcohol drinks per year, people have their episodes 2 days shorter than those who do not.

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