

The Association Between Social Anxiety Levels and Alcohol Use Disorder



Katherine Fhu, Applied Data Analysis, Wesleyan University

Introduction

- Alcohol use disorder (AUD), or alcoholism, remains a prevalent issue worldwide, with alcohol use being the seventh-leading risk factor for premature death and disability in 2016 (GBD, 2016).
- Experimental evidence and self-assessment studies support the idea that alcohol can reduce symptoms for those with social anxiety, which may motivate alcohol consumption (Abrams et al., 2001; Goodman et al., 2022; Stevens et al., 2017).
- High prevalence of social anxiety disorder among those with alcoholism is well documented through clinical studies, primarily with samples of alcoholic inpatients (Chambless et al., 1987; Mullaney & Trippett, 1979; Terra et al., 2006).
- Less is known about comorbidity rates in non-clinical populations, since both conditions often go undiagnosed and occur at varying degrees that may not always result in hospitalization.

Research Questions

- Is the severity of social anxiety associated with having alcohol use disorder?
- Does the association between social anxiety disorder and alcoholism differ for individuals based on their gender?

Methods

Sample

- Respondents (n=41306) were drawn from the first wave of the National Epidemiologic Survey on Alcohol and Related Conditions (NESARC) in 2001-2002.
- NESARC represents non-institutionalized adults in all regions of the United States.

Measures

- Alcohol use disorder was coded dichotomously. Individuals who were diagnosed by the survey (based on DSM-IV criteria) as having alcohol abuse or dependence at any point in their lives were coded as 1.
- Social anxiety was assessed using a score based on 16 questions pertaining to criteria for social anxiety disorder. Each question was answered with yes (1) or no (0) and responses were summed. Scores ranged from 0 to 16, with a higher number indicating greater severity of social anxiety.

Results

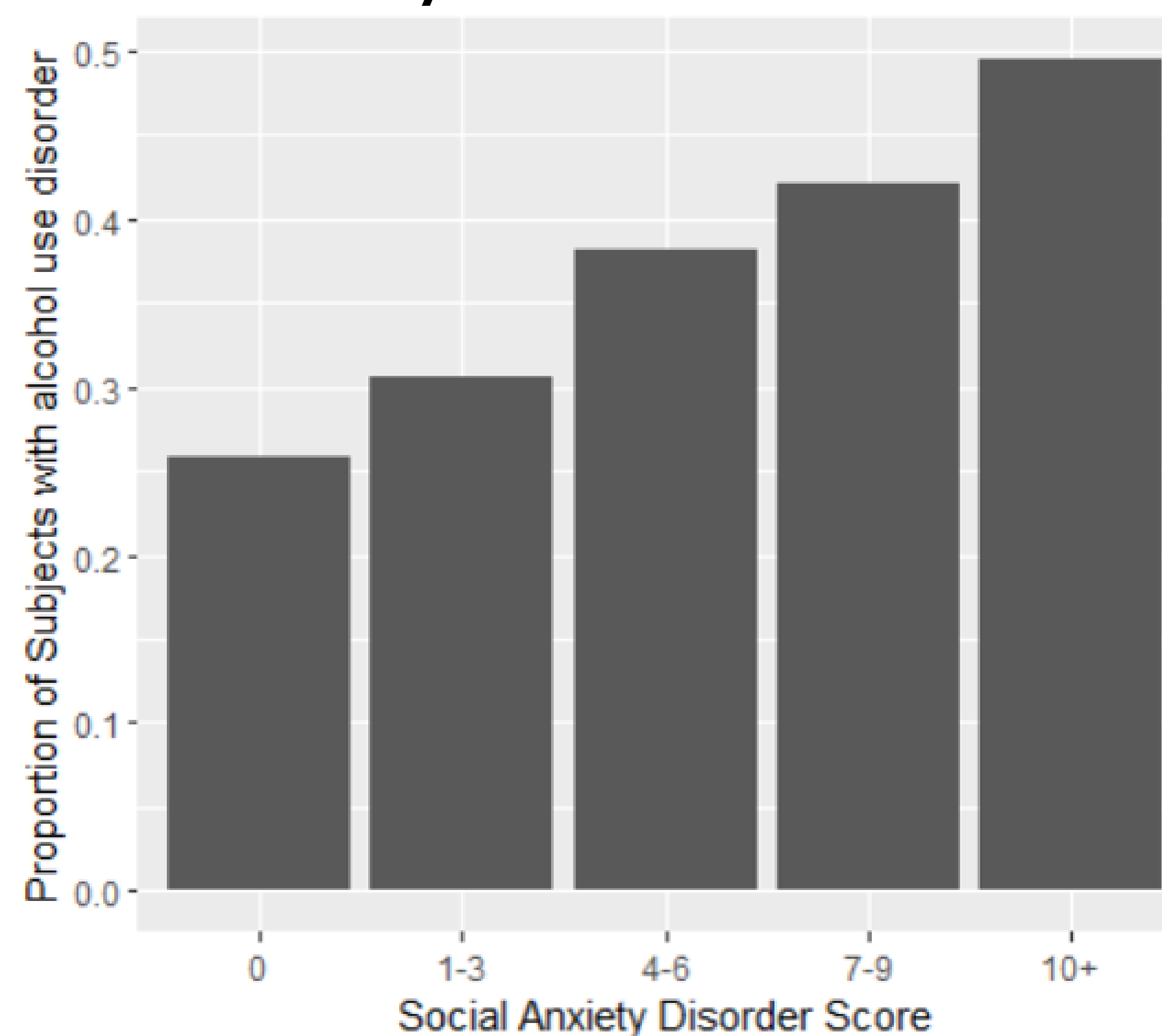
Univariate

- 12.4% of respondents indicated having experienced fear or avoidance of social situations at some point in their lives.
- 27.5% of respondents met the criteria for alcohol use disorder within their lifetime.

Bivariate

- Chi-Square analysis ($\chi^2 = 394.31$, 1 df, $p < 2.2e-16$) revealed that those who have experienced **at least one social anxiety symptom** were more likely to have had **alcohol use disorder** (39.1%) compared to those who have never experienced fear or avoidance of a social situation (25.9%).

Figure 1: Alcohol Use Disorder by Severity of Social Anxiety

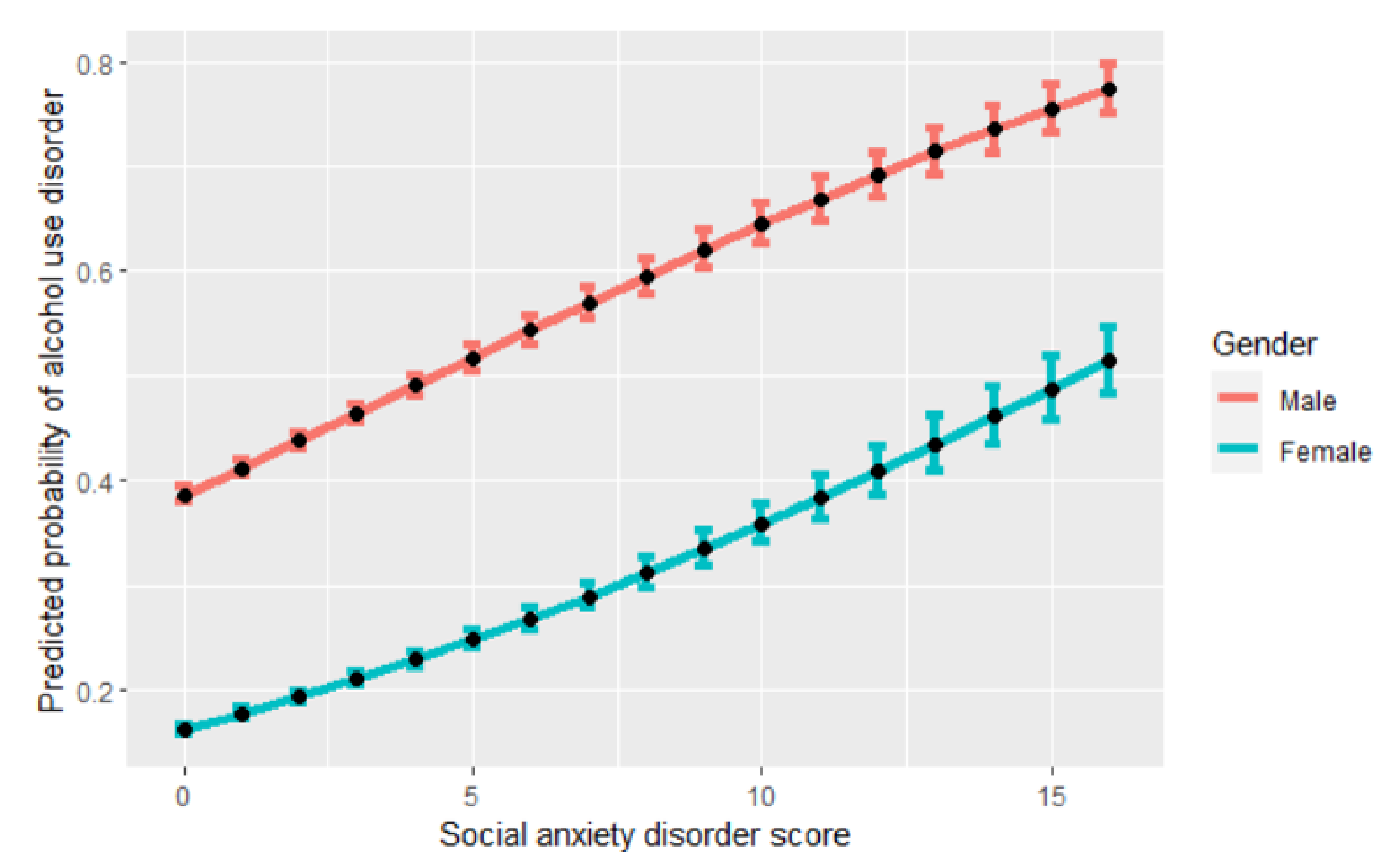


- Chi-Square analysis showed that **the number of social anxiety symptoms experienced was significantly associated with having alcohol use disorder** ($\chi^2=506.87$, 4 df, $p<2.2e-16$). (Figure 1)
- Post hoc comparisons of social anxiety score categories revealed that the prevalence of alcohol use disorder was statistically similar among the groups with scores of 4-6 and 7-9. However, for the remaining groups, an increased probability of alcohol use disorder was seen among those who experienced more severe social anxiety.

Multivariate

- Gender (O.R. 3.24, CI 3.10-3.39, $p<2e-16$) is significantly associated with the probability of alcohol use disorder. Males were found to have a higher odds of having alcohol use disorder by a factor of 3.24 compared to females when controlling for social anxiety score. (Figure 2)
- After controlling for gender, social anxiety score (O.R. 1.11, CI 1.10-1.12, $p<2e-16$) remains significantly associated with the likelihood of meeting the criteria for alcohol use disorder. When the number of social anxiety disorder symptoms experienced increases by 1, the expected odds of alcoholism increase by a factor of 1.11. (Figure 2)

Figure 2: Alcohol Use Disorder by Severity of Social Anxiety and Gender



Discussion

- Individuals with increasingly severe social anxiety disorder are more likely to have alcohol use disorder.
- Regardless of the level of social anxiety, males may appear to be at higher risk for alcohol use disorder.
- The relationship between the severity of social anxiety and alcohol use disorder may further suggest alcohol being used as a soothing or coping mechanism for symptoms of anxiety.
- This may help identify populations that could be targeted for early intervention programs before conditions fully develop or worsen.
- Further research is needed to determine what treatments would be most effective in helping those with both social anxiety and alcoholism.