



The Association Between Family History of Alcoholism and Individual Alcohol Dependence

Zara Zhou, Applied Data Analysis, Wesleyan University

Introduction

- Drinking has always been popular in the United States. 85.6% of adults admitted that they had drunk alcohol in their lifetime, and 25.8% of adults admitted that they had consumed excessive alcohol in the past year (SAMHSA, 2019).
- All subgroups with different ages, gender, or depression levels demonstrated a correlation between the family history of alcoholism and individual alcohol dependence (Dawson & Grant, 1998).
- Alcoholism as a common psychiatric disorder suggests the possibility of a causal relationship between a family history of alcoholism and individual alcohol dependence (Enoch, 2012).
- The causes of alcoholism mainly include genetic and environmental factors (True et al., 1996; Enoch, 2012).

Research Questions

- Are family history of alcoholism associated with individual alcohol dependence, controlling for social phobia experience?
- Does the association between family history of alcoholism and personal alcohol dependence differ for individuals based on whether they have experienced social phobia?

Methods

Sample

- Respondents (n=43093) were drawn from the National Epidemiologic Survey of Alcohol and Related Conditions (NESARC), a nationally representative sample of who are non-institutionalized civilians in the United States.

Measures

- **Family history of alcoholism** was assessed using the total number of alcoholics that collected from six core family members, including biological parents, biological parents on the mother's side, and biological parents on the father's side. The variable ranged from 0 (no alcohol relatives) to 6 (all 6 members are alcoholic).
- **Personal alcohol dependence** was assessed using the sum of three questions about the different symptoms associated with alcohol dependence. This variable was coded dichotomously in terms of the presence or absence of symptoms.
- **Social Phobia Experience** was coded dichotomously.

Discussion

- A family history of alcoholism is an essential factor that contributes to one person's alcohol dependence.
- People who have experienced social phobia or other external factors such as social pressure and anxiety, they should make effective ways to deal with various pressure early.
- Evidence of such a direct relationship would help people with a family history of alcoholism to more consciously prevent their drinking behavior.
- Many alcohol abstinence institutions may need to be more focused on the groups of people with the high level of family history of alcoholism.

SAMHSA, Center for Behavioral Health Statistics and Quality. (2019). 2019 National Survey on Drug Use and Health. Retrieved from <https://www.samhsa.gov/about-us/who-we-are/offices-centers/cbhsq>.
 Dawson, D. A., & Grant, B. F. (1998). Family history of alcoholism and gender: Their combined effects on DSM-IV alcohol dependence and major depression. *Journal of Studies on Alcohol*, 59(1), 97-106.
 Enoch, M. A. (2012). The Influence of Gene-Environment Interactions on the Development of Alcoholism and Drug Dependence. *Current Psychiatry Reports*, 14(2), 150-158.
 True, W. R., Heath, A. C., Bucholz, K., Slutske, W., Romeis, J. C., Scherrer, J. F., Tsuang, M. T, et al. (1996). Models of treatment seeking for alcoholism: The role of genes and environment. *Alcoholism-Clinical and Experimental Research*, 20(9), 1577-1581.

Results

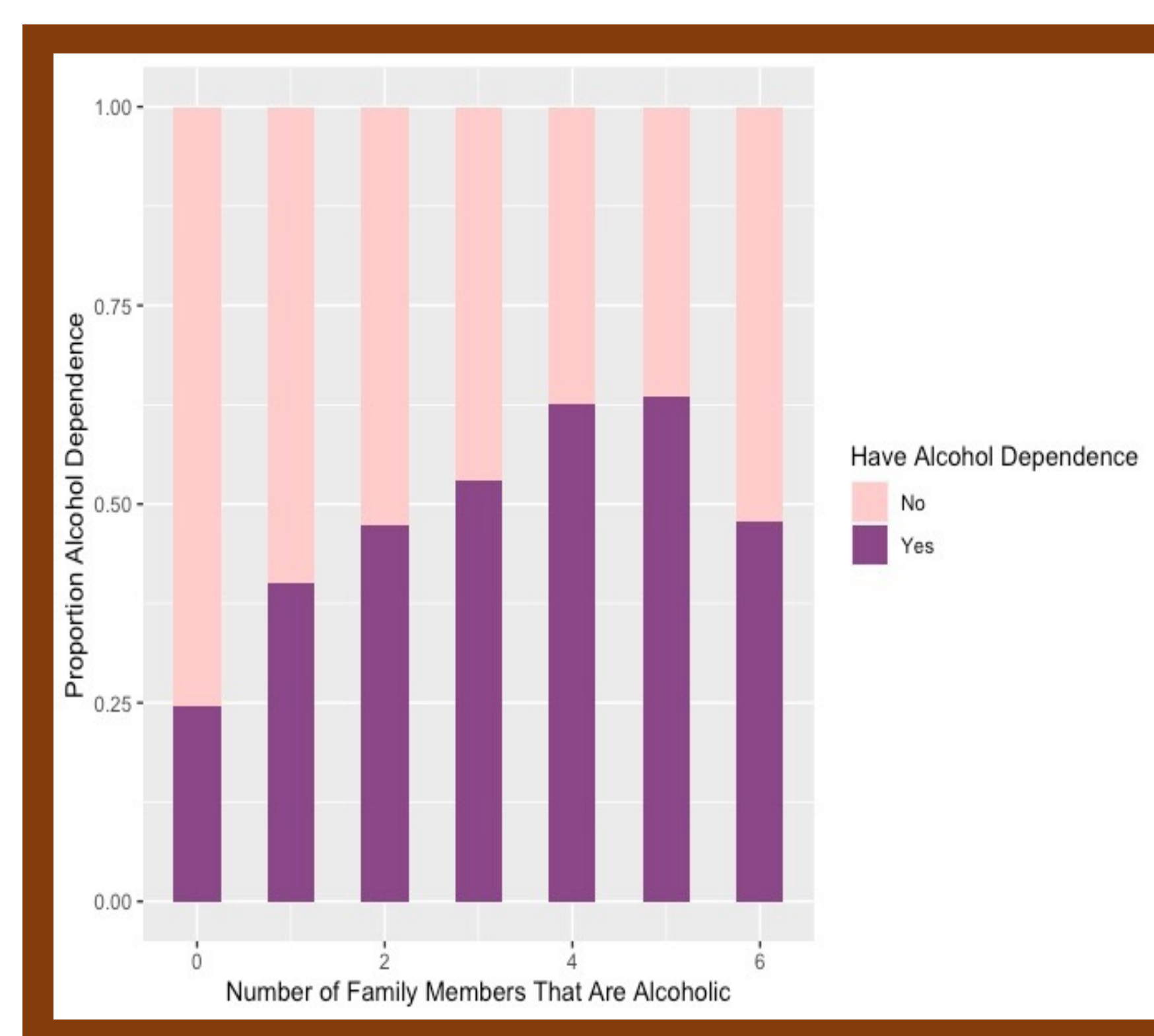
Univariate

- 69.9% of respondents have no core family members that are alcoholic.
- 32.6% of respondents indicated that they have alcohol dependence.

Bivariate

- ANOVA analysis showed that **family history of alcoholism** was significantly associated with **individual alcohol dependence** ($p < 0.001$).
- Another Chi-Square test showed that there is also a significant association between **social phobia experience** and **individual alcohol dependence** ($\chi^2 = 170.61$, $df = 1$, $p < 0.001$).

Figure 1. Family History of Alcoholism and Personal Alcohol Dependence



- Additionally, respondents with the high level of family history of alcoholism were significantly more likely to depend on alcohol, indicated by an increasing proportion of individual alcohol dependence with the increment of number of alcohol family members. (Figure 1)

Multivariate

- There is a positive relationship between family history of alcoholism and personal alcohol dependence no matter they have experienced social phobia or not. However, for those who have experienced social phobia experience, the possibility of having alcohol dependence is higher than those who do not have social phobia. (Figure 2).
- After controlling for social phobia experience, family history of alcoholism is significantly associated with personal alcohol dependence (O.R. 1.56, CI 1.51 -1.61).

Figure 2. Proportion of Individual Alcohol Dependence at Each Number of Alcohol Family History and Social Phobia Experience

