
EFFECTS OF ALCOHOL ON HUMAN BODY

DS201: FINAL PROJECT REPORT

Submitted By

Team - 4

Abhishek Singh Kushwaha (Student ID: 12140050),

Suprabho Saha (Student ID: 12141640),

Udan Vedant Ghanshyam (Student ID: 12141690)

Course Instructor: Dr. Nitin Khanna

Department of Electrical Engineering and Computer Science

Indian Institute of Technology Bhilai

December 7, 2022

Contents

1	Abstract	1
2	Introduction	1
3	Materials & Methods	1
4	Results	1
5	Conclusions & Discussions	3
6	Acknowledgements	3

Keywords Alcohol consumption · US adults · NHANES · WWEIA

1 Abstract

The objective of this study is to understand the effects of alcohol on our day to day life for various age groups 19 to 35 years, 36 to 55 years, and ≥ 65 years using the data drawn from the National Health and Nutrition Examination Survey (NHANES) 2017- 2020 Pre Pandemic Dataset and to compare the intake amount between different age groups. Analysis on the basis of gender based consumption has also been scrutinized. The results show the significant differences in drinkers on the grounds of age and gender classification.

2 Introduction

The What We Eat in America/National Health and Nutrition Examination Survey (WWEIA/NHANES) is a rich resource for U.S. dietary information with a history of use for research informing dietary assessment. WWEIA/NHANES data have often been used to provide details regarding the intake of alcohol in the diet of the U.S. population. Identifying the top alcohol consumer groups is essential in determining the overall population's health and inferring the problems that can cause intoxication. There are various harmful effects of the consumption of alcohol on the human body. Although alcohol may make a person happy, pleasant, and sociable for short periods, excessive consumption of it may lead to chronic diseases in the long run, making the person more prone to diseases such as cancer and cardiovascular diseases. Excess consumption of alcohol interferes with the brain's neural communication pathways, causing stroke, high blood pressure, cardiomyopathy, fatty liver, acute pancreatitis, weakening of the immune system, acute respiratory syndrome and weakening of bones. After the study, we will be able to find the differences among the various groups of U.S. adults.

Analysis of the amount of alcohol consumed by various age groups may improve the diagnosing capacity of technology-based health assessment. Many such applications for watches and mobiles will improve with the assessment of this data. Additionally, the frequency of consumption of alcohol by individuals will provide knowledge about their mental state. This report will also help identify the groups unhappy with society or depressed. Differences in the amount of alcohol consumption are known to exist among U.S. adults based on gender and age. The study determines the consumption of alcohol and its impact on the consumer for U.S. adult age groups of 19 to 35 years, 36 to 55 years, and 65+ years using data drawn from NHANES 2017-2020 Pre-pandemic. The hypothesis was that the groups who consume alcohol develop diseases like high blood pressure, high blood cholesterol, obesity and diabetes.

3 Materials & Methods

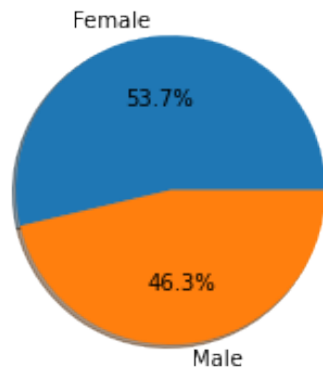
This report talks about the affects of alcohol consumption on human body. The report is a comprehensive study of the dataset collected by NHANES. To collect the dataset, at the NHANES Mobil Examination Center, WWEIA/NHANES participants filled out a comprehensive questionnaire assessing socioeconomic factors in their homes and diet (MEC). Participants in this study were classified by age group (19-35 years, 36-55 years, and 56 years), gender (male or female), survey year (20), poverty-income ratio, race/ethnicity. The given data was cleaned to study and infer results. After that, the data was analyzed for each category of the participant, and inferences were made.

4 Results

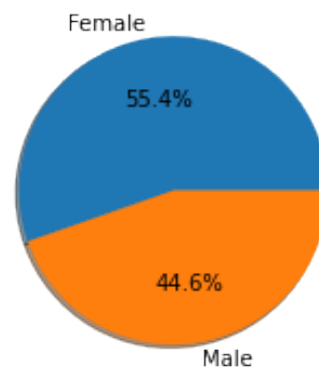
- The percentage of male drinkers in the population is 63.32%, while in the case of women, it is 60.9%.
- In the age group of 19 - 55 years, females are more likely to drink alcohol than males. On the other hand, males of 56+ years drink more than females of the same age group. (figure 1)
- Among all the three age groups, the 36 - 55 age group females consume more alcohol. In the 56+ age group, males drink alcohol more often. (figure 1)
- The blood pressure of non-drinkers is around the standard limit, while those of the drinkers are very high, and they are likely to face many diseases. (figure 2)

- The drinkers' cholesterol level is very high compared to non-drinkers making them more likely to have heart disease. (figure 2)
- A lot of people drink alcohol 3 times a month, and there are very few who drink every day. (figure 3)

Drinkers in the age group of 19-35



Drinkers in the age group of 36-55 years



Drinkers in the age group of 56+ years

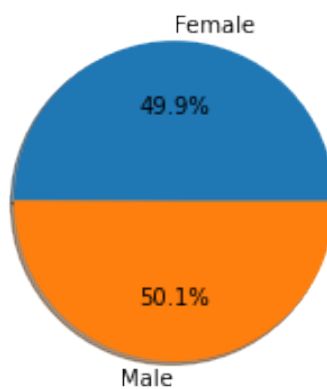


Figure 1: Percentage of drinkers in every age group

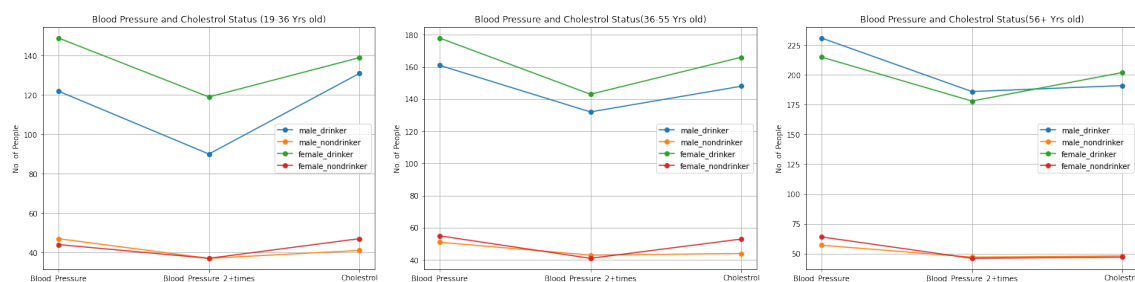


Figure 2: # of people vs Blood pressure, Cholesterol

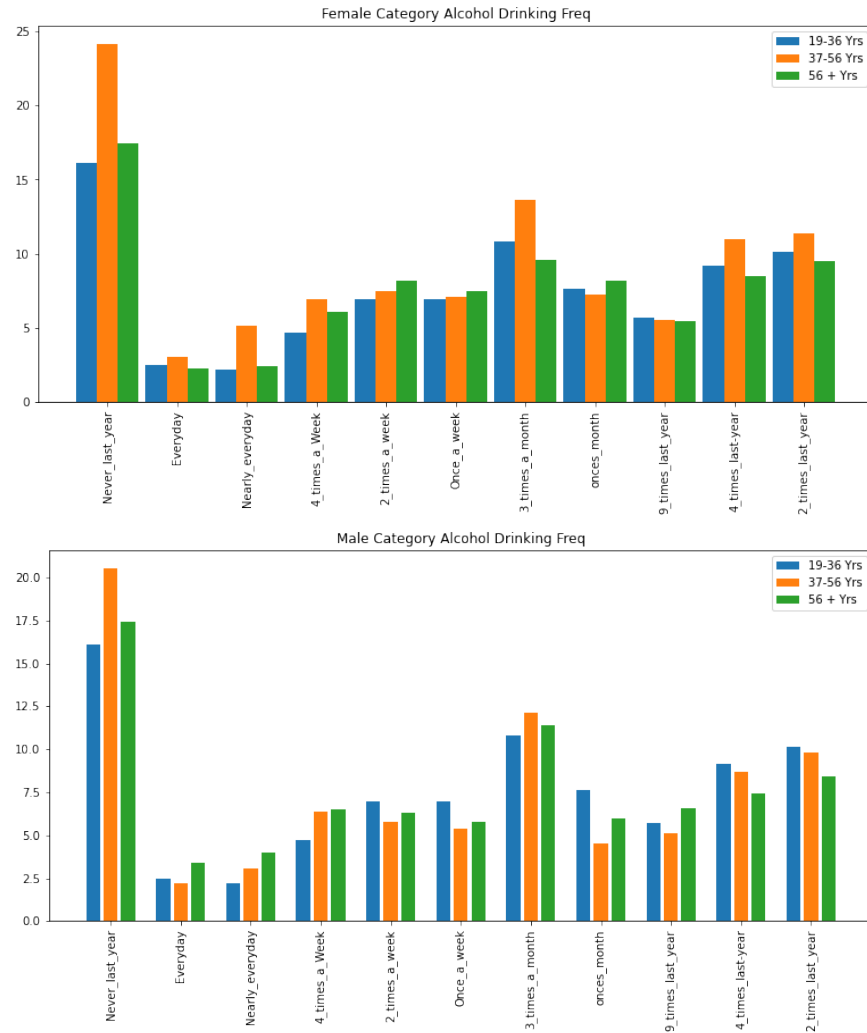


Figure 3: Frequency vs # of drinks per day

5 Conclusions & Discussions

The above study concludes that there is diversity in the population drinking alcohol among U.S. adults. It is known otherwise and stated in our result that excessive alcohol is harmful. People with no alcoholic addiction tend to have better health than those who are alcohol addicts.

6 Acknowledgements

We express our sincere thanks to Dr Nitin Khanna sir, for providing the opportunity to prepare the report. We would also extend our gratitude to Mr Karande Jaysing Vitthalrao for his supervision in the completion of the project.

We are also thankful to all the other faculty & staff members of our department for their kind cooperation and help.

Lately, we would like to express our deep appreciation towards our classmates and our debts to our parents for providing us with moral support and encouragement.

References

- [1] How Often and How Much? Differences in Dietary Intake by Frequency and Energy Contribution Vary among U.S. Adults in NHANES 2007–2012