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CSC 465 – Data Visualization

Social Theorist

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Introduction

Objective

- We are interested in improving the quality of people's life. We would like to explore and analyze what demographic and behavior factors are closely related to people's health.
- Our focus is on the factors that contribute to and are correlated with obesity

Dataset Information

- The dataset we chose is from the National Health and Nutrition Examination Survey dataset from California between 2013 and 2014
- We created our dataset by combining variables of interest from the NHANES demographics and questionnaire tables
- Dataset had several NaN entries that had to be removed (were categorical variables so no substitution was possible)
- Dataset had several "Refused" and "Don't Know" entries that had to be removed

Dataset Variables

Main Variables

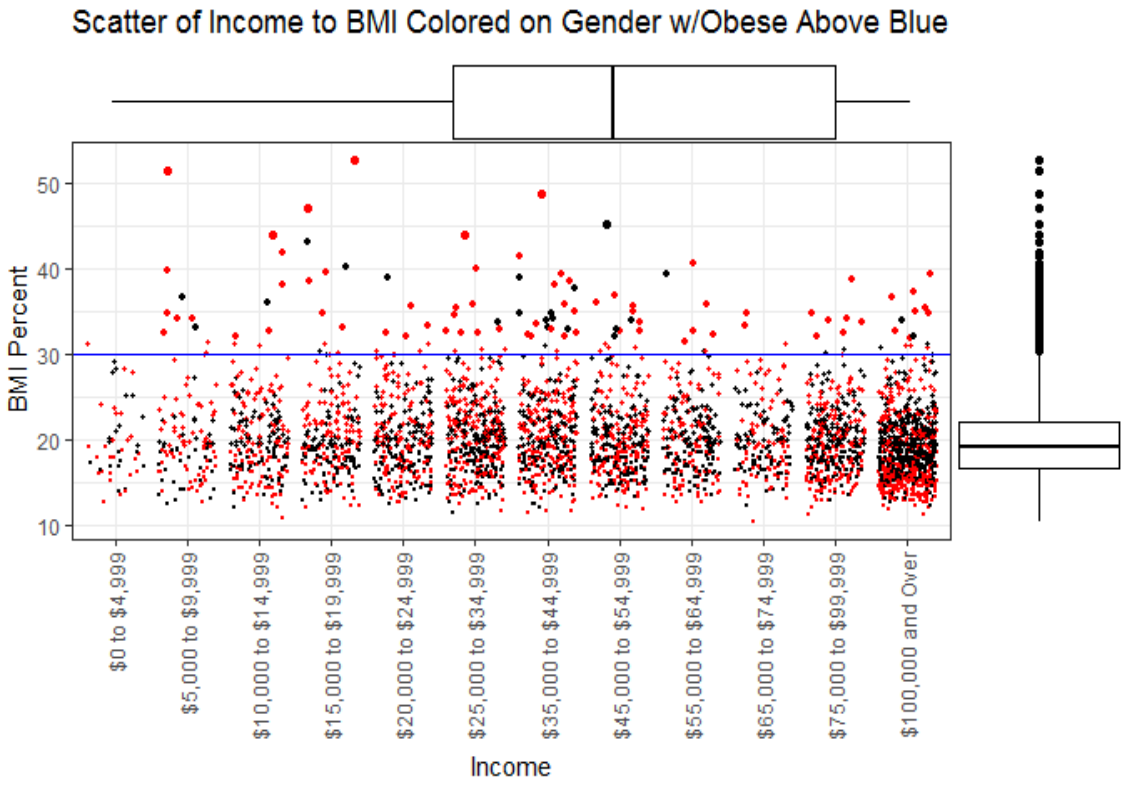
- Gender
- Age
- Race
- Education Level
- Annual Household Income
- Marital Status
- Height
- Weight
- BMI (calculated from Height and Weight)
- Obesity Indicator (0 for BMI values under 30, 1 for over)

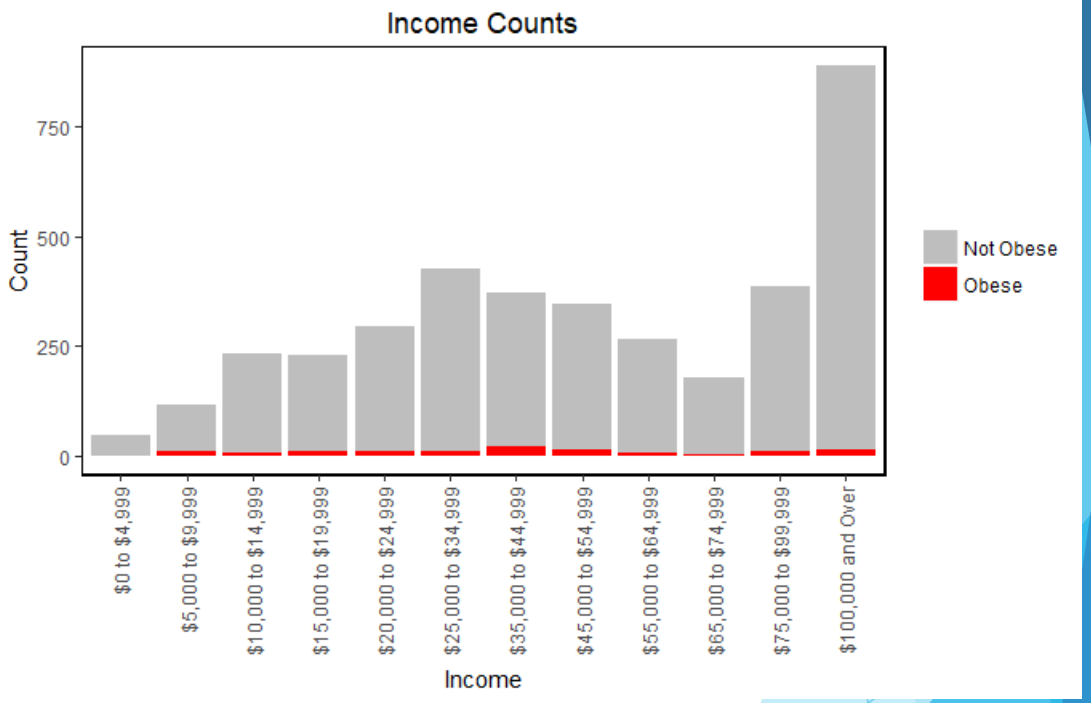
Secondary Variables

- Ratio of Income to Poverty Level
- High Blood Pressure Flag
- Diabetes Flag
- Amount Spent at Grocery Store Per Month
- Amount Spent on Non-Food Per Month
- Amount Spent Eating Out Per Month
- Amount Spent Delivery/Carryout Per Month
- Number of Meals Made at Home Per Week
- Number of Fast Food Meals Per Week
- Number of Ready Made Meals Per Week
- Number of Frozen Meals Per Week
- Doctor Said Overweight
- Doctor Said to Lose Weight
- Doctor Said to Exercise
- Number of Sedentary Minutes Per Day
- Has Smoked 100 Cigarettes in Lifetime

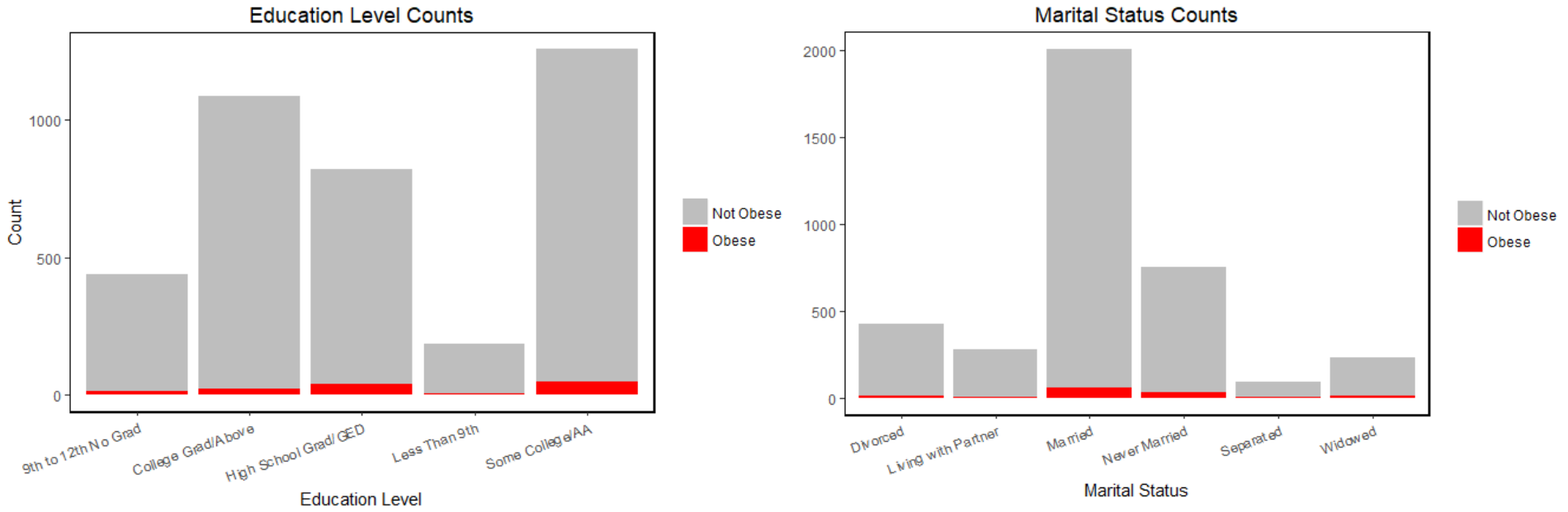
Exploratory Analysis

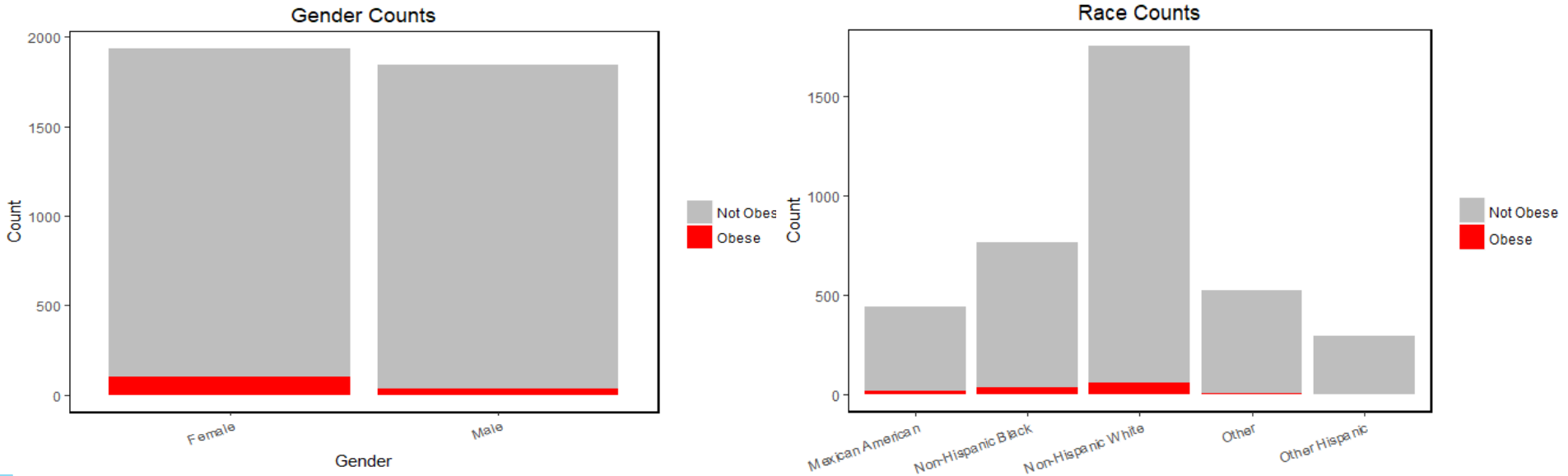
Exploratory Analysis





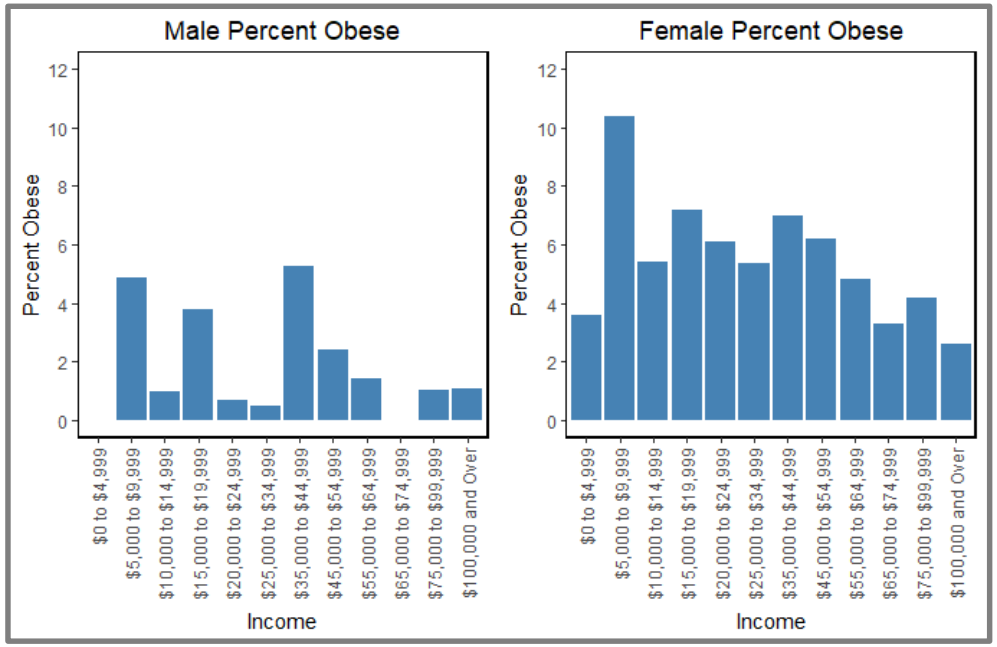
Exploratory Analysis (cont.)

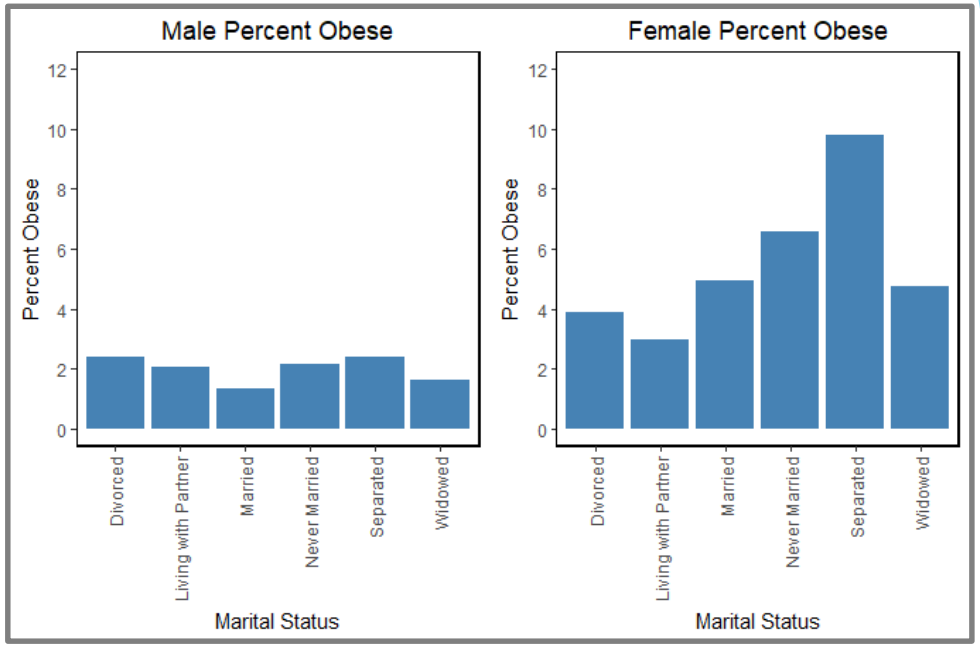


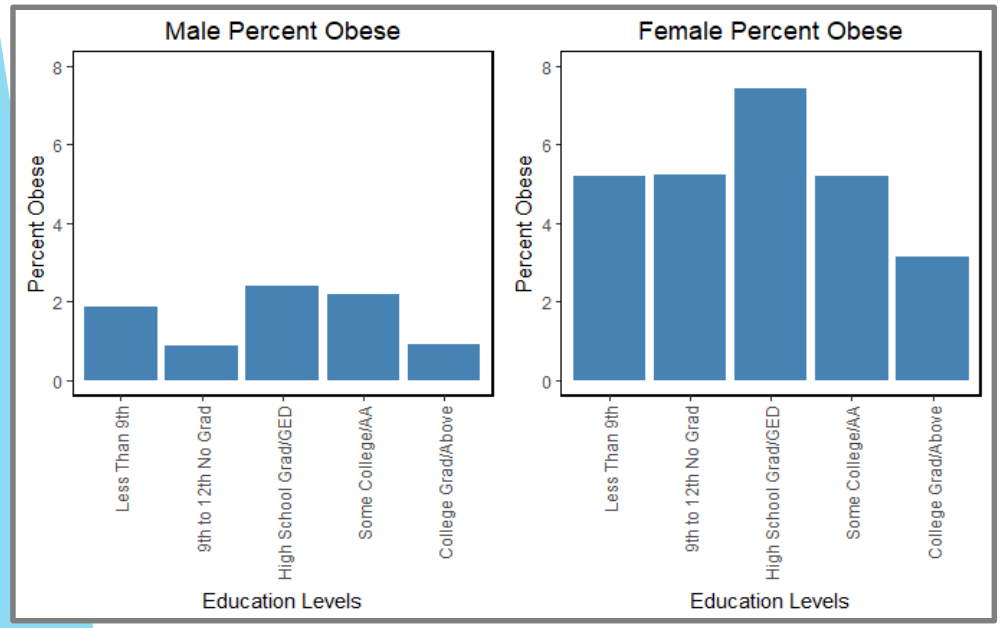


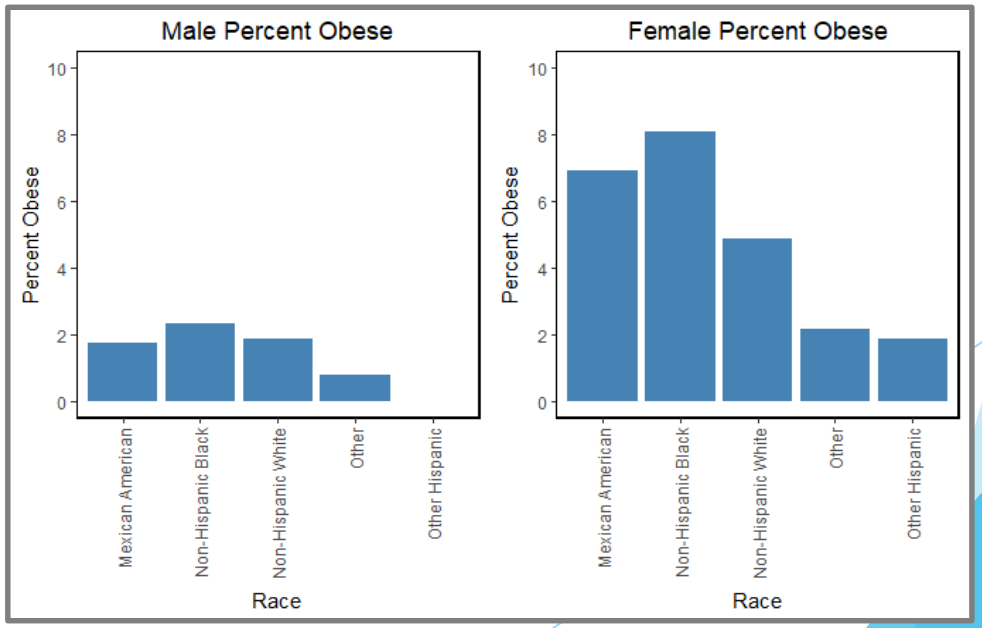
Visualizations

Percent Obesity Charts

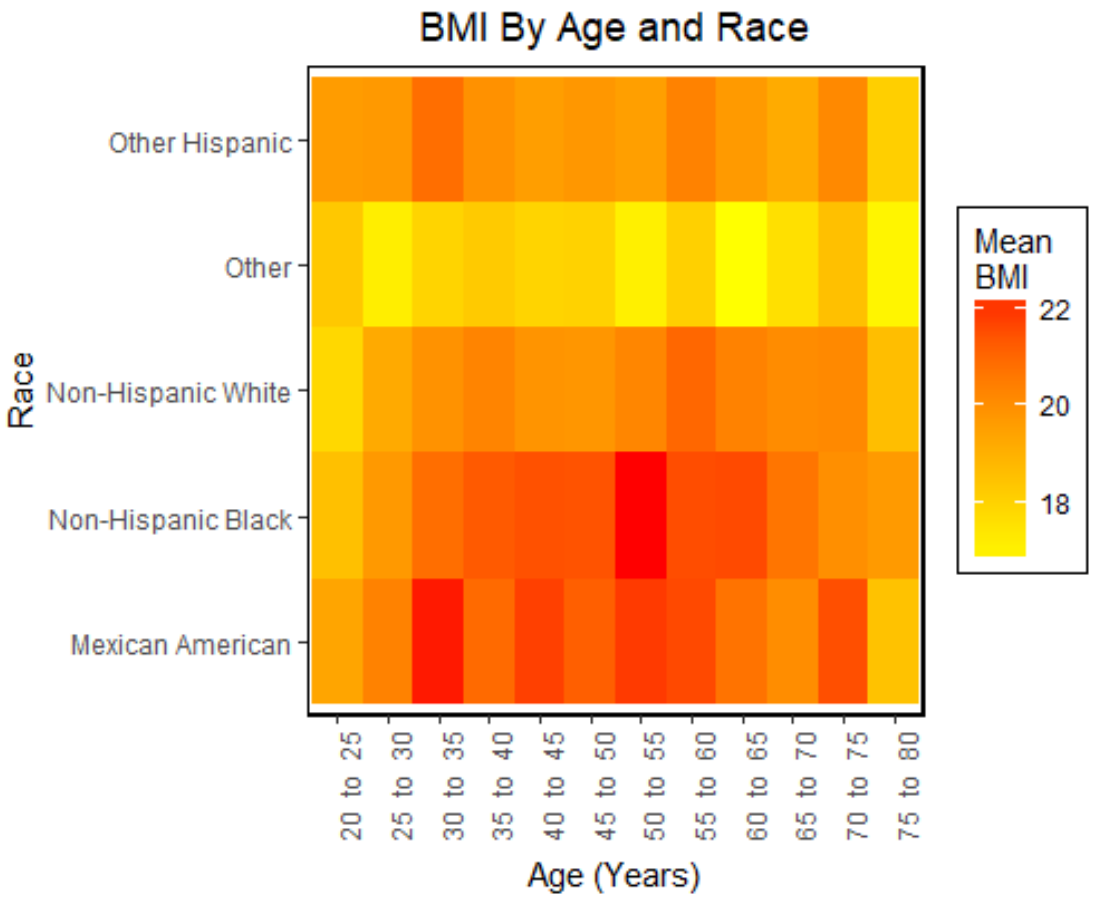


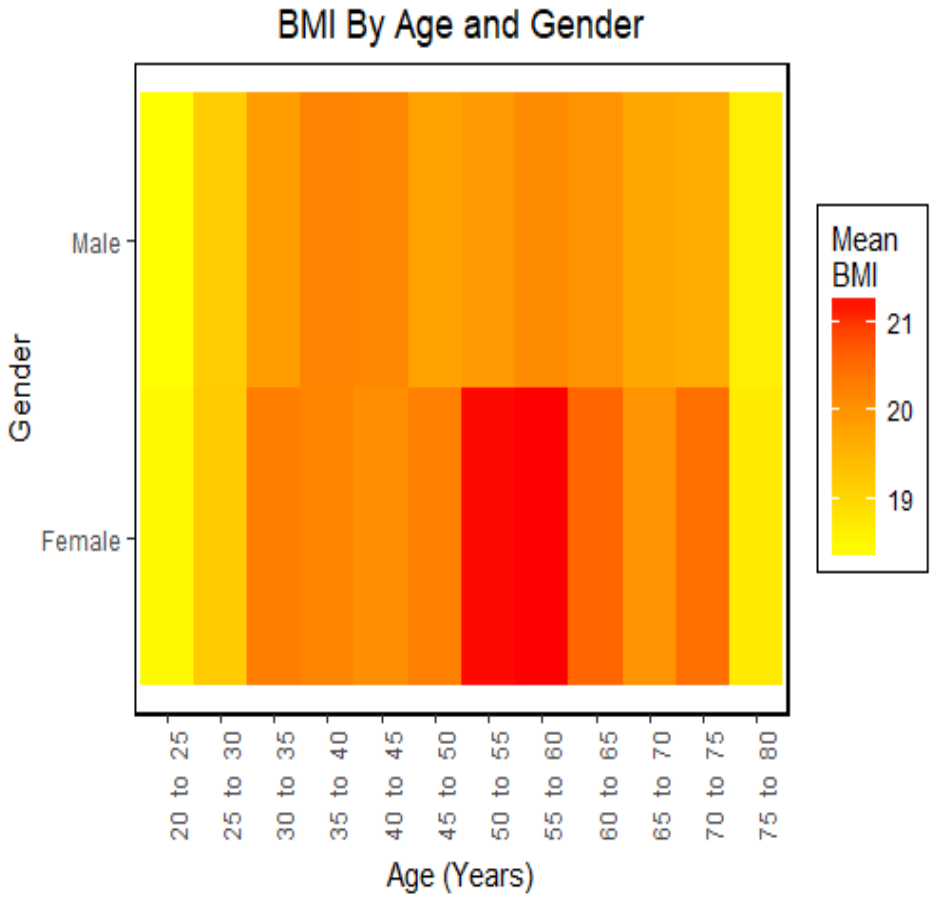




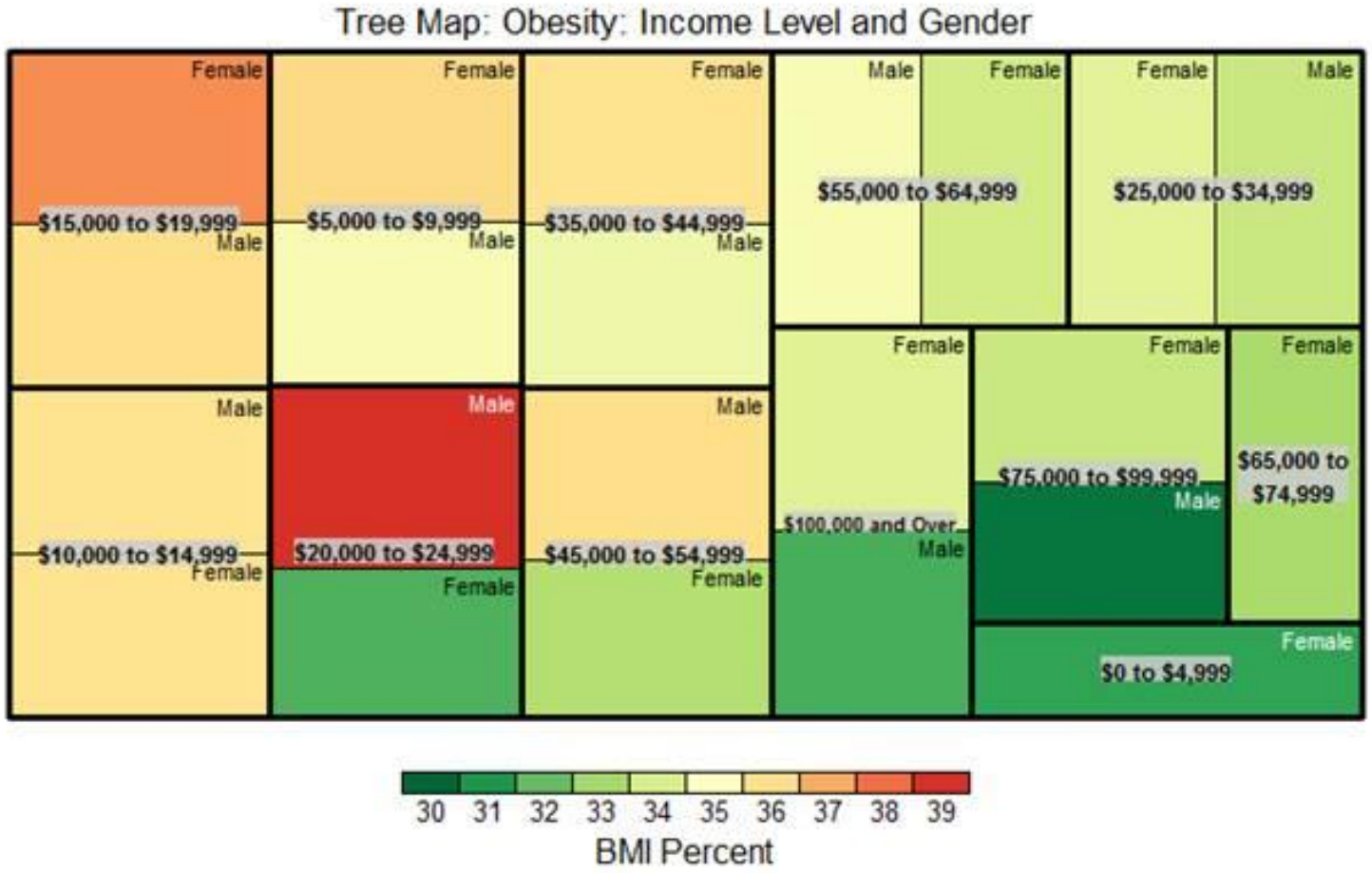


Race, Gender, Age, and BMI Heatmaps

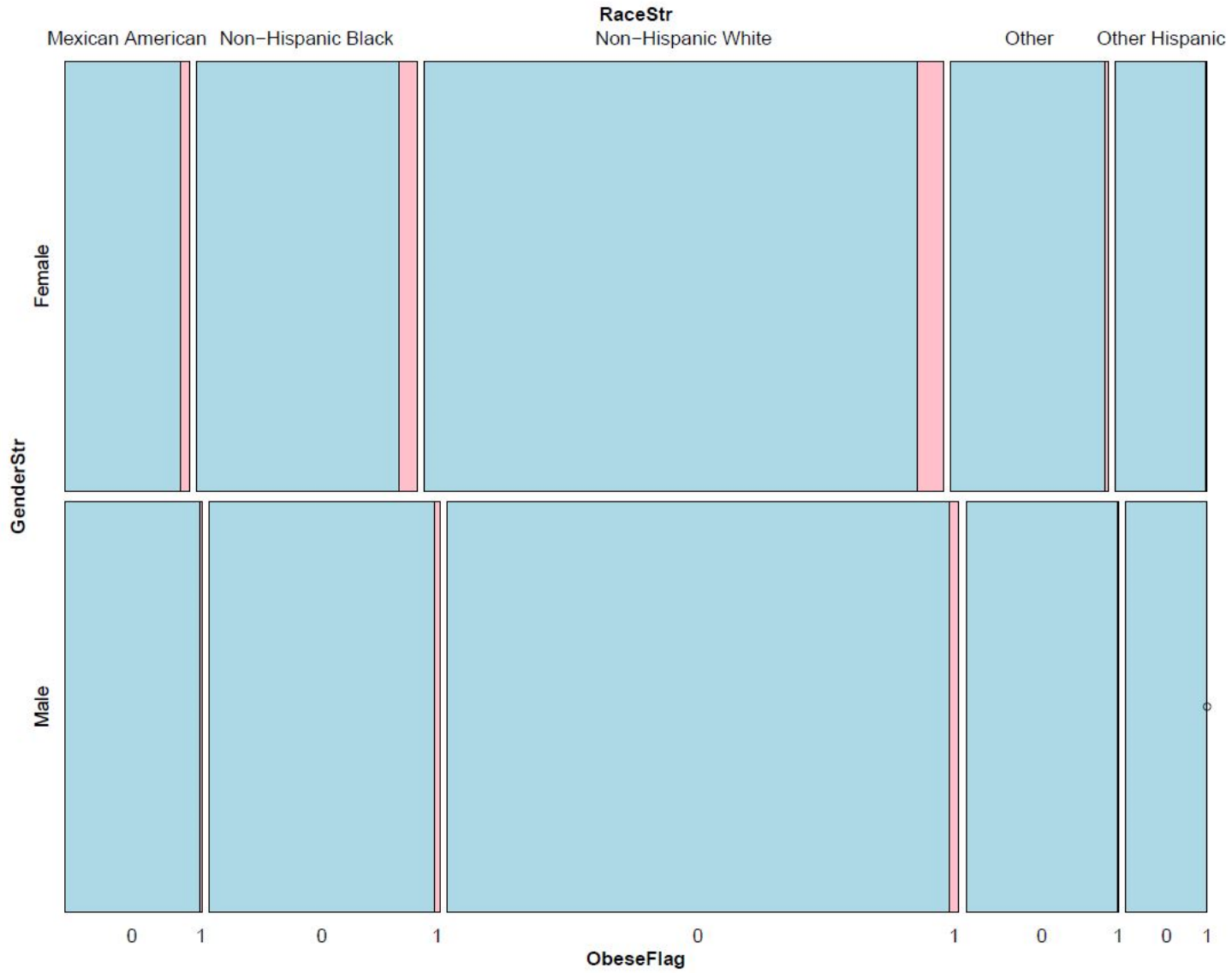




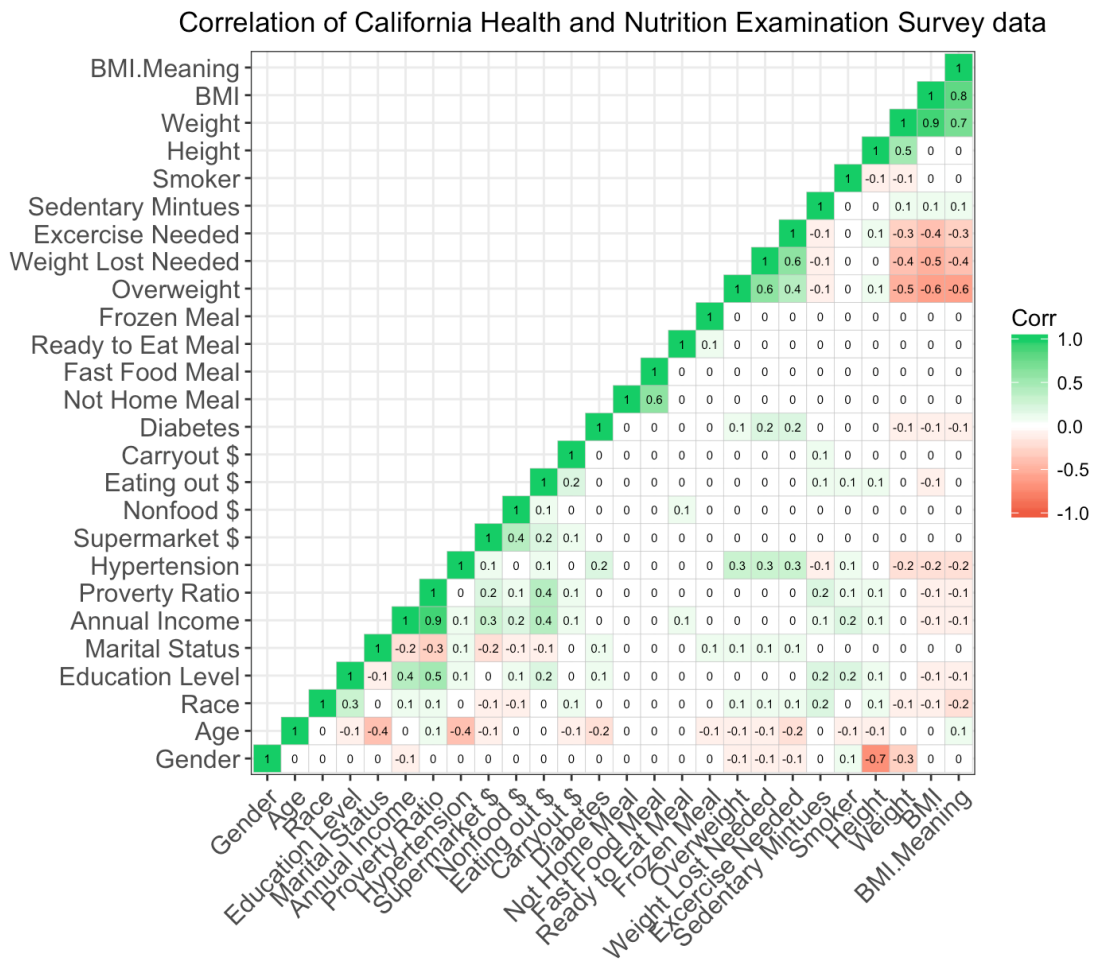
Obese Income, Gender, and BMI Treemap



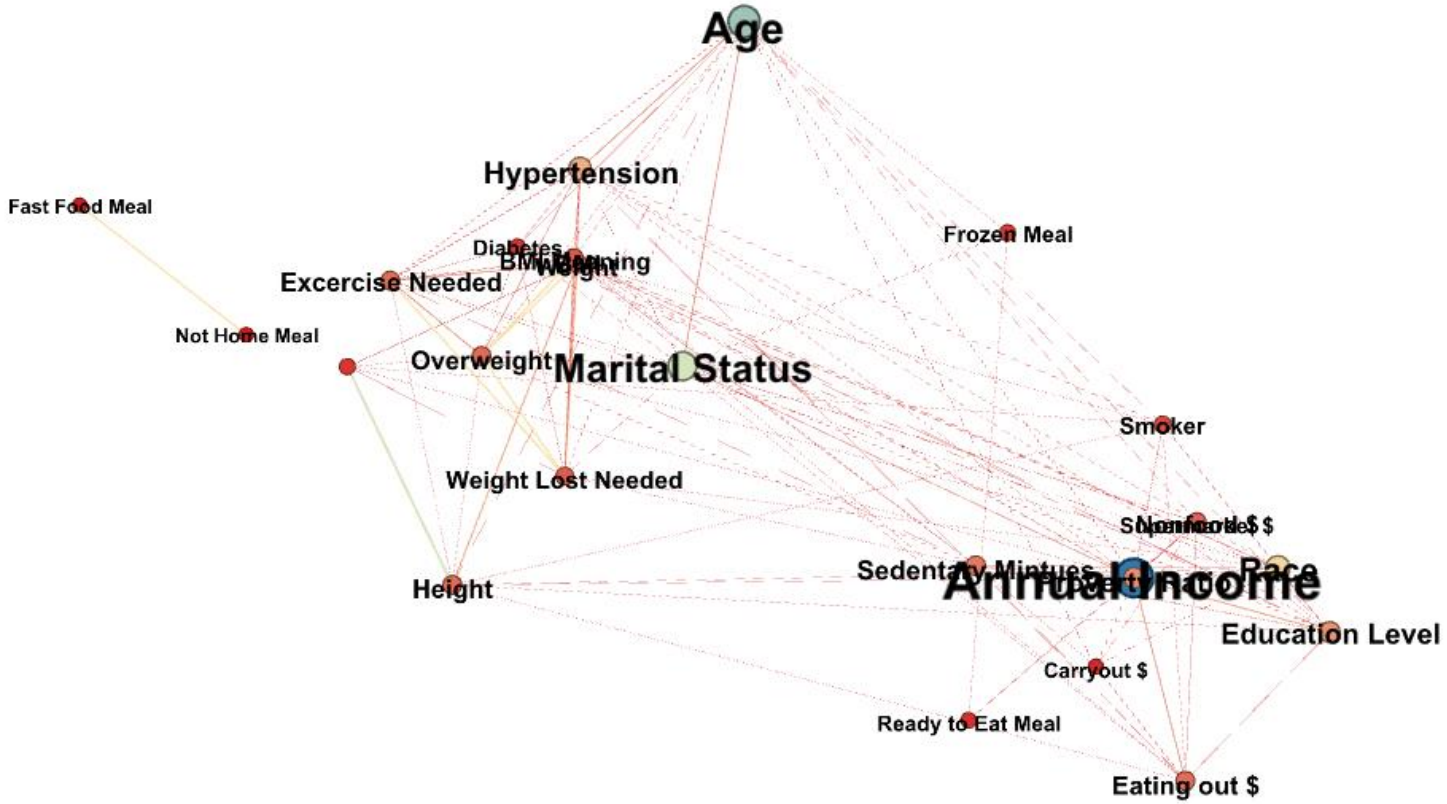
Race, Obesity Indicator, Gender Mosaic



All Variable Correlogram



All Variable Forced Direct



Conclusions

- The majority of people in California between 2013 and 2014 who took the survey were not obese
- Of the obese people, a higher percentage were female
- People of non-Hispanic black decent had the highest percent of obesity
  - Next highest was Mexican- American
  - Third highest was non-Hispanic white
- The age range with the highest BMI was approximately 40 to 65
- The income bracket with the highest percent of obesity was $5,000 - $9,999
  - The next highest was $35,000 to $44,999

Questions & Discussion