

Gender based Wage Gap

Data Exploratory analysis

STAT515 Final Project



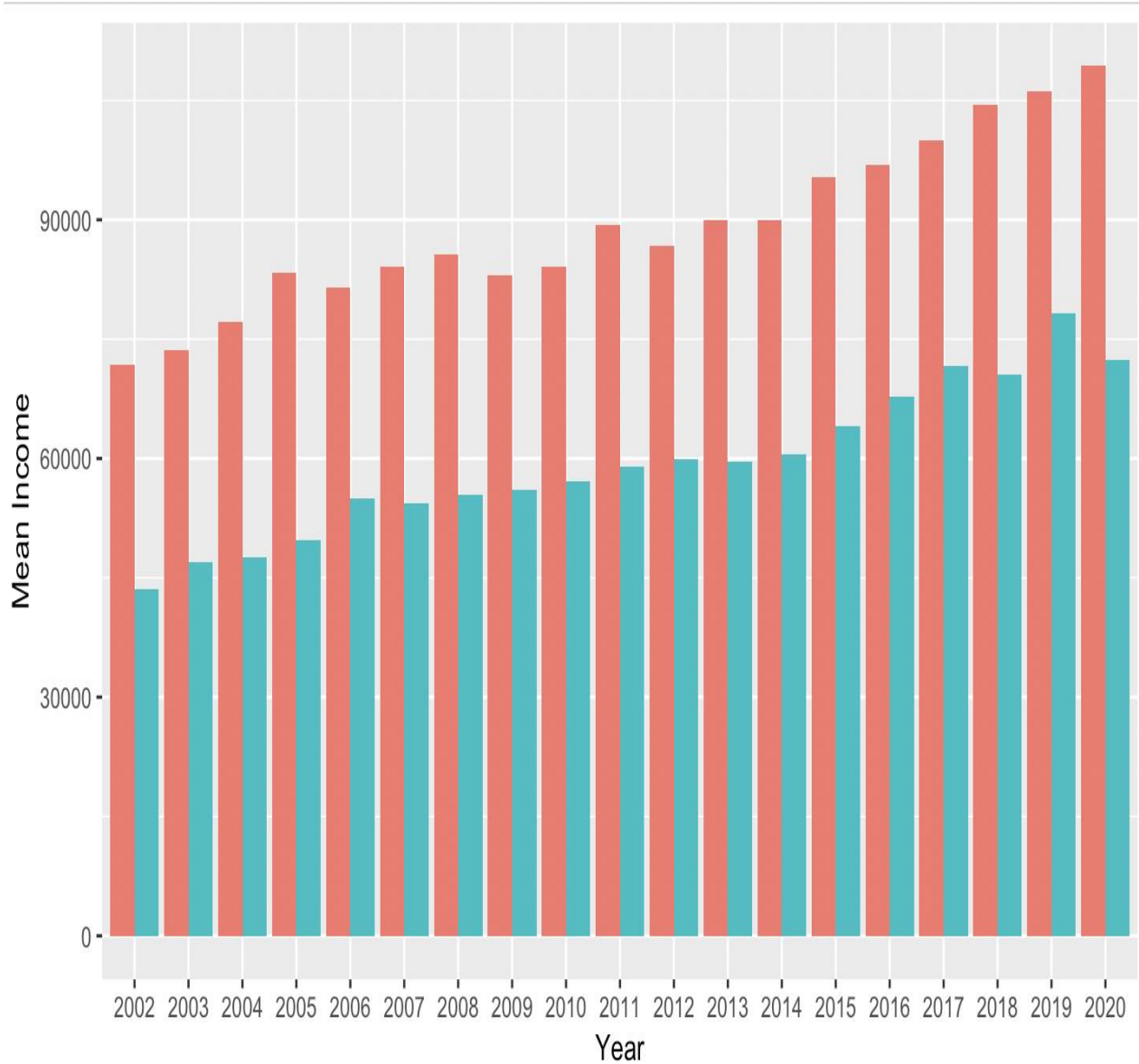
Overview and dataset

- The proportion of women entering professional fields of education and work have increased in the last few decades. However, the wage gap continues to be stubborn.
- Hence, I have attempted to understand gender-based wage gap and the various factors effecting it through exploratory data analysis
- US Census data collected from 1990 to 2020.

Few research questions based on dataset:

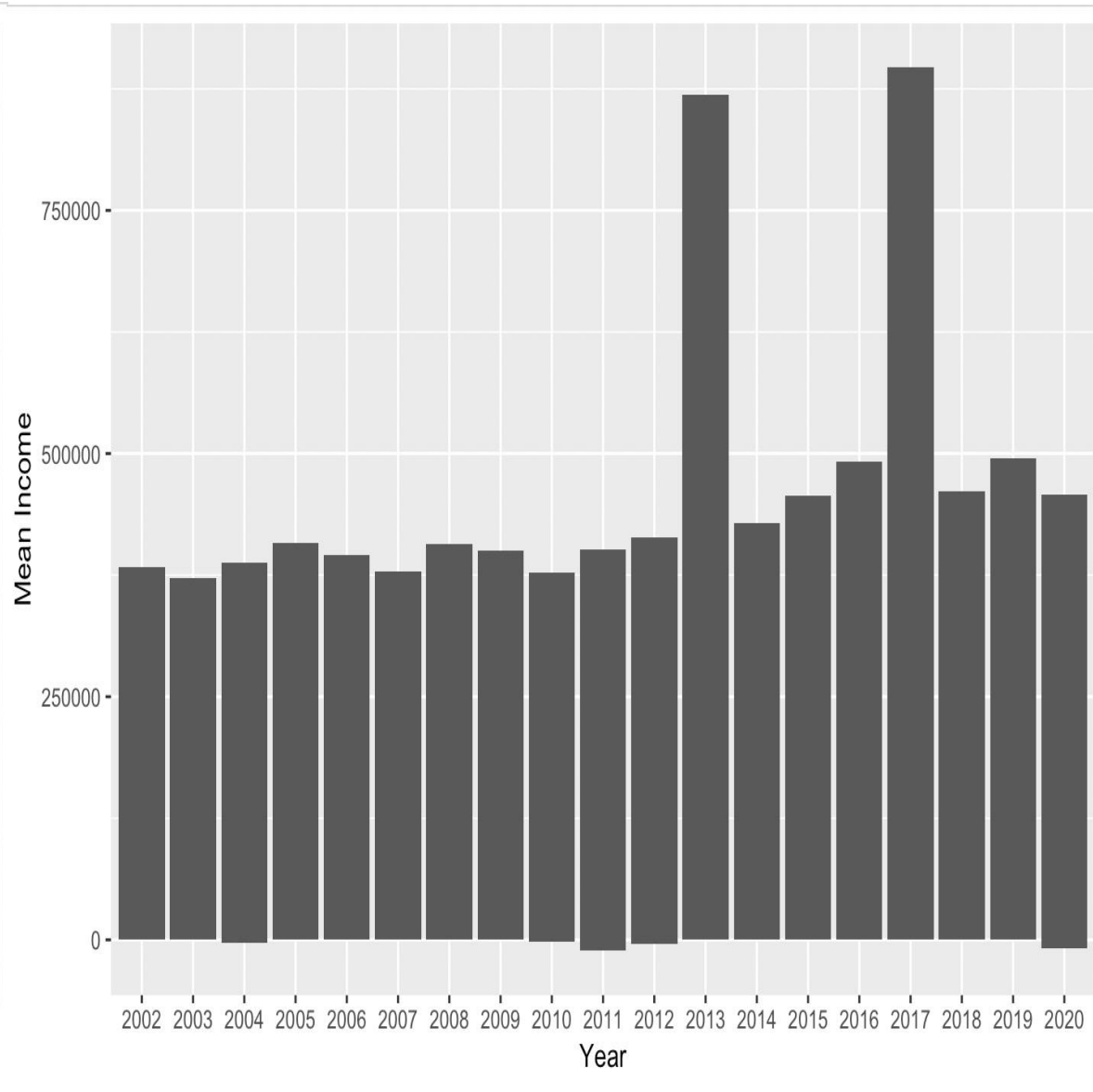
- Is there a gender-based wage gap ?
- Does any specific age group exhibit a higher wage gap?
- What impact does the level of education have on the wage gap?
- Which occupation has seen the highest wage gap difference?

Mean income between men and women over years

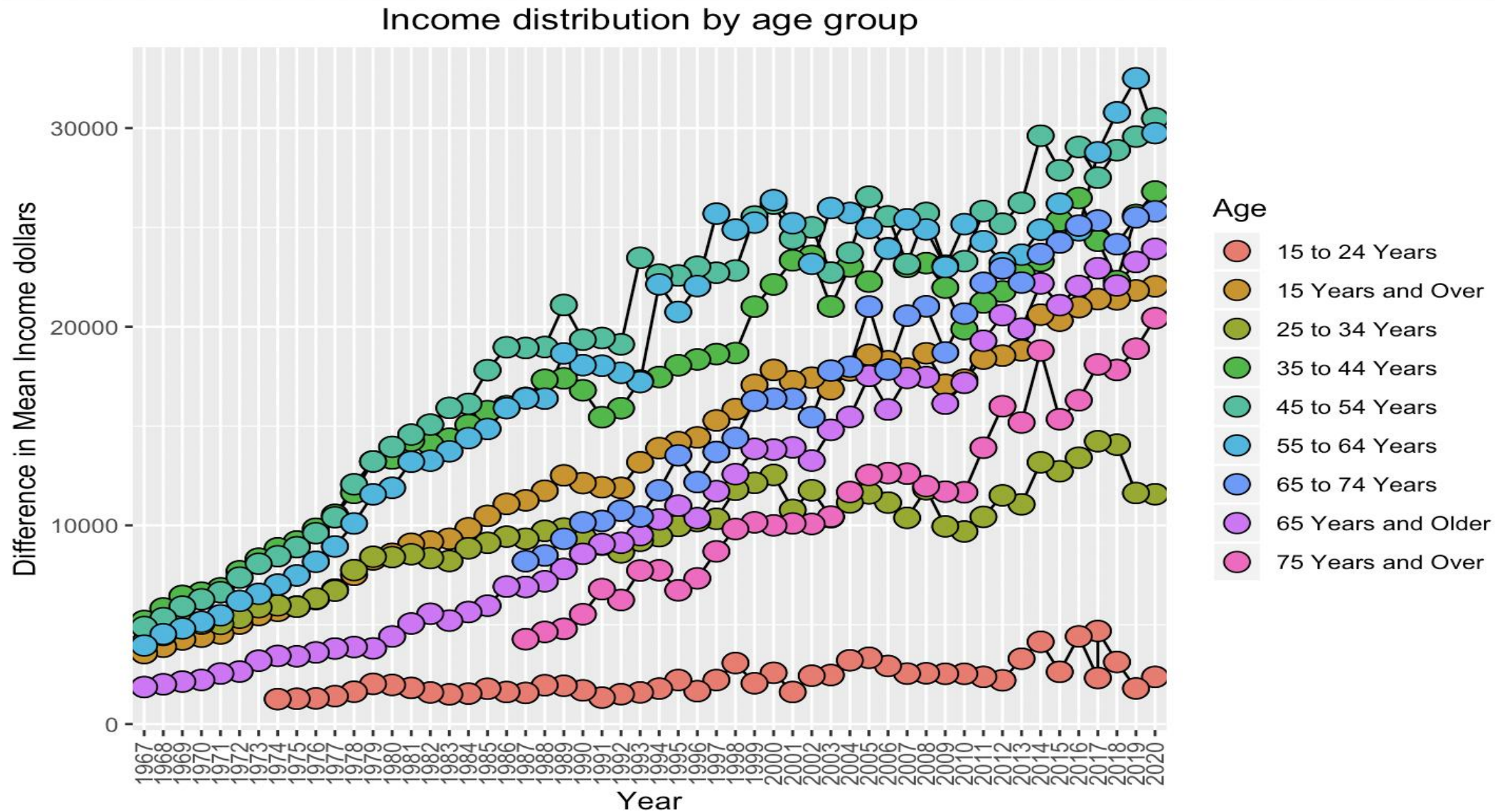


Gender Male Female

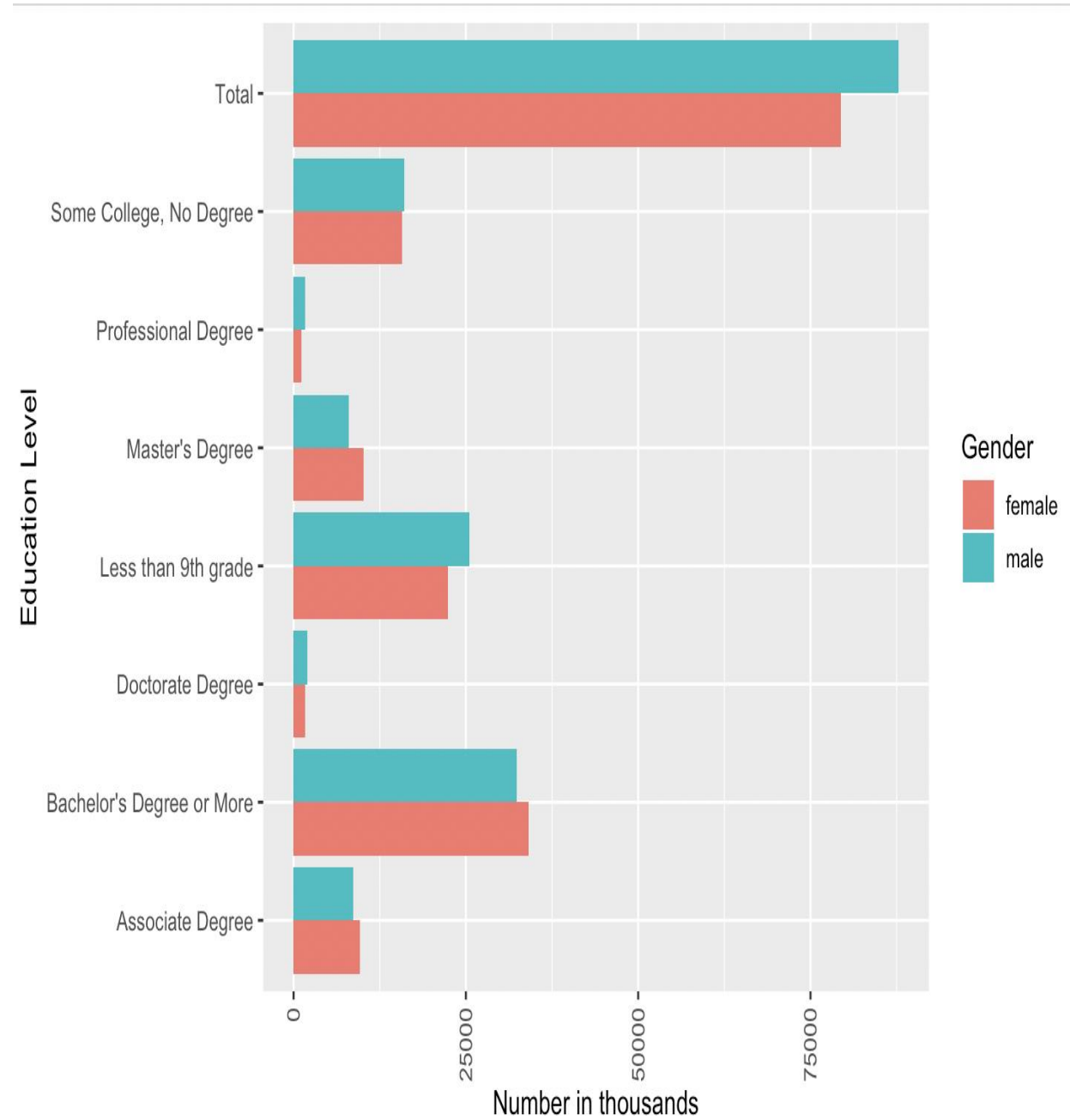
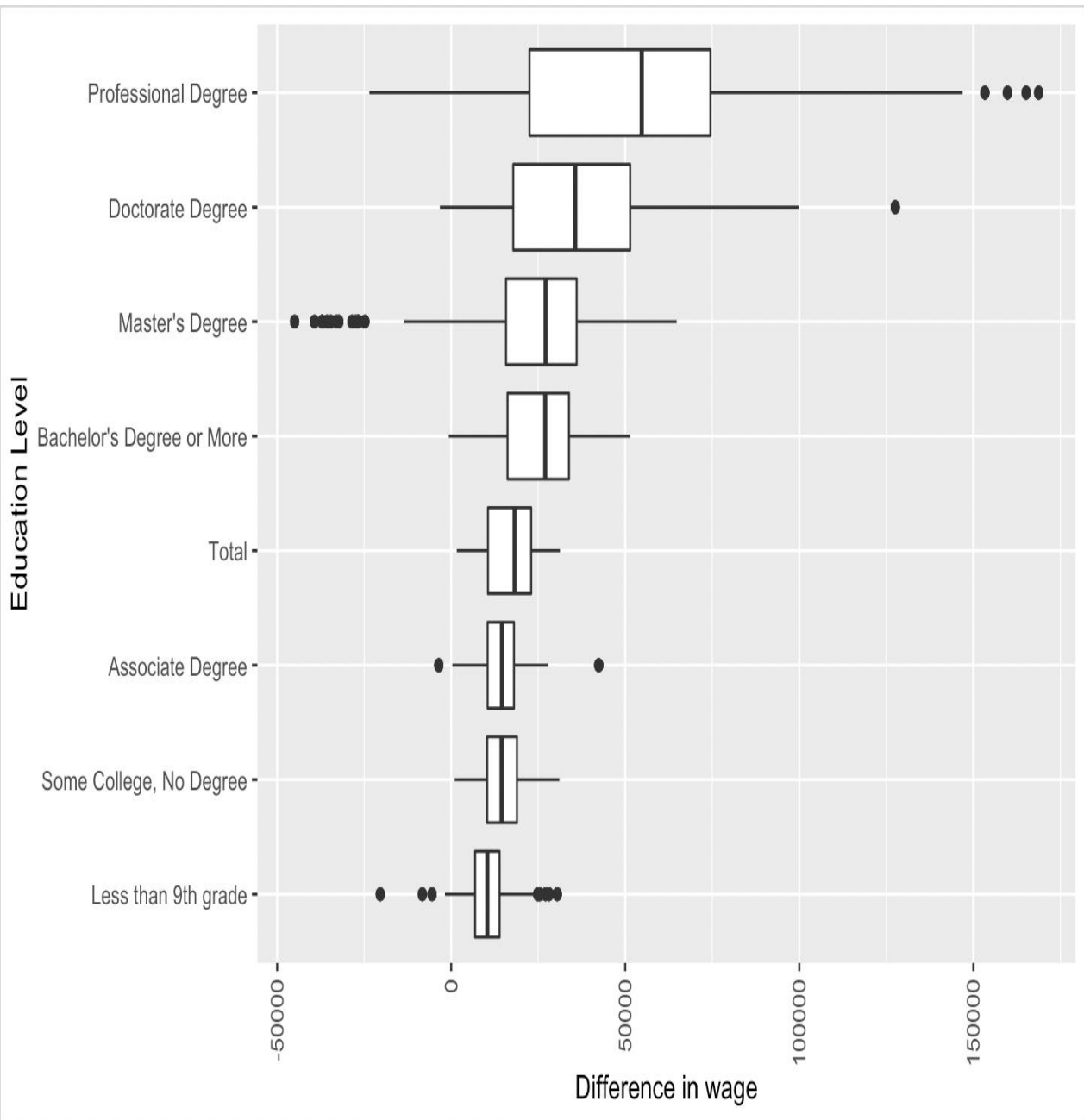
Mean difference in income over years



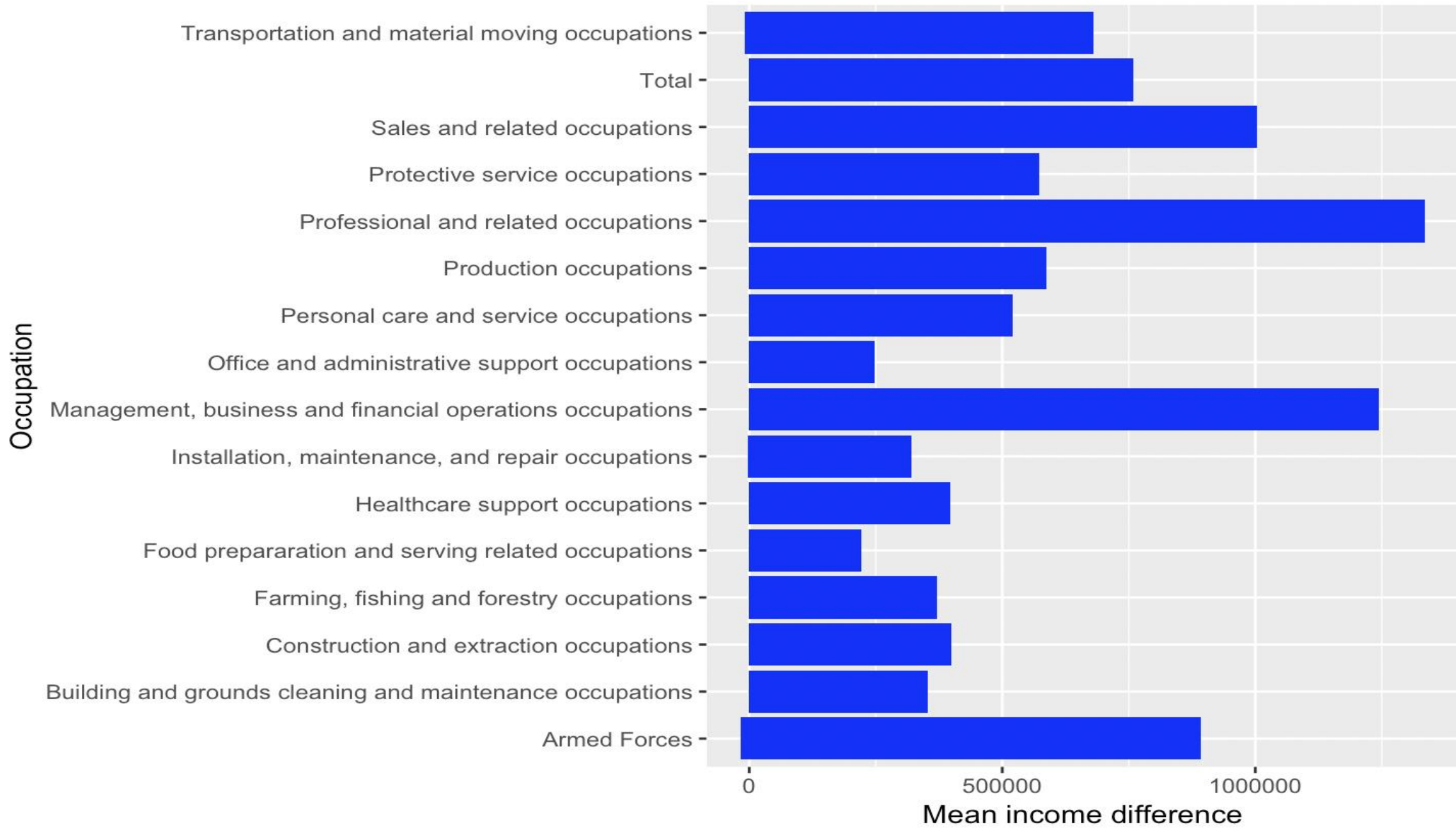
Mean income difference between men and women over age group



Mean income difference between men and women over level of education. Difference in number enrolled in education level

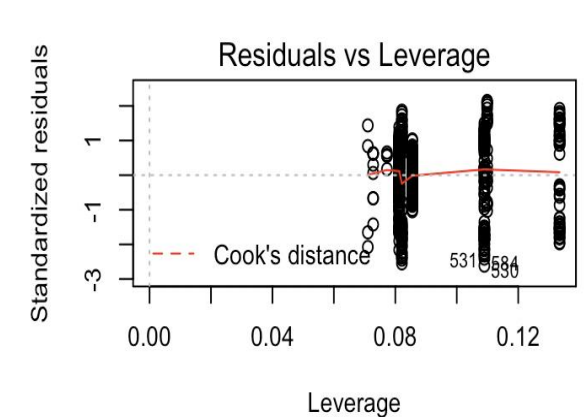
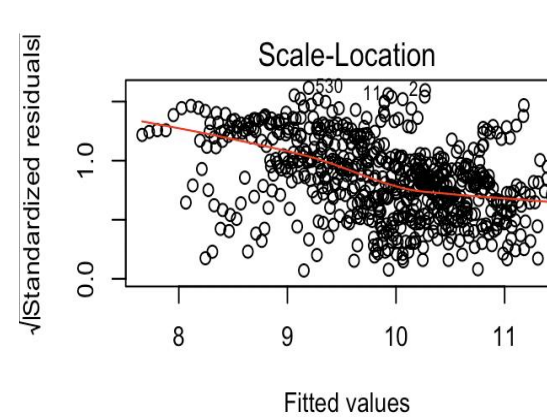
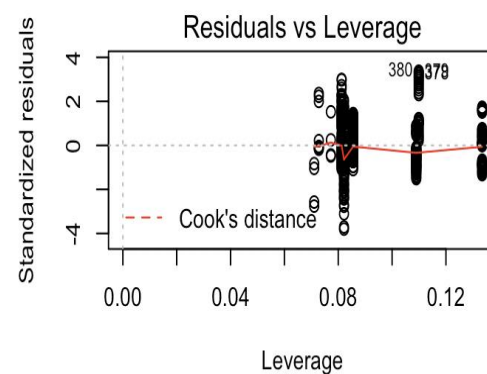
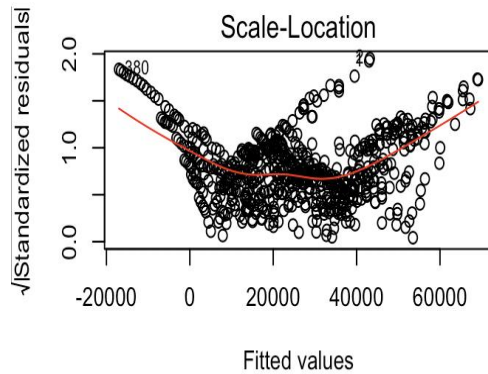
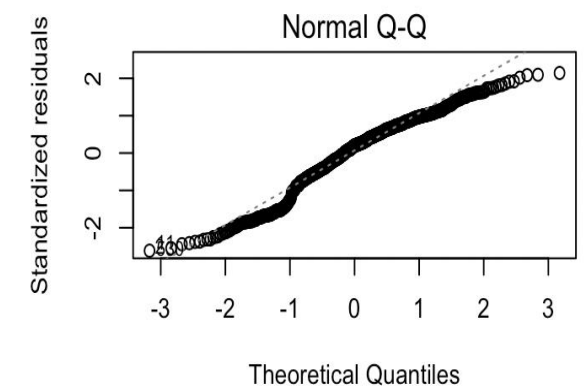
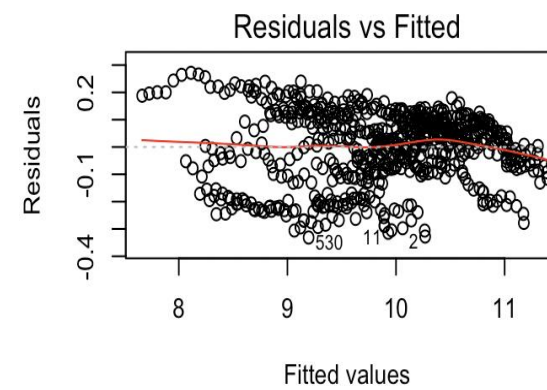
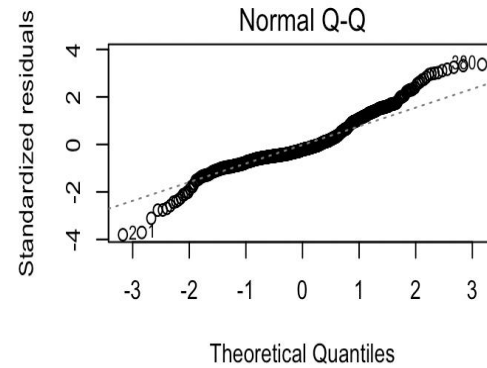
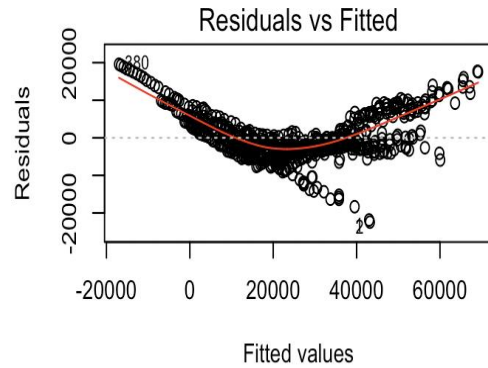


Mean income difference between men and women over level of occupation.



MLR

Regressed Mean Income Current dollars on Gender, age, year



Adjusted R-squared: 0.883

Adjusted R-squared: 0.971

Findings:

- Gender based Wage gap exists and 2013 and 2017 years exhibit highest gap.
- The age groups 35 to 64 exhibit the highest wage gap difference.
- Even though the number of men and women completed education in each level are similar, there is a huge gap in income earned between men and women, highest in professional degree.
- Management, business and other related fields exhibit highest wage gap difference.