# Analysis of Diabetes Over time

# DATA INFORMATION

# **Dataset:** The Evolution of Diabetes Over Time

- Accessed through the NCD Risk Factor Collaboration website:
  - https://www.ncdrisc.org/data-downloads-diabetes.html

- Country-specific Data for all countries (Crude data)

- **Rows:** Country/Region/World(string), ISO(string), Sex(string), Year(integer), Crude Diabetes Prevalence (float), Lower 95% Uncertainty Interval(float)

# Research/Business Question

Have the prevalence of Diabetes increased rapidly over the years in women and men?

# Hypothesis?

- Diabetes has increased rapidly over the years in women.
- Diabetes has increased rapidly over the years in men.

# Who will find your findings valuable, and how will they use them?

Doctors, epidemiologists, and other health professionals, and health organizations will find my findings valuable and also use them to create change or tackle a health issue in the world.

# HOW TO TEST THE HYPOTHESIS?

# ANALYSIS

# How to test the hypothesis?

- I performed two different tests to test the statistical significance of the two hypothesis
  - Pearson correlation coefficient and an independent-samples t-test

# Pearson Correlation Coefficient

- When you find the pearson correlation coefficient, you are testing to see if there is a linear relationship existing between two columns.

- After testing to find the correlation coefficient, we find out that moderate positive relationship between the year and crude diabetes prevalence.

# Independent Samples T-test

- An independent-samples t-test will compare the means of these two samples, sex, and crude diabetes prevalence. It will also give a p-value indicating how likely it is that this difference is due to random chance.

- There are 390 salaries from 1980 and 390 salaries from 2014. The t-test will compare the two means from these two samples. It will give us a p-value which tells us if the difference is due to random chance.
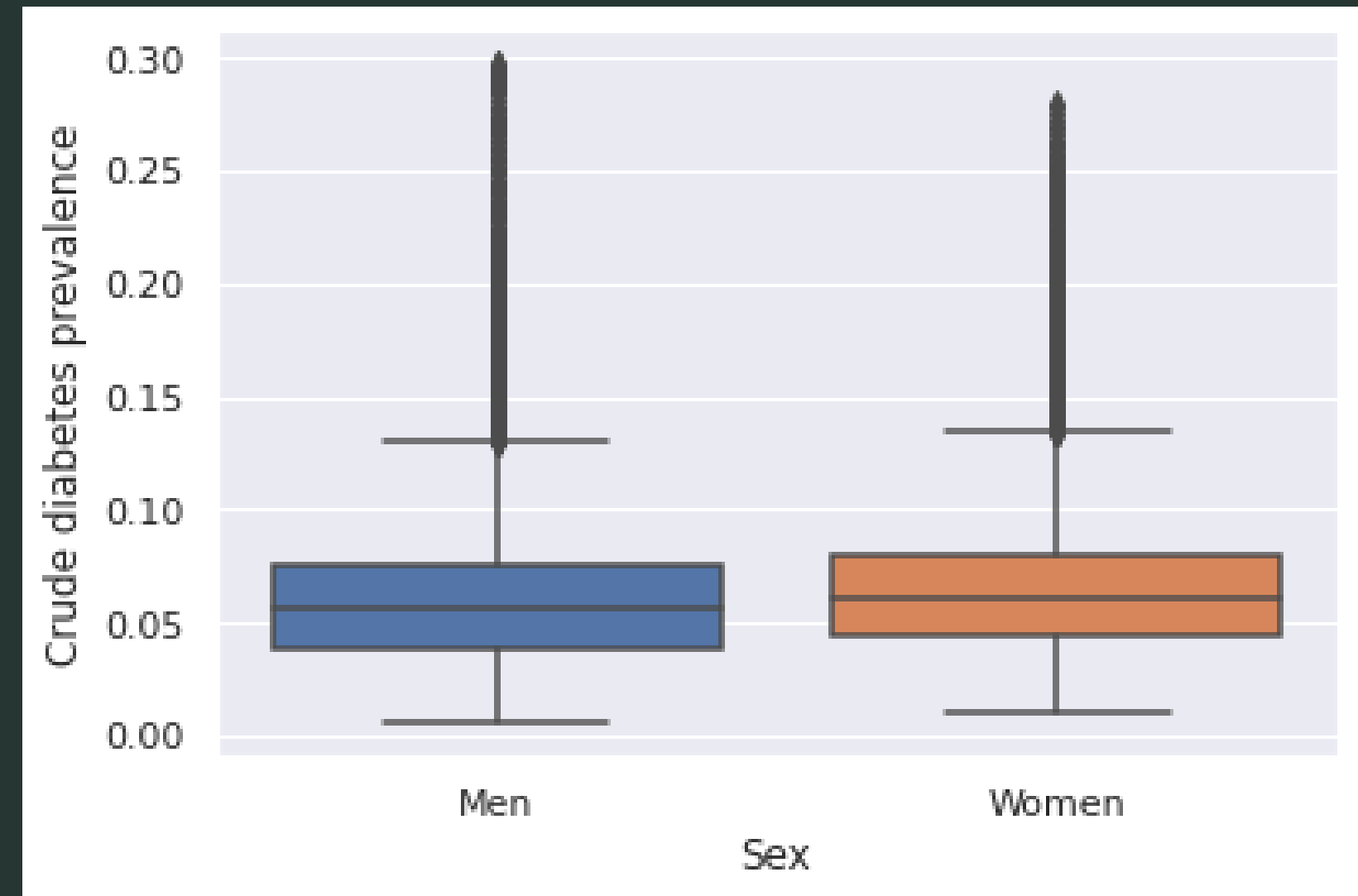
# SCATTER PLOT

The following visual is a scatter plot. It shows the crude diabetes prevalence over time between men and women
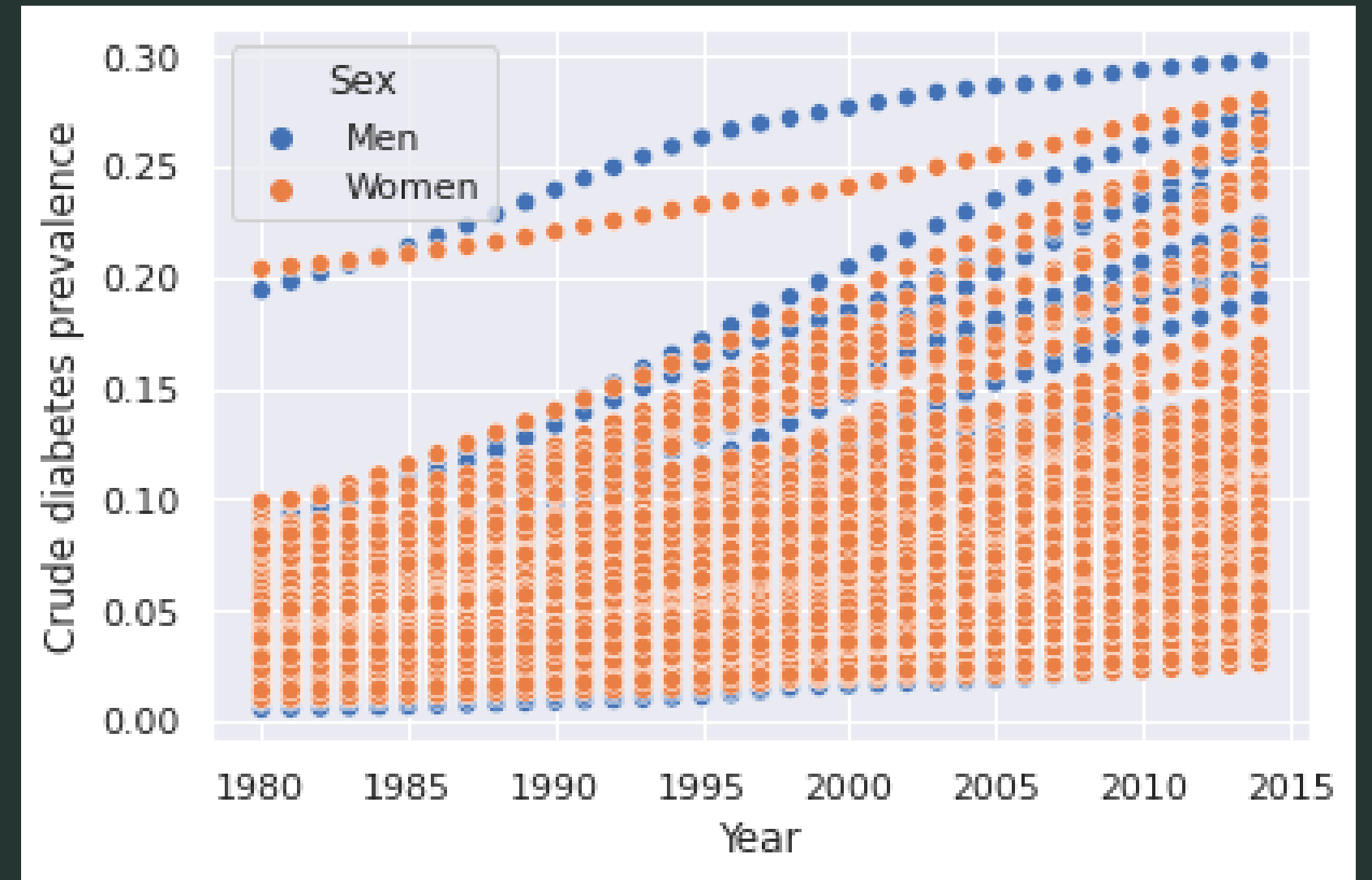
# BOX PLOT

The following visual is a box plot. It shows the crude diabetes prevalence between men and women

# RECOMMENDATIONS/ CONCLUSIONS

- The crude diabetes prevalence seems to be increasing rapidly as the years increases for both men and women.

- I would recommend putting in place some education-based programs that would help educate the community. Educating the community could help potentially lower the prevalence in diabetes globally.

# Any Questions?