

AI Boot Camp **Project 1**

Financial Well-being in America

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*Based on 2017's financial well-being survey, data.gov

Project Overview

Project Purpose / Description

- Financial Well-Being in America (2017) dataset,
- Obtained from Data.gov. (<https://www.consumerfinance.gov/data-research/financial-well-being-survey-data/>)
- Interested in learning about financial wellbeing in America
- We looked at specific variables to understand their impact

Project Overview

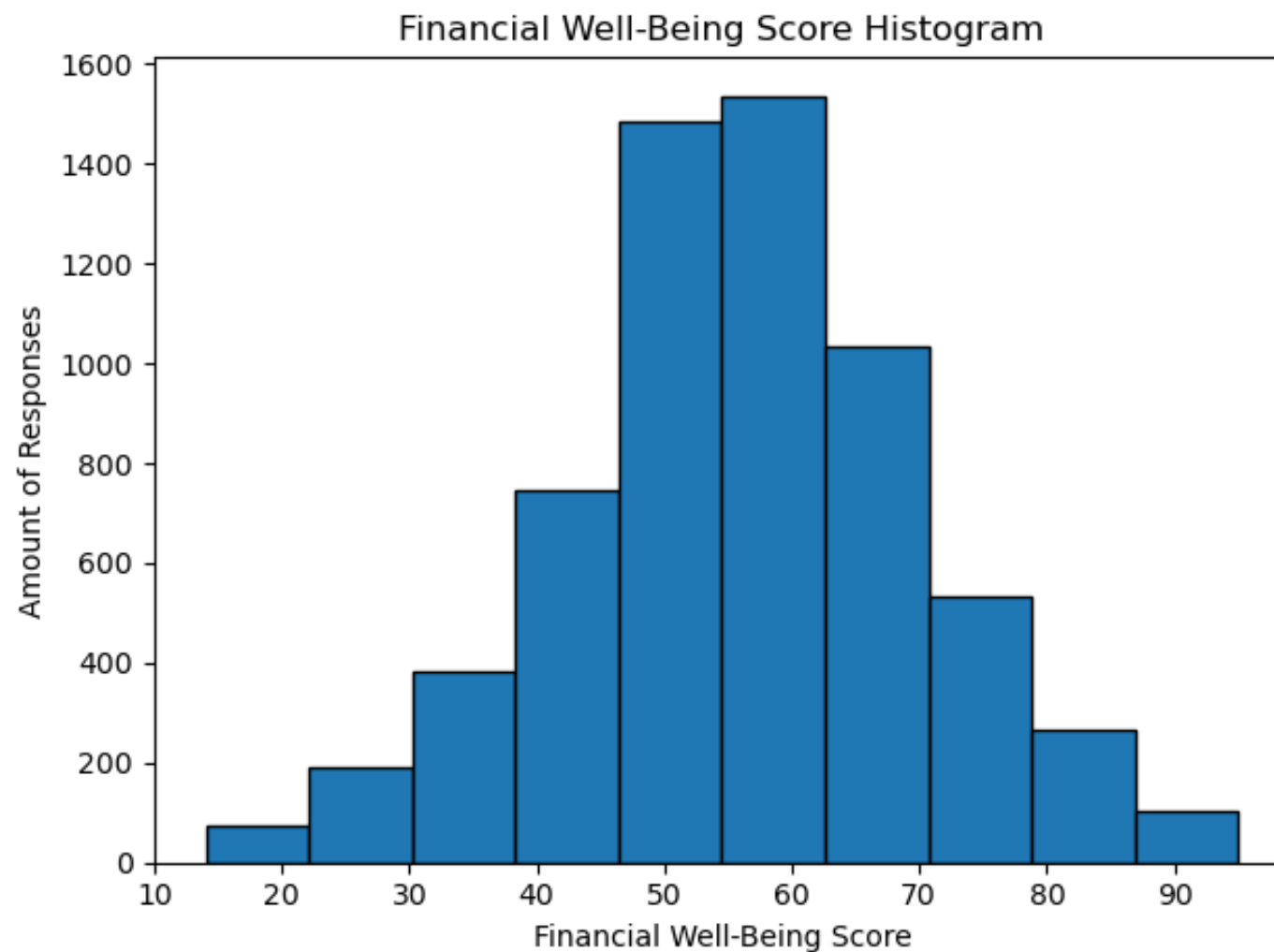
Hypothesis

There is moderate to strong correlation between the financial well-being score and the following variables:

- Shocking life events (Household difficulty or not)
- Kids / No children
- Gift-giving
- Self-control
- Savings
- Having money in case of need

The Financial Well-Being Score Histogram

Normal Distribution



Project Overview

Overview of Data Collection, Cleanup & Exploration Process

Data Exploration:

- Analyzed the columns
- Observed the data range in each column

Data Cleanup:

- Checked for duplicates
- Dropped N/A data
- Dropped Outliers
- Renamed Columns

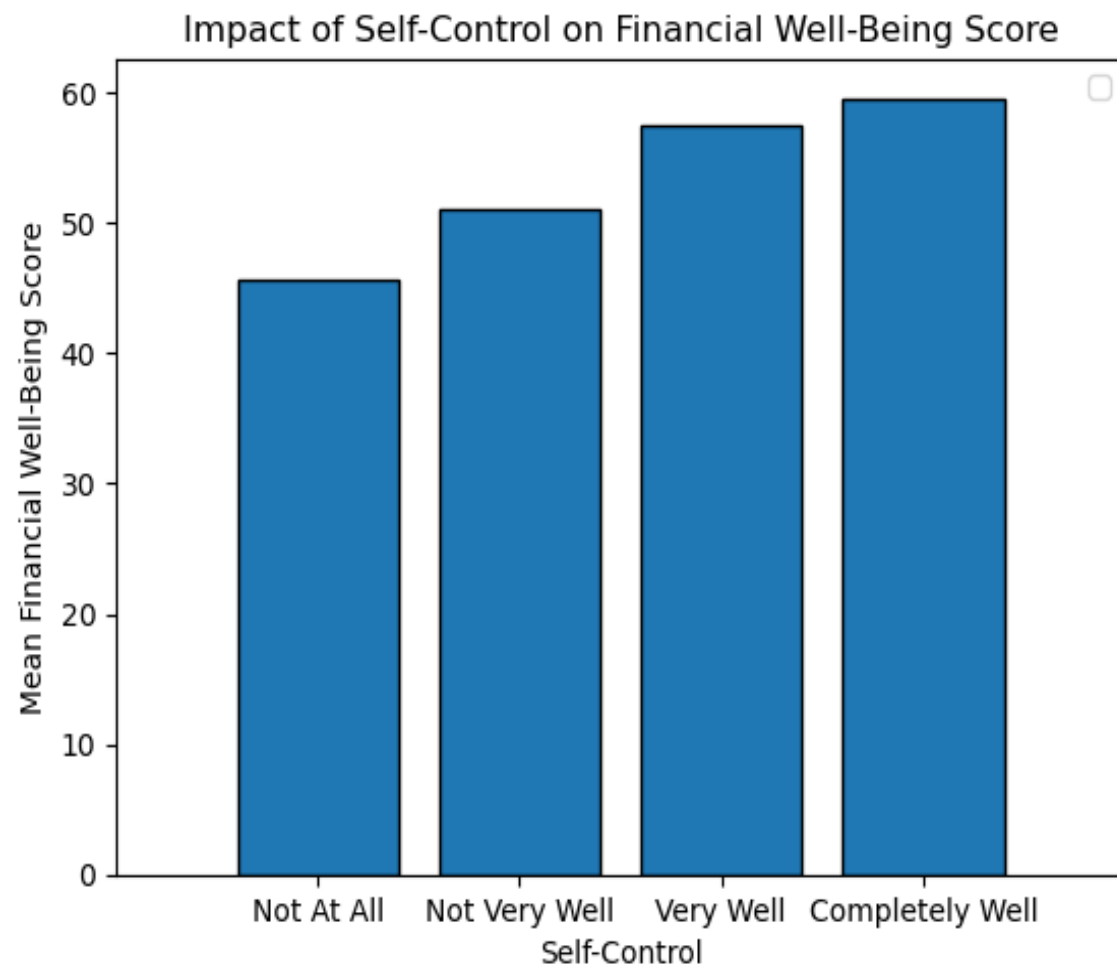
Project Overview

Approach taken to achieve goals

- We adopted an Agile mindset/approach to examine the Financial Well-being data set we were interested in
- We created a project schedule, assigned tasks based on meeting outcomes, and executed them individually, focusing on the topics we wanted to research
- We split up variables to have smaller data sets to drill down into, cleaned data sets, created data frames, and created visualizations to illustrate our findings
- Afterward, we reconvened to present and analyze our findings, which ultimately formed the basis of our analysis/presentation

Self-Control Analysis

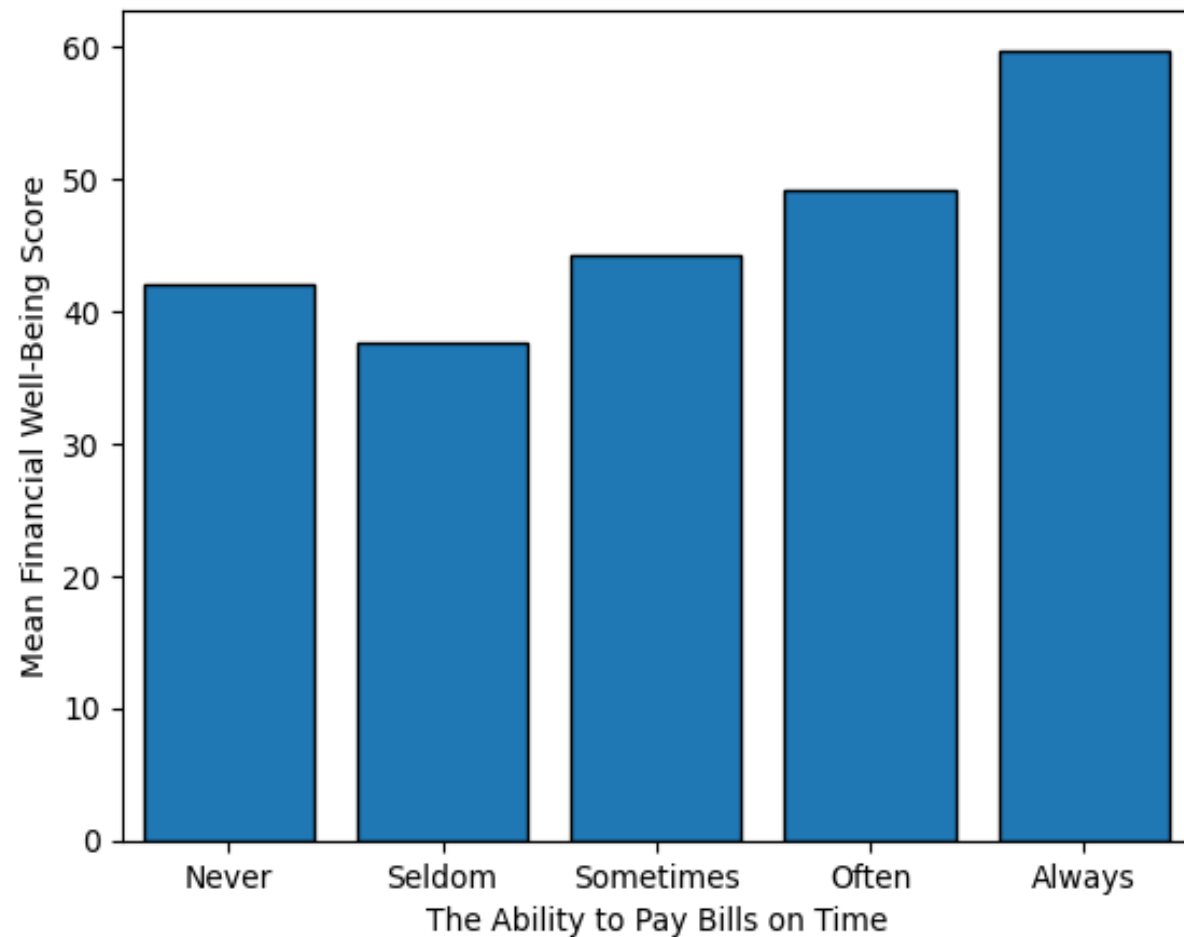
Survey Statement: I am good at resisting temptation.



Ability to Pay Bills on Time Analysis

Survey Statement: I Pay My Bills on Time.

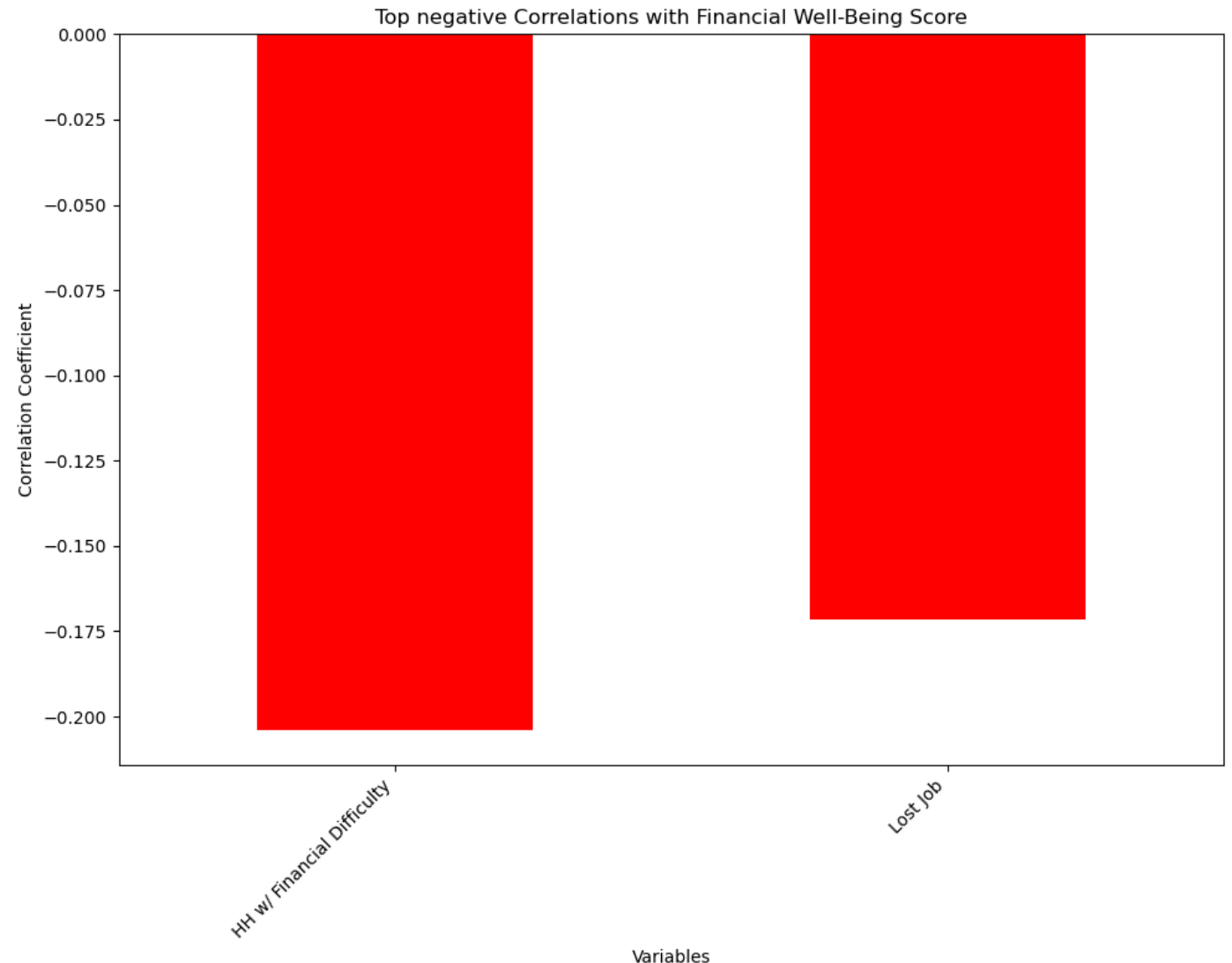
Impact of Ability to Pay Your Bills on Time on Financial Well-Being Score



What are the major shocks in life that affect financial well-being?

Summary of Results

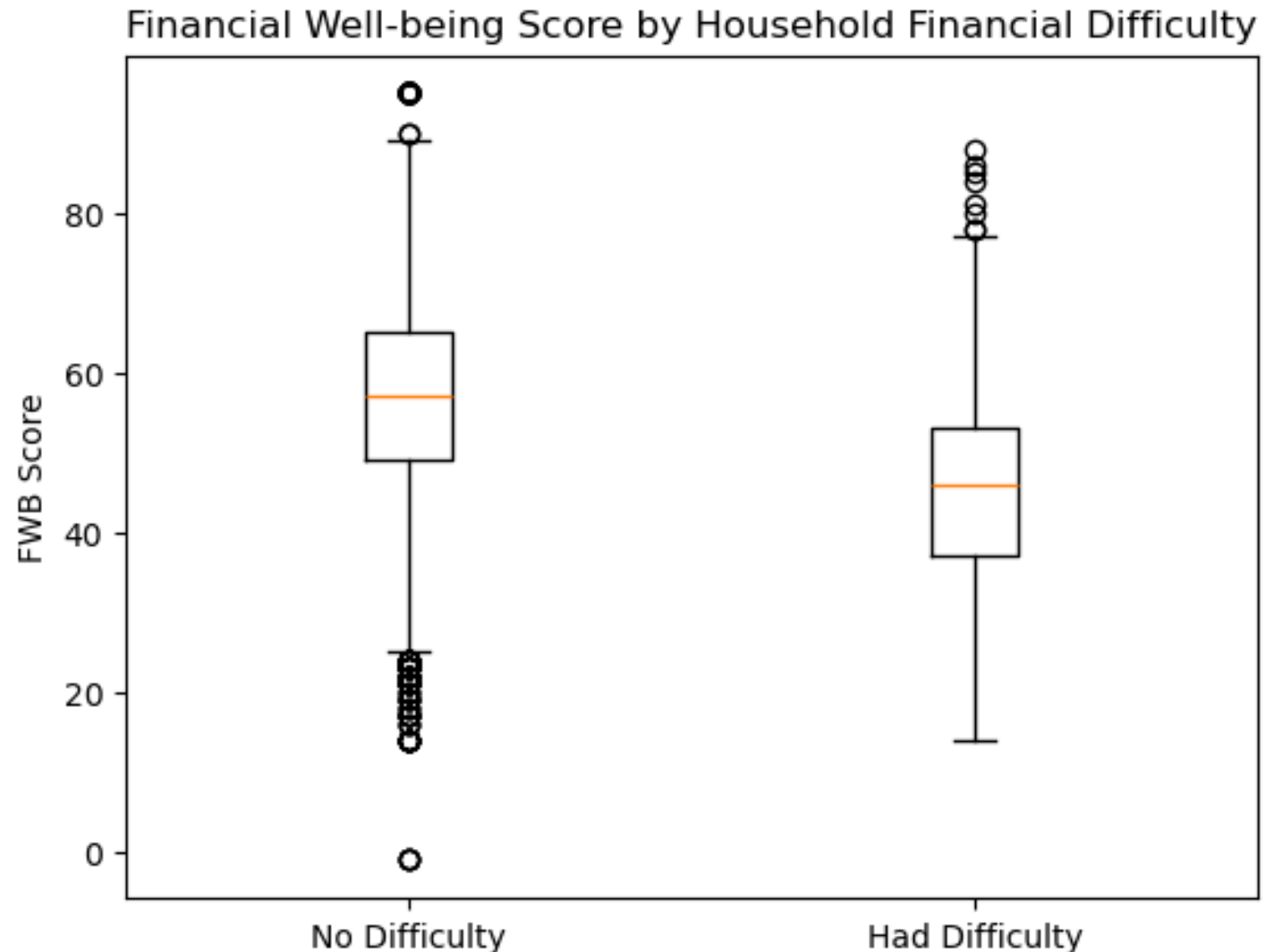
- These findings support the intuitive idea that increased financial stressors, such as difficulty paying bills or unemployment, are likely to diminish an individual's overall financial well-being.



What are the major shocks in life that affect financial well-being?

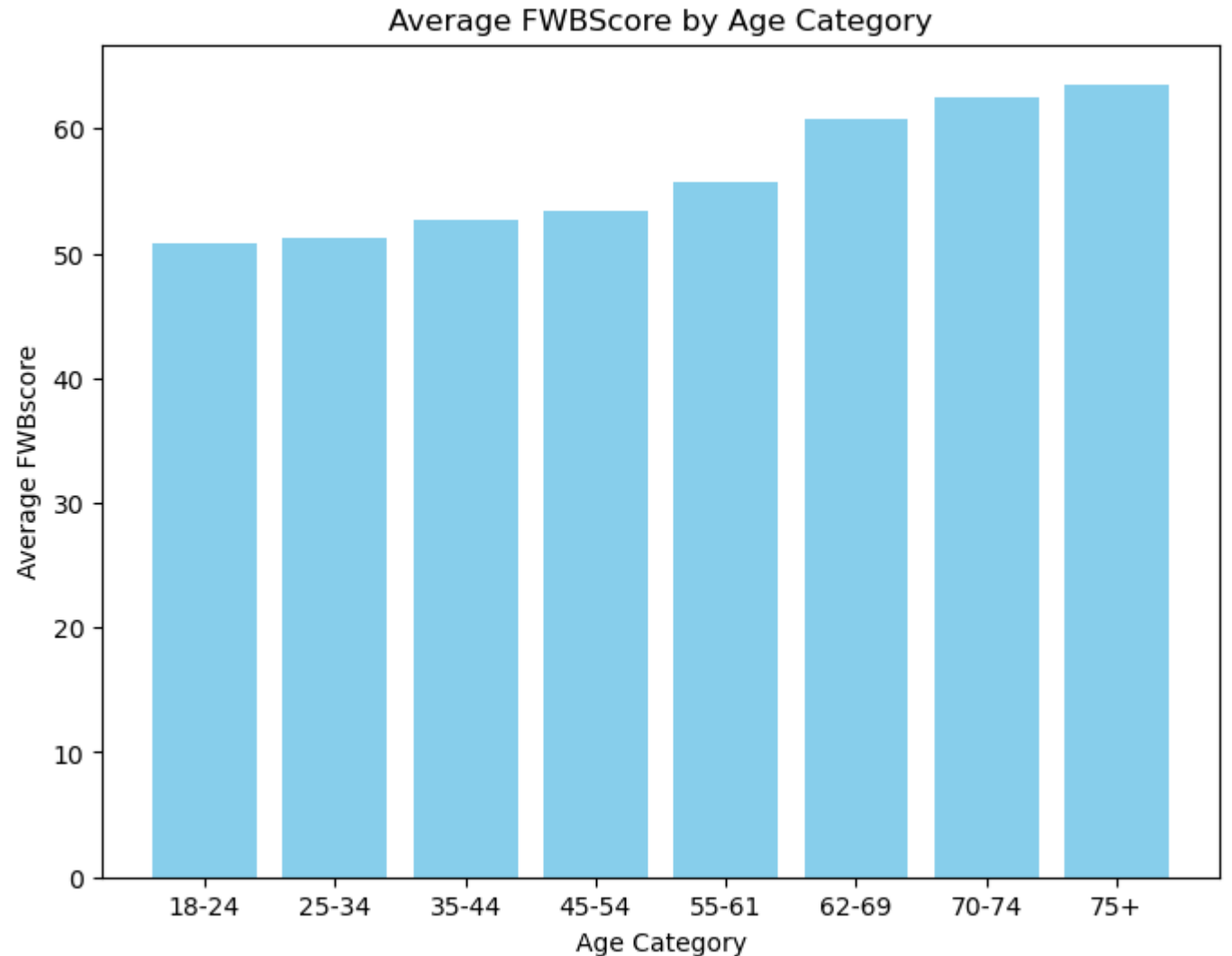
Summary of Results

- The box plot suggests that financial difficulties are associated with a broader and generally lower range of Financial Well-being Scores.
- Correlation between Household with Difficulty & Financial Well-being Score had a relatively strong negative correlation at 0.20



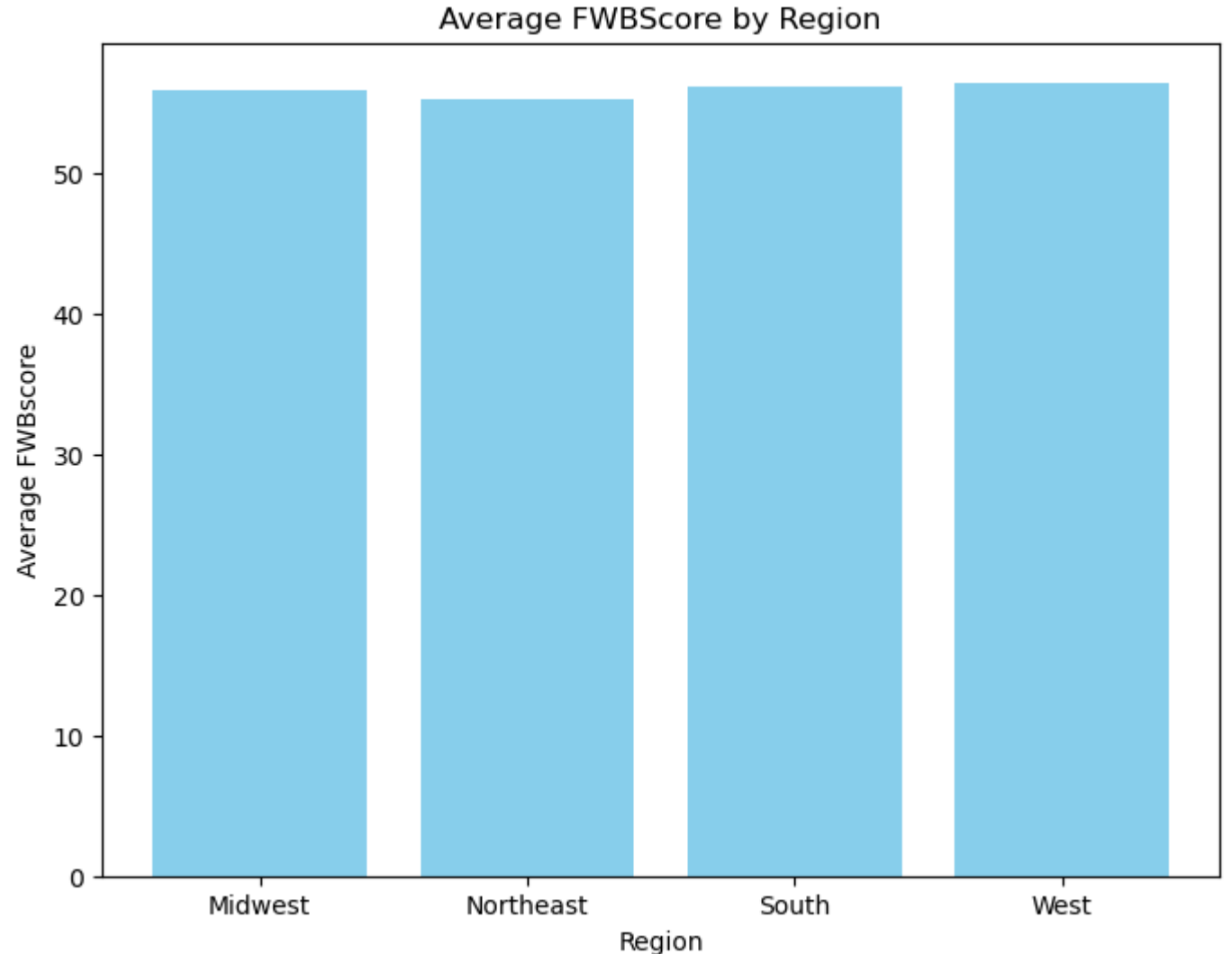
Financial Wellbeing among Age-Groups

- The highest average Financial Wellbeing Score was for 75+ age group = (63.559783)
- The lowest average Financial Wellbeing Score was for 18-24 age group = 50.80



Financial Wellbeing in US Regions

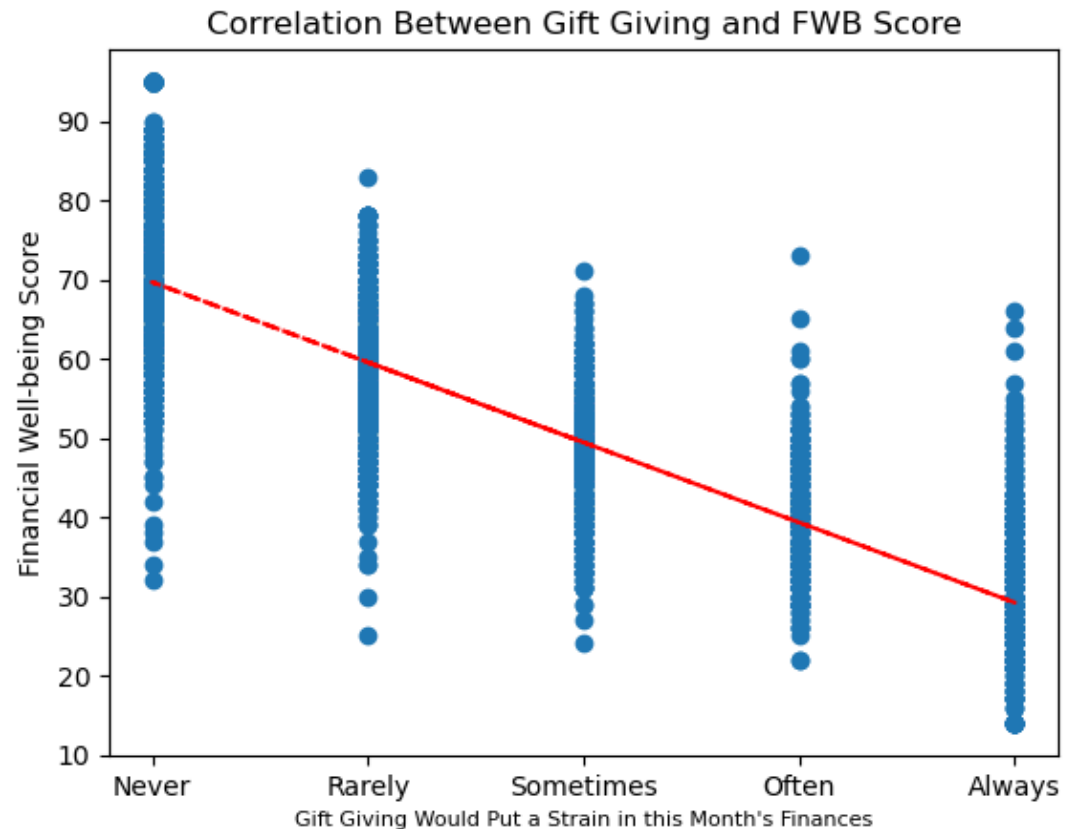
- Based on the bar chart, there does not appear to be significant variation in average financial well-being scores among the Midwest, Northeast, South, and West regions.
- The highest average Financial Well-being Score is 56.49
- The lowest average Financial Well-being Score is 55.30



Would giving a gift put a strain on my finances for the month?

Summary of Results

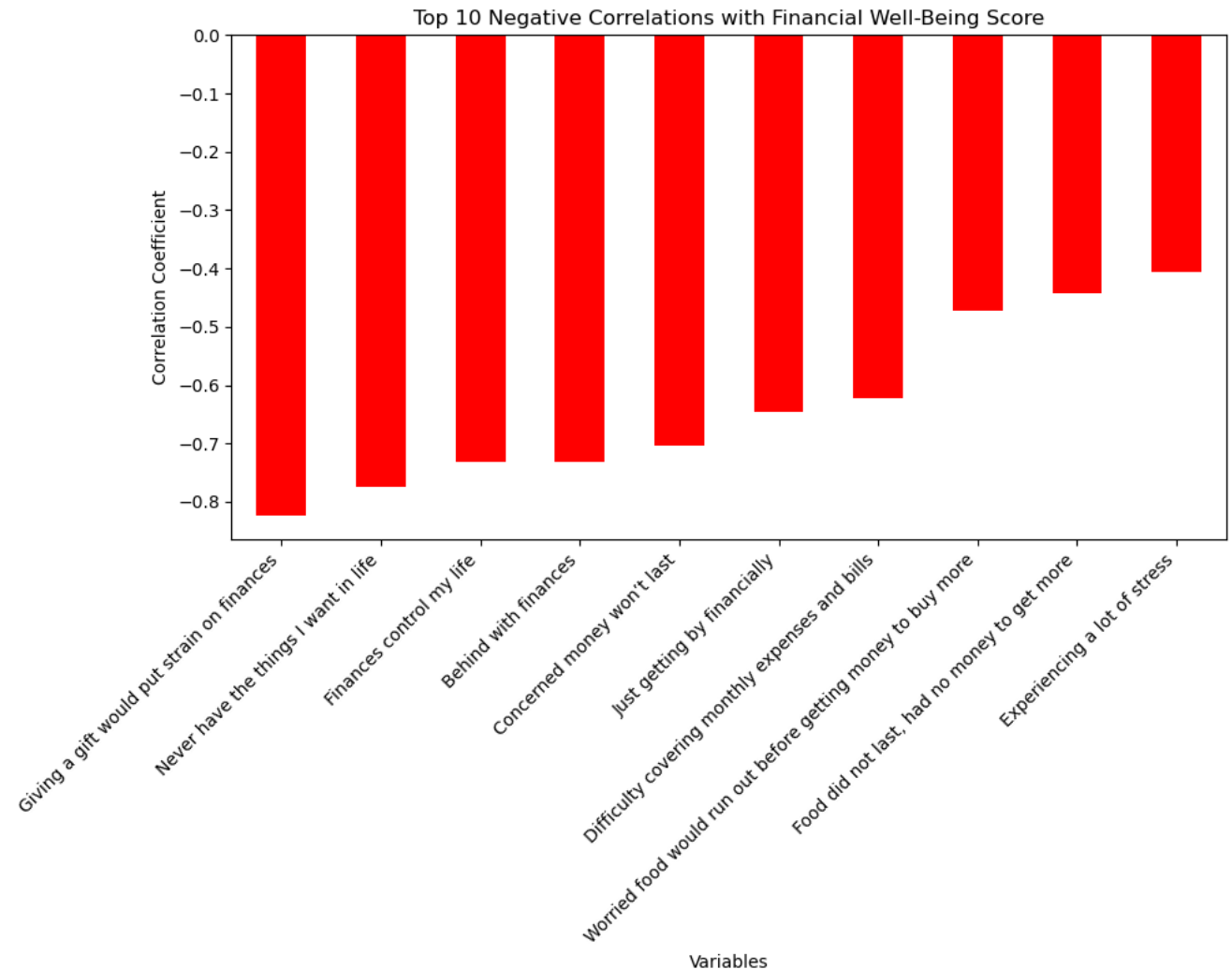
- The plot suggests a general trend where individuals who never or rarely experience financial strain from gift-giving tend to have higher FWB Scores, and those who often or always experience this strain tend to have lower scores as depicted by the downward trendline
- Correlation between Gift Giving and FWB Score is a strong negative correlation at -0.84



What variables in the full data-set correlate the most negatively to FWB?

Summary of Results

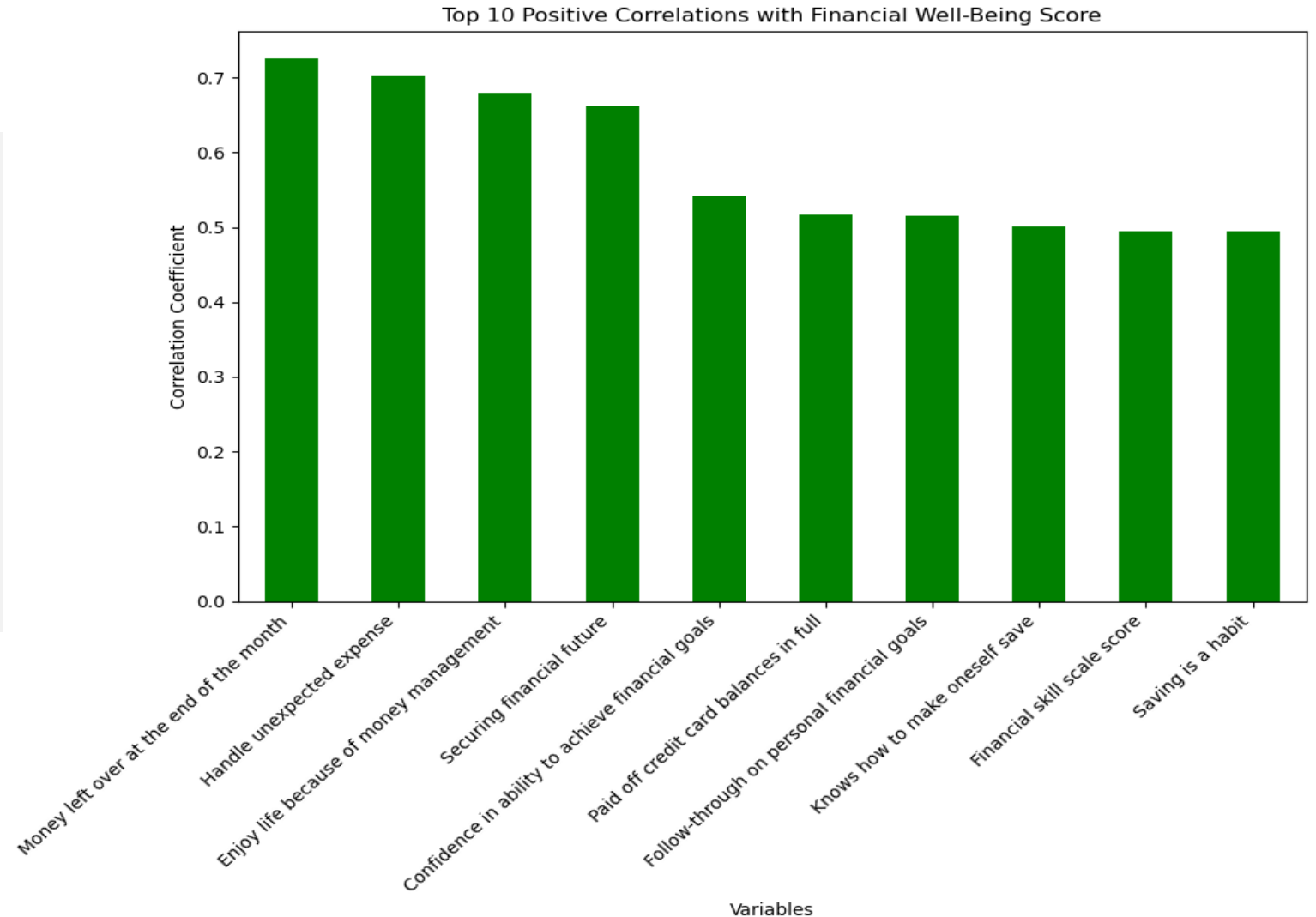
- This chart indicates that variables related to financial strain, lack of financial freedom, and psychological stress about finances are significantly negatively correlated with financial well-being.
- The stronger negative correlations, especially those closer to -0.84, suggest these factors are particularly impactful



What variables in the full data-set correlate the most to FWB?

Summary of Results

- This chart reinforces the concept that effective money management, the ability to deal with financial surprises, and maintaining positive financial habits are all correlated with a higher sense of financial well-being.



Summary

Conclusion

- The analysis identified key factors affecting financial well-being, highlighting the importance of financial skills, resilience, and savings. Having accessible funds for emergencies positively impacted financial well-being, while pressure from non-essential spending, like gift-giving, negatively affected it.

Problems Encountered

- When coding in our group and merging work into the main branch, common problems arose, which complicated the development process. Here are some of the key issues our team faced and how we resolved them:
 - **Merge Conflicts:** Editing and running of Jupyter Notebooks creates a series of unintended code changes that could cause merge conflicts, frequent commits and manual merges were necessary to mitigate the issue
 - **Integration Issues and common variables:** Even when our individual Jupyter Notebook cells ran well on their own, when we shared and modified the same DataSet, they did not integrate smoothly at first. We were able to create individual copies, to ensure changes and added columns in one portion of the analysis wouldn't impact others.
 - **Delayed Integration:** When we worked in isolation for too long without merging our changes, this contributed to integration challenges/issues

Future Considerations



- Student Loan Payments
- Financial Knowledge Score

