



AI Boot Camp Project 2

Factors Impacting Global Happiness

Happy Tree Pandas

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Project Overview

Project Goals

- Future happiness predictions
- Other variables to study further
- Analyze regional happiness
- Determine which factors have the largest impact
- Consider what life would have been like without an economic crash or pandemic



Happiness Ladder



On which step
of the ladder
do you see
yourself?

Dataset Overview

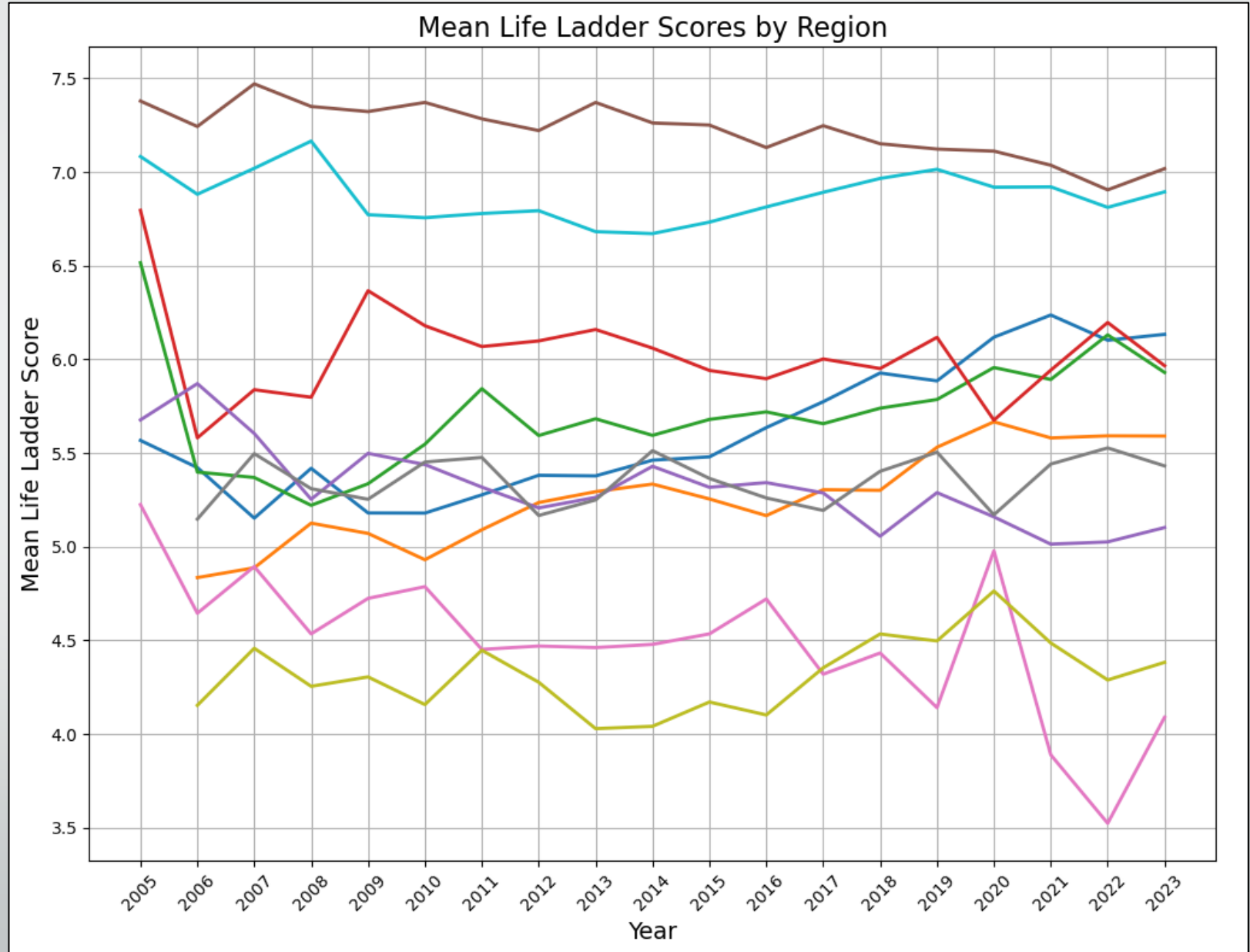
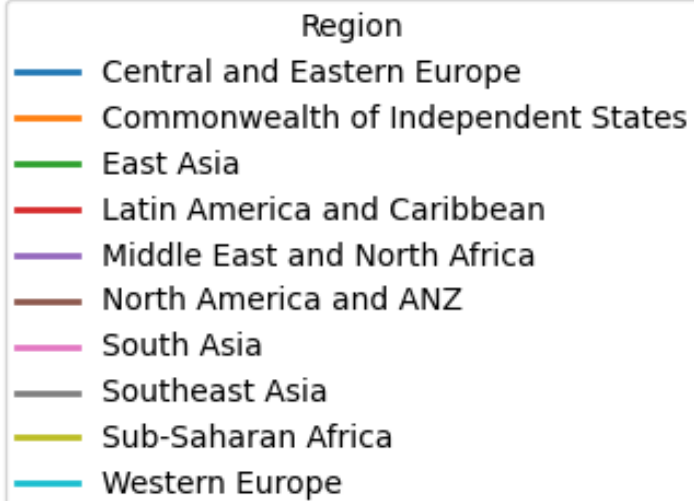
World Happiness Report

- Country Name
- Regional Indicator
 - Central and Eastern Europe
 - East Asia
 - Latin America and Caribbean
 - Middle East and North Africa
 - Sub-Saharan Africa
 - USA, Canada, Australia, New Zealand
 - Commonwealth of Independent States
 - South Asia
 - Southeast Asia
 - Western Europe
- Life Ladder (Happiness Score)
- Log GDP Per Capita
- Social Support
- Healthy Life Expectancy At Birth
- Freedom To Make Life Choices
- Generosity
- Perceptions Of Corruption
- Positive Affect
- Negative Affect
- Confidence In National Government

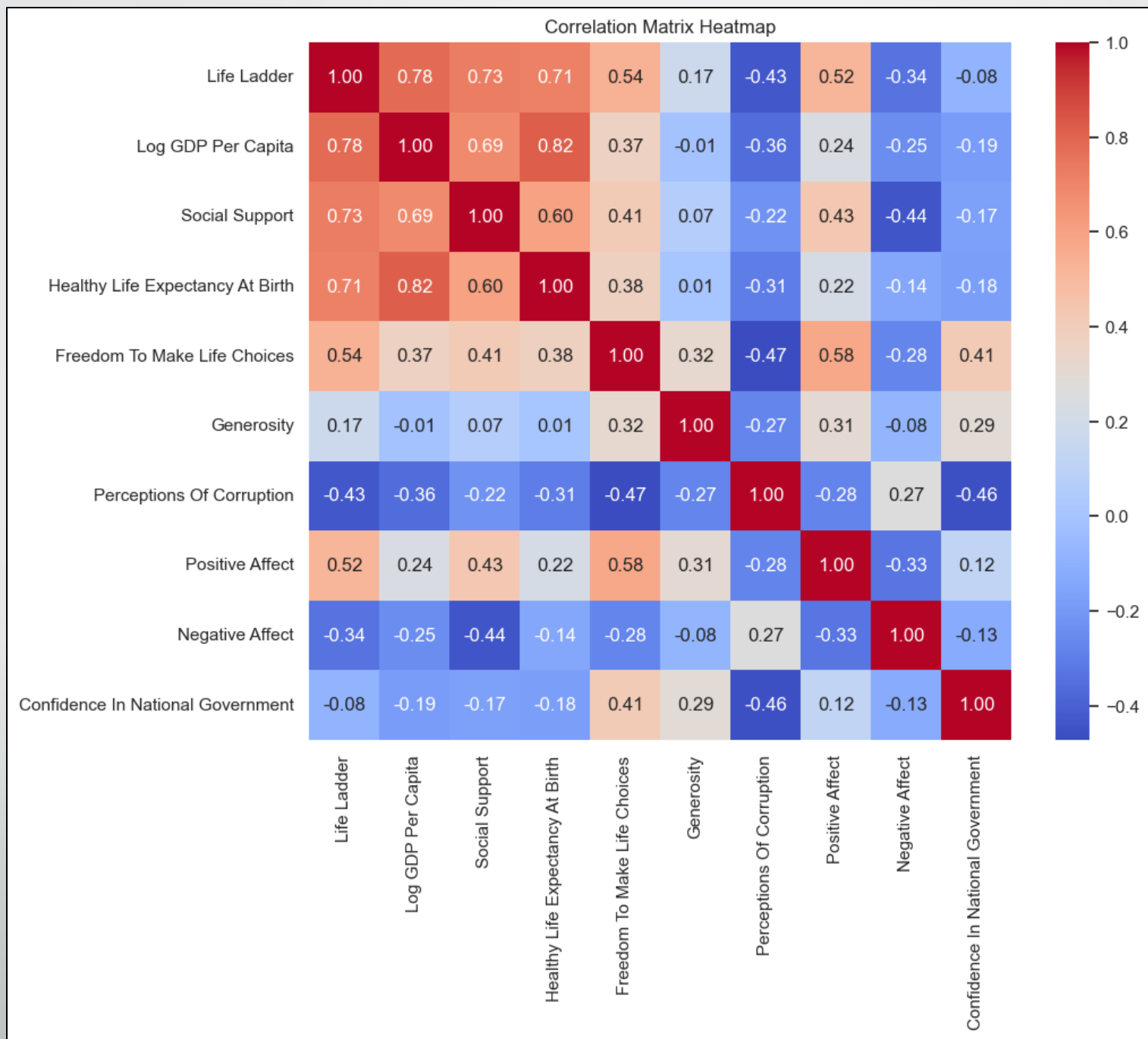


Matplotlib

Mean Life Ladder Scores by Region

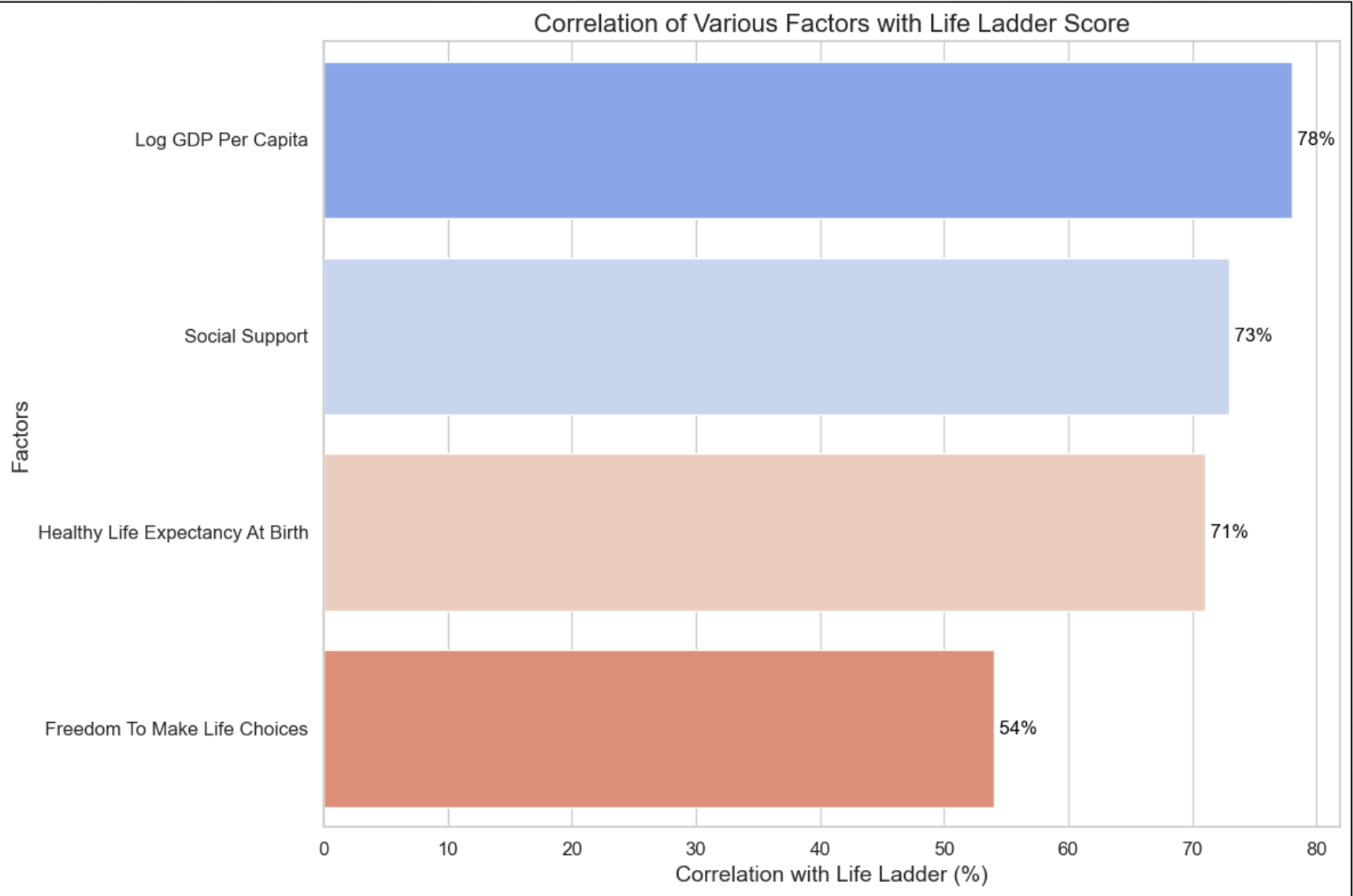


Heatmap with Matplotlib



Matplotlib

Mean Life Ladder Scores by Region

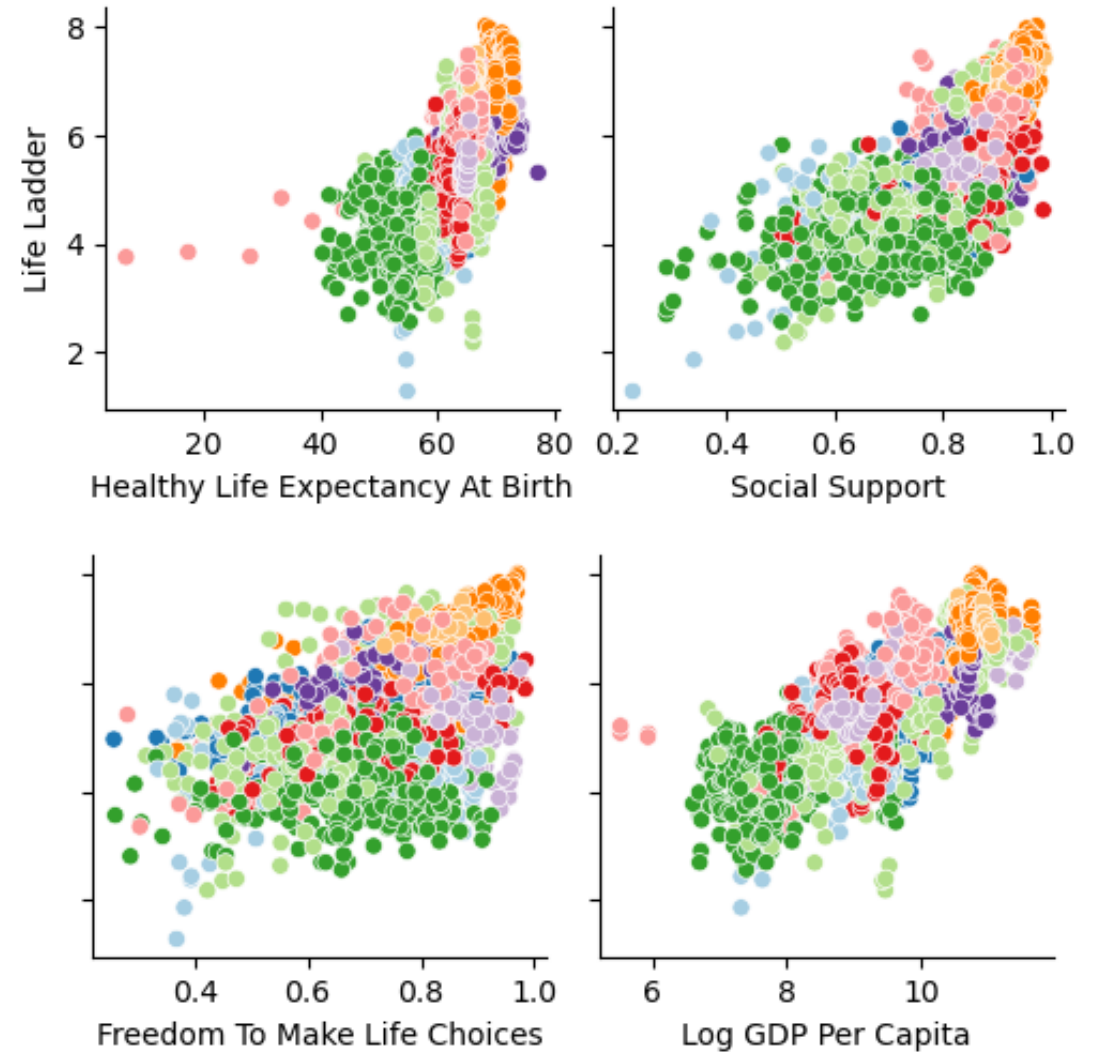


Correlations with Pairplot

Relationship between happiness and the 4 most correlated factors

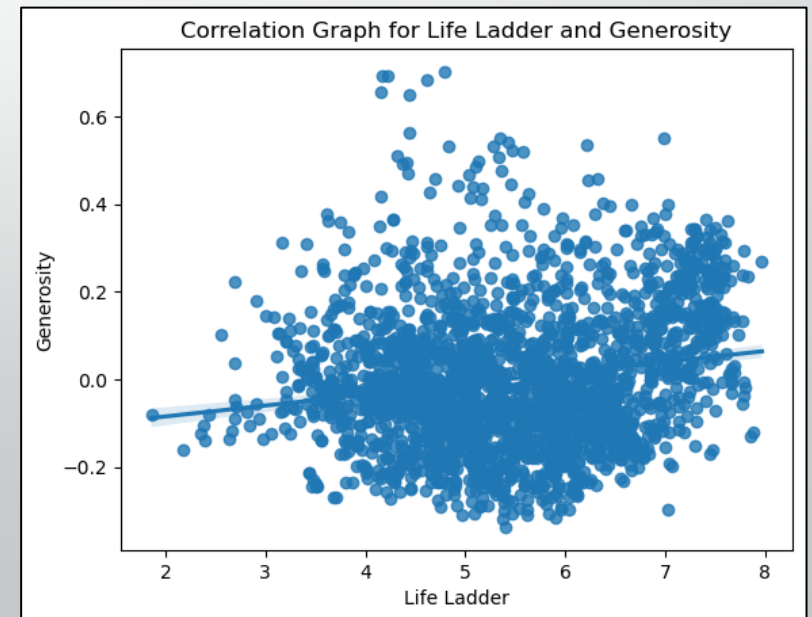
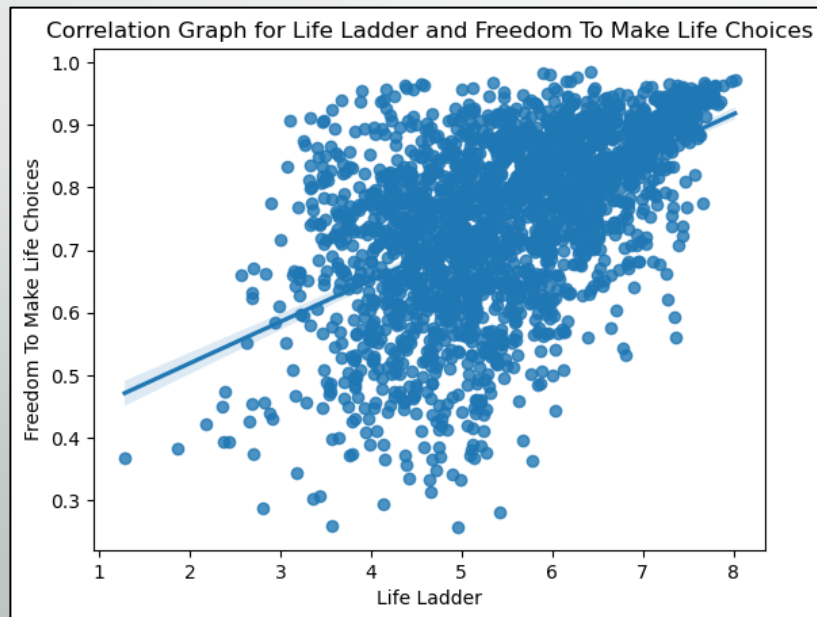
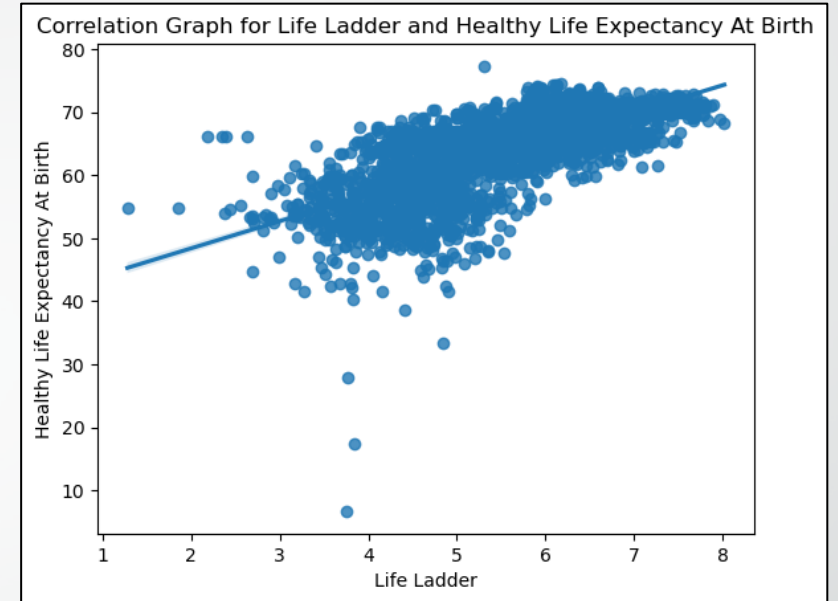
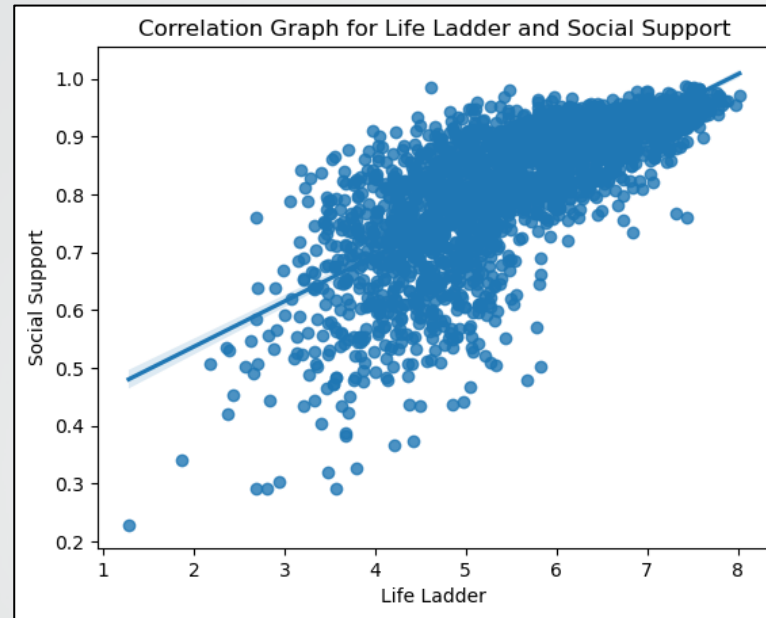
- South Asia
- Central and Eastern Europe
- Middle East and North Africa
- Sub-Saharan Africa
- Latin America and Caribbean
- Commonwealth of Independent States
- North America and ANZ
- Western Europe
- Southeast Asia
- East Asia

Relationship between happiness and the 4 most correlated factors



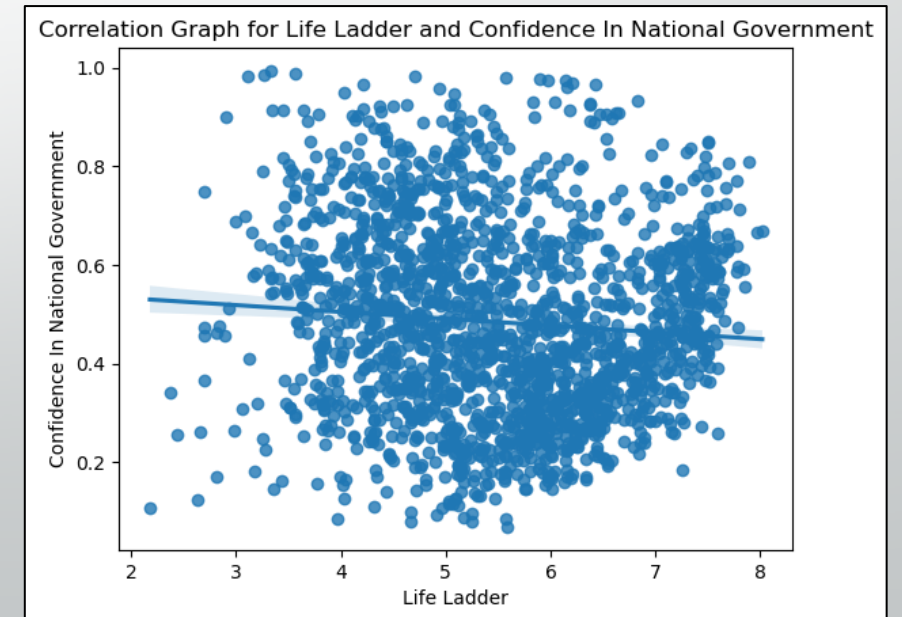
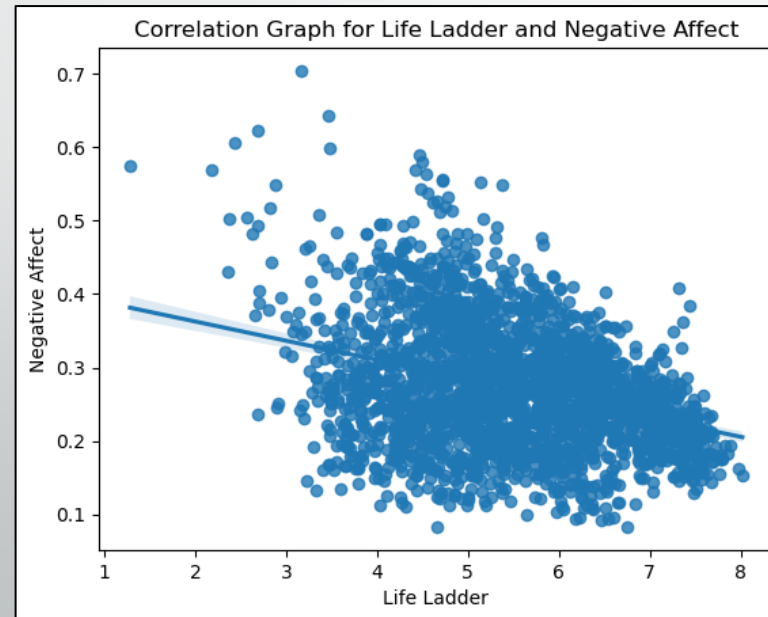
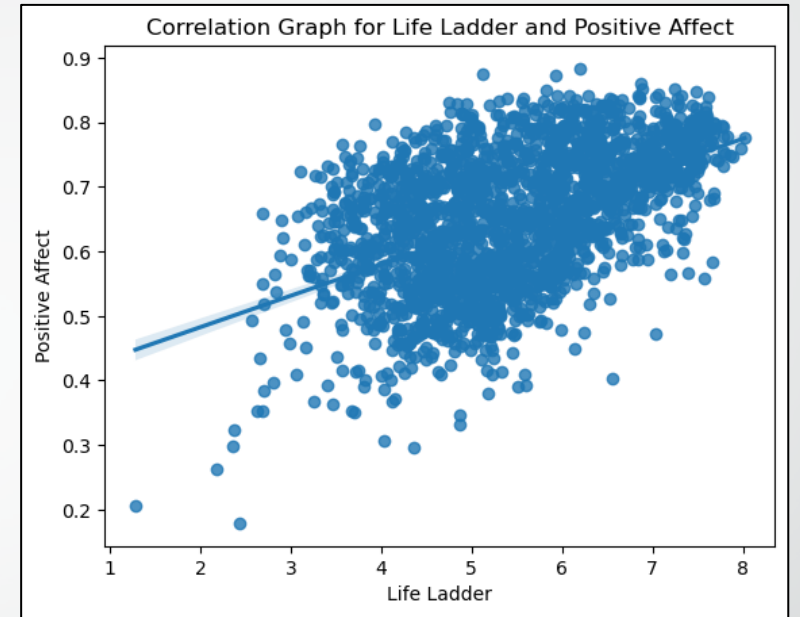
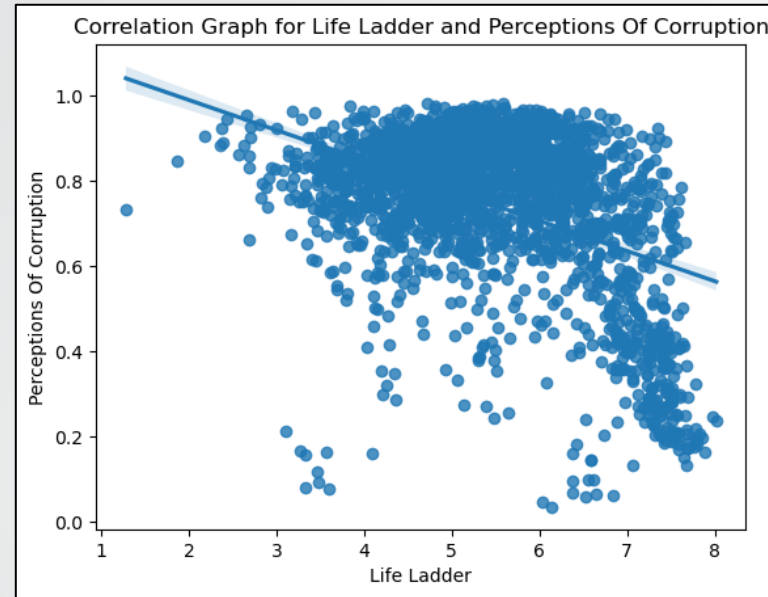
Correlations with Seaborn (Regplot)

Relationship between happiness and other correlated factors



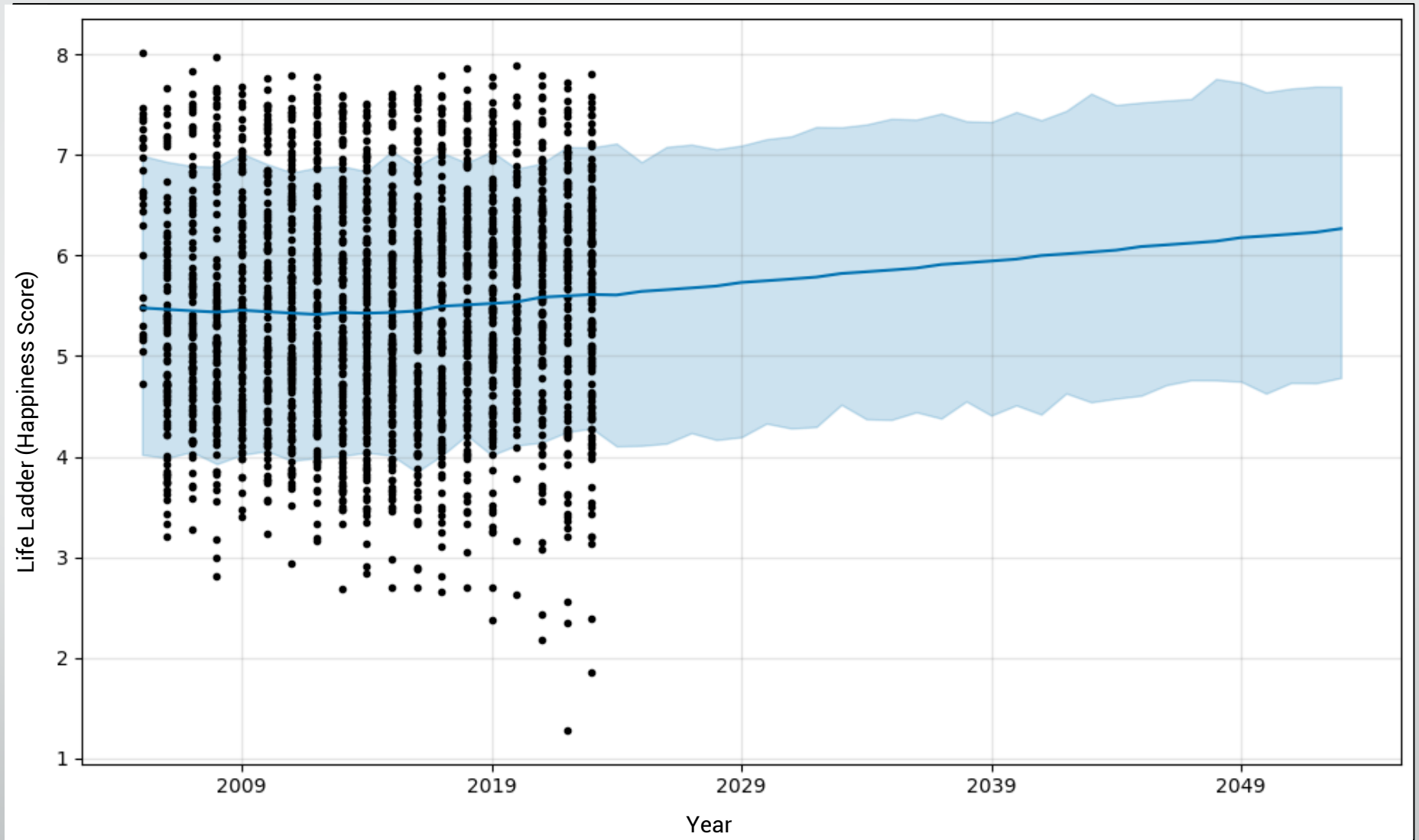
Correlations with Seaborn (Regplot)

Relationship between happiness and other correlated factors



Prophet Projections

Projected World Happiness



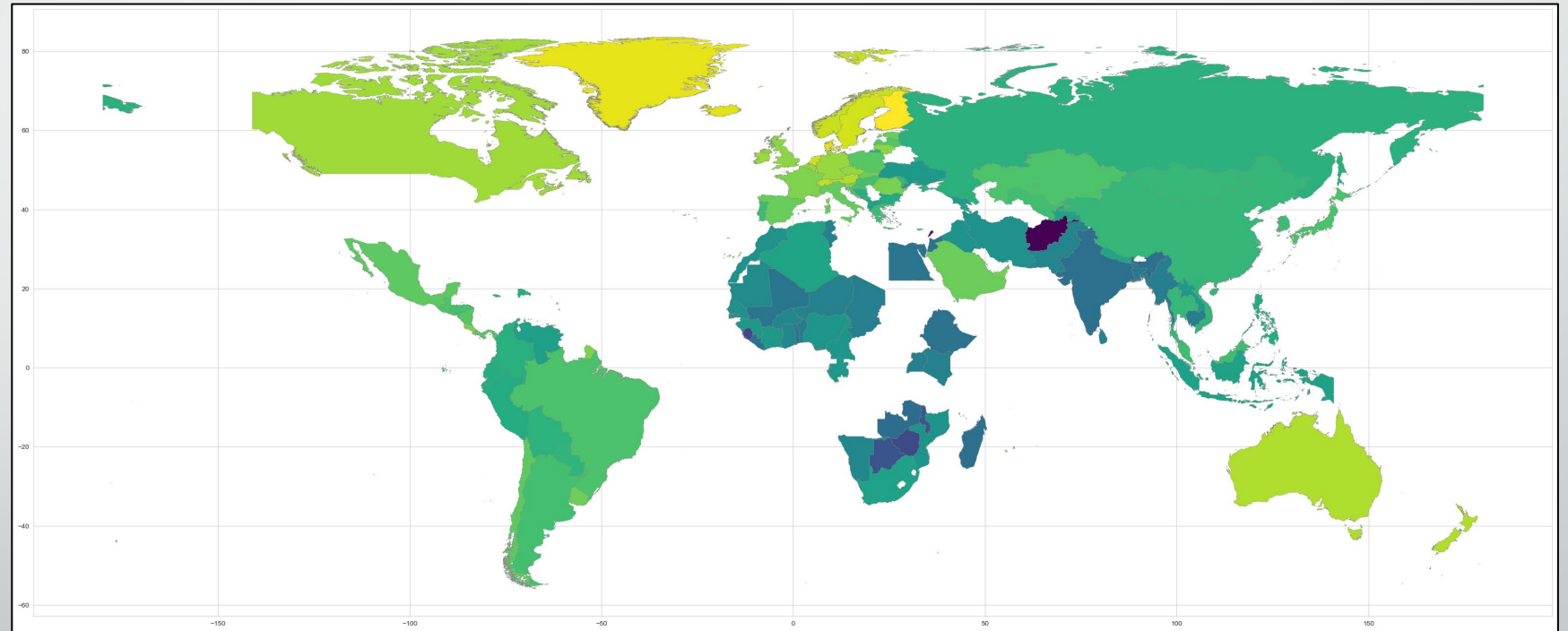
Summary

- Life expectancy & GDP per capita are highly correlated to happiness
- Corruption does not necessarily correlate with being happy
- Over the life of the study, the dataset contained additional fields and was more complete, with additional countries
- Mean Squared Error: 0.0169
- R^2 Score: 0.9316



Problems Encountered

- 1. The WHR changed significantly over time
- 2. Besides GDP per capita & life expectancy, open ended questions
- 3. Model accuracy
- 4. Removing years for global and sociopolitical events
- 5. Generating a world map (geopandas)



Future Considerations



- Consider the complexity of other world events
- Break apart regional considerations
- Certain factors are highly subjective
- Look at additional datasets about happiness



Questions & Answers

