What Makes You Happy?

Evaluating Life Satisfaction on a Global Scale

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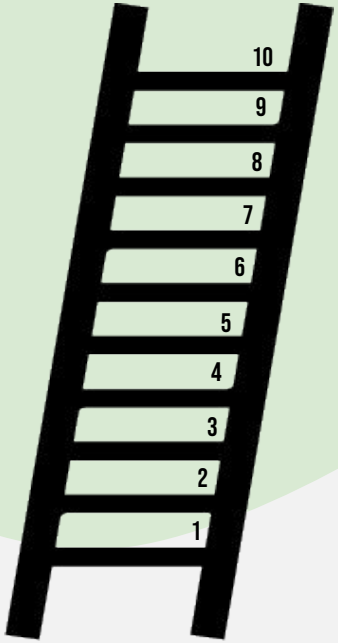
April 28th, DSL 2023

Why is happiness important?

Measuring Happiness

Cantril Life Ladder Score



Independent variables

Socioeconomic Factors

- Log GDP per capita
- Healthy life expectancy at birth
- Perceptions of Corruption
- Freedom to Make Life Choices

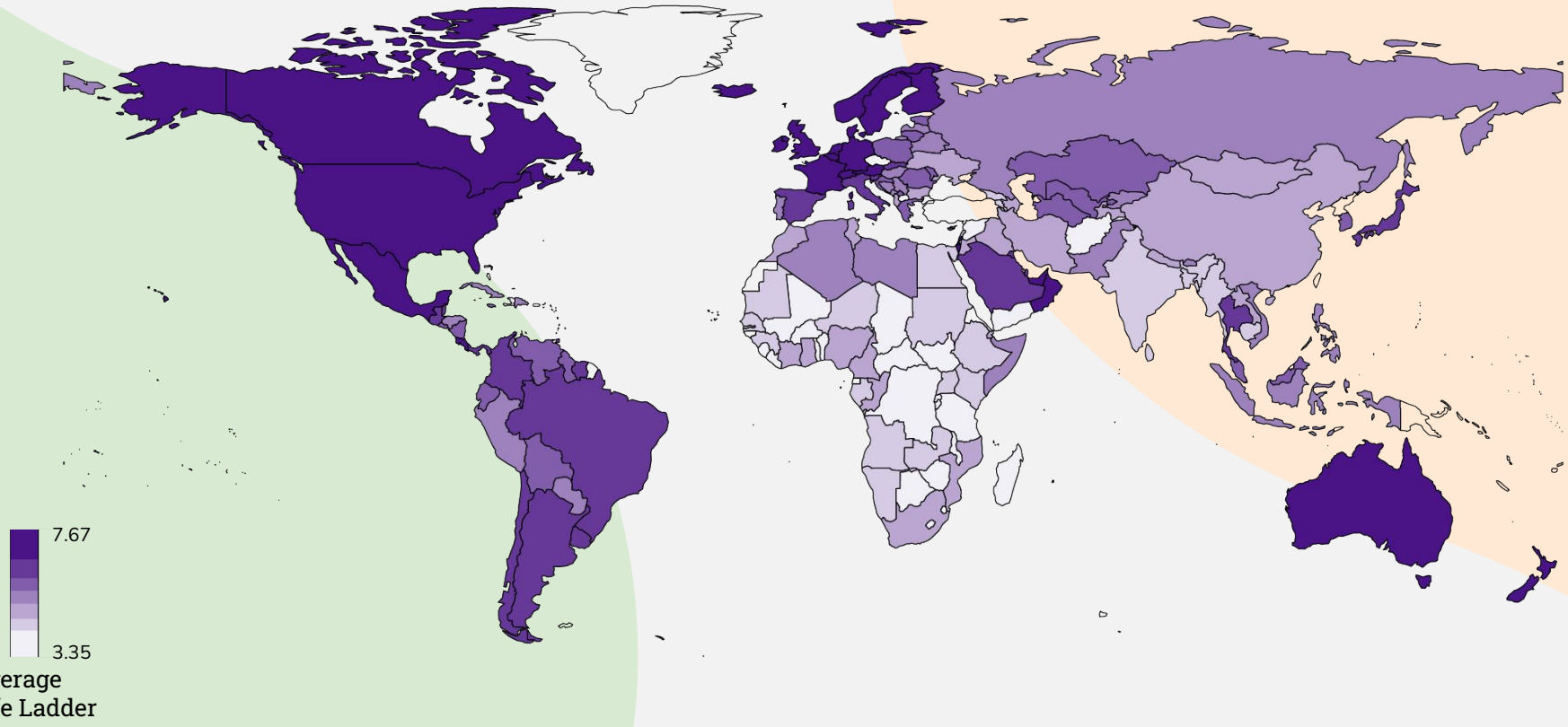
Average Life Evaluations

- Social Support
- Positive Affect
- Negative Affect
- Generosity

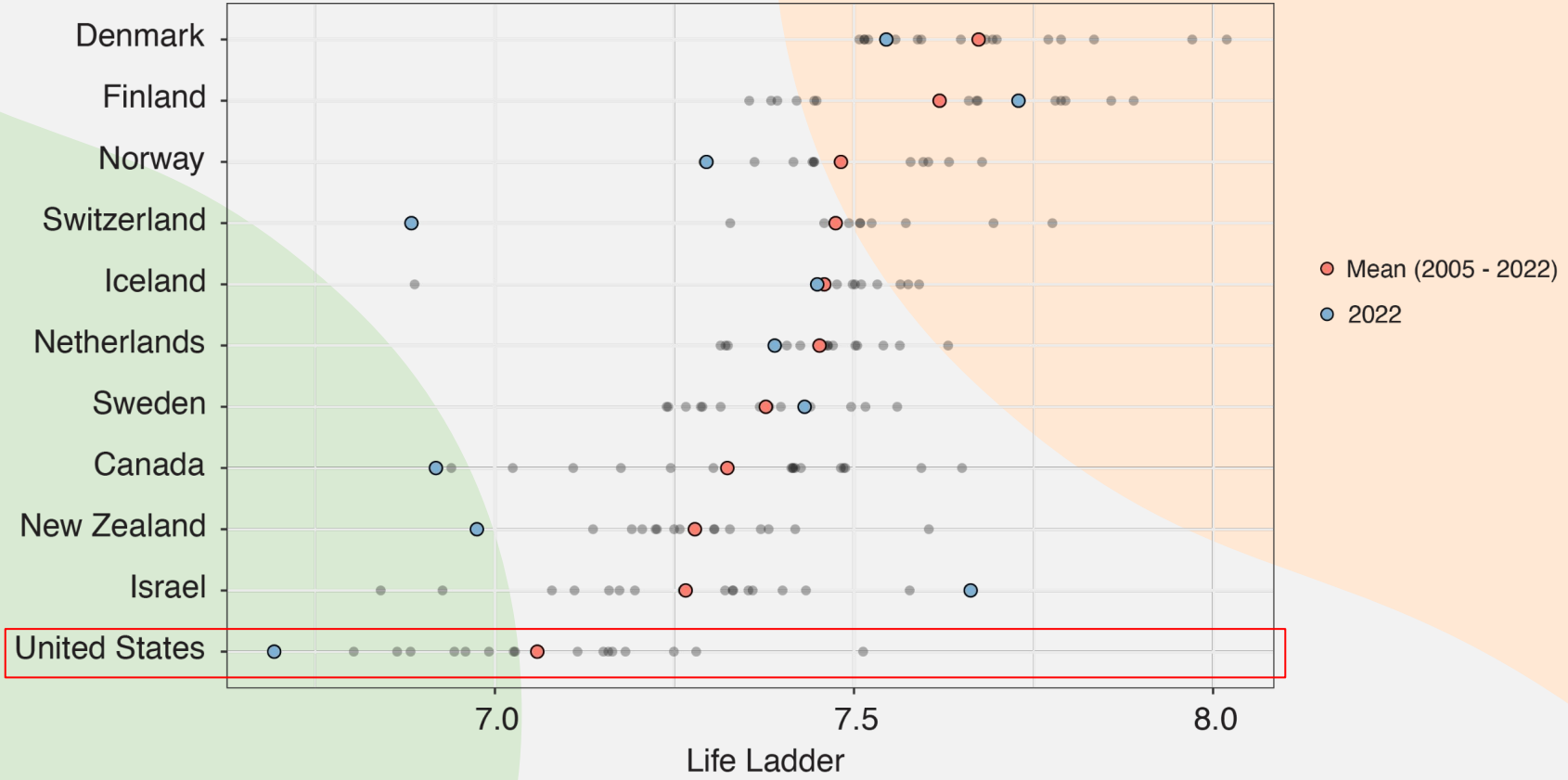
SUSTAINABLE DEVELOPMENT SOLUTIONS NETWORK
A GLOBAL INITIATIVE FOR THE UNITED NATIONS

World Happiness Report

Examining Life Ladder Score on A Global Scale



Examining Life Ladder Score on A Global Scale



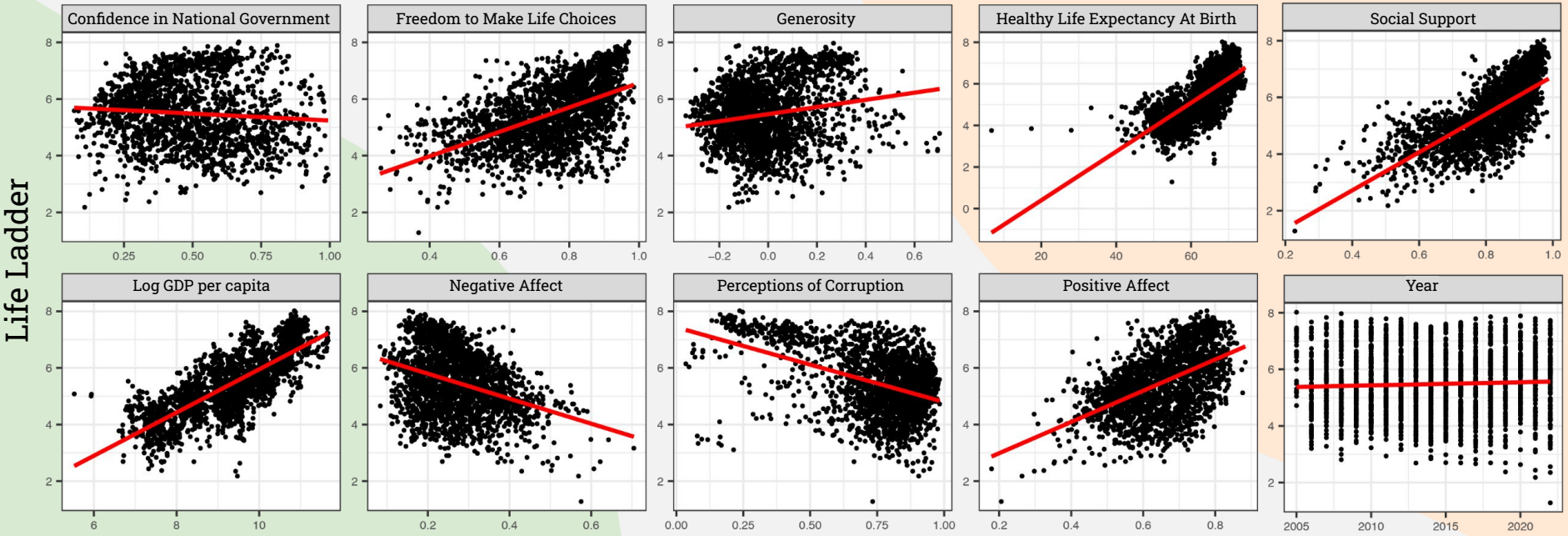
Goals of the Study

01 **Model** the relationship between happiness and other observable factors

02 **Make policy recommendations** for the US government

03 **Provide insight** into happiness on a personal level

Examining Life Ladder Score on A Global Scale



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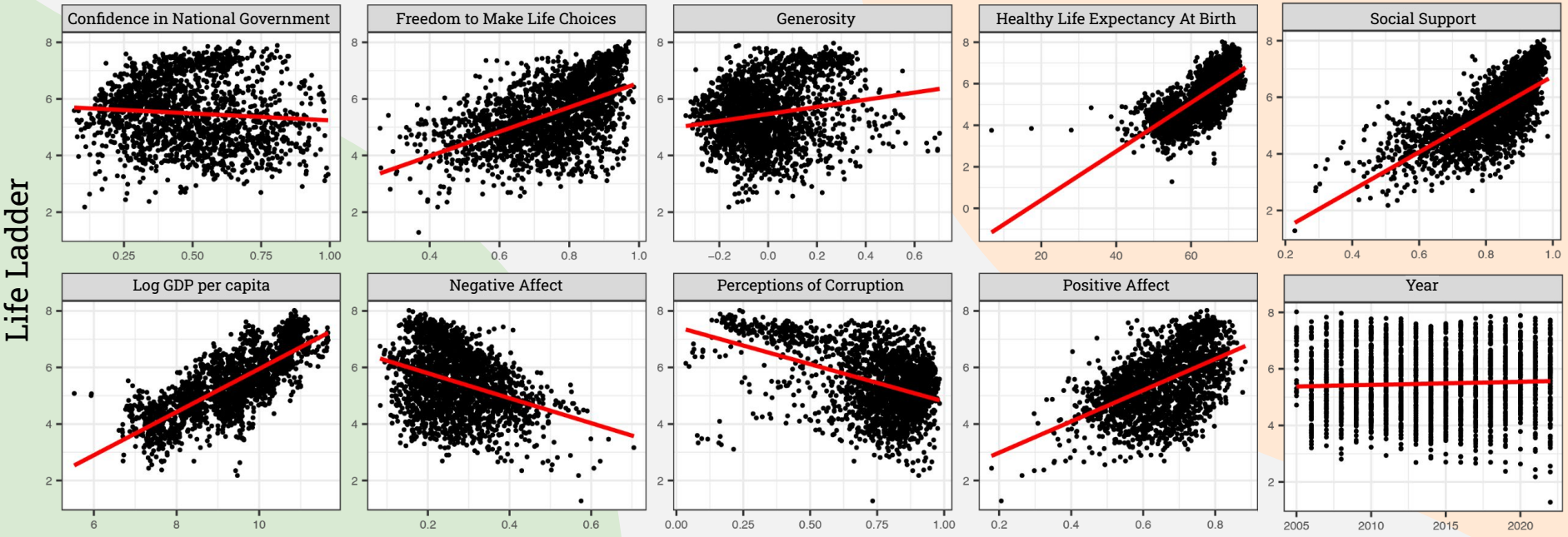
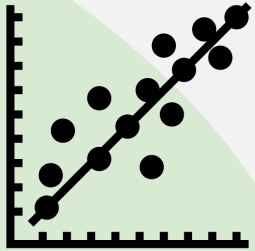


But how important are these factors in measuring a country's happiness?

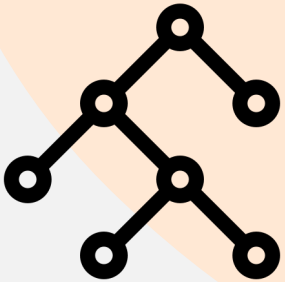
Goal 1: Model the relationship between life ladder scores and other factors

Multiple Linear Regression



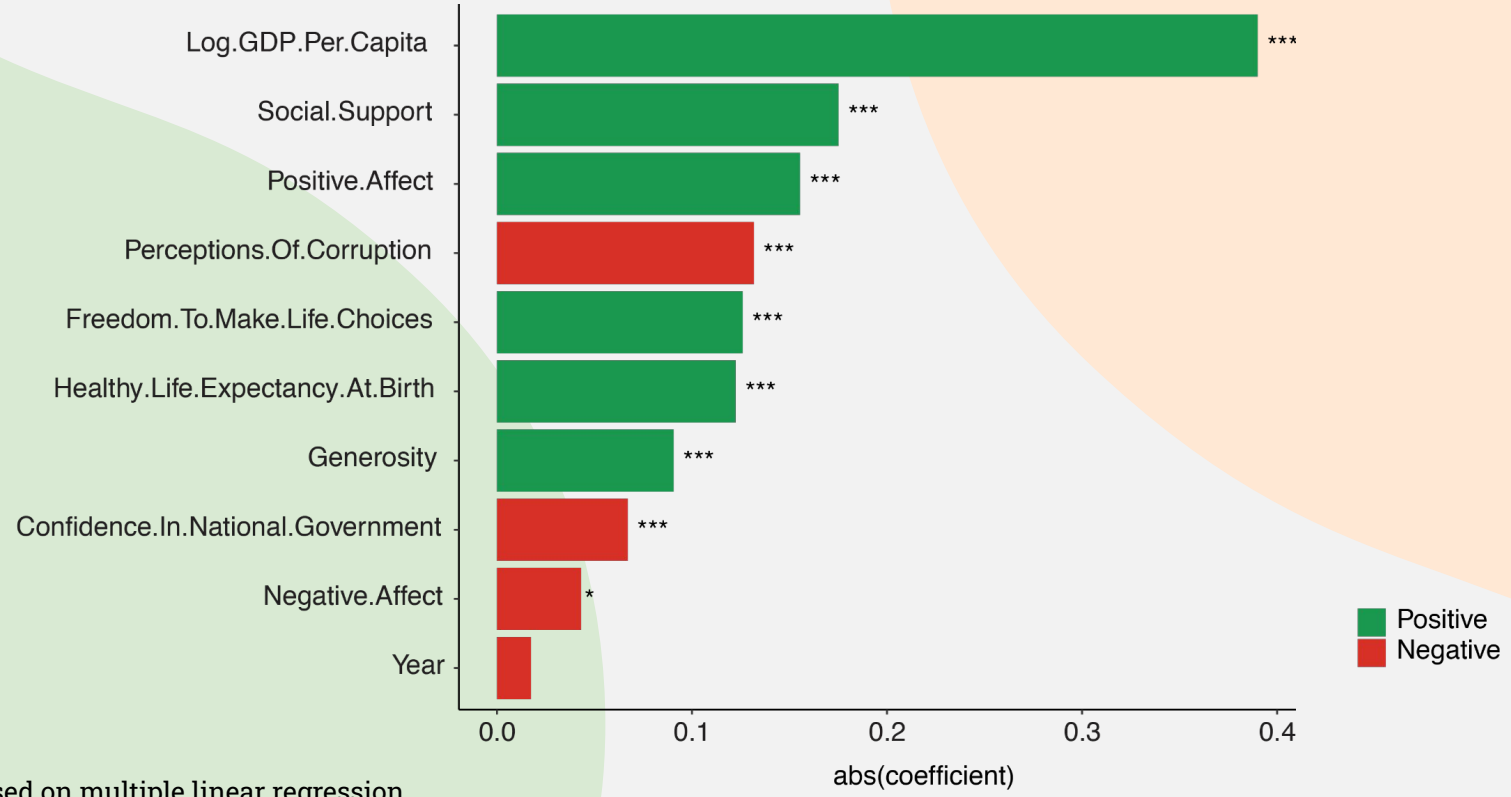
- 10 predictors
- Y = Life ladder

Random Forest



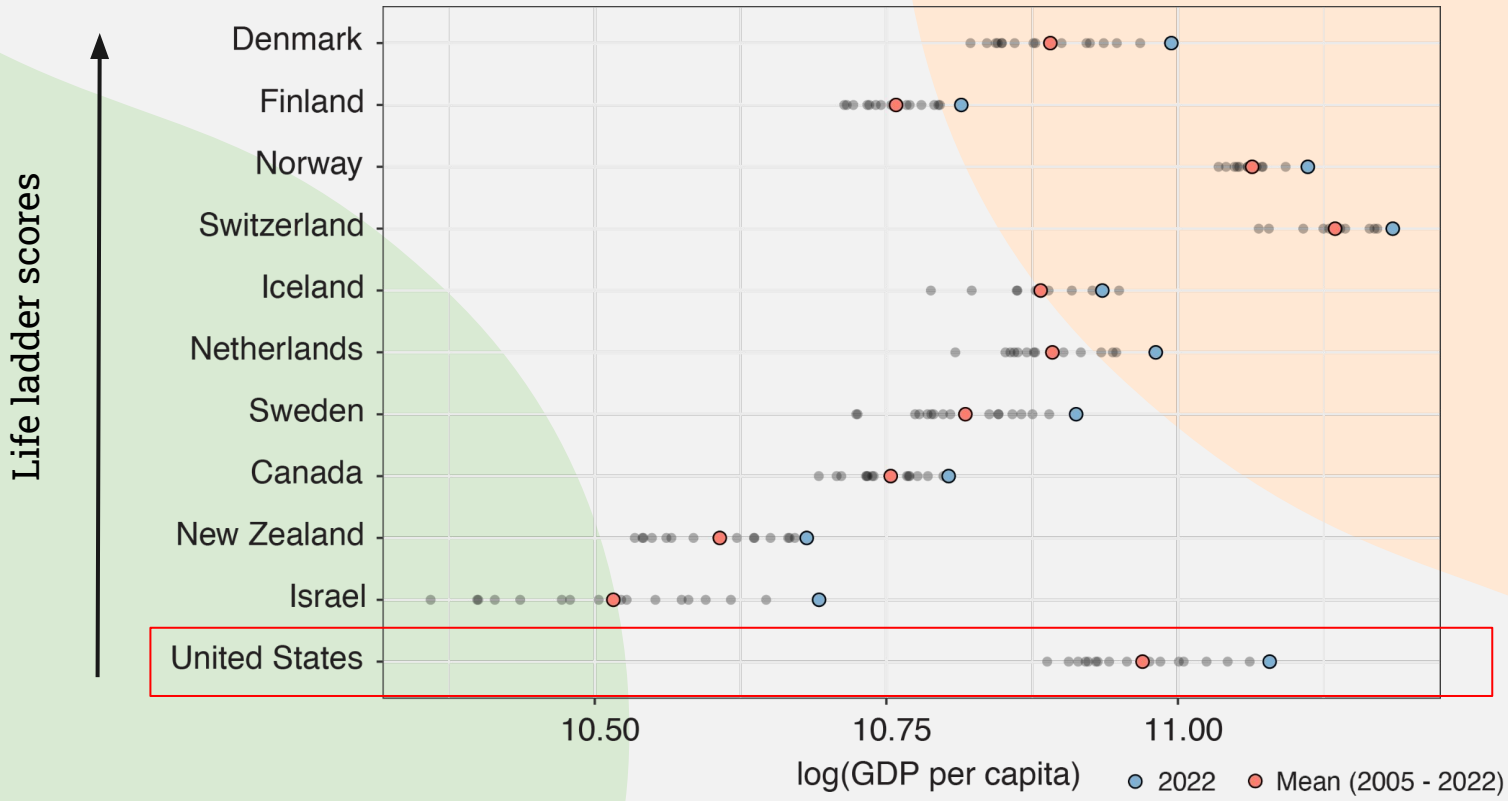
- 10 predictors
- Y = Life ladder
- mtry = 4
- ntree = 50

Goal 1: Model the relationship between life ladder scores and other factors



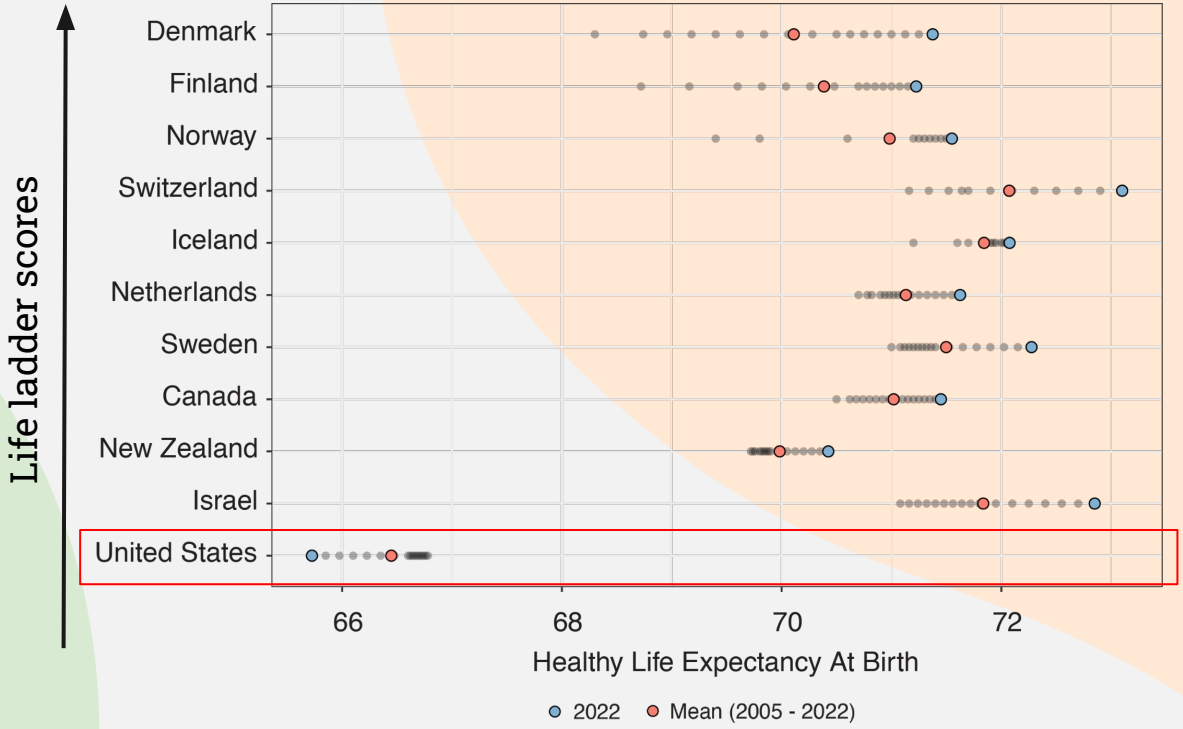
Results based on multiple linear regression

GDP does not fully explain US's life ladder scores



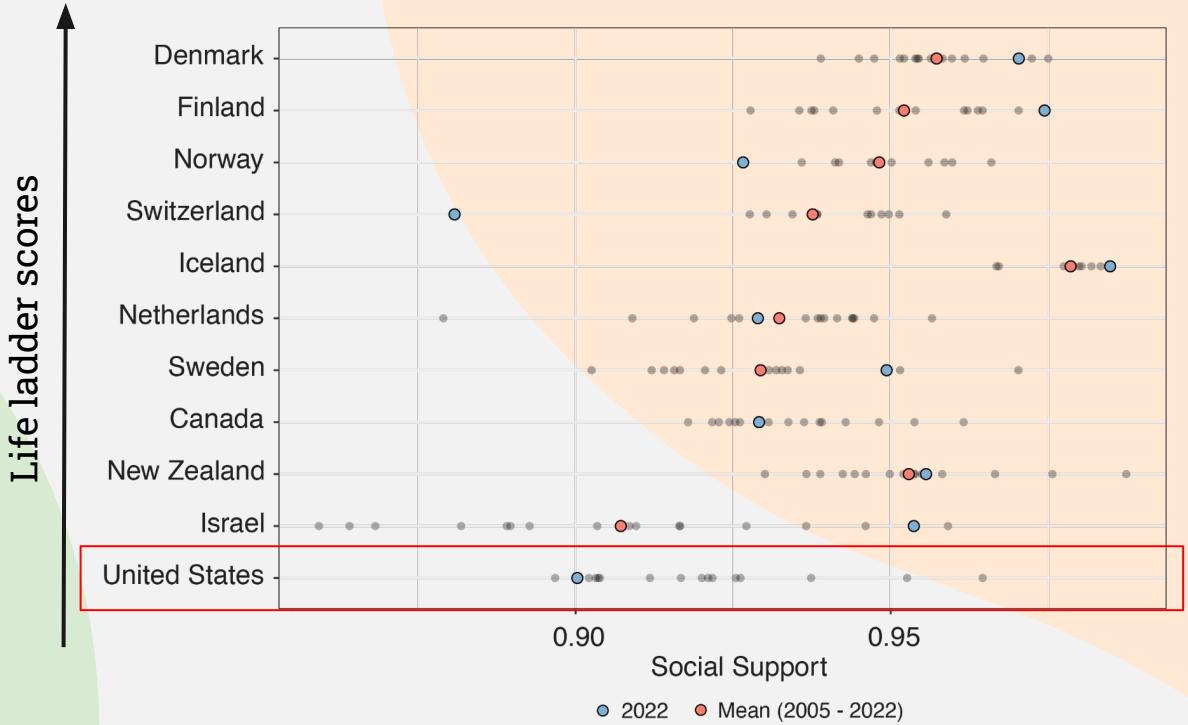
Goal 2: Make policy recommendations

Improving healthcare accessibility



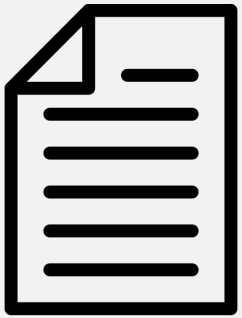
Goal 3: Provide insight into happiness on a personal level

Building a Strong Support System



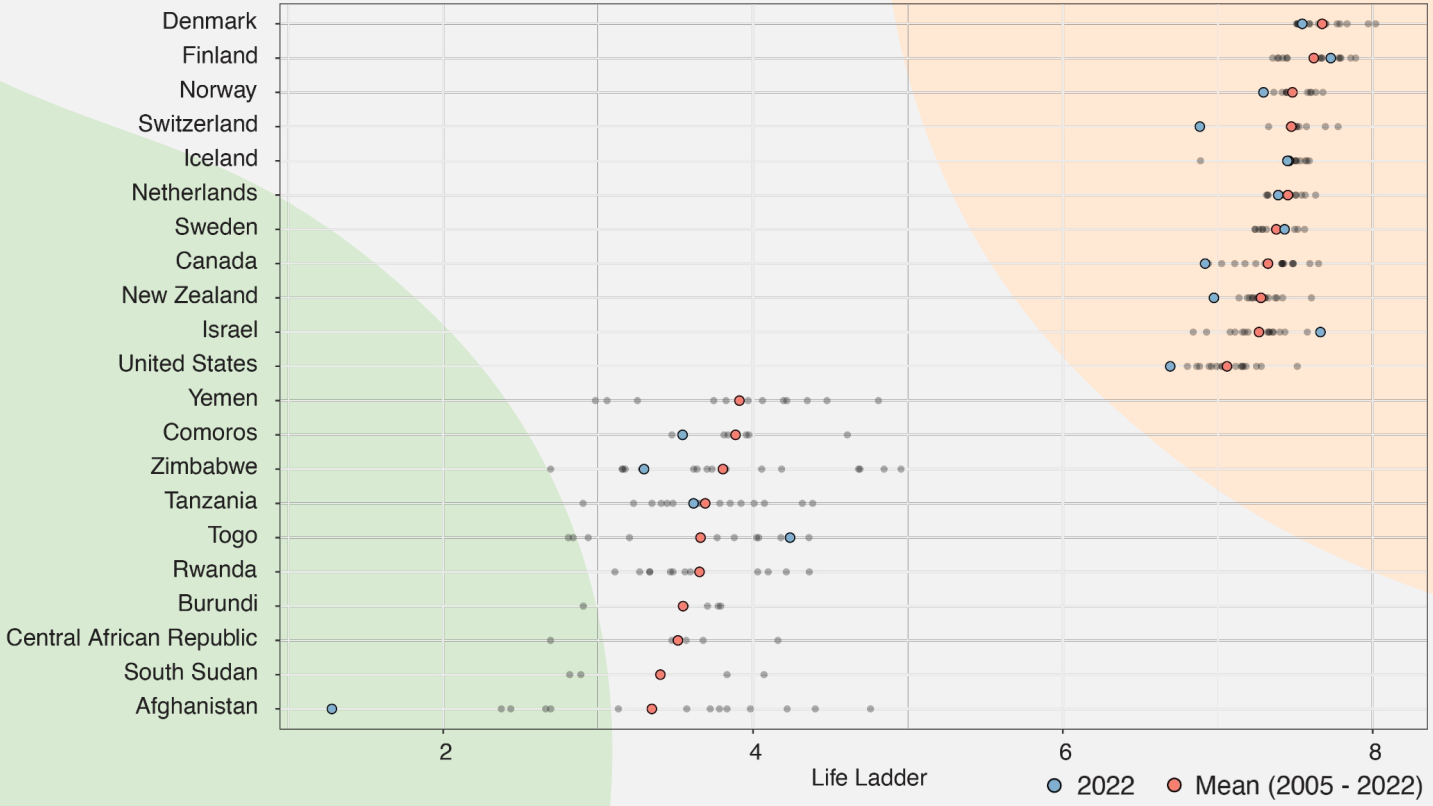
Summary

- Happiness is an important metric to judge a country's wellbeing
- Models identified **GDP, Social Support, Positive Affect, and Life Expectancy** as key features in determining happiness
- Recommendations for the US:
  - Stronger national investment in **healthcare accessibility**
  - Developing **stronger support systems** on a personal level



Supplementary data

EDA: Examining Life Ladder Score on A Global Scale



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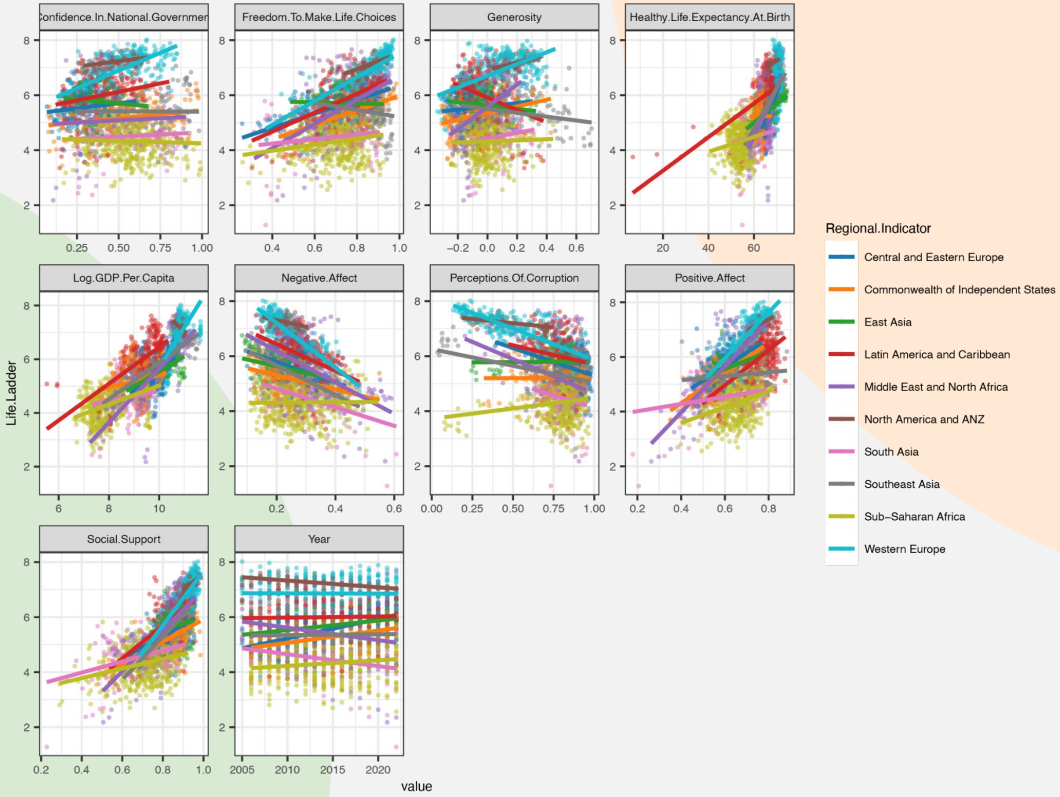

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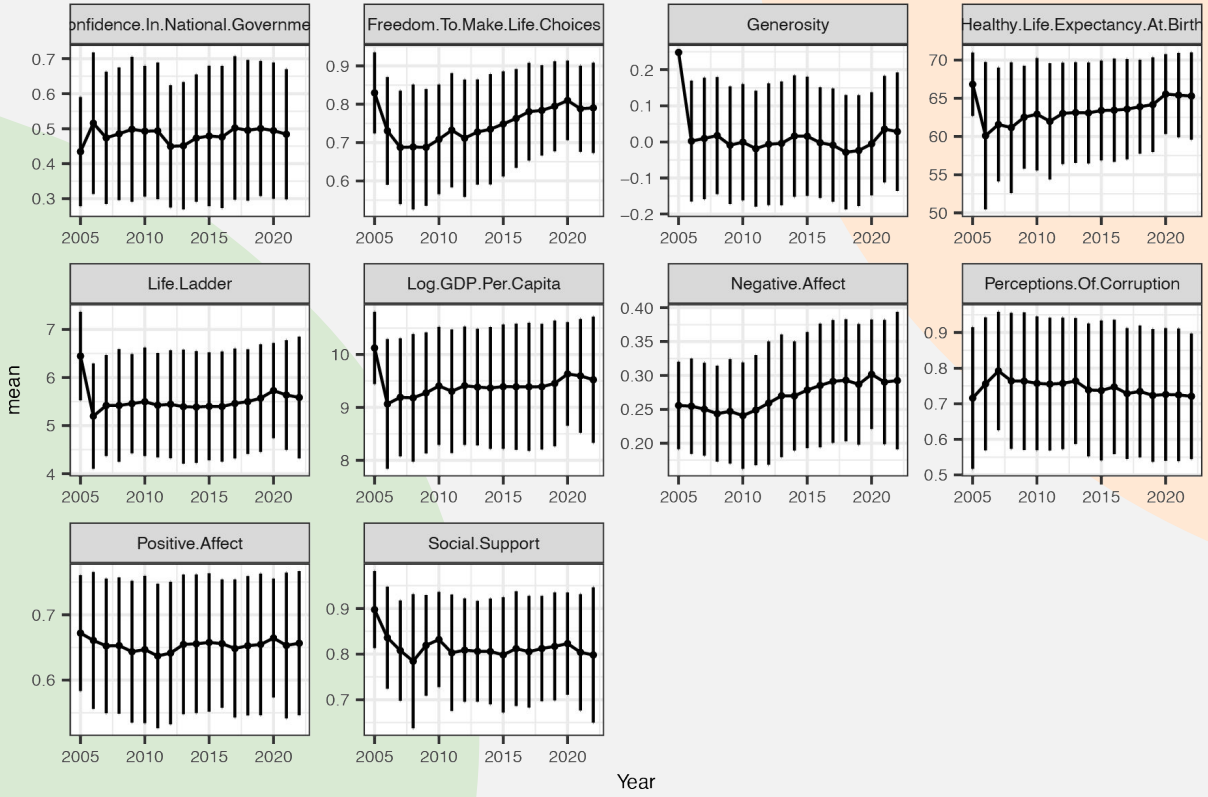

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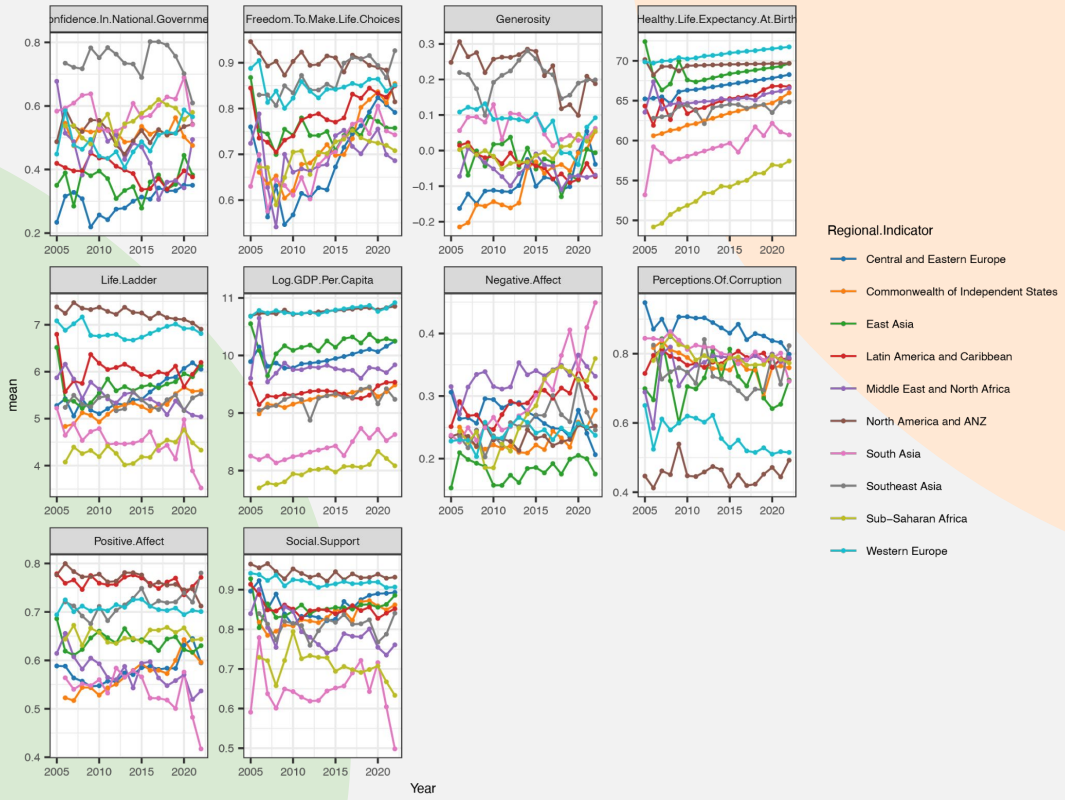
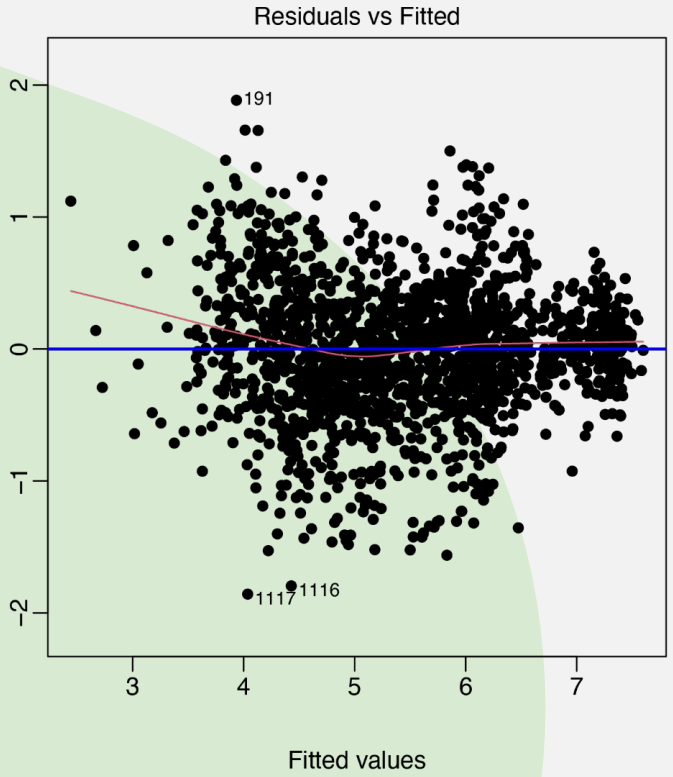
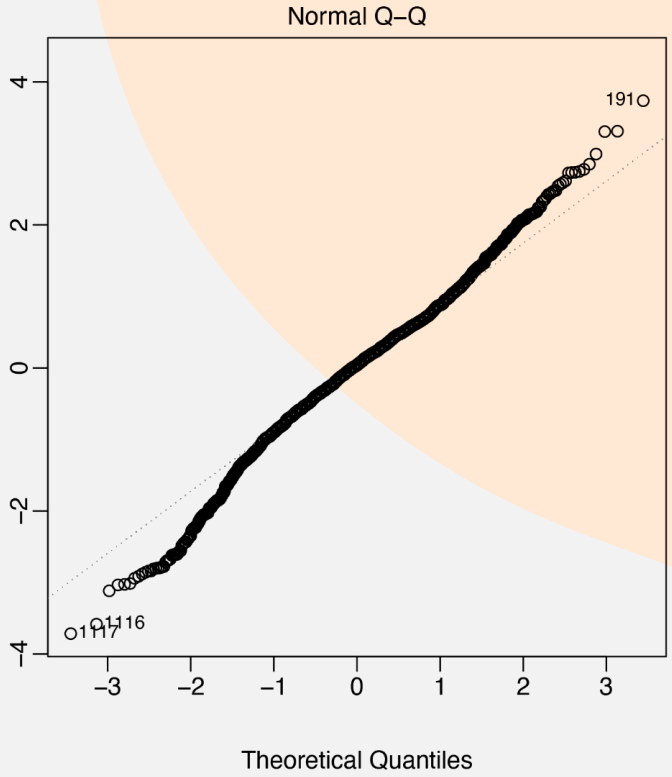
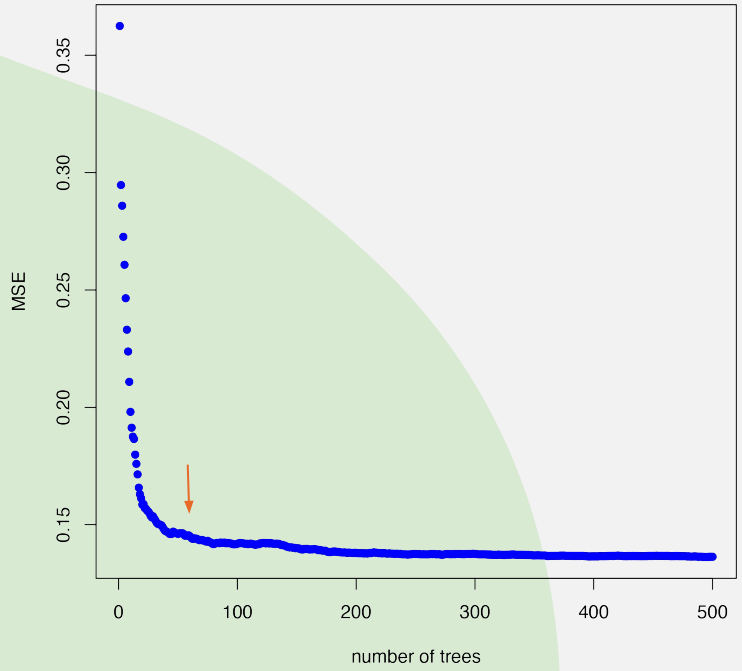


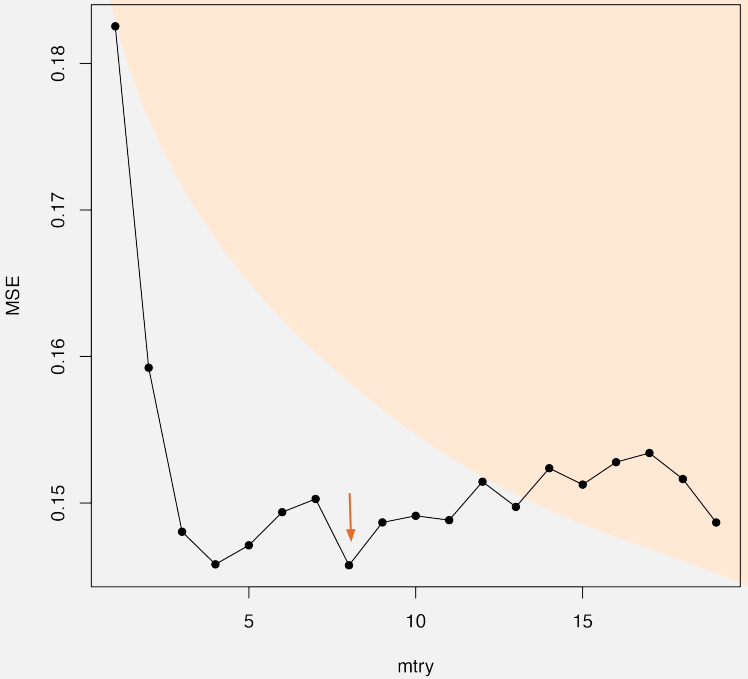
Model 1: Our data meet the assumptions made by multiple regression model



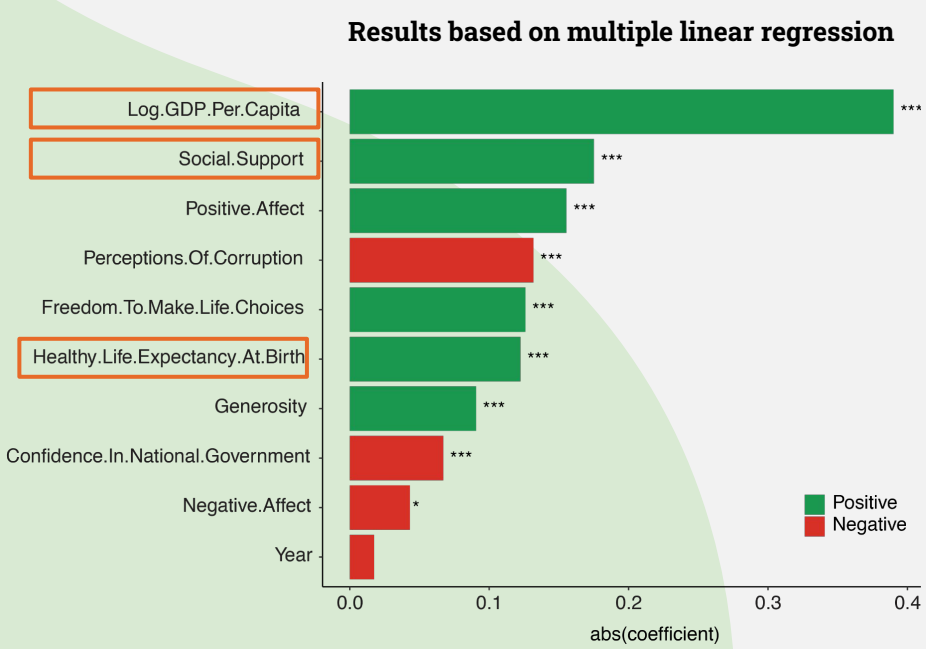


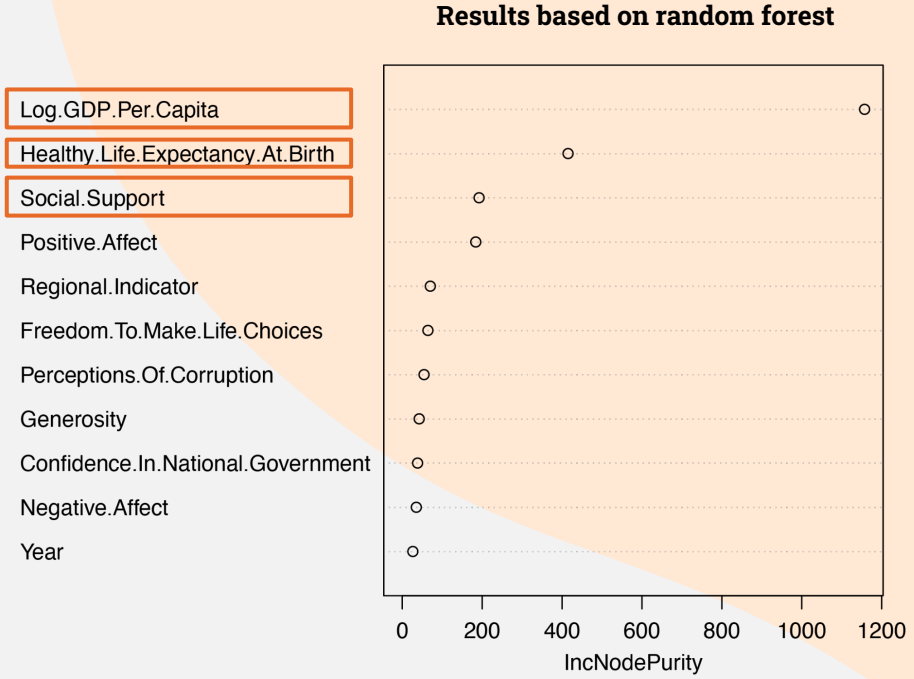
Model 2: Parameter tuning for random forest





Goal 1: Model the relationship between life ladder scores and other factors





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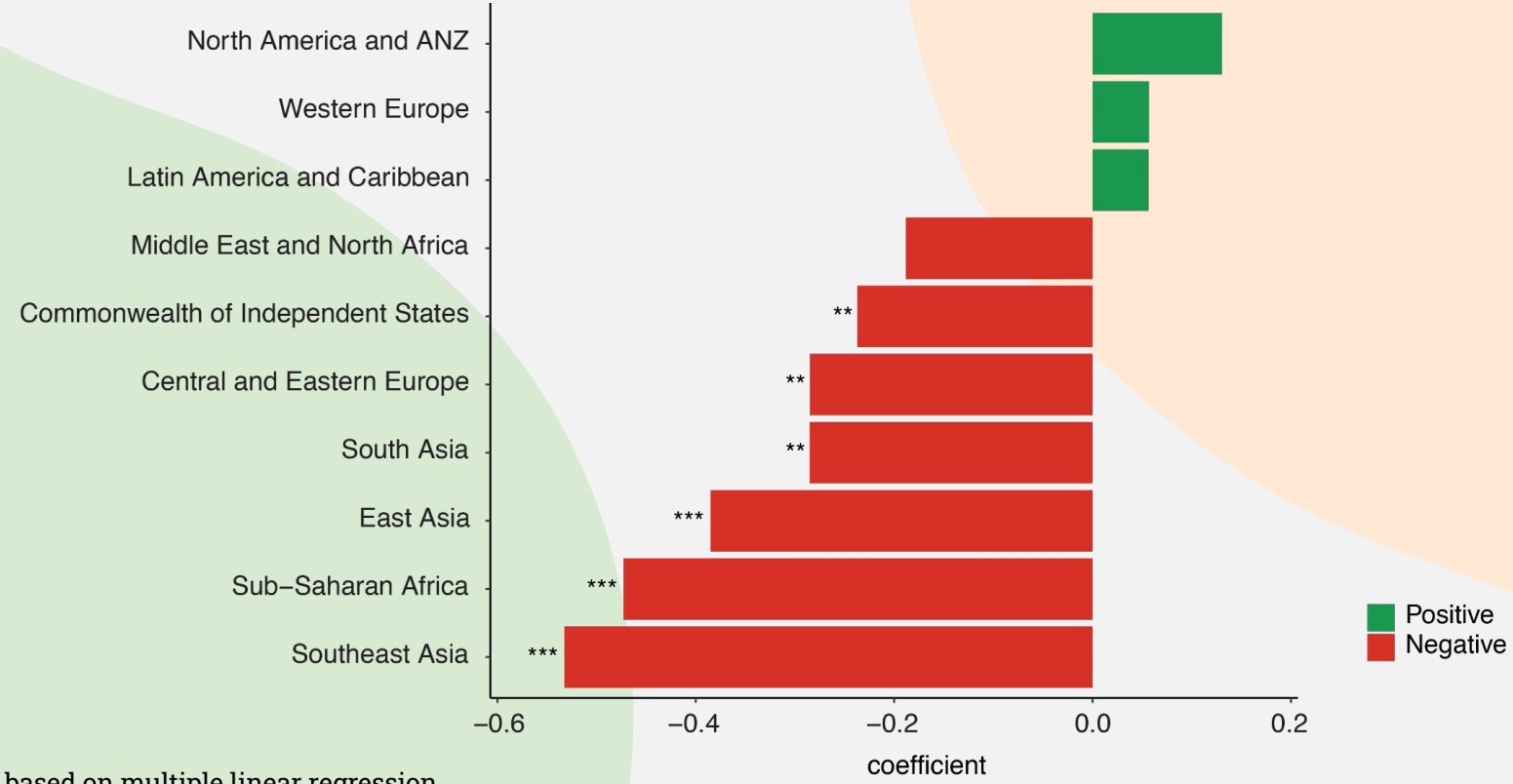
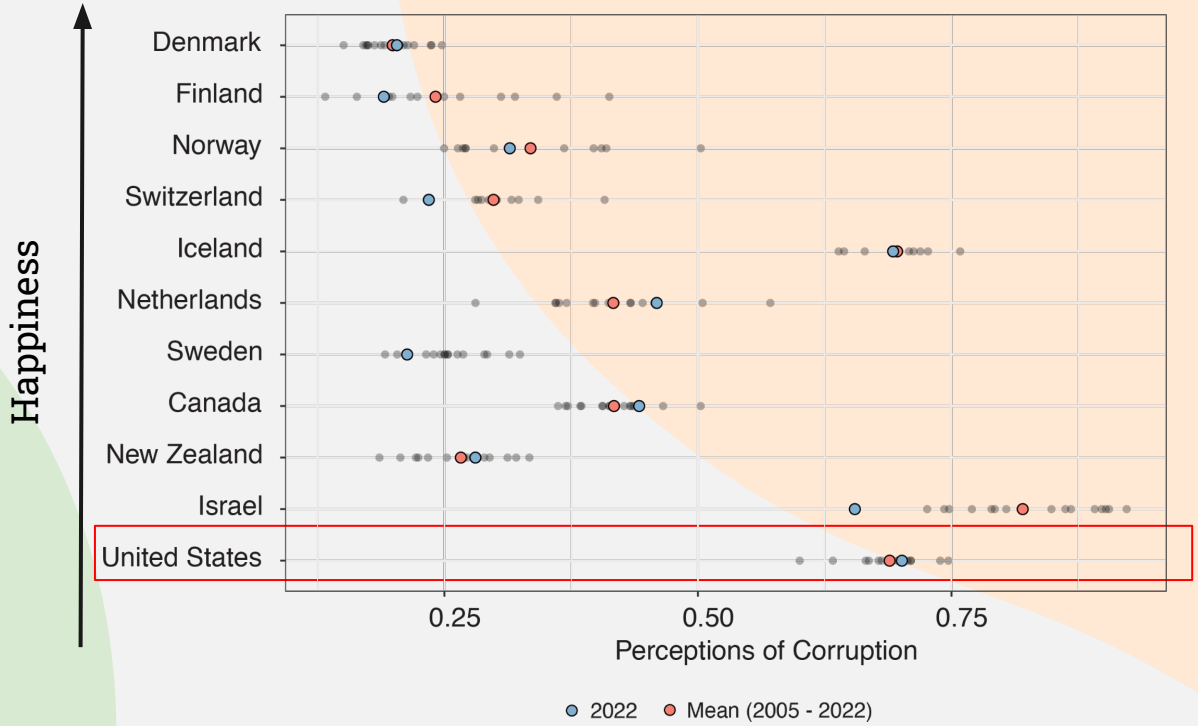


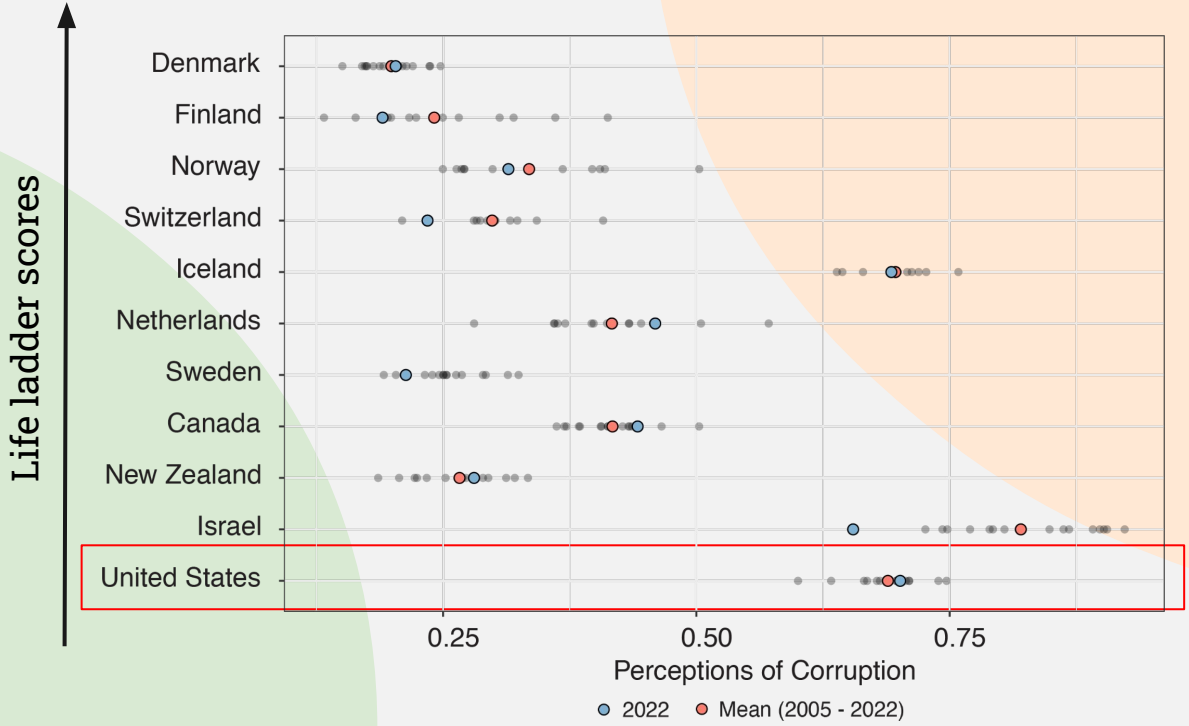
Results based on multiple linear regression

Goal 2: Make policy recommendations

Improving government transparency



Examining other factors that are associated with higher life ladder scores



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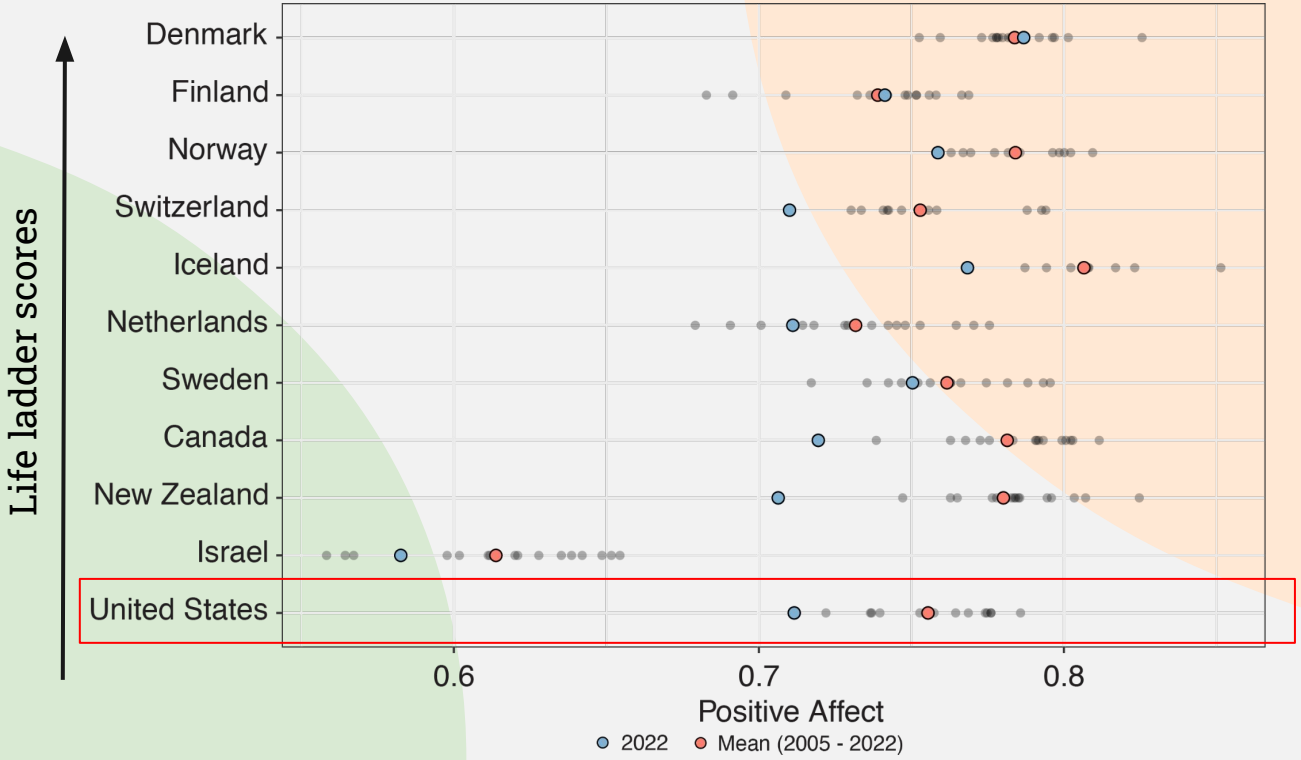

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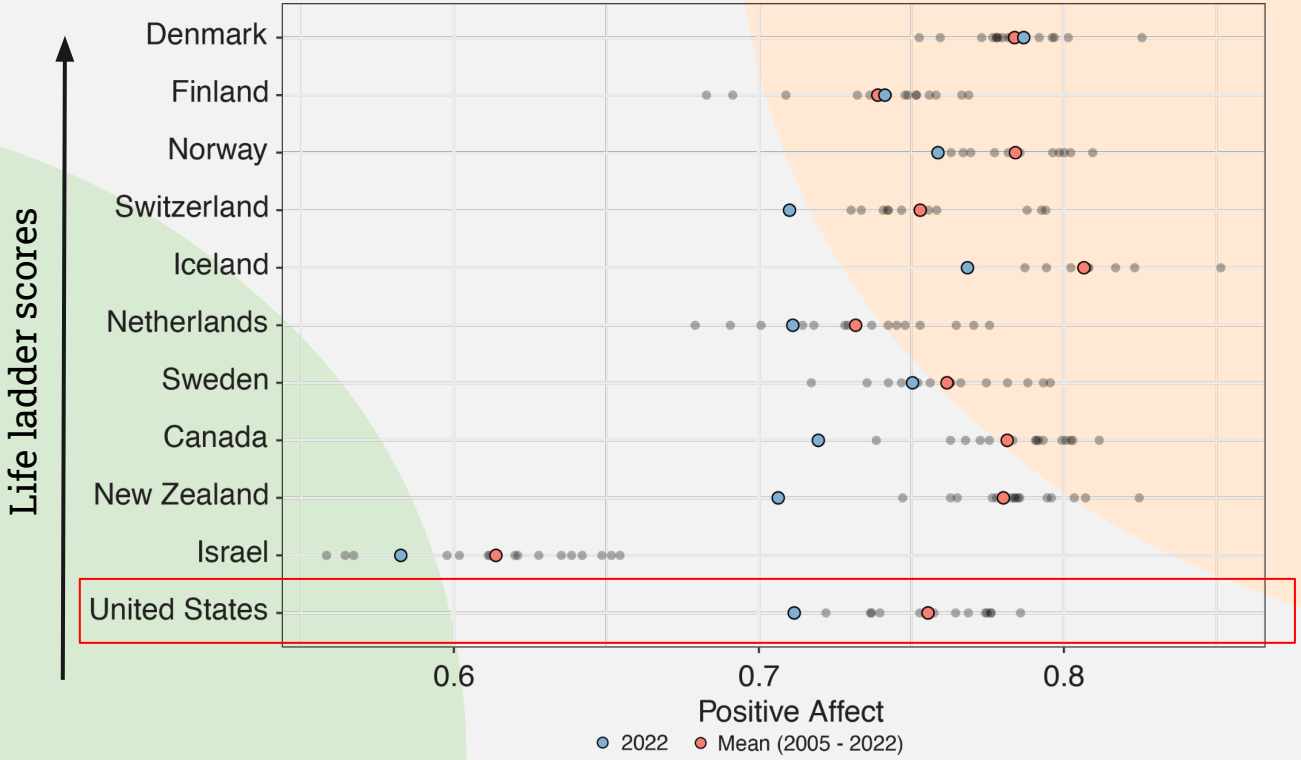

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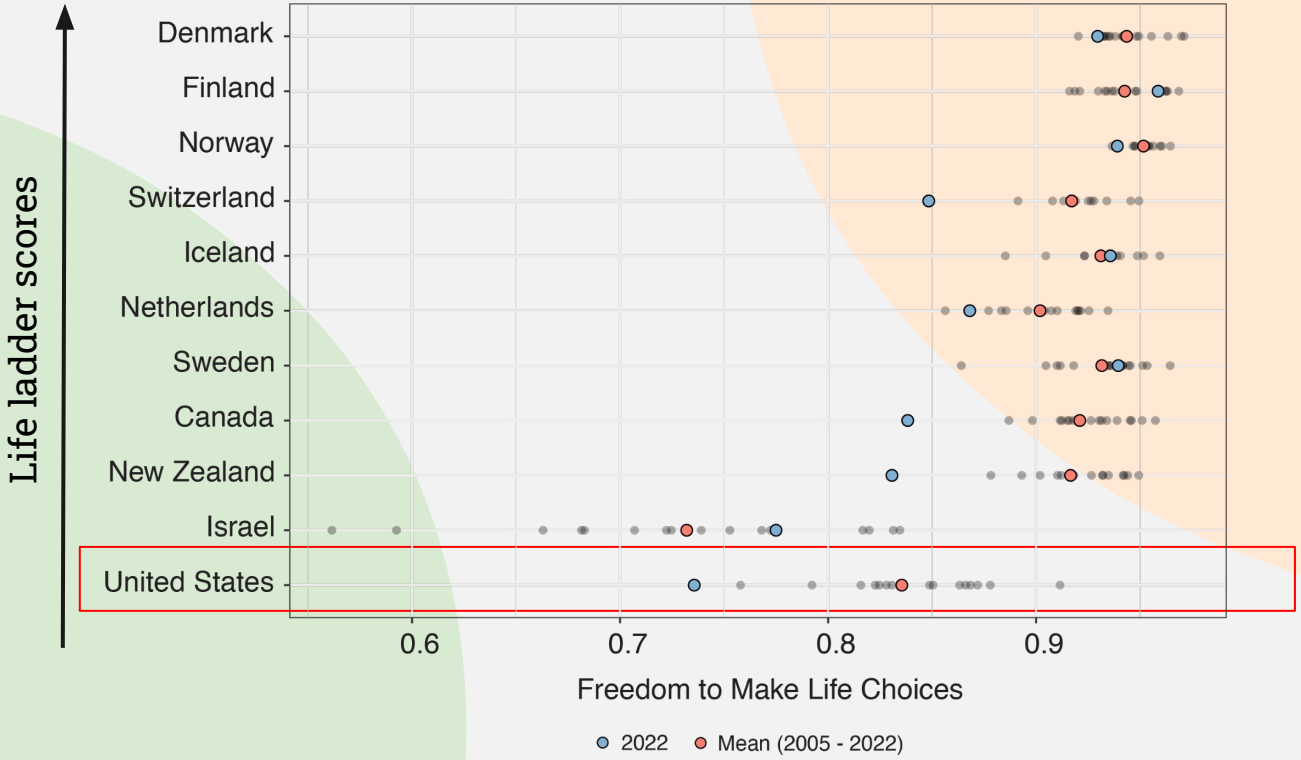
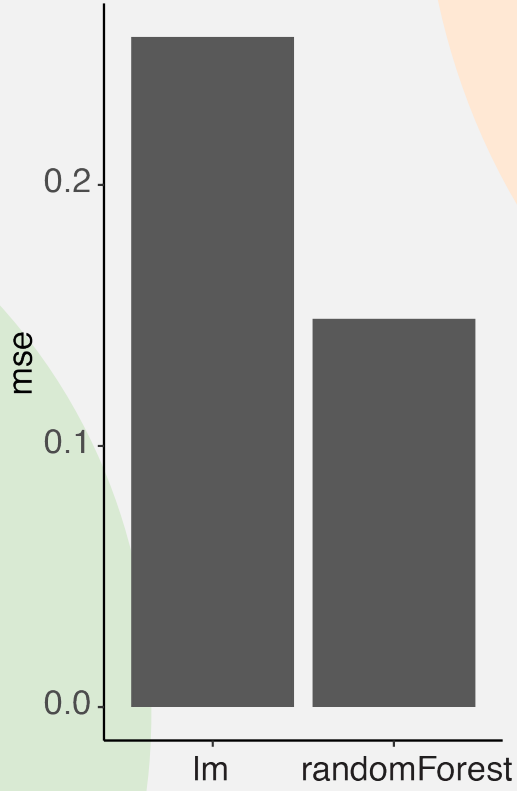


Comparing random forest and linear regression RMSE



Limitation of the study

- The data did not include the number of people they surveyed to calculate the country level life ladder score.
- Happiness is difficult to measure. The life ladder questionnaire is one approach that people have taken but it may be biased towards certain population.
- We did not examine interactions between different factors in explaining ladder scores.