
CSE-591 - DATA ANALYTICS
Project Final Report
World Happiness Report using
Apache Spark

Ersin Akşar
Feyza Özkefe
Işık University, Istanbul

What is happiness and how to measure it?

How happy are people today?
Were people happier in the past?
How satisfied with their lives are
people in different societies? And
how do our living conditions
affect all of this?



Happiness

Happiness is one of the most important components in life, however, qualifying happiness is not such a happy task. For this purpose, the World Happiness Report was created: An annual survey that measures happiness around the globe. It uses six different metrics: (i) healthy life expectancy, (ii) social support, (iii) freedom to make life choices, (iv) Trust (government corruption), (v) GDP per capita, and (vi) generosity. Those metrics combined in an index rank countries by their happiness.

Methodology

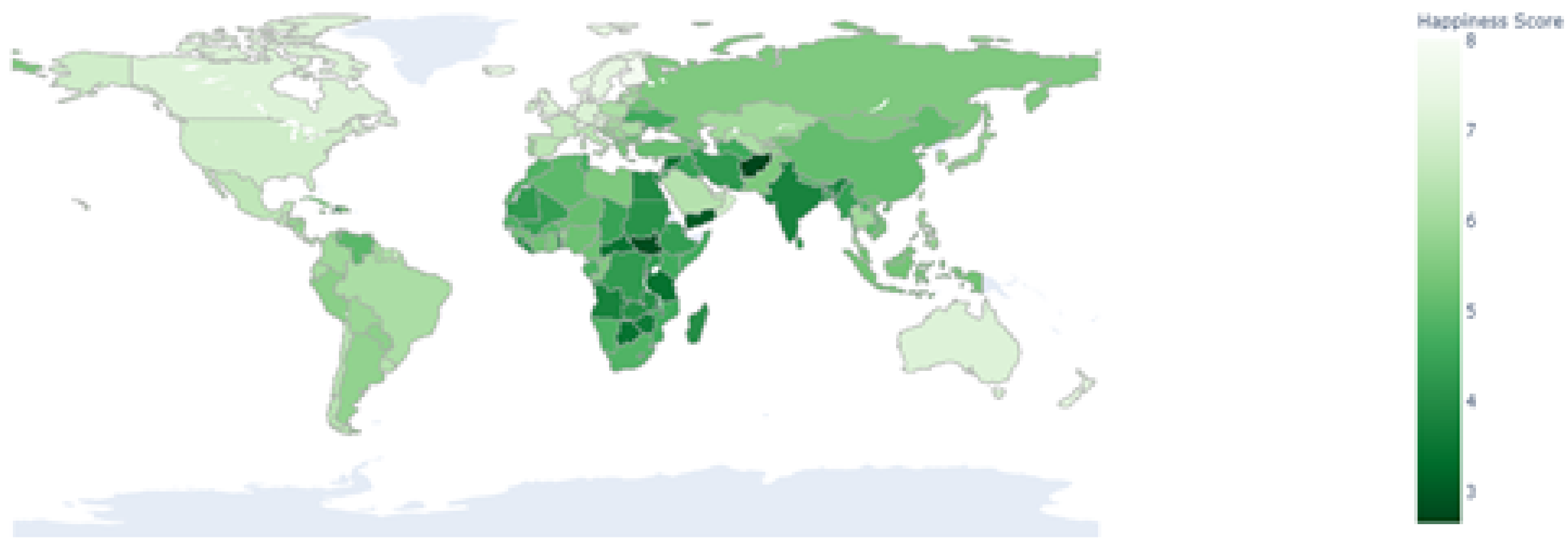
More than one hundred countries with six metrics to measure happiness are collected from a public database from year 2015 to 2021. The necessary preprocessing on the data has been implemented and merged.

Collected data variables:

- Country
- Region
- Happiness Rank
- Happiness Score
- Economy (GDP per Capita)
- Family (Social Support)
- Health (Life Expectancy)
- Freedom (To Make Life Choices)
- Trust (Government Corruption)
- Generosity

RESULTS

World Happiness Index 2020

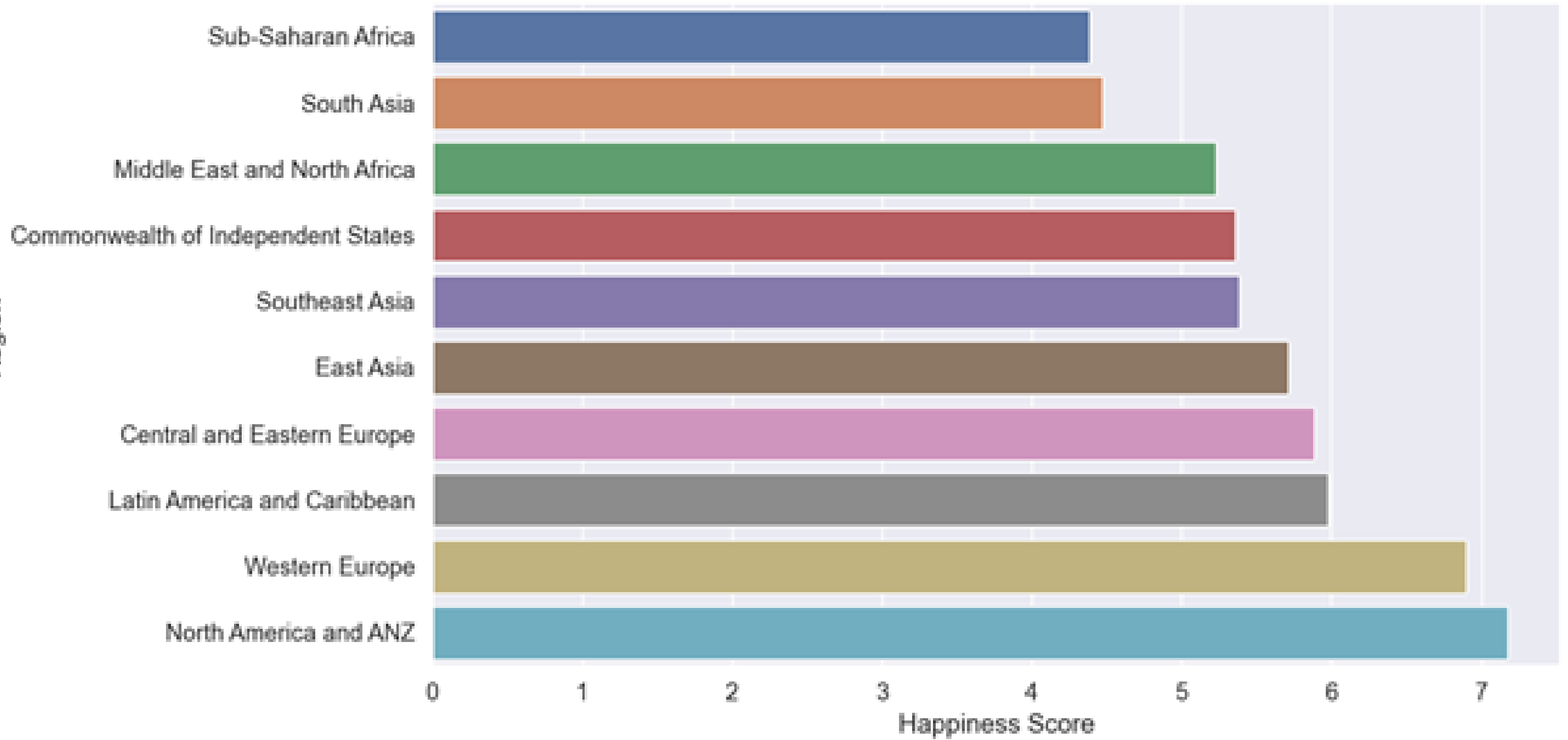


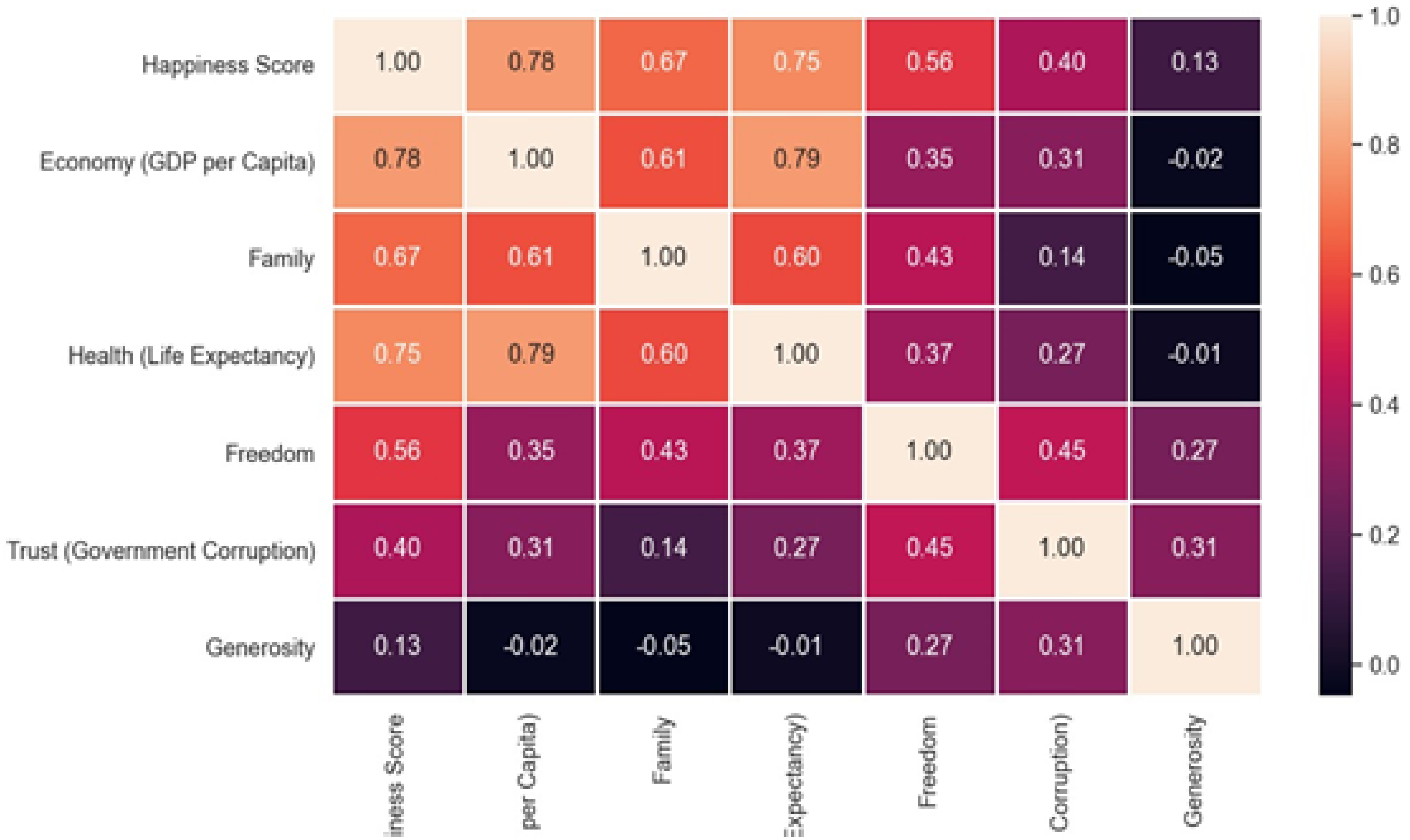
Geographical View of World Happiness using Plotly .

Country	Rank
Finland	1
Denmark	2
Switzerland	3
Iceland	4
Netherlands	5
Norway	6
Sweden	7
Luxembourg	8
New Zealand	9
Austria	10
Australia	11
Israel	12
Germany	13
Canada	14
Ireland	15
Costa Rica	16
United Kingdom	17
Czech Republic	18
United States	19
Belgium	20

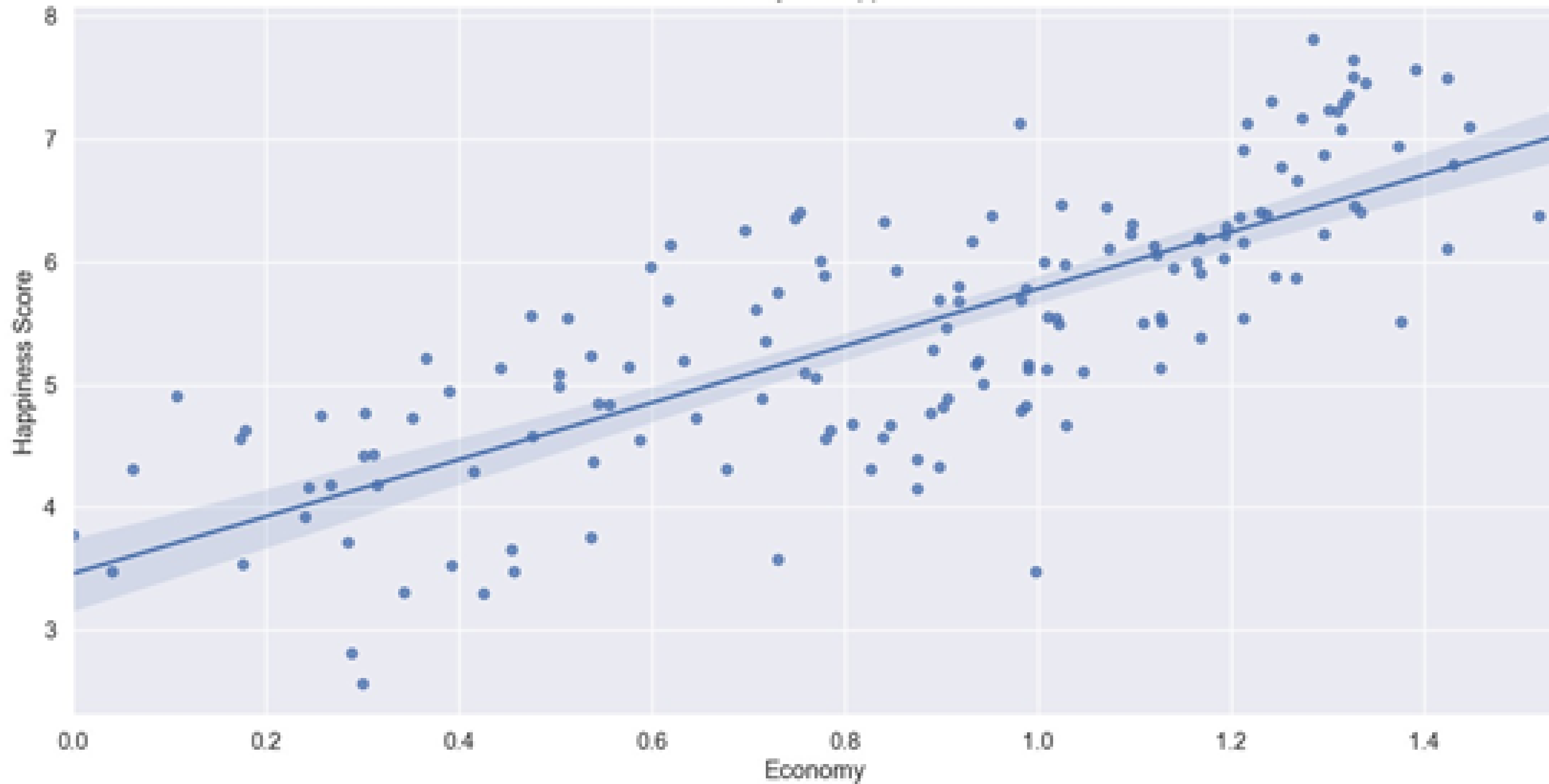
World Happines Rank in 2021

Average Happiness Score based on Regions

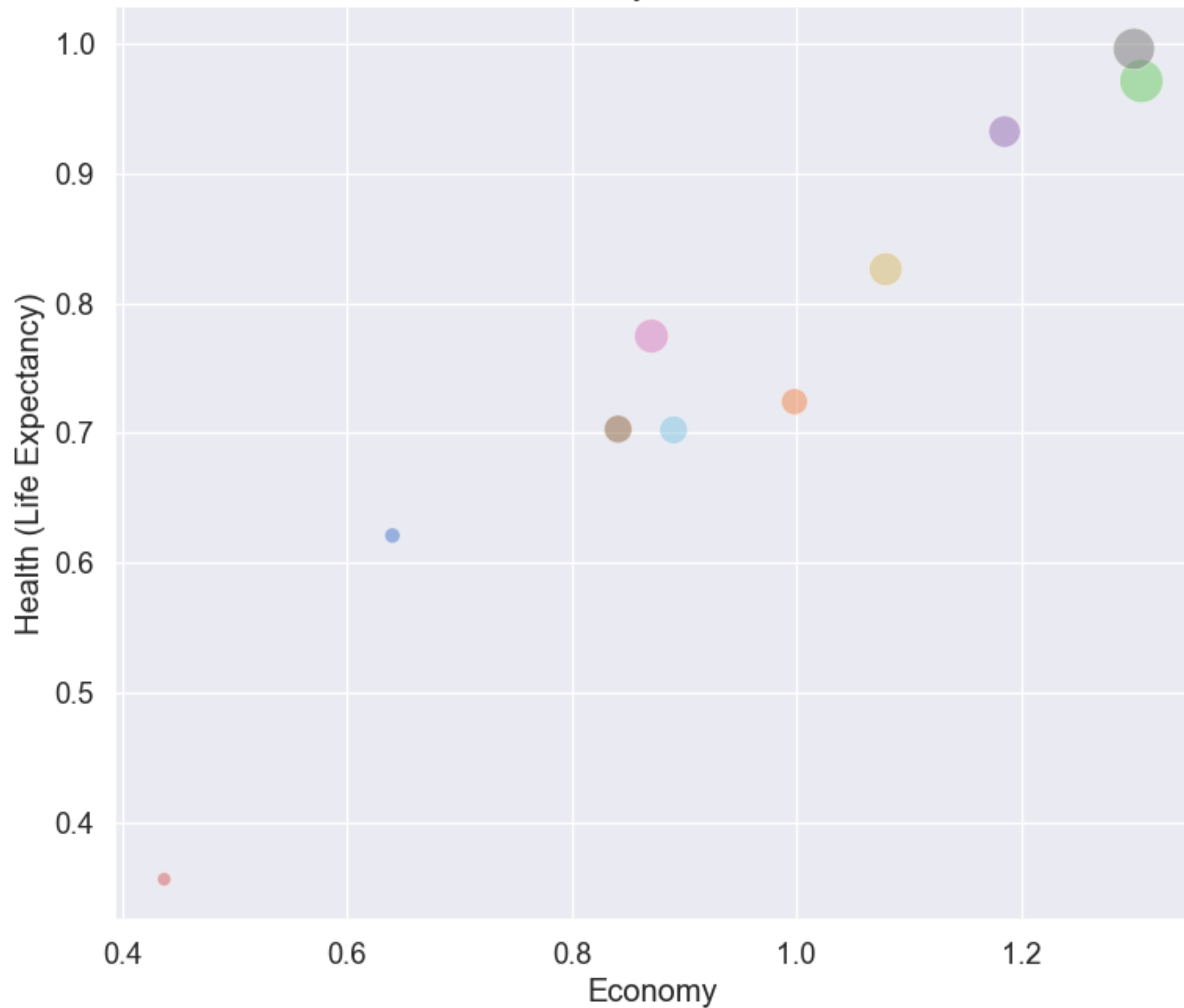




Economy vs Happiness



Economy vs Health



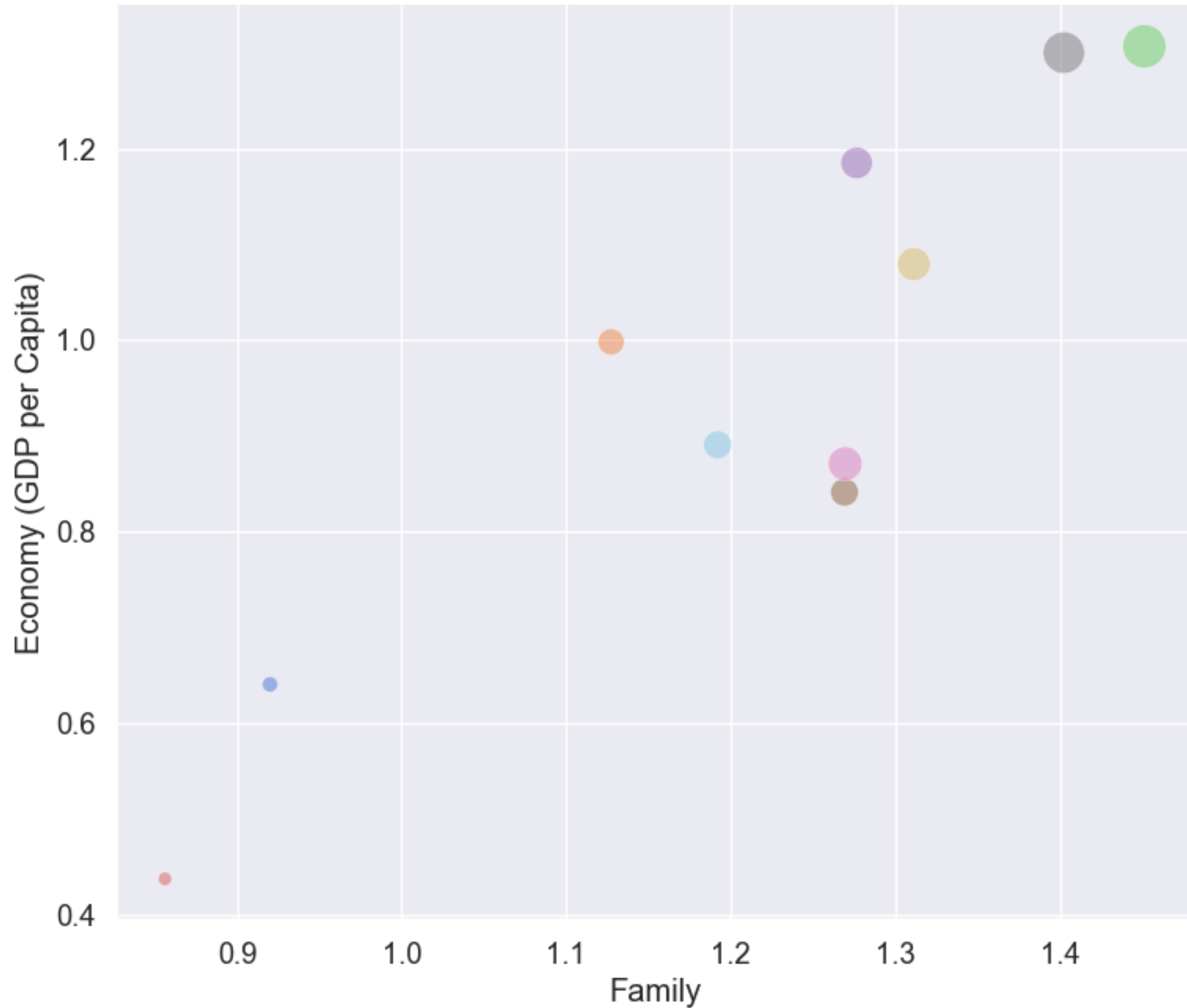
Regional indicator

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

avg(Happiness Score)

- 4.5
- 5.0
- 5.5
- 6.0
- 6.5
- 7.0

Family vs Economy

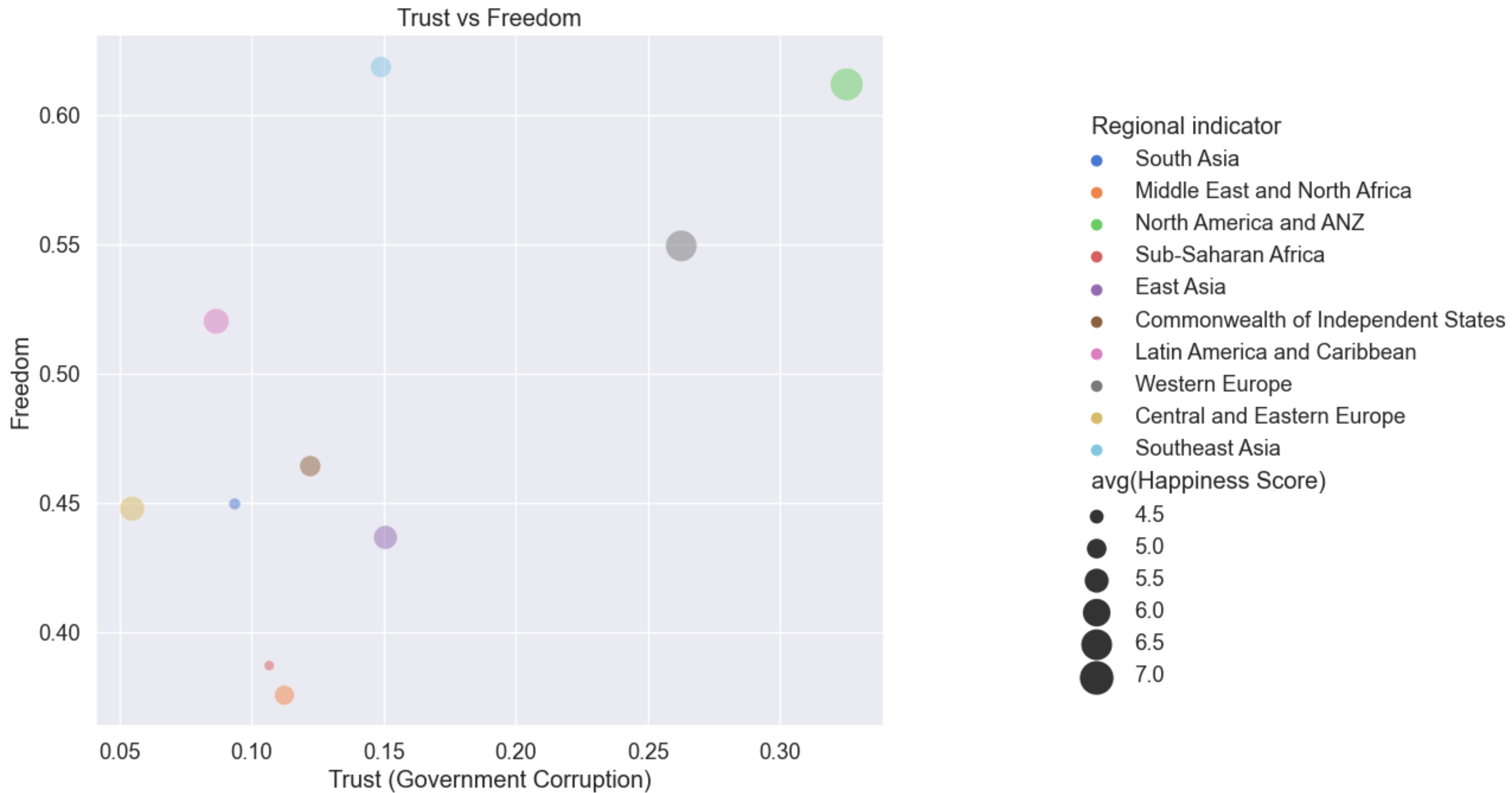


Regional indicator

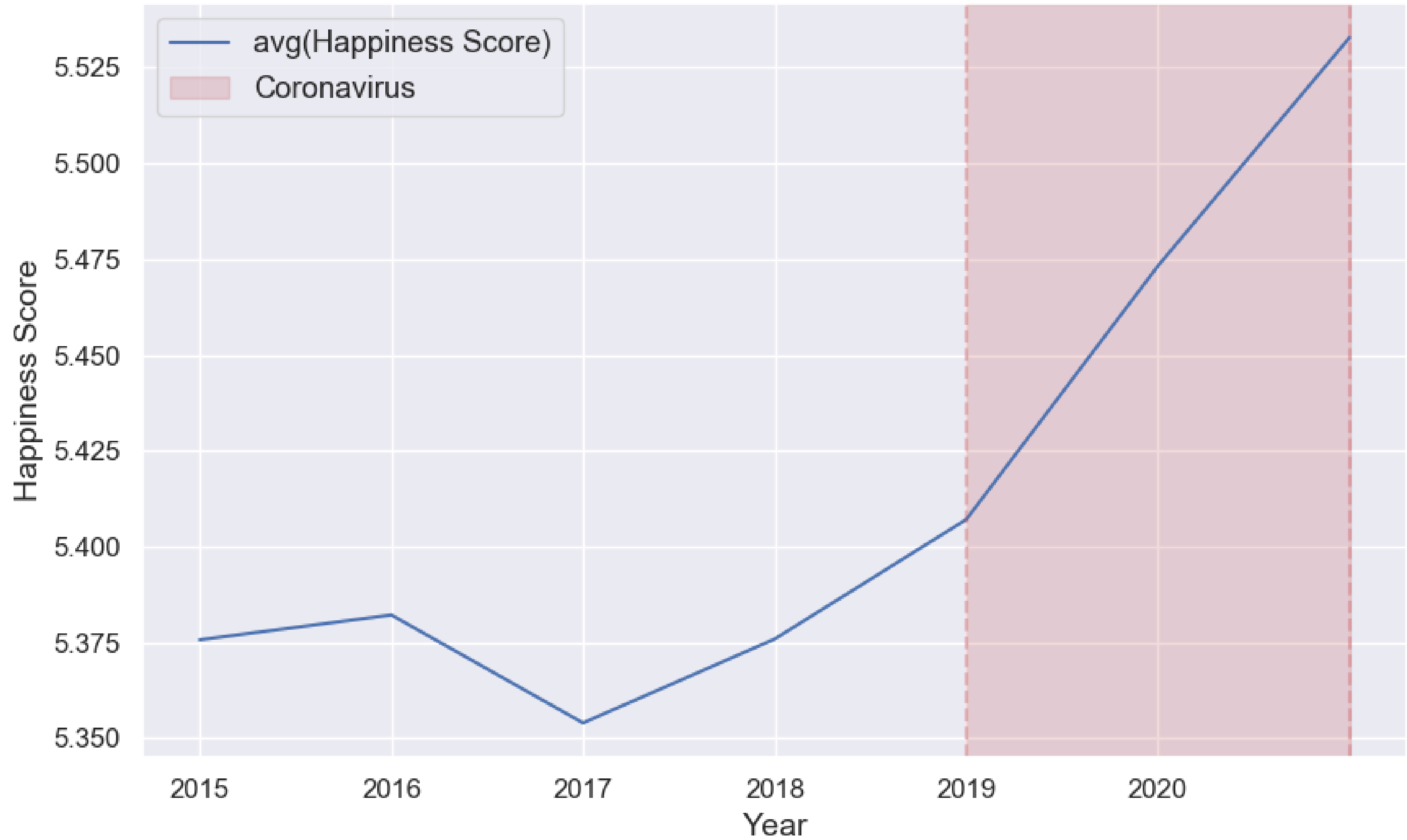
- South Asia
- Middle East and North Africa
- North America and ANZ
- Sub-Saharan Africa
- East Asia
- Commonwealth of Independent States
- Latin America and Caribbean
- Western Europe
- Central and Eastern Europe
- Southeast Asia

avg(Happiness Score)

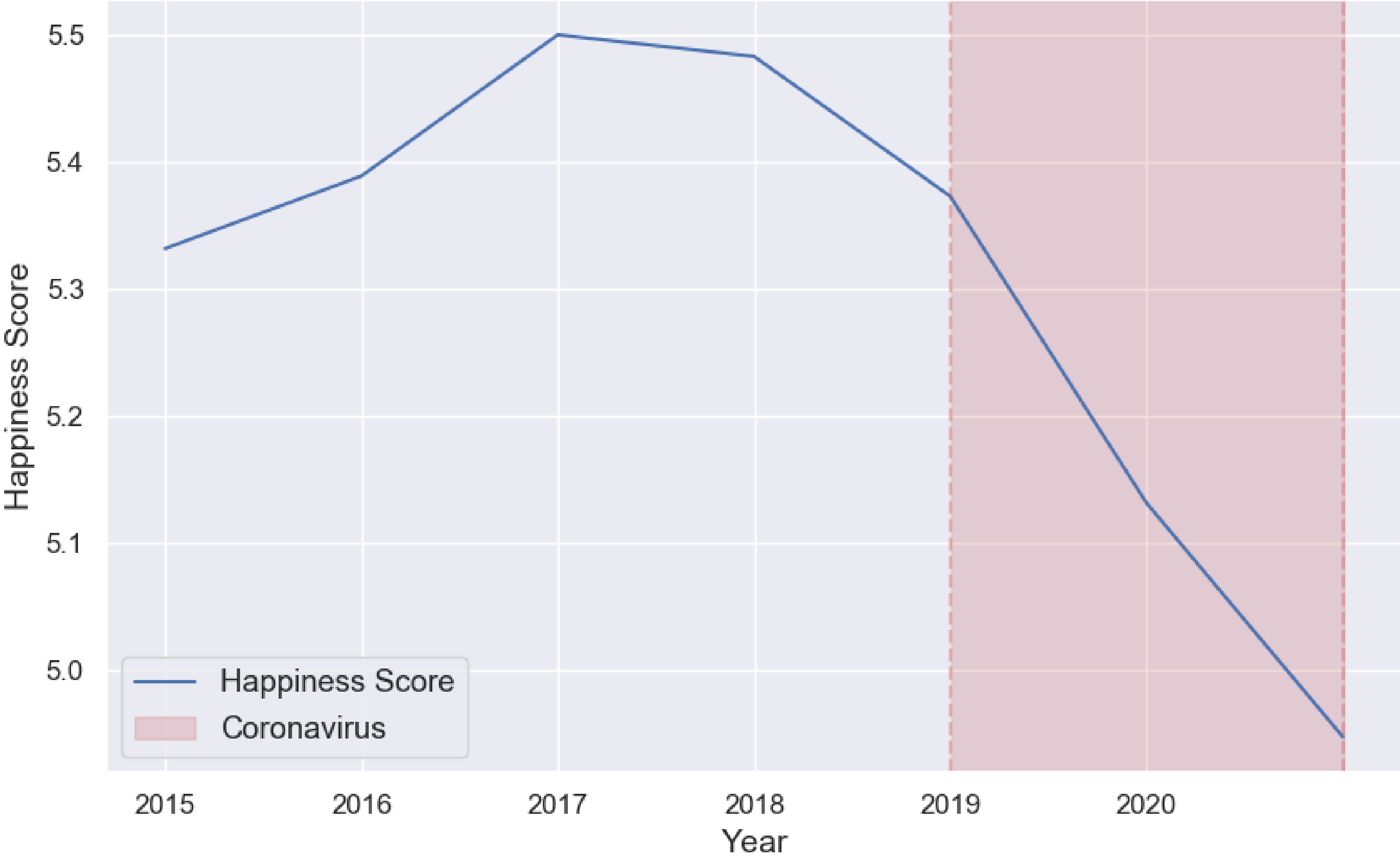
- 4.5
- 5.0
- 5.5
- 6.0
- 6.5
- 7.0



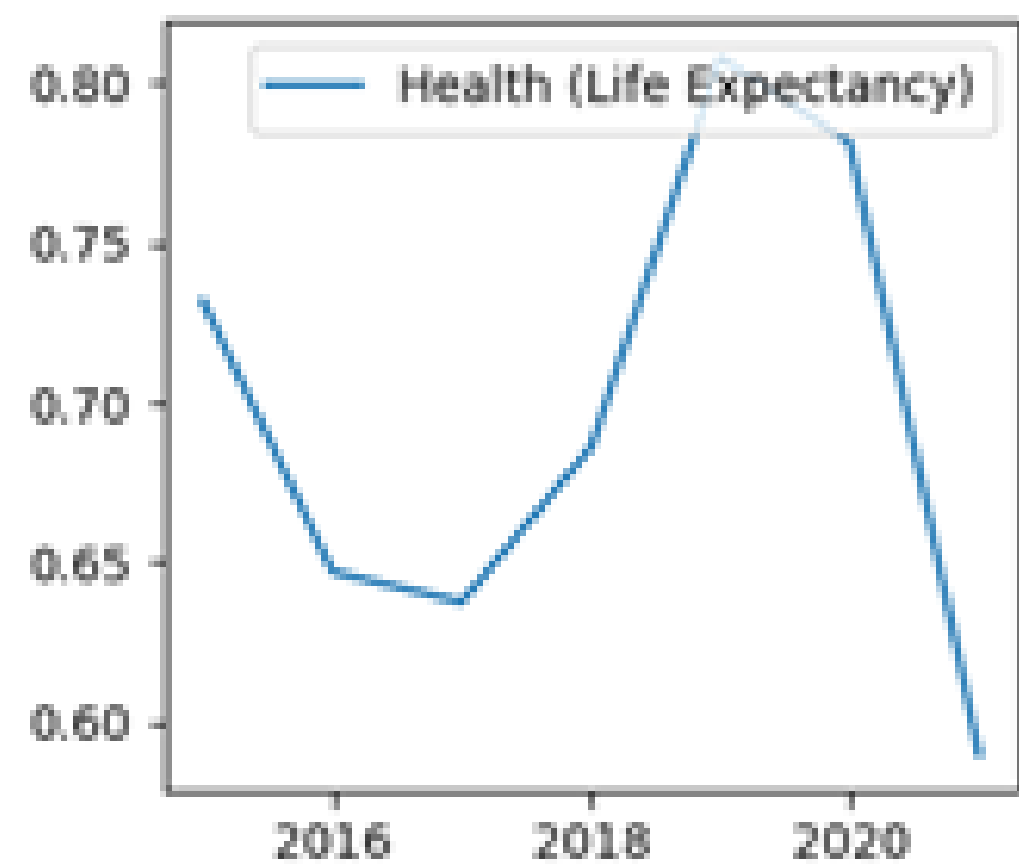
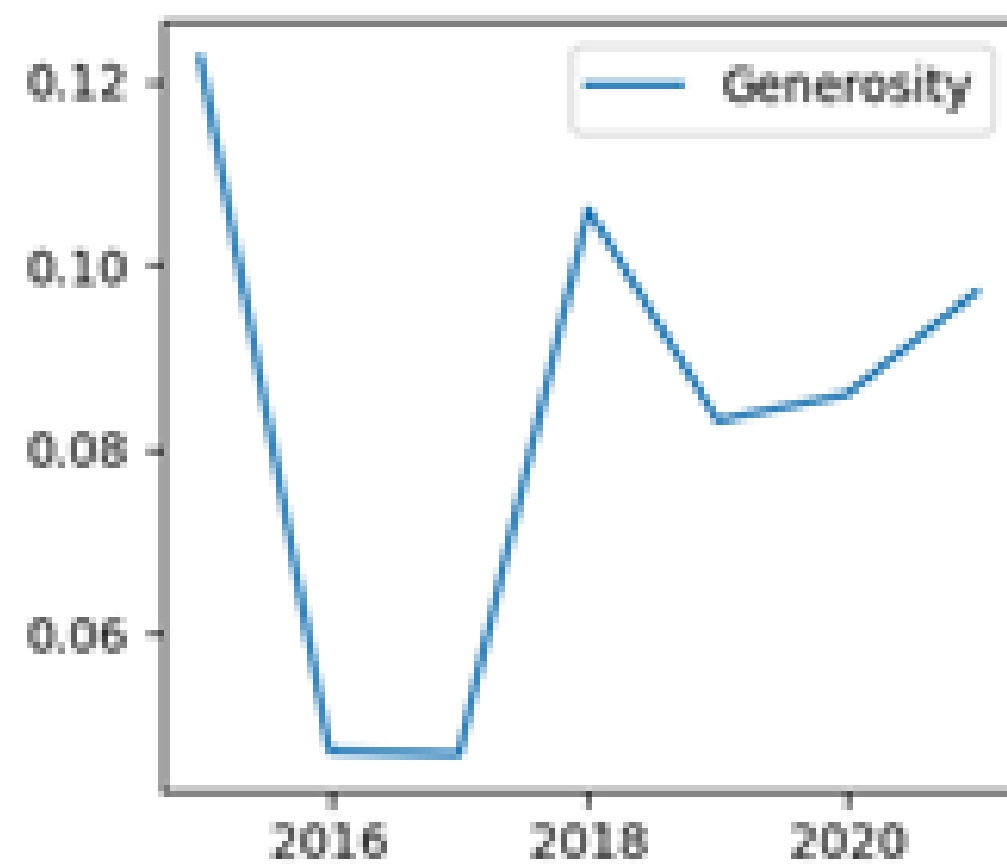
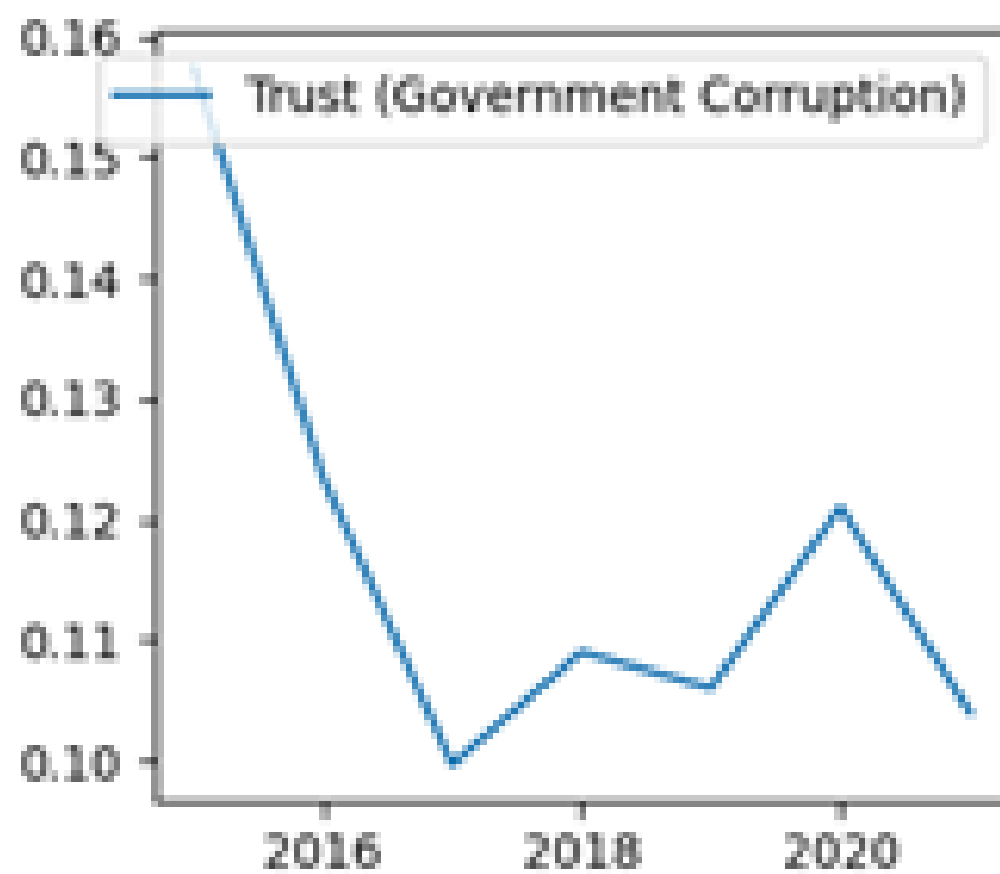
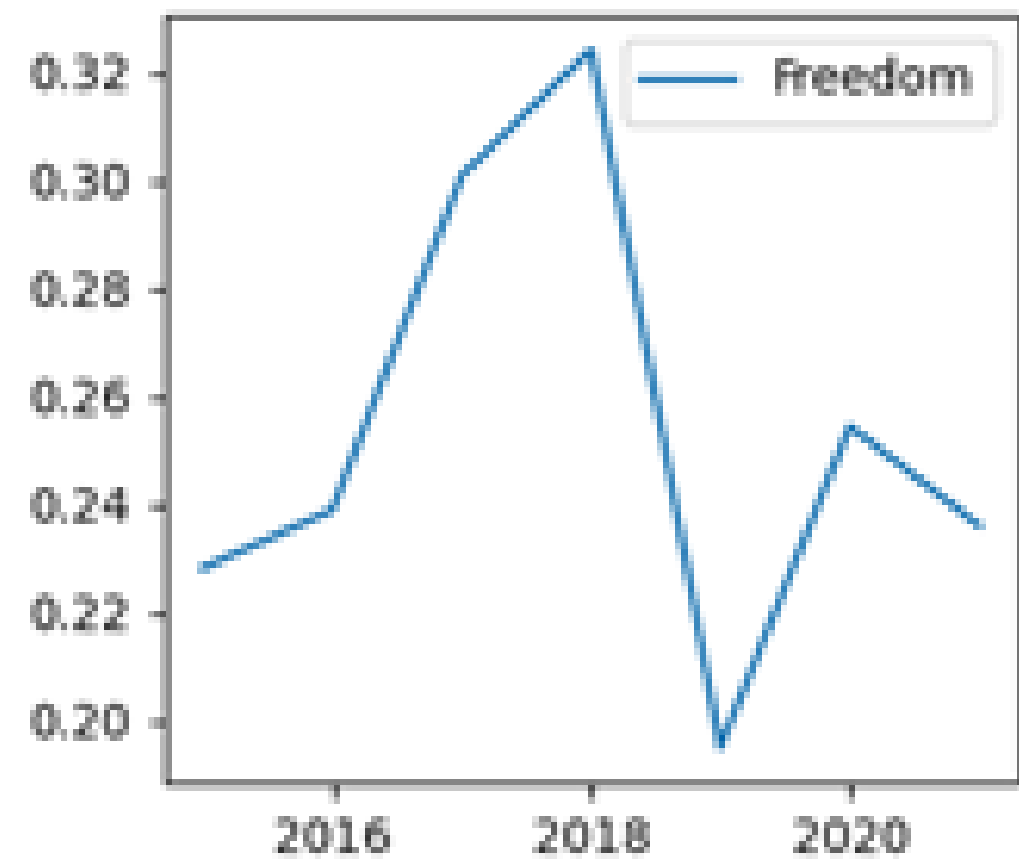
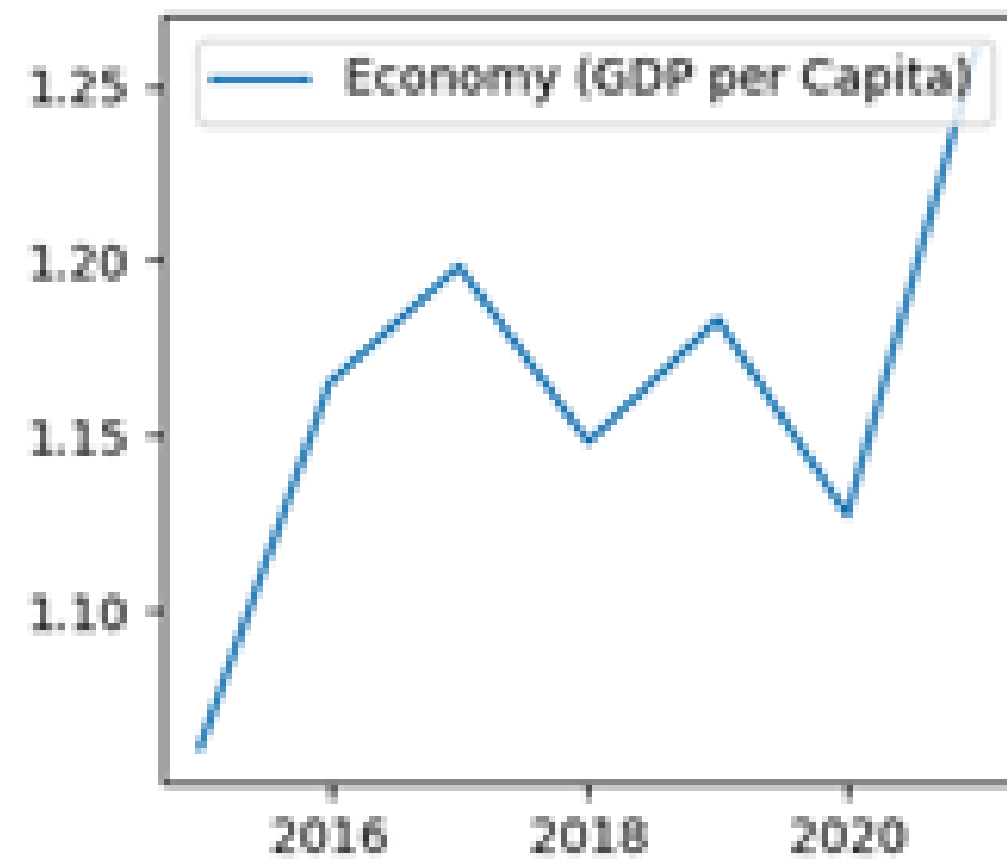
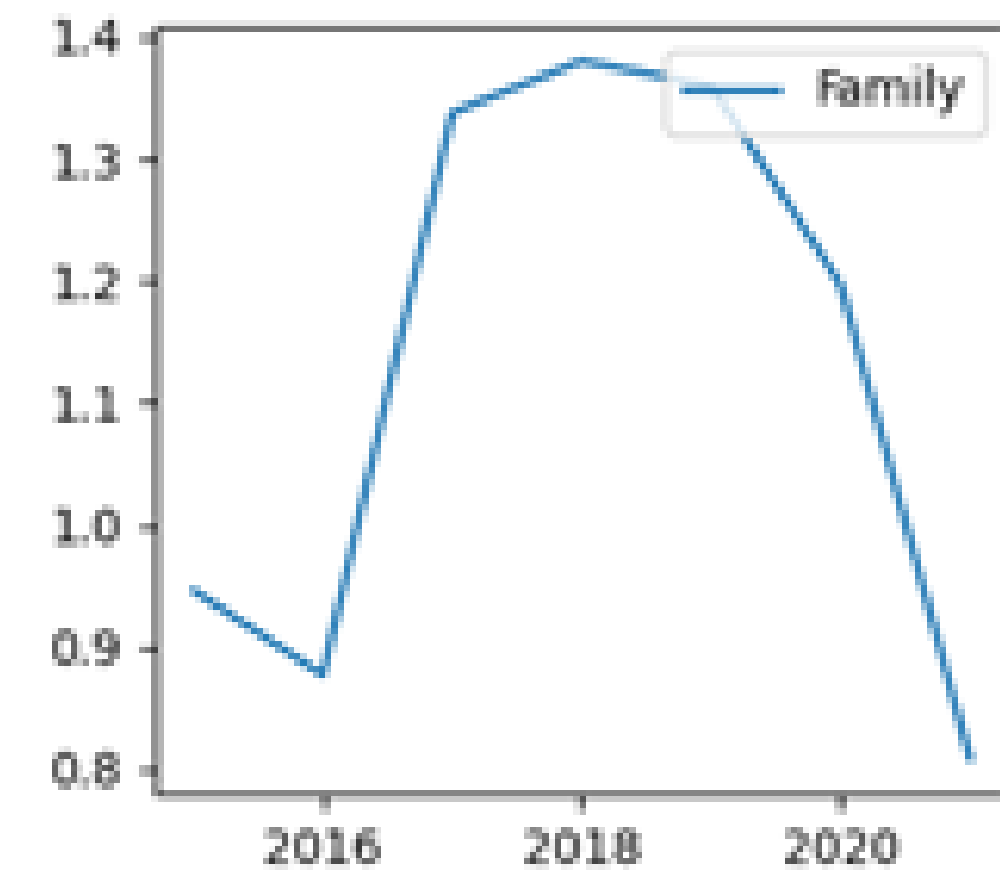
World Average Happiness Score by Years

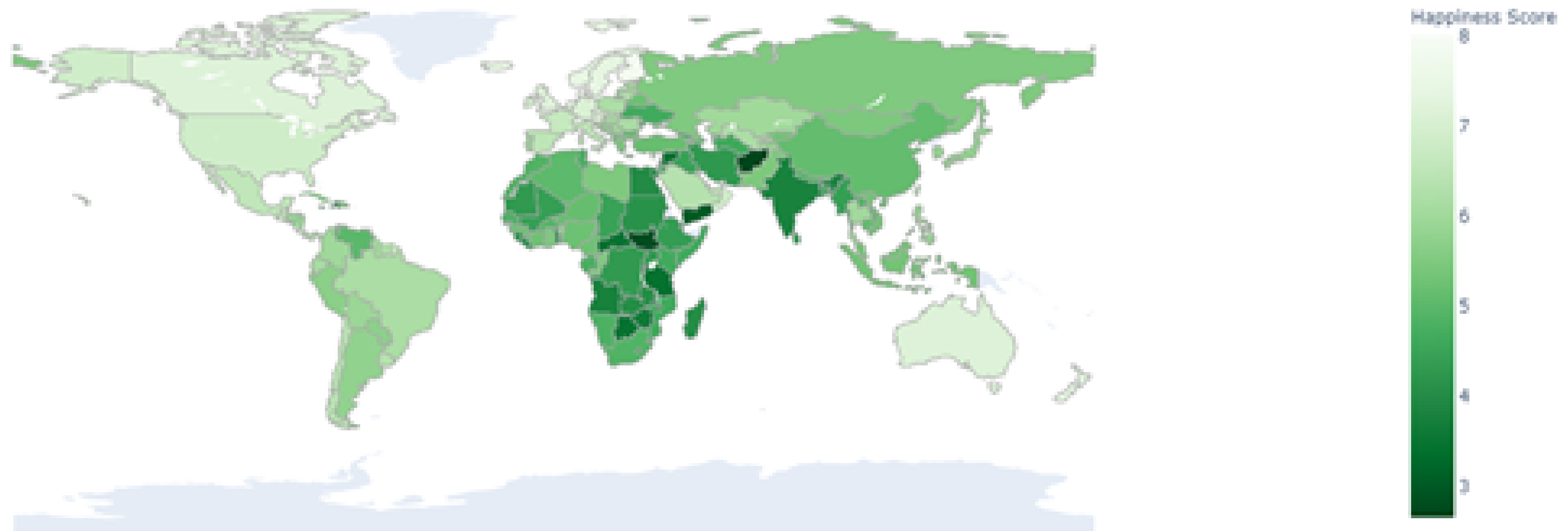


Turkey Happiness Score by Years



Variables for Turkey





CONCLUSION

THANK YOU
