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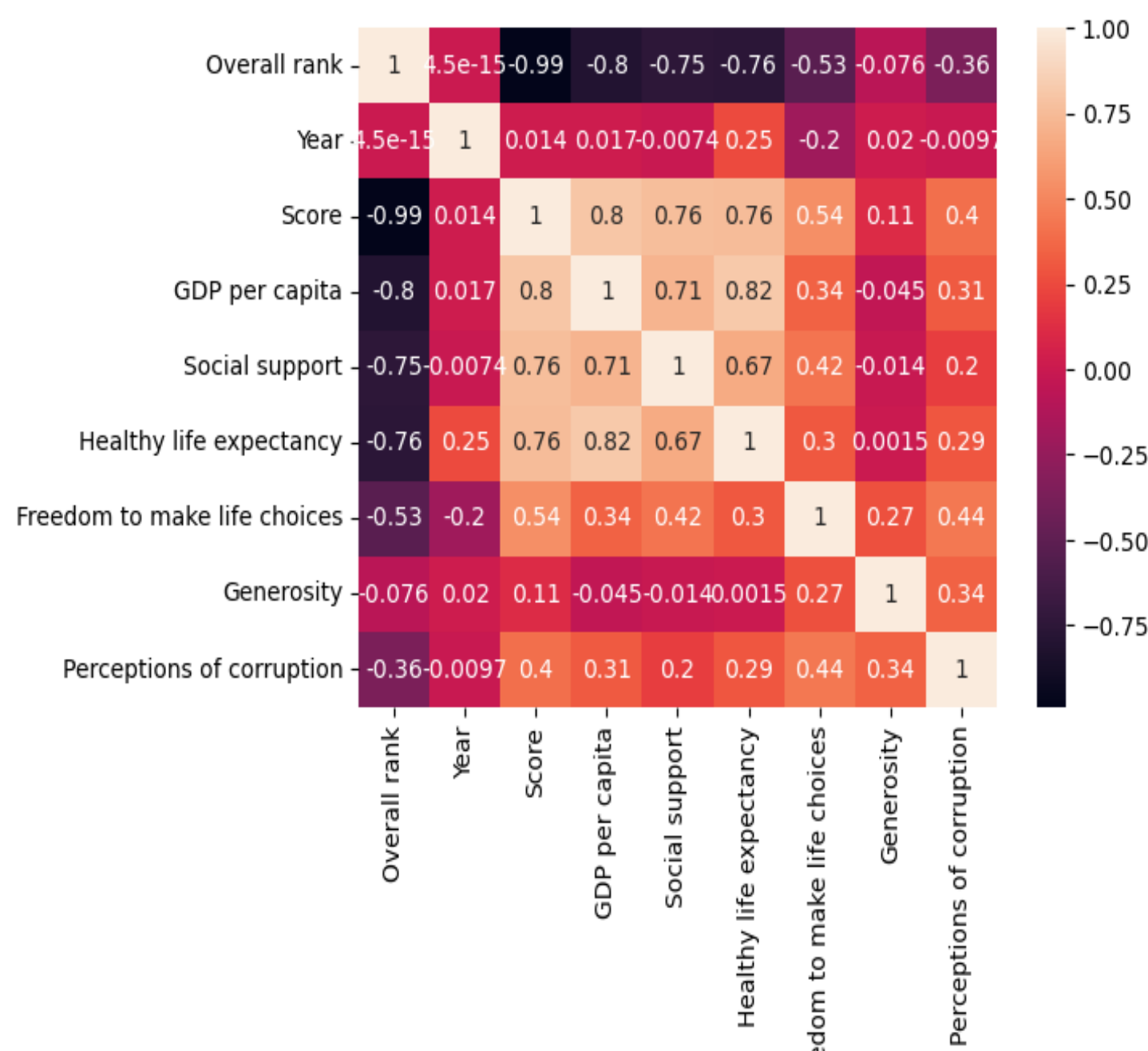
Happiness Index 2018-2019 Data Analysis

Project Introduction

- This research examines the correlation between the Happiness Index Score for the years 2018 and 2019, and several independent factors including 'Overall rank', 'GDP per capita', 'Social support', 'Healthy life expectancy', 'Freedom to make life choices', 'Generosity', and 'Perceptions of corruption'. The primary goal of this study is to explore how these independent variables influence the happiness levels of individuals during these two years. Furthermore, a detailed country-wise analysis was conducted to compare the variations in these variables between the top-ranked happiest country and India. Various visual representations were employed to effectively identify and present these discrepancies in a concise and easily understandable manner.

Description of the dataset

- **Overall rank**: List of ranks of different countries from 1 to 156

- **Country or region**: List of the names of different countries.

- **Score**: List of happiness scores of different countries.

- **GDP per capita**: The GDP per capita score of different countries.

- **Social support**: The social support of different countries.

- **Healthy life expectancy**: The healthy life expectancy of different countries.

- **Freedom to make life choices**: The score of perception of freedom of different countries.

- **Generosity**: Generosity (the quality of being kind and generous) score of different countries.

- **Perceptions of corruption**: The score of the perception of corruption in different countries.
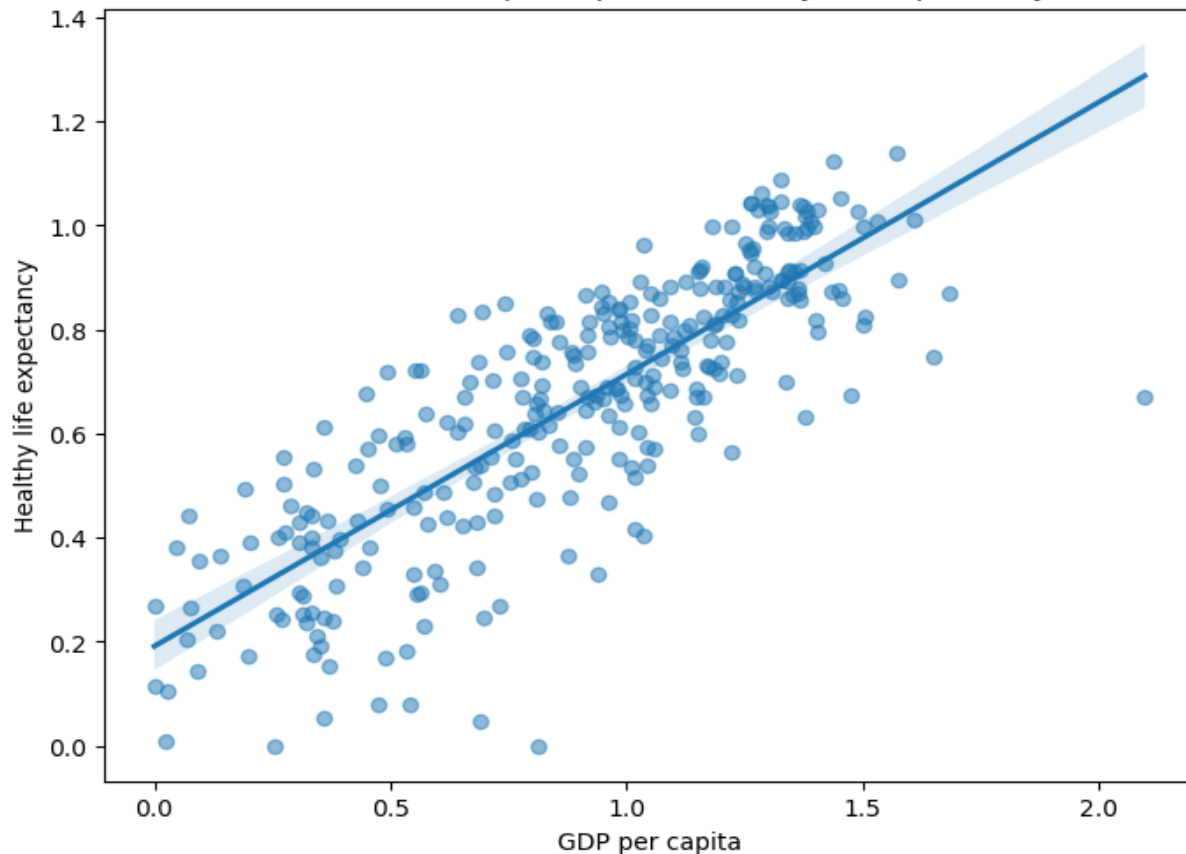
Heat Map

- ***Interpretation :***

- The correlation coefficient between "GDP per capita" and "Healthy life expectancy" is 0.86.

- "GDP per capita" and "Social support" have a correlation coefficient of 0.78.

- "Healthy life expectancy" and "Social support" exhibit a correlation coefficient of 0.77, indicating a strong positive correlation.
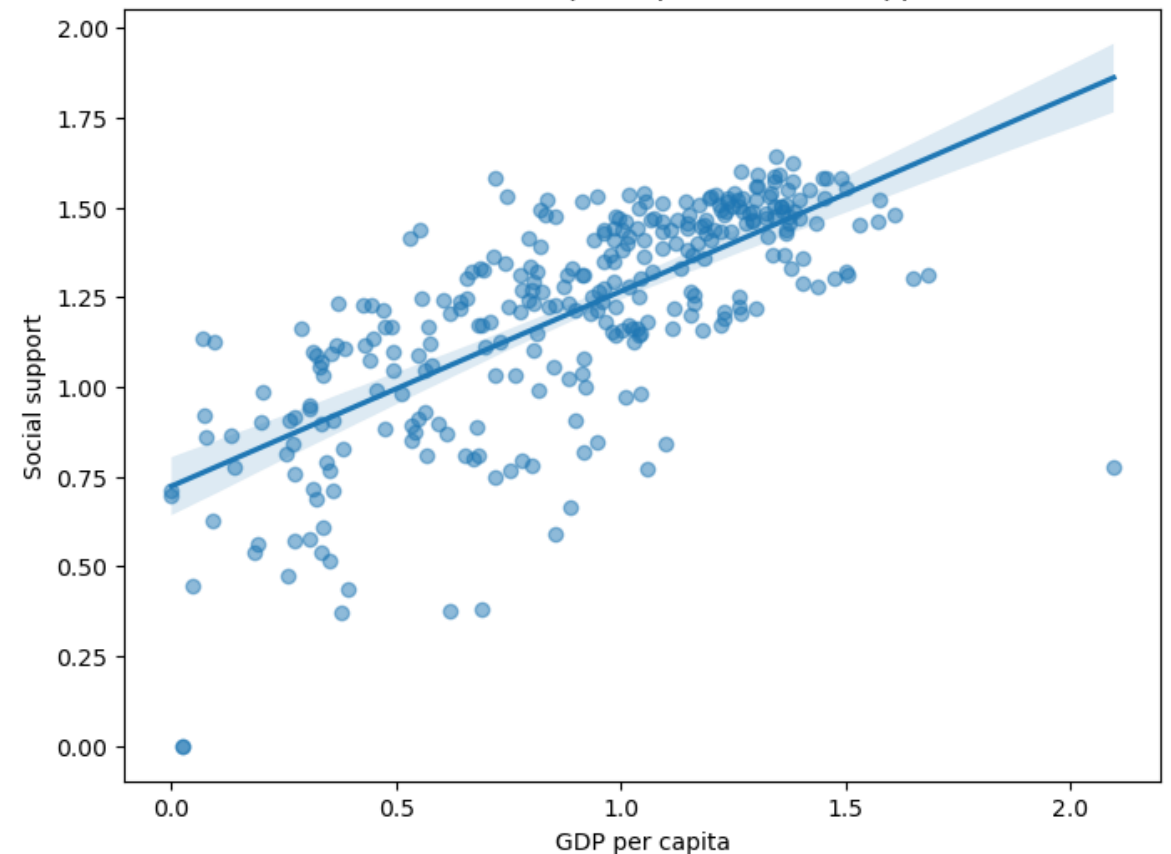
- *Interpretation :*

- The scatter plot and trend line for "GDP per capita" and "Healthy life expectancy" show a positive slope, indicating a positive correlation. As the GDP per capita increases, the healthy life expectancy tends to increase as well.

- The scatter plot and trend line for "GDP per capita" and "Social support" also show a positive slope, indicating a positive correlation. As the GDP per capita increases, the level of social support tends to increase as well.

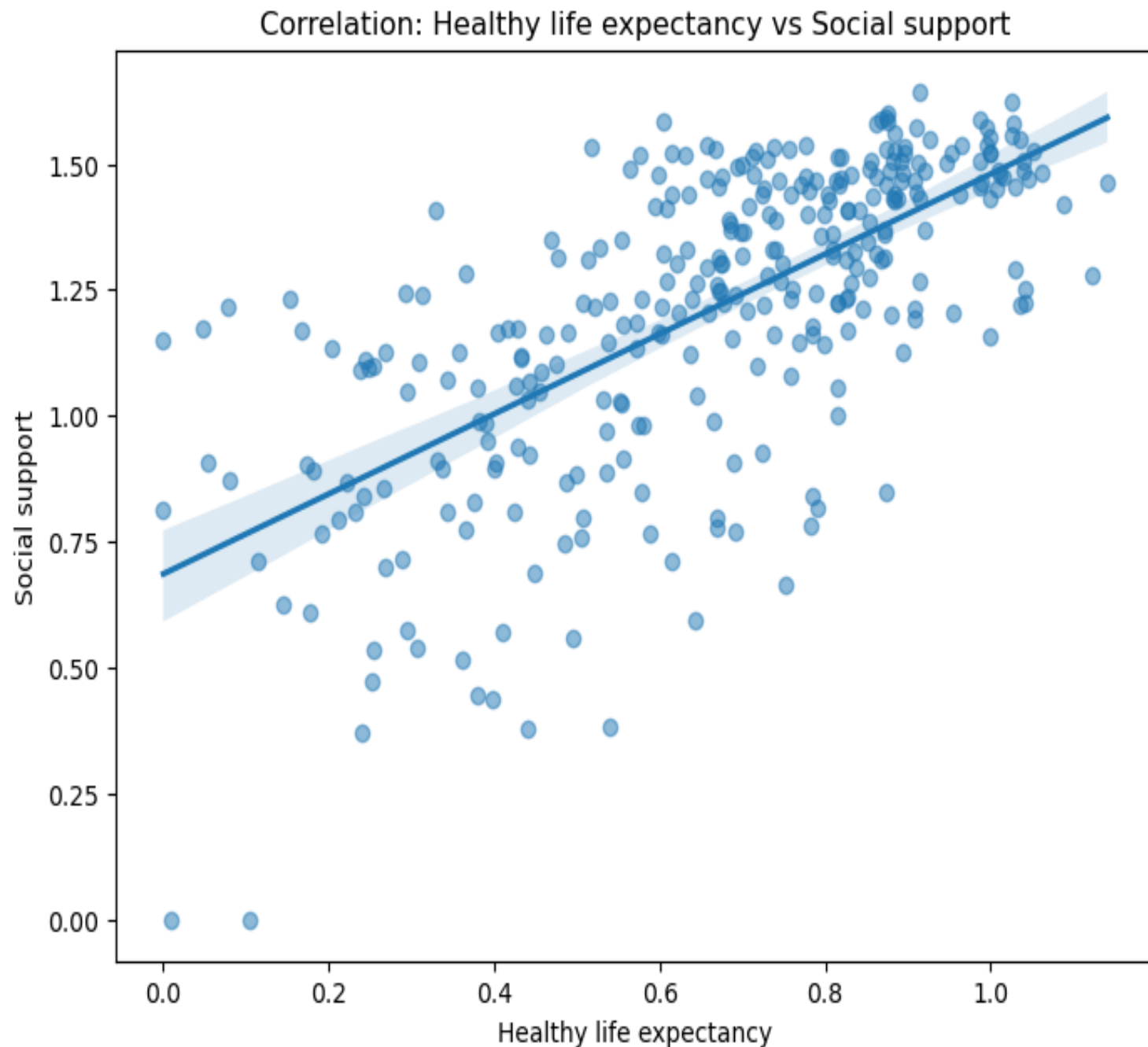Correlation: GDP per capita vs Healthy life expectancy

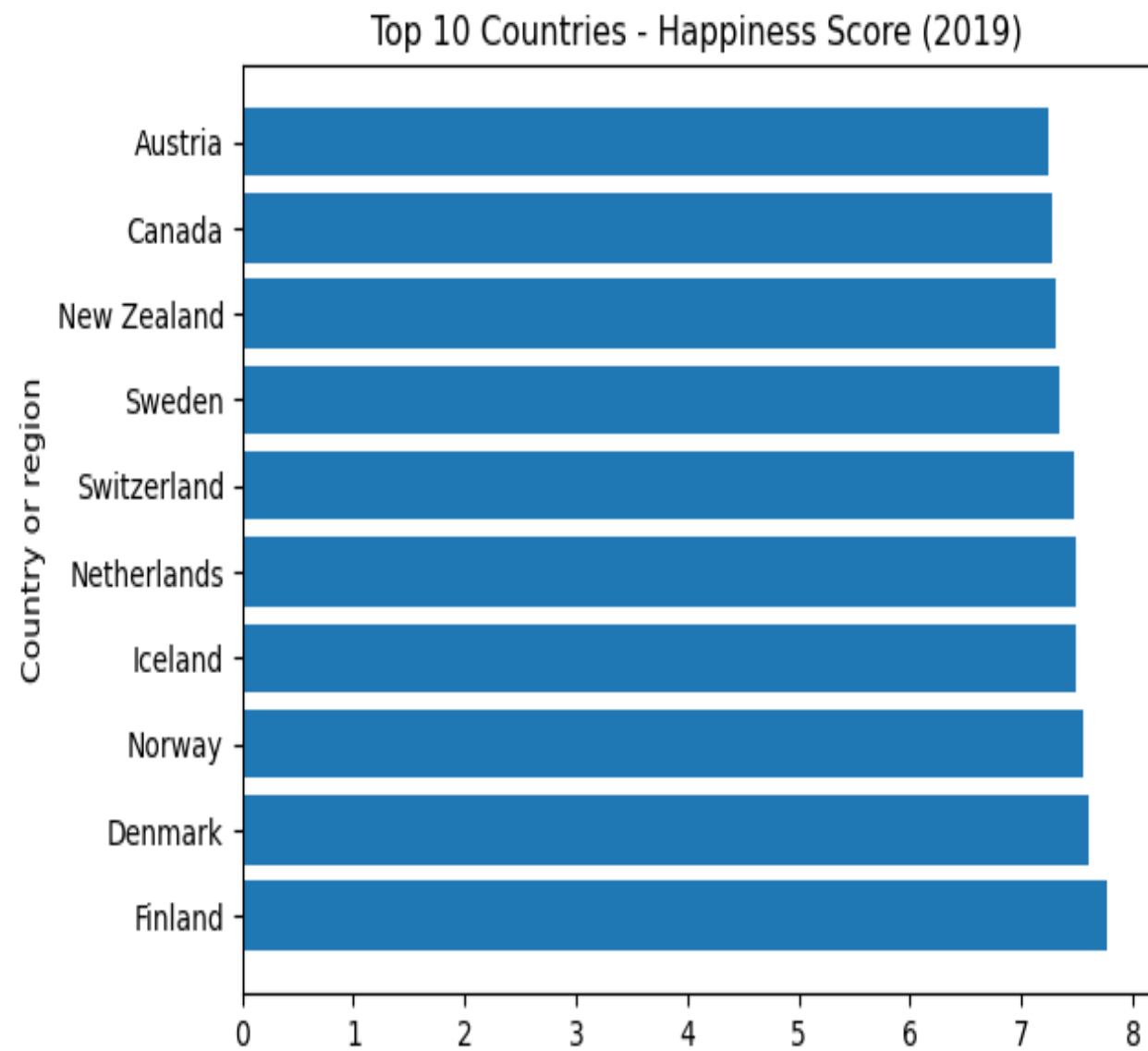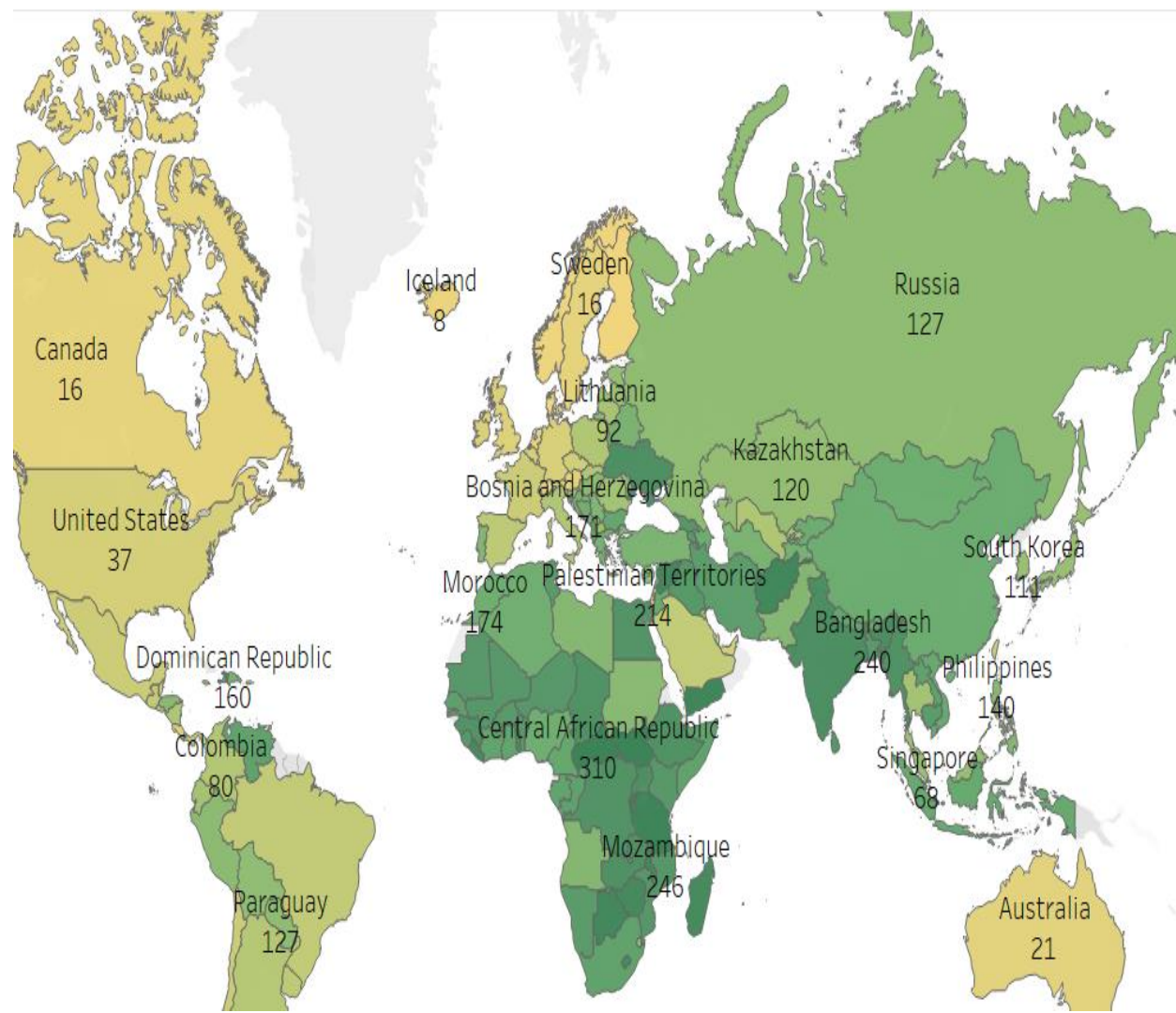Correlation: GDP per capita vs Social support

Interpretation :

- The scatter plot and trend line for "Healthy life expectancy" and "Social support" exhibit a positive slope, indicating a positive correlation. As the level of social support increases, the healthy life expectancy tends to increase as well.
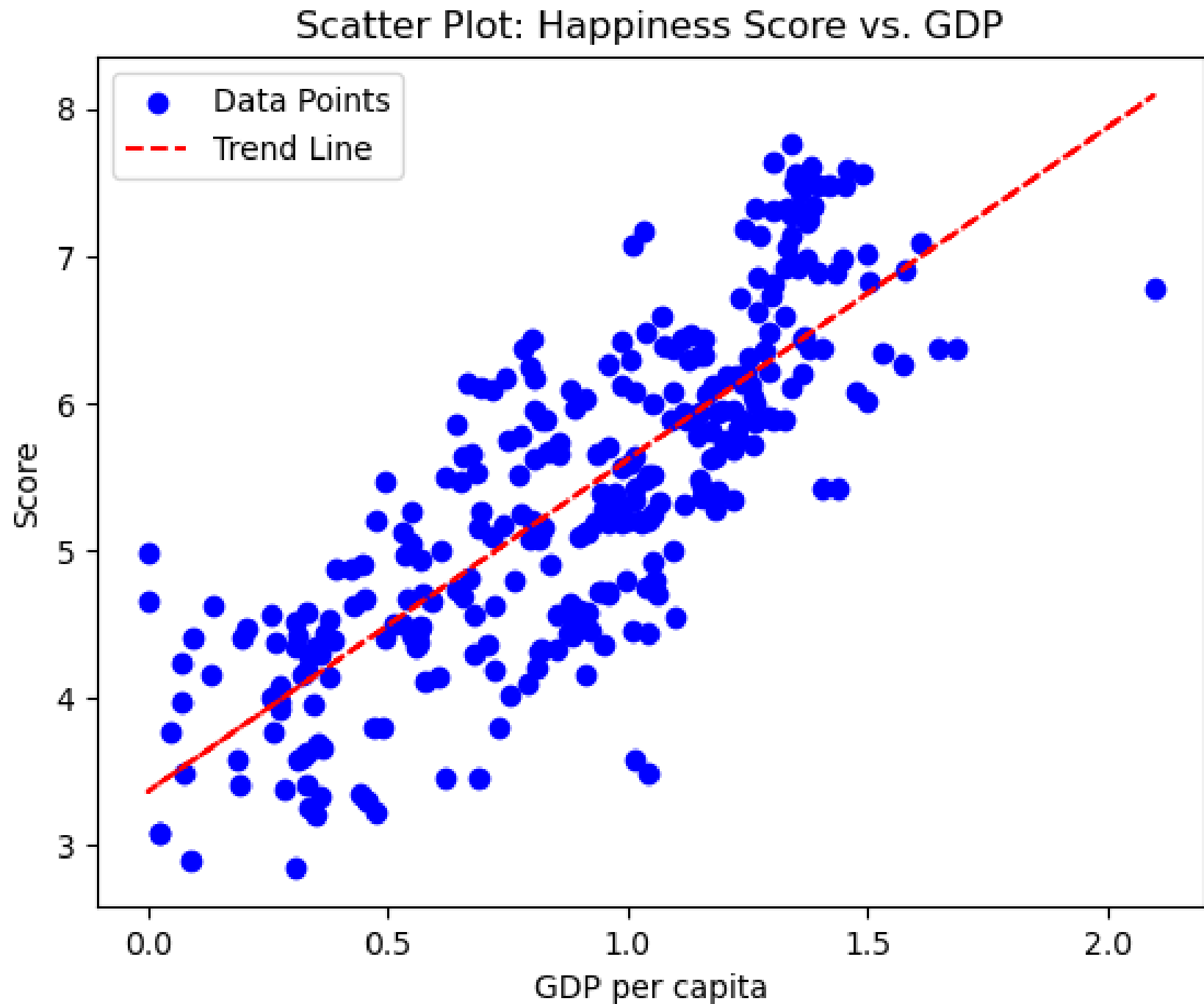

Correlation: Healthy life expectancy vs Social support

Interpretation : Top 10 countries with their happiness score.
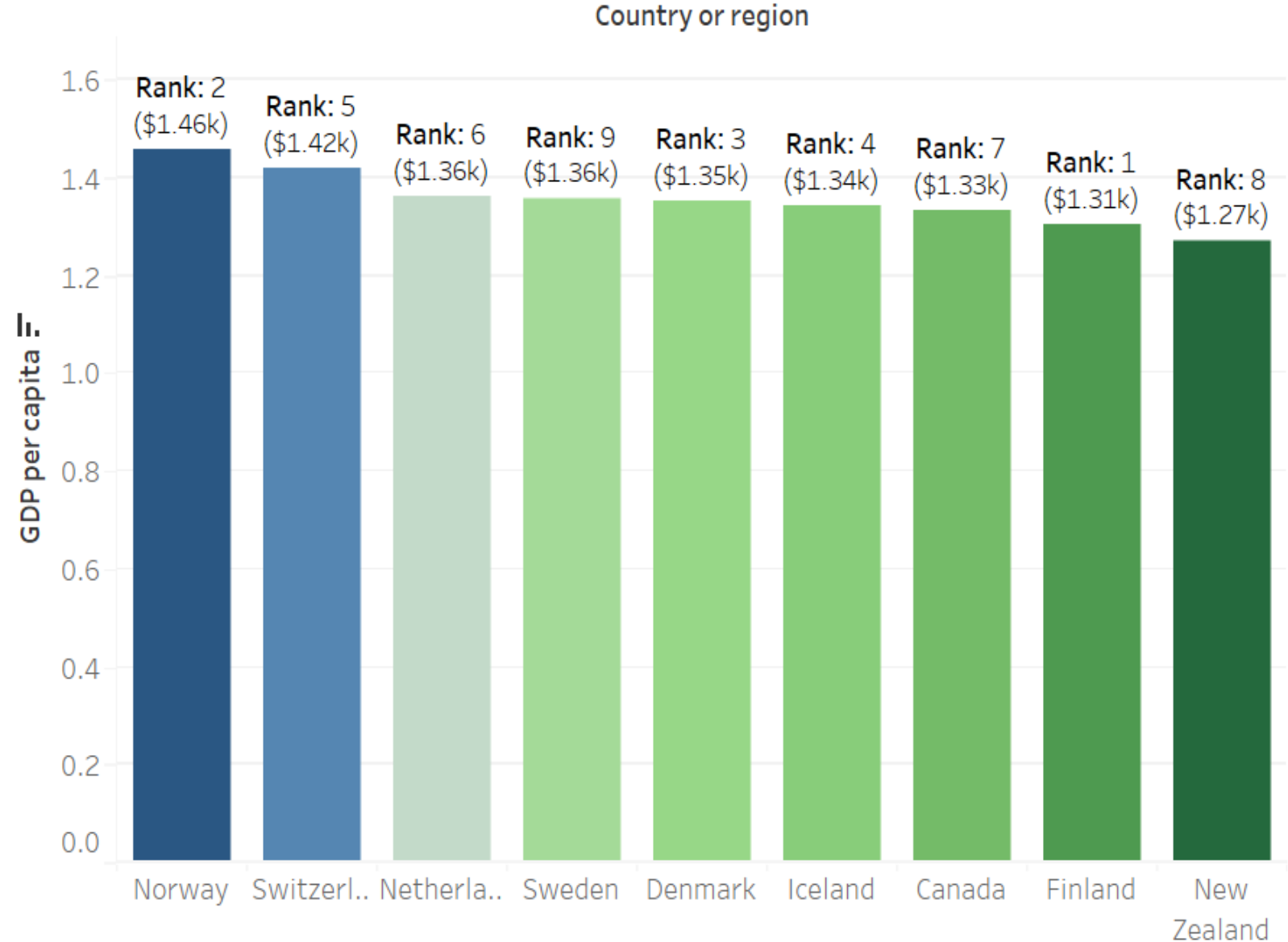
Scatter Plot: Happiness Score vs. GDP

Interpretation :

Happiness score tends to increase as the GDP per capita increases.

Rank wise top 10 Countries with their GDP

Country or region

- *Interpretation :*
- *Norway has the highest GDP per capita and stands second in the happiest country rank.*

Overall rank	Country or region	Year	Score	GDP per capita	Social support	Healthy life expectancy	Freedom to make life choices	Generosity	Perceptions of corruption
156	South Sudan	2019	2.853	0.306	0.575	0.295	0.01	0.202	0.091
155	Central African Republic	2019	3.083	0.026	0	0.105	0.225	0.235	0.035
154	Afghanistan	2019	3.203	0.35	0.517	0.361	0	0.158	0.025
153	Tanzania	2019	3.231	0.476	0.885	0.499	0.417	0.276	0.147
152	Rwanda	2019	3.334	0.359	0.711	0.614	0.555	0.217	0.411
151	Yemen	2019	3.38	0.287	1.163	0.463	0.143	0.108	0.077
150	Malawi	2019	3.41	0.191	0.56	0.495	0.443	0.218	0.089
149	Syria	2019	3.462	0.619	0.378	0.44	0.013	0.331	0.141
148	Botswana	2019	3.488	1.041	1.145	0.538	0.455	0.025	0.1
147	Haiti	2019	3.597	0.323	0.688	0.449	0.026	0.419	0.11

- **10 least happiest countries and the factors affecting them in both years 2018 and 2019.**

Overall rank	Country or region	Year	Score	GDP per capita	Social support	Healthy life expectancy	Freedom to make life choices	Generosity	Perceptions of corruption
156	Burundi	2018	2.905	0.091	0.627	0.145	0.065	0.149	0.076
155	Central African Republic	2018	3.083	0.024	0	0.01	0.305	0.218	0.038
154	South Sudan	2018	3.254	0.337	0.608	0.177	0.112	0.224	0.106
153	Tanzania	2018	3.303	0.455	0.991	0.381	0.481	0.27	0.097
152	Yemen	2018	3.355	0.442	1.073	0.343	0.244	0.083	0.064
151	Rwanda	2018	3.408	0.332	0.896	0.4	0.636	0.2	0.444
150	Syria	2018	3.462	0.689	0.382	0.539	0.088	0.376	0.144
149	Liberia	2018	3.495	0.076	0.858	0.267	0.419	0.206	0.03
148	Haiti	2018	3.582	0.315	0.714	0.289	0.025	0.392	0.104
147	Malawi	2018	3.587	0.186	0.541	0.306	0.531	0.21	0.08

Conclusion :

- **The countries with higher GDP per capita tend to have longer healthy life expectancies.**

- **The countries with higher GDP per capita tend to have better social support systems.**

- **The countries with better social support systems tend to have longer healthy life expectancies.**

- **Happiness of a country increases as the GDP of the country increases.**

- **Norway has the highest GDP per capita and stands second in the happiest country rank.**

- Finland has been the happiest country in both the years 2018 and 2019.

- There are several columns like GDP per capita, social support, healthy life expectancy, freedom to make life decisions all these columns altogether affecting the freedom score and overall of the countries.