



Happiness is a number

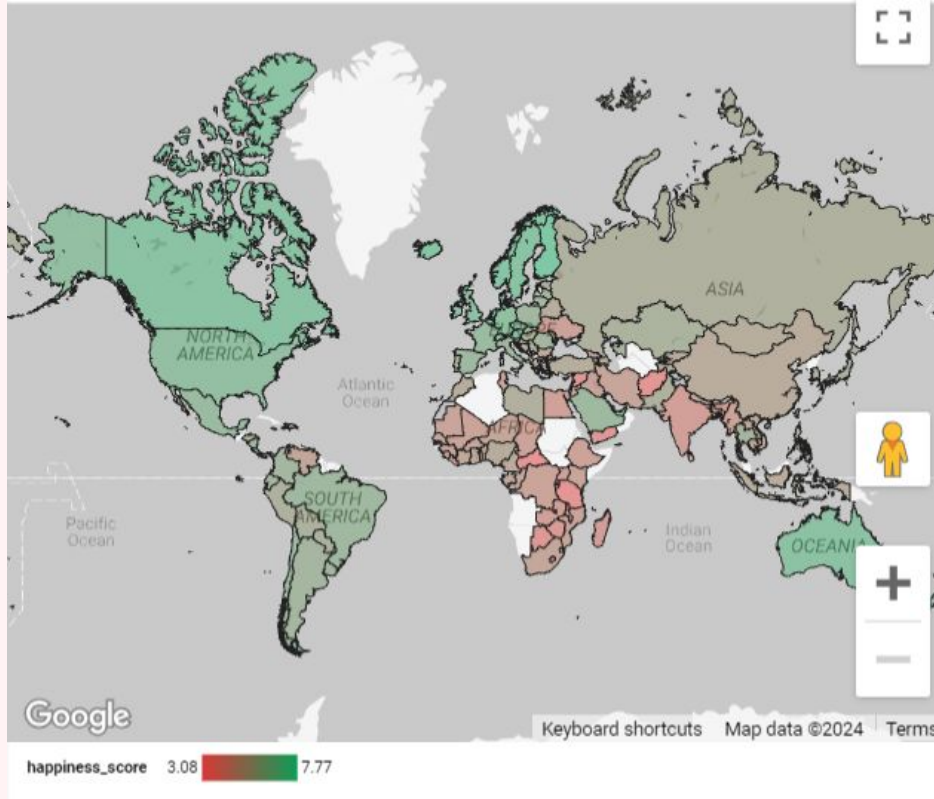
Mariana & Shannon

# Project overview

- We are economists working with governments to assist in evidence based policy making - traditionally GDP growth seen as the key to economic development, but modern economists are exploring and measuring other metrics
- Data sources - 2015 & 2019:
  - World Happiness Report from Gallup World Poll
  - World Development Indicators from The World Bank
- DB design: 5 tables - 2 for each year + a country/region table
- Country is the Primary Key in each of the primary sources, and the country/region table



# Happiness score 2019



Africa appears to be the least happy, with North America, Europe and Australia coloured green for happy... BUT why & what does this mean for economic policy?

# Database design and transformation

- We had a lot of variables
- We weren't sure how to merge the tables since we had data from different years
- If we merged all 5 tables we wouldn't have a primary key, and visualisation in python not easy



# SQL insights and advanced analytics

Step 1: SQL query to calculate average happiness score by year and region

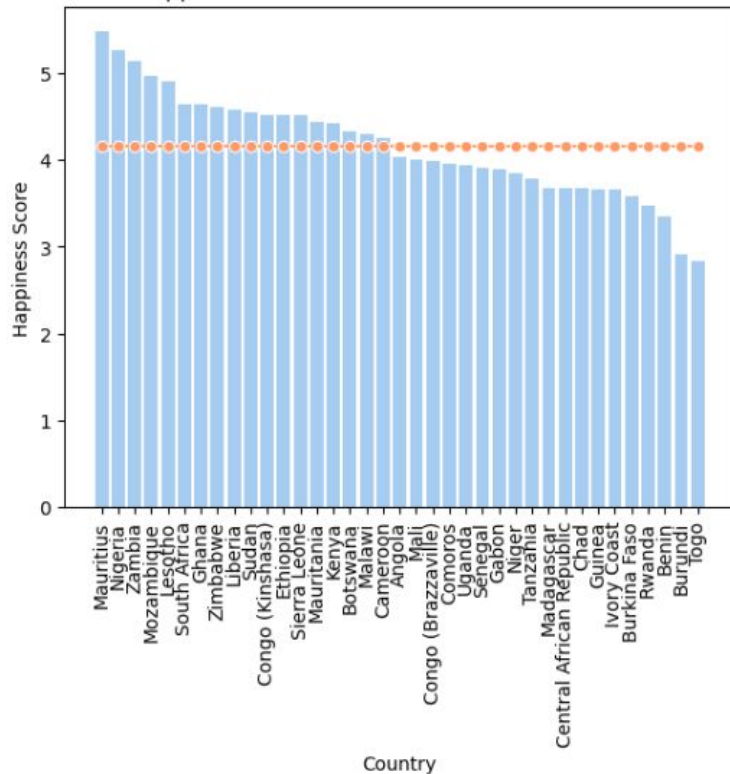
region	avg_hap_ Score_20 15	avg_hap_ Score_20 19	perc_ cha nge	
Sub-Saharan Africa	4,16	4,32	3,85	↗
Southern Asia	4,58	4,53	-1,09	↘
Southeastern Asia	5,26	5,27	0,19	↗
Central and Eastern Europe	5,3	5,56	4,91	↗
Middle East and Northern Africa	5,4	5,24	-2,96	↘
Eastern Asia	5,63	5,69	1,07	↗
Latin America and Caribbean	6,14	5,9	-3,91	↘
Western Europe	6,74	6,9	2,37	↗
North America	7,27	7,08	-2,61	↘
Australia and New Zealand	7,28	7,27	-0,14	↘

Step 2: Then windows function to show happiness score by country next to the region average

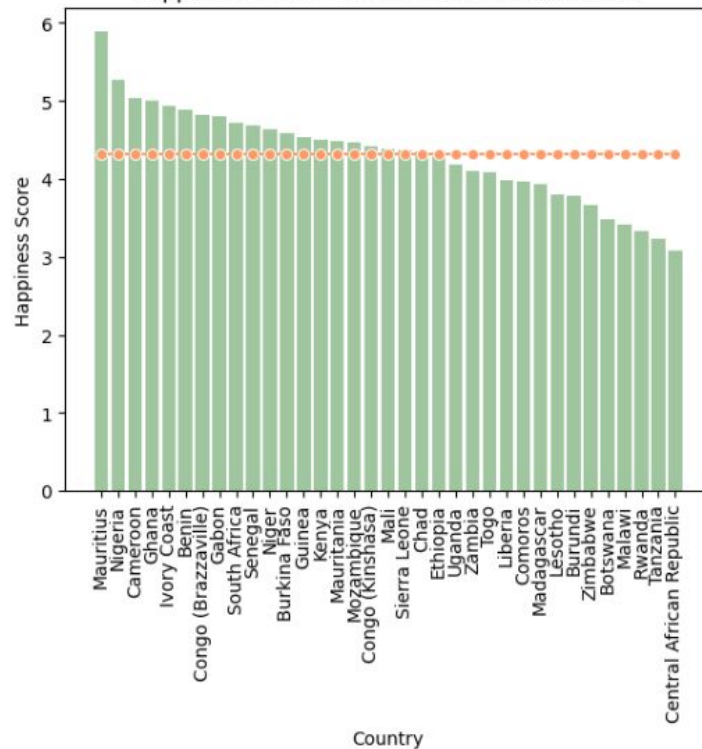
country	region	happiness_score	avg_hap_score_2015
New Zealand	Australia and New Zealand	7.286	7.285
Australia	Australia and New Zealand	7.284	7.285
Romania	Central and Eastern Europe	5.124	5.300148148148149
Tajikistan	Central and Eastern Europe	4.786	5.300148148148149
Slovenia	Central and Eastern Europe	5.848	5.300148148148149
Hungary	Central and Eastern Europe	4.8	5.300148148148149
Armenia	Central and Eastern Europe	4.35	5.300148148148149
Ukraine	Central and Eastern Europe	4.681	5.300148148148149
Georgia	Central and Eastern Europe	4.297	5.300148148148149
Azerbaijan	Central and Eastern Europe	5.212	5.300148148148149
Kyrgyzstan	Central and Eastern Europe	5.286	5.300148148148149
Croatia	Central and Eastern Europe	5.759	5.300148148148149
Latvia	Central and Eastern Europe	5.098	5.300148148148149
Serbia	Central and Eastern Europe	5.123	5.300148148148149
Estonia	Central and Eastern Europe	5.429	5.300148148148149

# SQL insights and advanced analytics

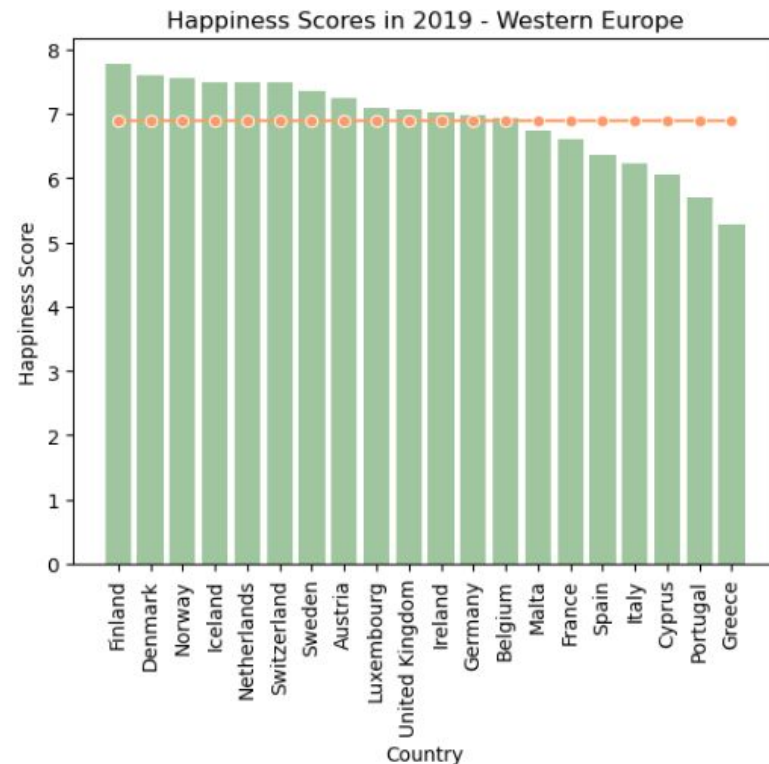
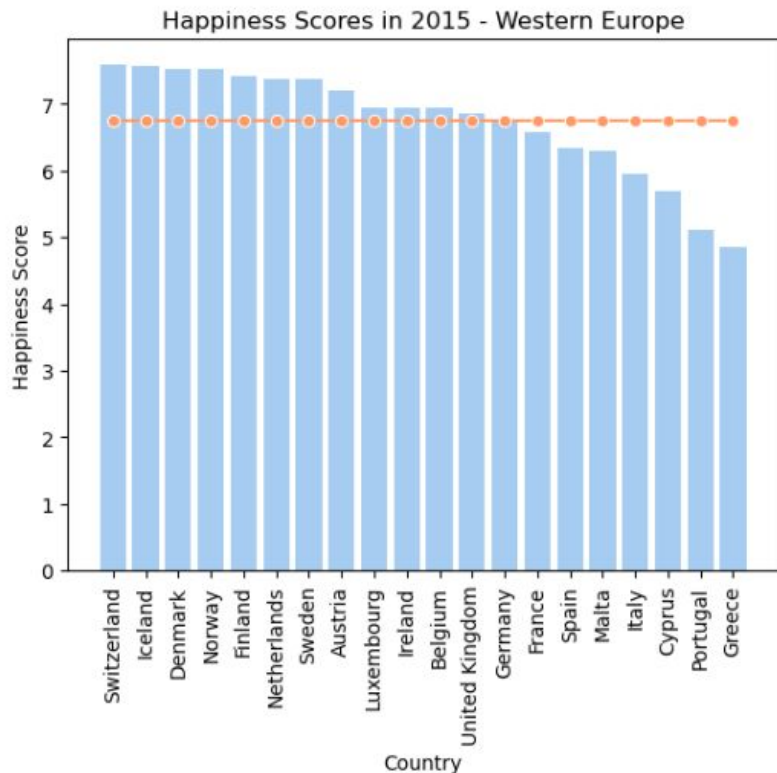
Happiness Scores in 2015 - Sub Saharan Africa



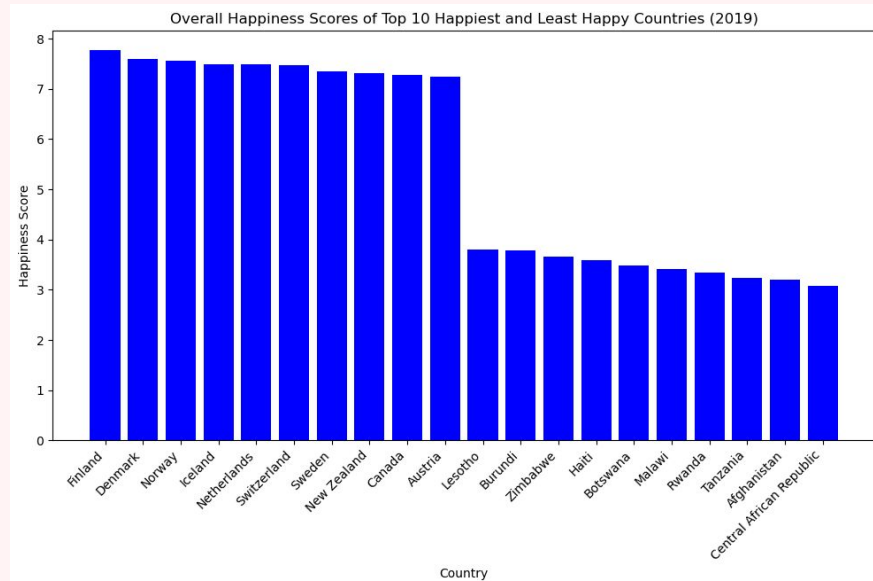
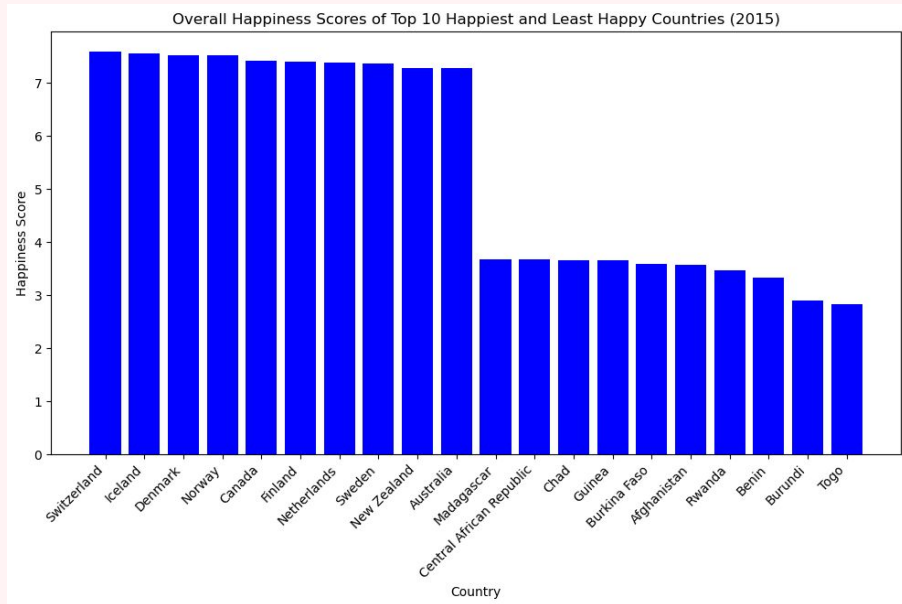
Happiness Scores in 2019 - Sub Saharan Africa



# SQL insights and advanced analytics

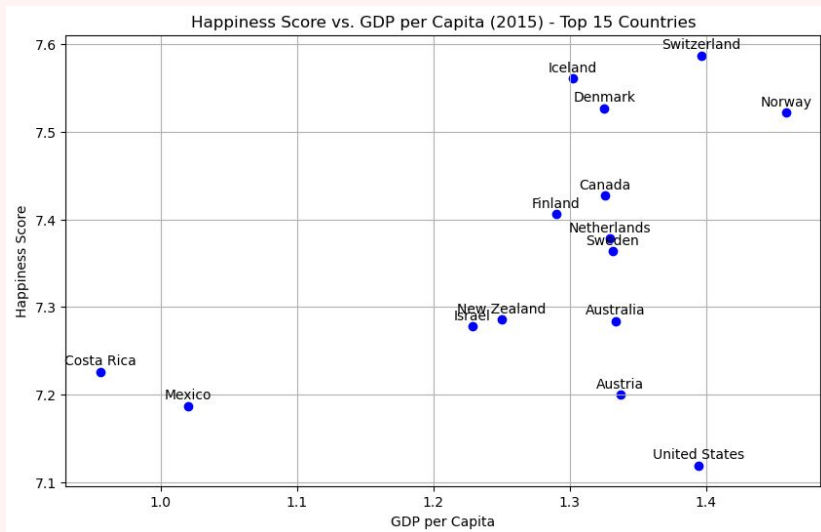


# Visualisation and key insights



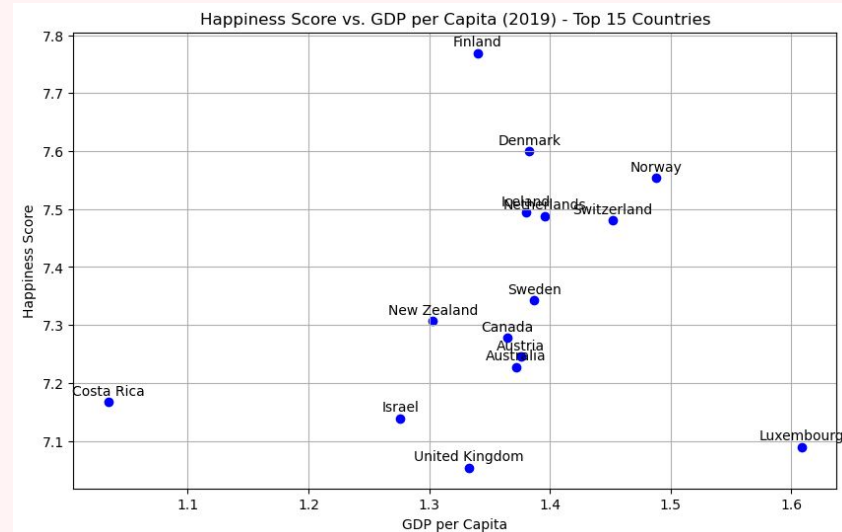


# Visualisation and key insights



Top 5 richest countries 2015:

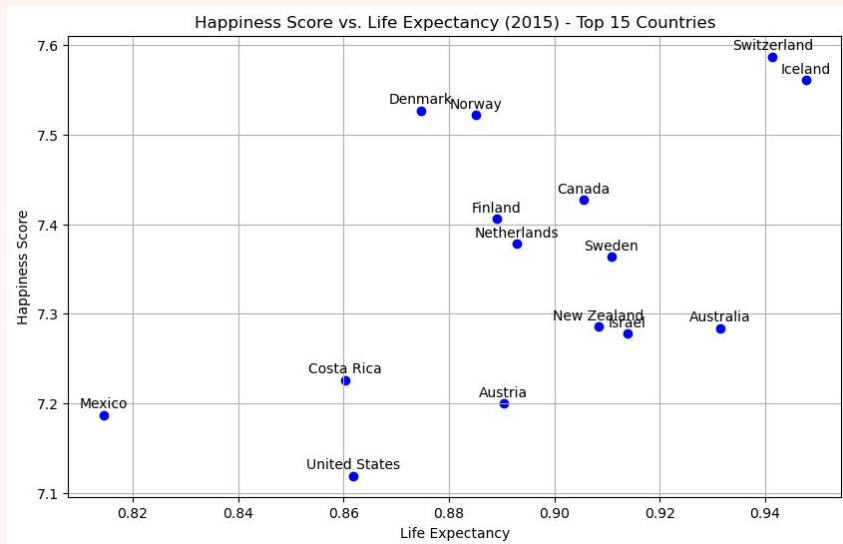
1. Qatar (#27)
2. Luxembourg (#17)
3. Kuwait (#36)
4. Singapore (#23)
5. Norway (#4)



Top 5 richest countries 2015:

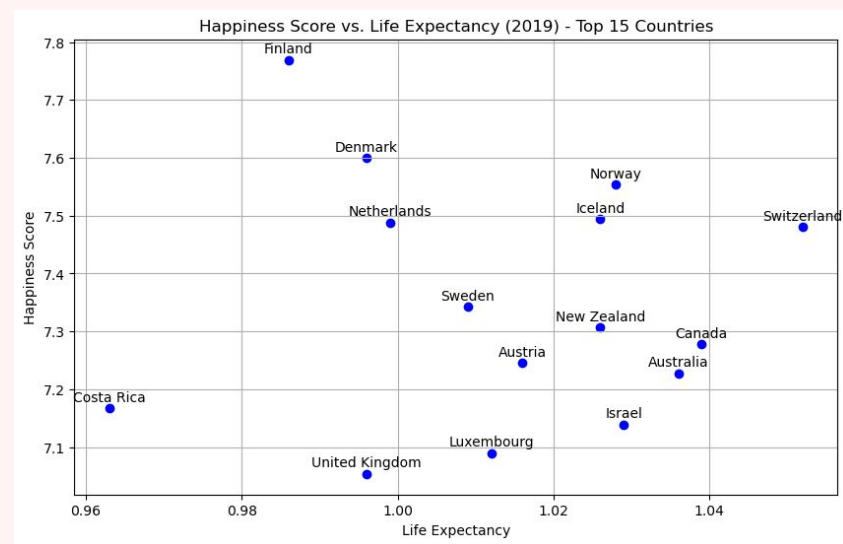
1. Qatar (#26)
2. Luxembourg (#14)
3. Kuwait (#31)
4. United Arab Emirates (#20)
5. Kuwait (#43)

# Visualisation and key insights



Top 5 countries with the highest average life expectancy 2015:

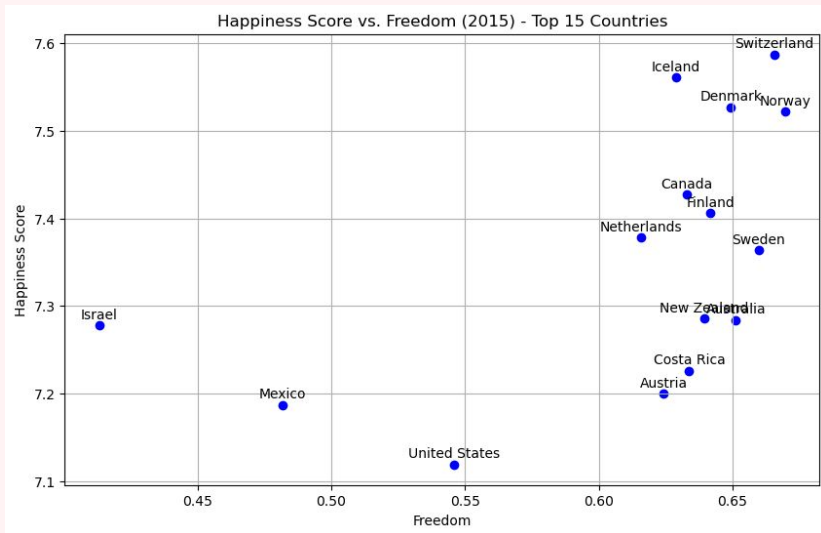
1. Singapore (#23)
2. Japan (#37)
3. Spain (#34)
4. Italy (#40)
5. Iceland (#2)



Top 5 countries with the highest average life expectancy 2019:

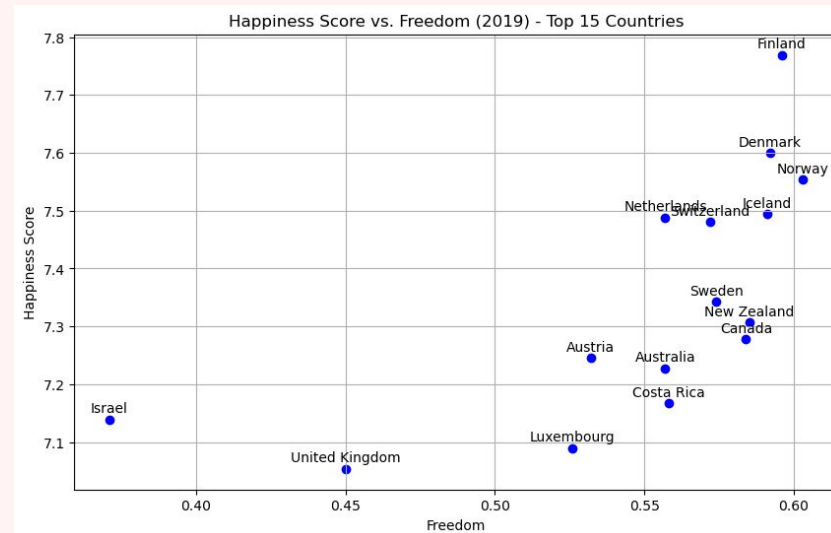
1. Singapore (#31)
2. Japan (#39)
3. Spain (#27)
4. Switzerland (#6)
5. France (#23)

# Visualisation and key insights



Top 5 countries with the highest average life expectancy 2015:

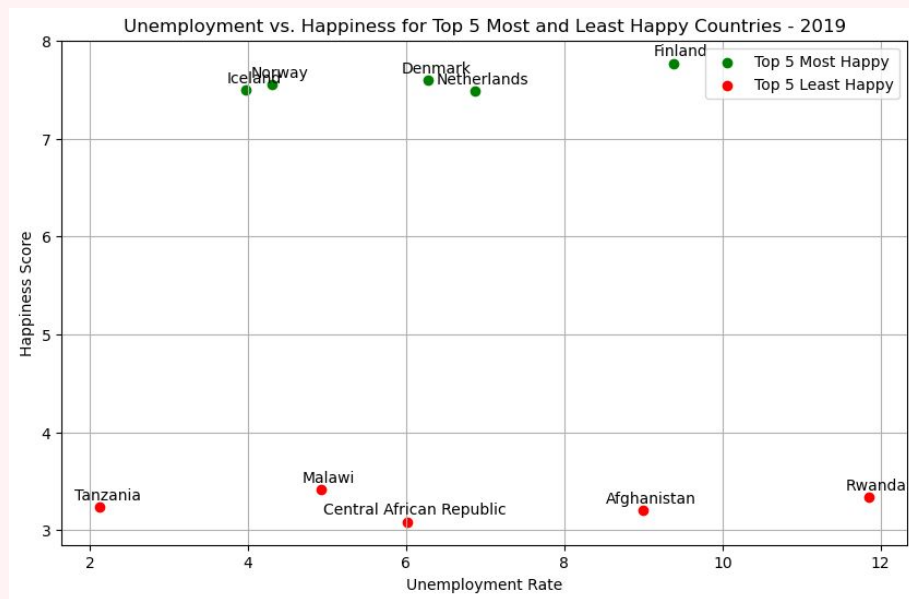
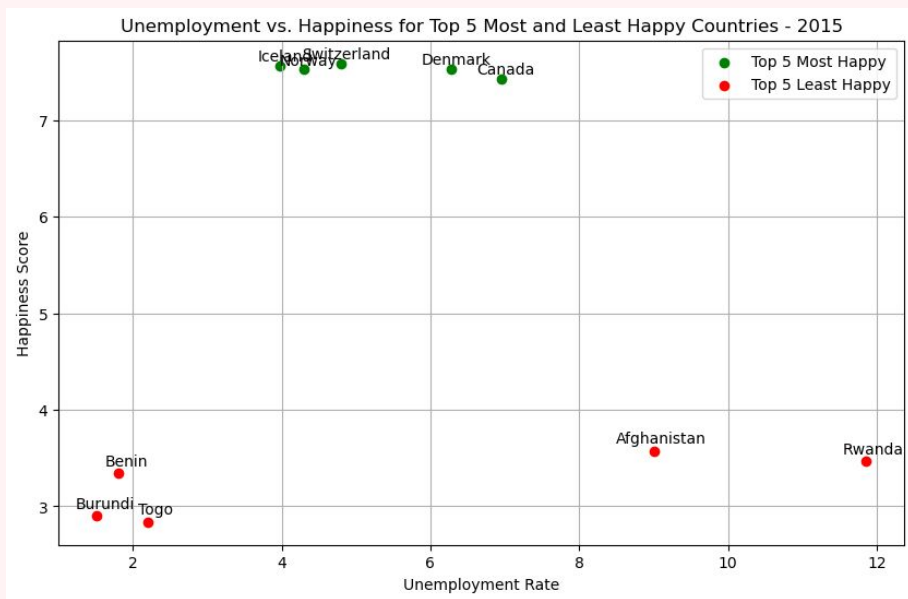
1. Norway (#4)
2. Switzerland (#1)
3. Cambodia (#112)
4. Sweden (#8)
5. Australia (#10)



Top 5 countries with the highest average life expectancy 2019:

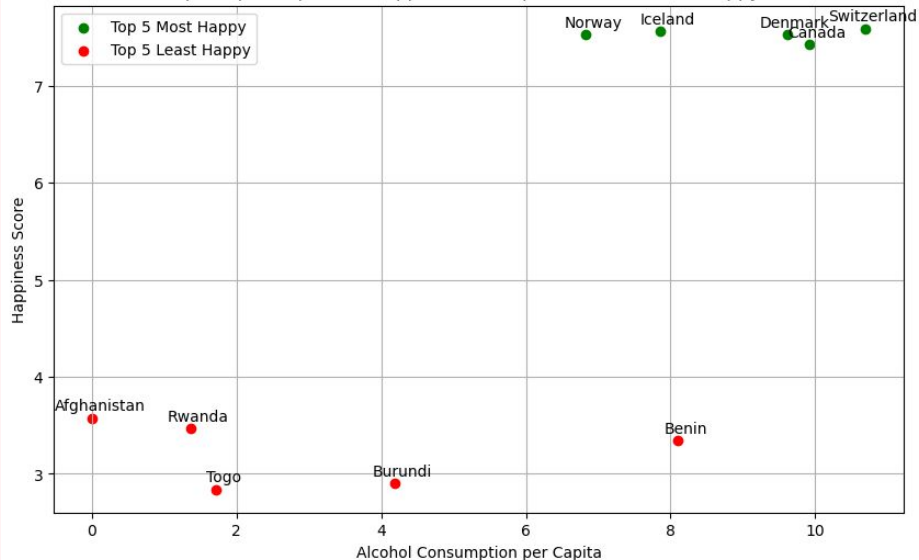
1. Cambodia (#85)
2. Norway (#3)
3. United Arab Emirates (#20)
4. Finland (#1)
5. Denmark (#2)

# Visualisation and key insights

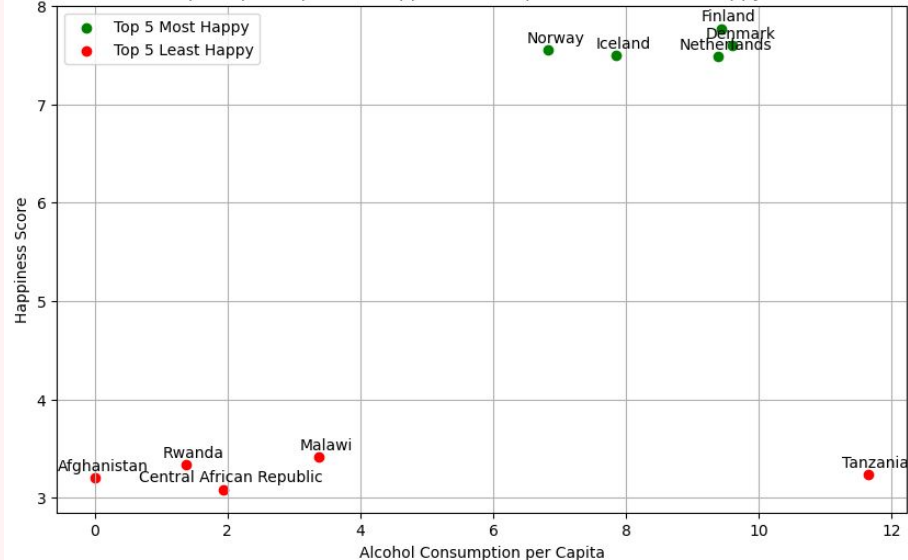


# Visualisation and key insights

Alcohol Consumption per Capita vs. Happiness for Top 5 Most and Least Happy Countries - 2015




Alcohol Consumption per Capita vs. Happiness for Top 5 Most and Least Happy Countries - 2019





# Conclusion and business implications

- When making considerations about a country, it is important to look at diverse KPIs and not draw conclusions only based on its GDP
  - Countries with the highest GDP are not the happiest
  - The majority of countries with the highest GDP are not the top ones in other indicators
- 



**Thanks!**