World Happiness Report

2015-2019



**By Group 1**

**(Zuwa Ojefua & Zeynab Akolade)**

Project Flow

**For Option 2**

* Select a topic of interest and get dataset required for analysis.
* Create a collaborative project on GitHub that allow upload, download and update of files as both parties work to deliver the project
* Clean up the data using EDA process and did some linear regression manipulation.
* Upload clean data to tableau for visualization purpose.
* Statistical modelling to estimate happiness from dataset features.

This report focuses on the state of global happiness within 155 countries and their regions. It helps to describe how various measurements of well-being can be used effectively to assess the progress of nations. The reports review the state of happiness in the world today and show how the new science of happiness explains personal and national variations in happiness.

To accurately dive into these study we have identified six factors – **GDP per capita, social support, life expectancy, freedom, trust and generosity** as factors that contributes to making life evaluations higher in each country and thus translates to their happiness score and rank.

**Geographical spread of happiness by country**

A map of the world with orange dots

Description automatically generated

The visualization above shows a positive relationship of how life expectancy impacts happiness score in countries around the world. The bigger the circle, the higher life expectancy of the country from the years evaluated which translates into the happiness score shown by the thickness of the colour.

Effect of social support on Happiness

A screenshot of a social support

Description automatically generated

The evaluation of social support shows a negative relation in the regions. The region with lower social support tends to have higher happiness score. When we further investigated what social support means it came down to family presence- this quite doubting. Obviously, happiness means different things to different people.

Impact of GDP to Happiness Rank

A graph with numbers and lines

Description automatically generated

From the visualization above there is a positive relationship between GDP (Gross Domestic Product) per capita and happiness rank for all the countries. This translates to the fact that if consumption, investment, government spending and net exports of a country is striving it will translate into higher GDP which improves how happy everyone feels in the country.

Relationship of all variables to happiness score

**A screenshot of a graph

Description automatically generated**

The table above gives a quick overview of the relationship between the six factors examined and the happiness score. Most of which shows a positive relationship, which means if the factors identified has a high value then happiness score is high in such region and vice-versa.

Top 20 Average Happiness Rank by Countries

A screenshot of a computer

Description automatically generated

This visualization shows the most ranked top 20 countries. The smaller the sizes of the square the higher their ranking. Denmark shows to be the top ranked country from the data analysed between 2015 – 2019.

Visual Representation of Freedom and Social SupportA graph with orange circles

Description automatically generated

This visualization assists in understanding the linear connection between the average happiness score and the average perception of freedom. While freedom can be perceived in various ways, it is clear that countries where citizens perceive more freedom tend to experience greater happiness, as reflected in their happiness scores.

Correlation Heatmap

A red squares with white text

Description automatically generated

To estimate happiness score we extracted the features that had high correlation to happiness score and the following OLS model result was gotten:

**R-squared: – 76% (good model fit)**

**p-value: - <0.05 (for all factors) which means they are statistically significant.**

A yellow cartoon character holding a sign

Description automatically generated