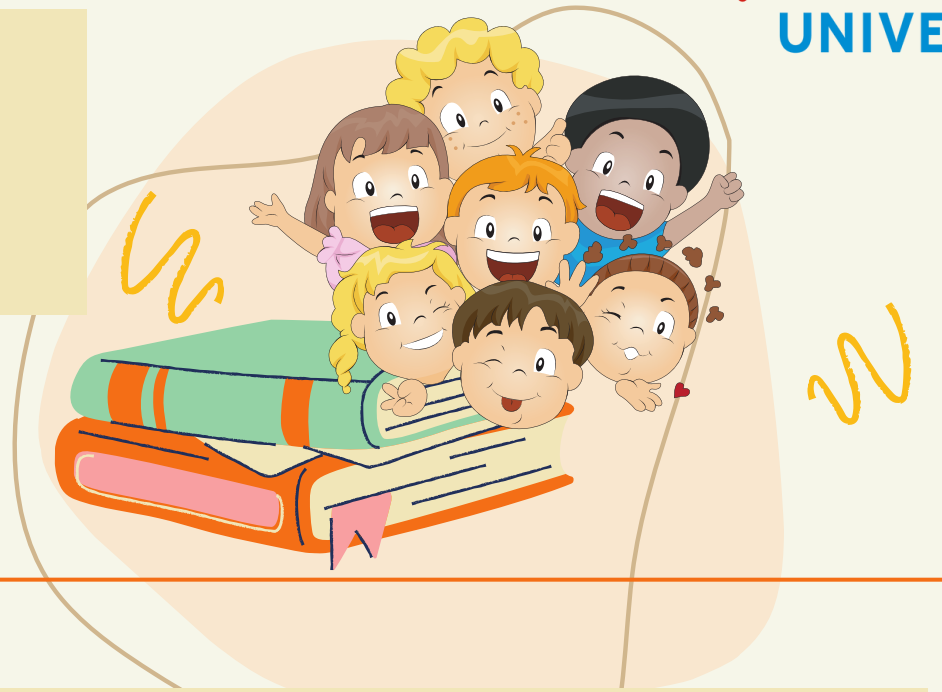# World Happiness Prediction

Did you know that in 2019, Finland has reached first position in country with the highest happiness rate in the world. So, What makes the country happy?

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INTRODUCTION

The concept of happiness has different meanings depending on the perspective of people. Happiness is considered to be something very important by society, therefore a lot of research has been done about happiness itself. For example, the United Nations (UN) published the World Happiness Report in 2012 and has continued every year until now.
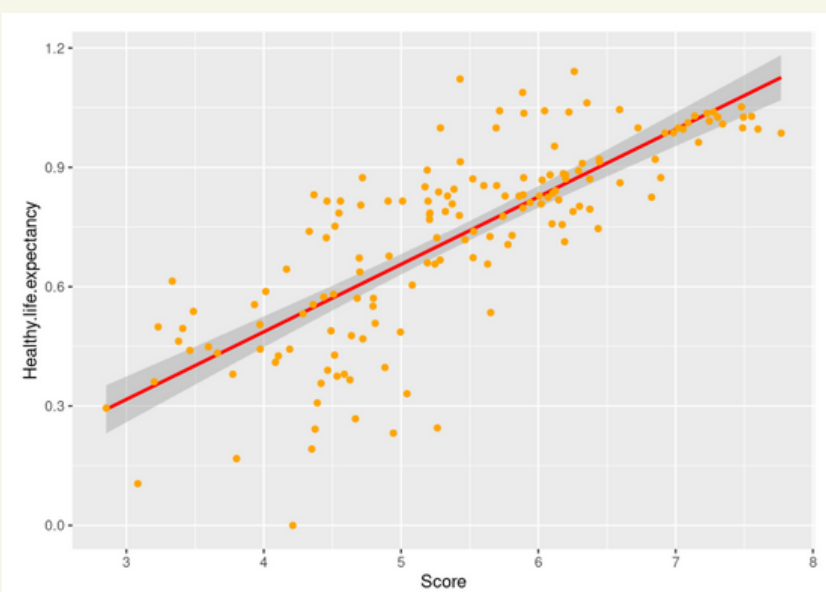
OBJECTIVE

To develop a model that predicts which variables affect World Happiness Score.
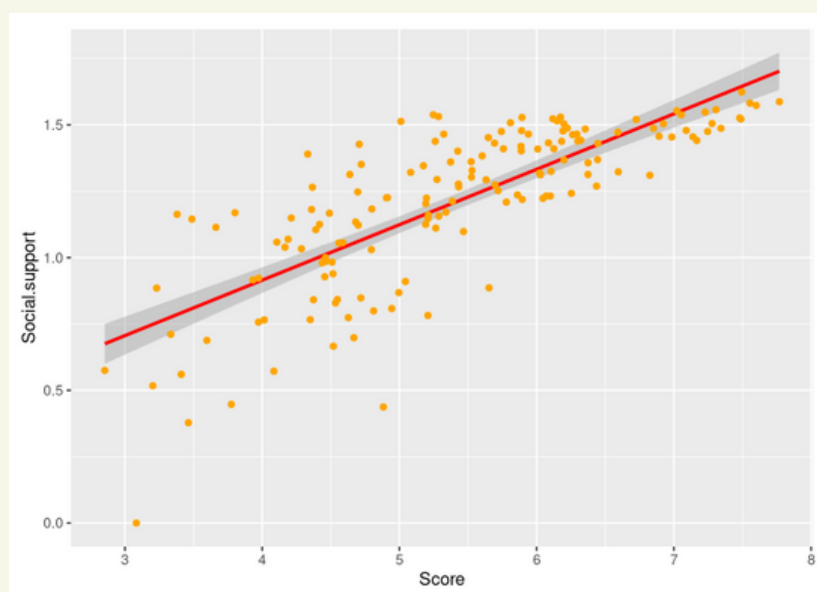
METHODOLOGY

- We use the Linear Regression method to build the predictive models with Score as the dependent variable.
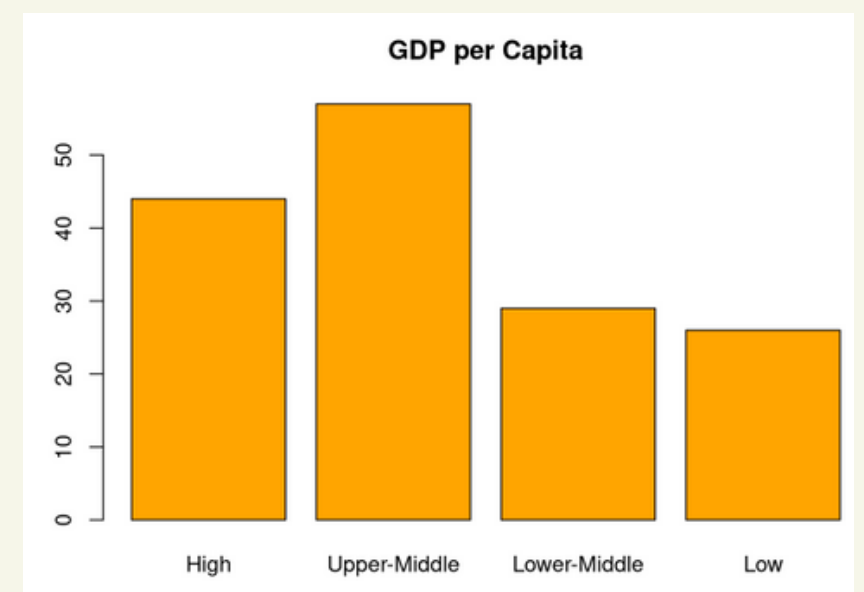- We partition data, 80% for training and 20% data for testing set.
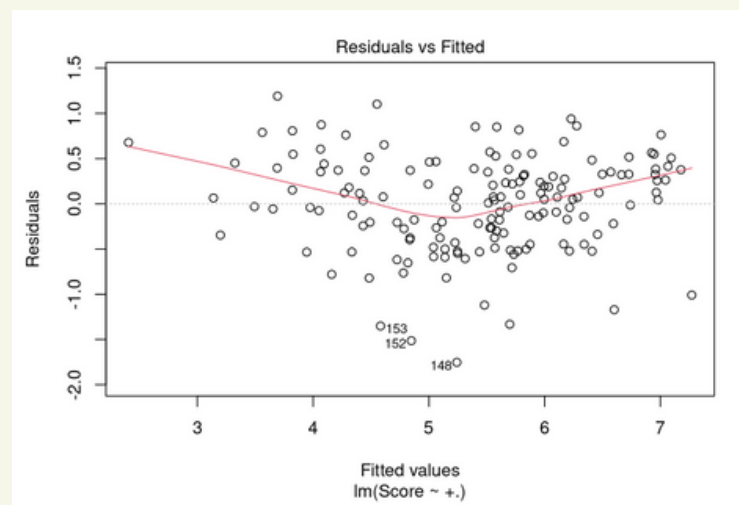
RESULTS

The graph above shows the relationship between Healthy Life Expectancy and Score, where the higher the value of Healthy Life Expectancy, the higher the score obtained.
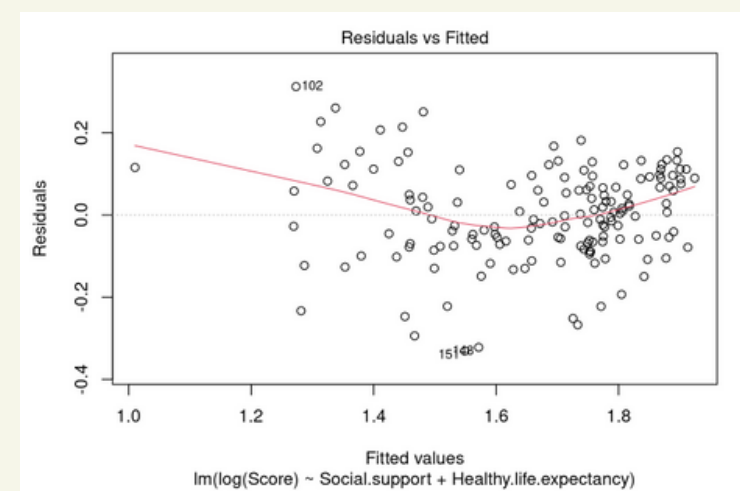

Social Support and Happiness Score make a linear line which means the amount of social support that people got in their country affects their happiness.

In the GDP.per.capita.cat plot, High has a frequency above 40, Upper-Middle has a frequency above 50, Lower-Middle has a frequency above 20, and Low has a frequency above 20.

The graph above is a combination of the value of Score, GDP per Capita, Social Support, Healthy Life Expectancy, Freedom to make life choices, Generosity, Perceptions of Corruption

The graph above is a combination of the value of Social Support and Healthy Life Expectancy, because those variables have high impact to value of Score.

PREDICTION MODEL

The prediction model equation is:
$y = b_0 + b_1 \cdot x_1 + b_2 \cdot x_2$
$y = 0.9698 + 0.344a_0 + 0.384a_1$
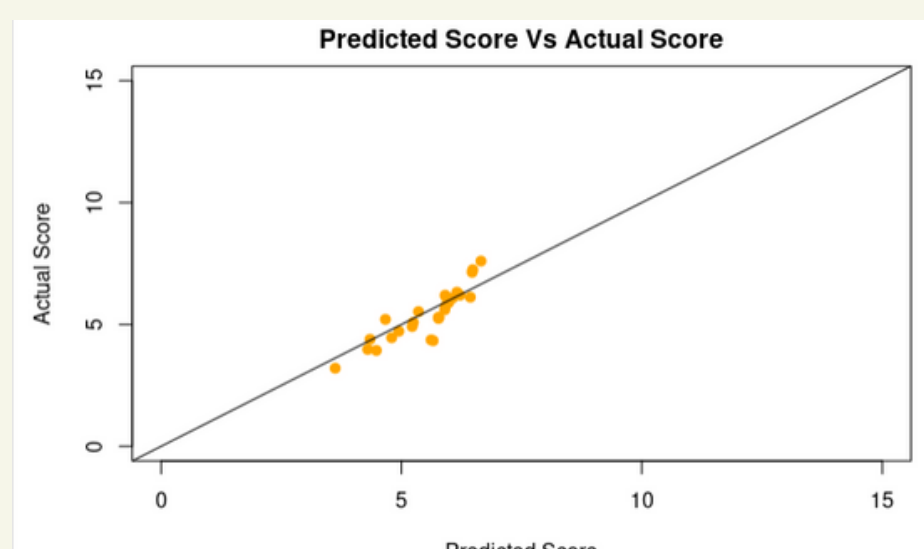
where :
b_0 = Intercept
y = Happiness Score
b_1 = Coefficient of Social.support
b_2 = Coefficient of Healthy.life.expectancy
x_1 = Social.support
x_2 = Healthy.life.expectancy

CONCLUSION

Based on our analysis, the amount of social support that people receive from their country and people's healthy life expectancy in a country affect the country's happiness score. So, the better social support and the higher the healthy life expectancy of people in a country, the higher the happiness score of the country.