

Applied Data Science – Assignment on Statistics and Trends

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Github Link: <https://github.com/Vaishali8567/Applied-Data-Science---Assignment-I>

Dataset Link: <https://www.kaggle.com/datasets/mathurinache/world-happiness-report>

I. Introduction:

The dataset “World Happiness Report up to 2022” includes several measures of happiness from diverse nations and areas, such as generosity, freedom, social support, health, and trust in the government. There are 158 rows and 12 columns in the dataset; a row corresponds to a nation, and a column to a distinct variable.

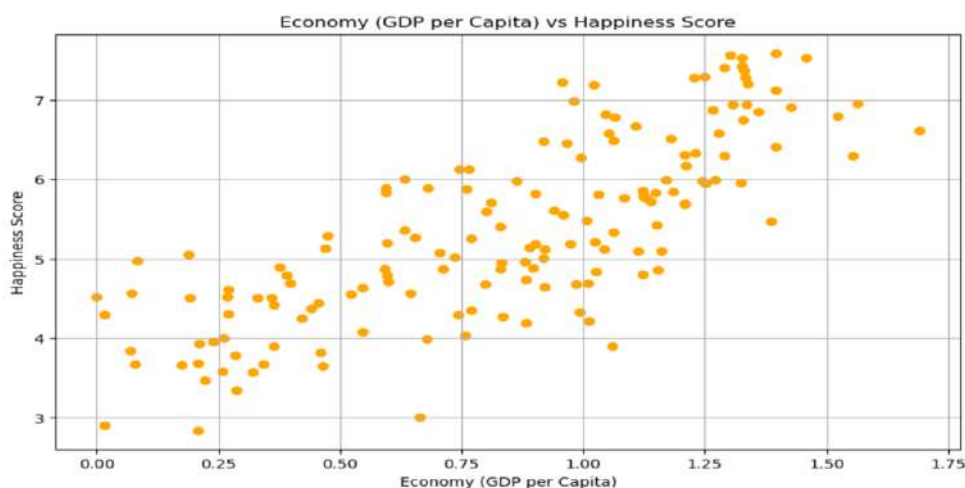
II. Findings:

a. Categorical Graph: *Histogram*



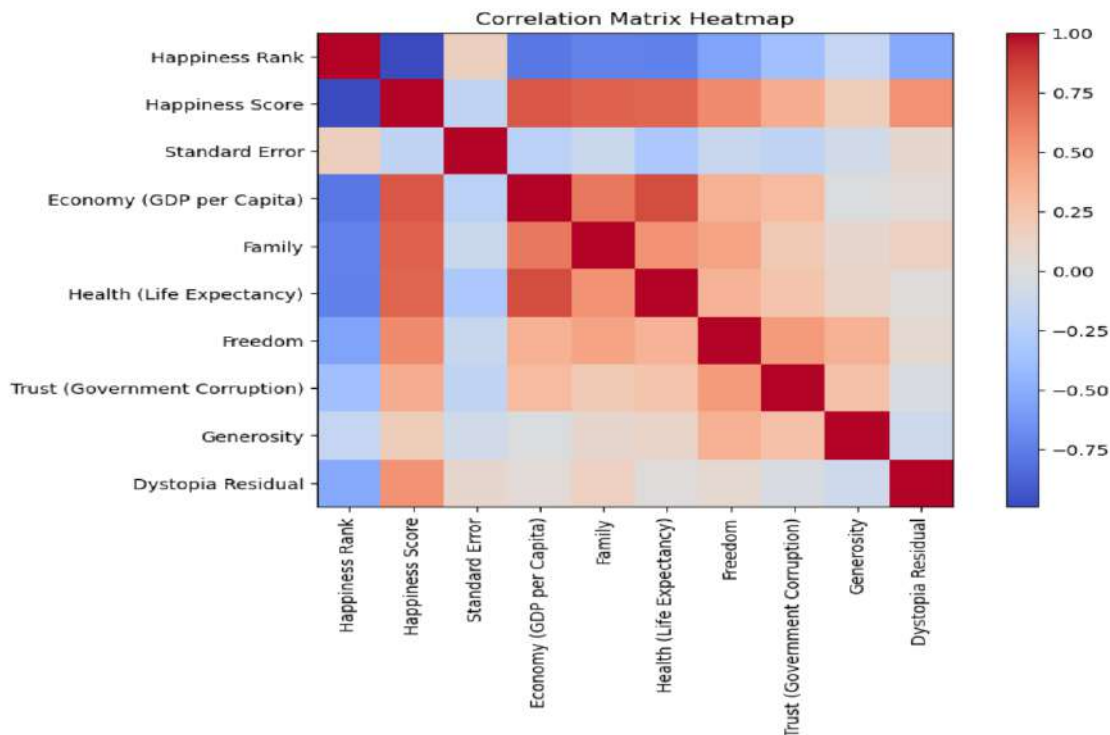
- The above histogram graph shows Happiness Score distribution across 158 countries.
- A unimodal distribution with a small right skew is seen in the histogram.
- As a result, fewer countries show very high or low happiness levels, and most countries have Happiness Scores clustered around a central value which is approximately 5.38.
- There is some variation in the frequency of scores over the range, but overall, the distribution seems to be about normal.

b. Relational Graph: *Scatter Graph*



- The above graph shows relationship between Economy (GDP per Capita) and Happiness Score.
- The GDP per capita and happiness index of a nation seem to be positively correlated. Happiness scores are generally higher in GDP-rich nations.
- Even though the scatter plot's overall trend is followed by most of the data points, there might be anomalies or outliers that reflect nations with peculiar social or economic conditions.

c. Statistical Graph: *Heatmap*



- The above Heatmap shows correlation between Regional difference in happiness and Impact of Social support and health.
- When it comes to happiness scores, Western European nations often hold the top spots, followed by those in North America and Australia. However, the Middle East and Sub-Saharan Africa typically score worse on happiness surveys.
- A robust positive association has been seen between happiness scores and variables including life expectancy and family support, suggesting the significance of social and health aspects in general well-being.

III. Conclusion:

- To conclude, the analysis of the World Happiness dataset offers important new understandings into the variables affecting happiness in various nations and areas.
- The results emphasize the significance of social support, health, and economic prosperity in determining overall satisfaction levels.