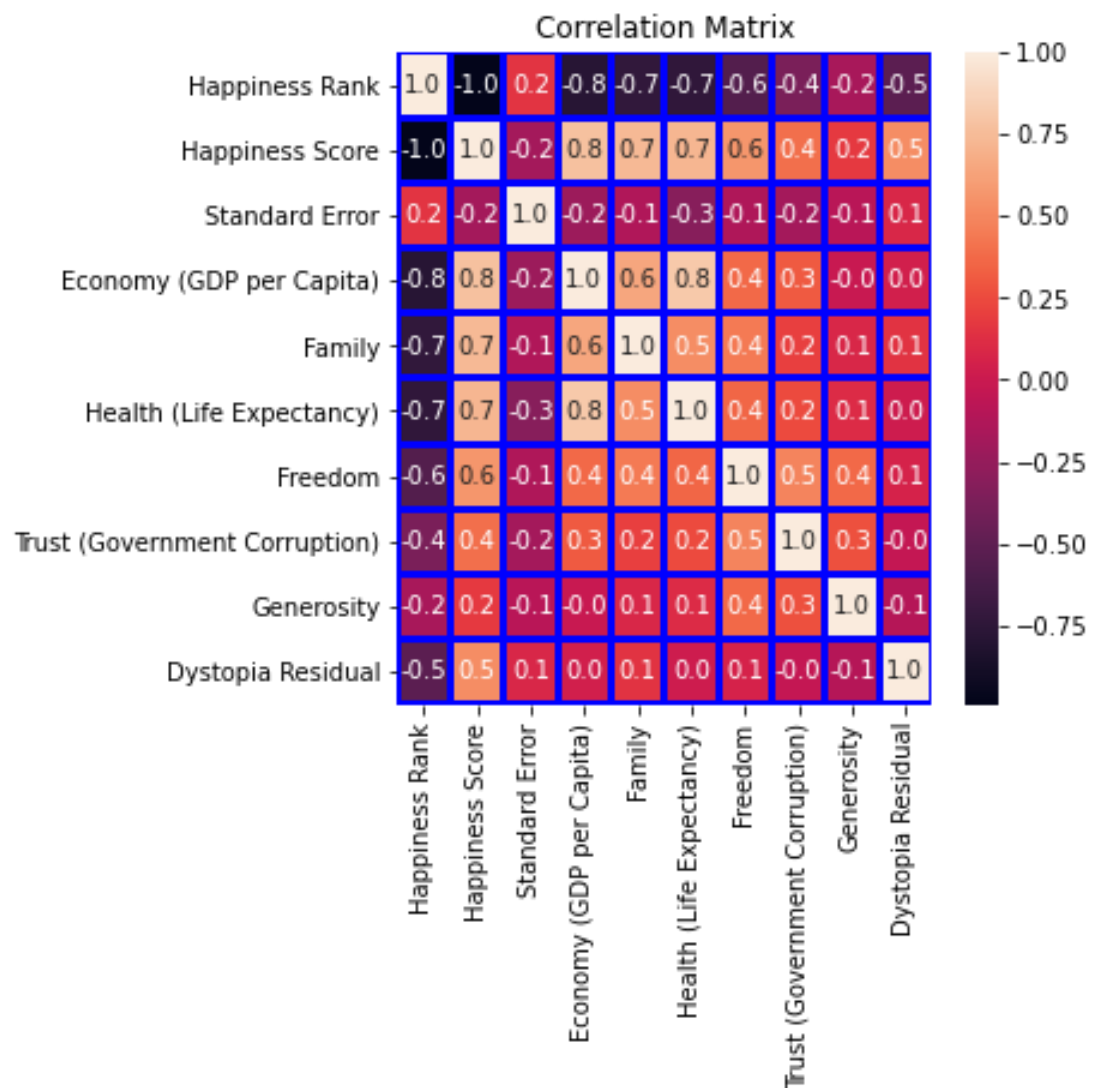


Correlations between happiness and social factors

1. **Data Source:** <https://www.kaggle.com/datasets/unsdsn/world-happiness>
2. **Code and Graph**



Code:

```
import numpy as np
import pandas as pd
```

```
import seaborn as sns
```

```
import matplotlib.pyplot as plt
```

```
happy2015 = pd.read_csv("2015.csv")
```

```
f,ax = plt.subplots( figsize = (5,5))
```

```
sns.heatmap(happy2015.corr() , annot = True , linewidths = 2 ,linecolor =
```

```
'blue', fmt = '.1f' , ax = ax )  
    plt.title("Correlation Matrix")  
plt.show()
```

Legend:

I intend to show the relation between happiness score and kinds of factors. In above graph, it shows the correlations between kinds of factors, and clearly tell the different influence of factors on happiness score and the interactions between factors.

There are different factors: GDP, health, family, freedom, trust, Generosity, dystopia residual, each grid denote the correlation between different dimensions.

Each grid has value and color, the bar beside the figure show the relation between color and value. From 1.0 to -1.0, the color will become darken. 0 means two variable do not have relations between them; beginning from 0, the higher the value is, the more positive correlation it exists between two variable, and as you can when two dimensions' variable are same, the value is 1. And on the contrary, from 0 to -1, the lower the value is , the more negative correlation it exists between two variable. Because the higher value the region get, the higher rank value (1st has the highest value) must be got. So the value of these two grid is -1.

Finding:

1. Happiness score is highly related with family, health, freedom and GDP, within them GDP is the most influential.

2.Economy has high correlation with health, and has relation with family.

3.Trust and Freedom is related

4. Especially, the dystopia residual has no correlation with other factors except happiness score. Seems like the least-happy people do not have influence on the other dimensions of society.

Conclusion:

This image shows various factors that affect the happiness index. The image shows that it is biased towards material factors such as the economy, and the family is more able to determine the happiness value of a region. Surprisingly, unhappy people have little effect on other indicators in society, and the underlying reasons deserve further research