Friedrich-Alexander-Universität
Technische Fakultät

Exploring How Corona Relate to Happiness Factors Worldwide

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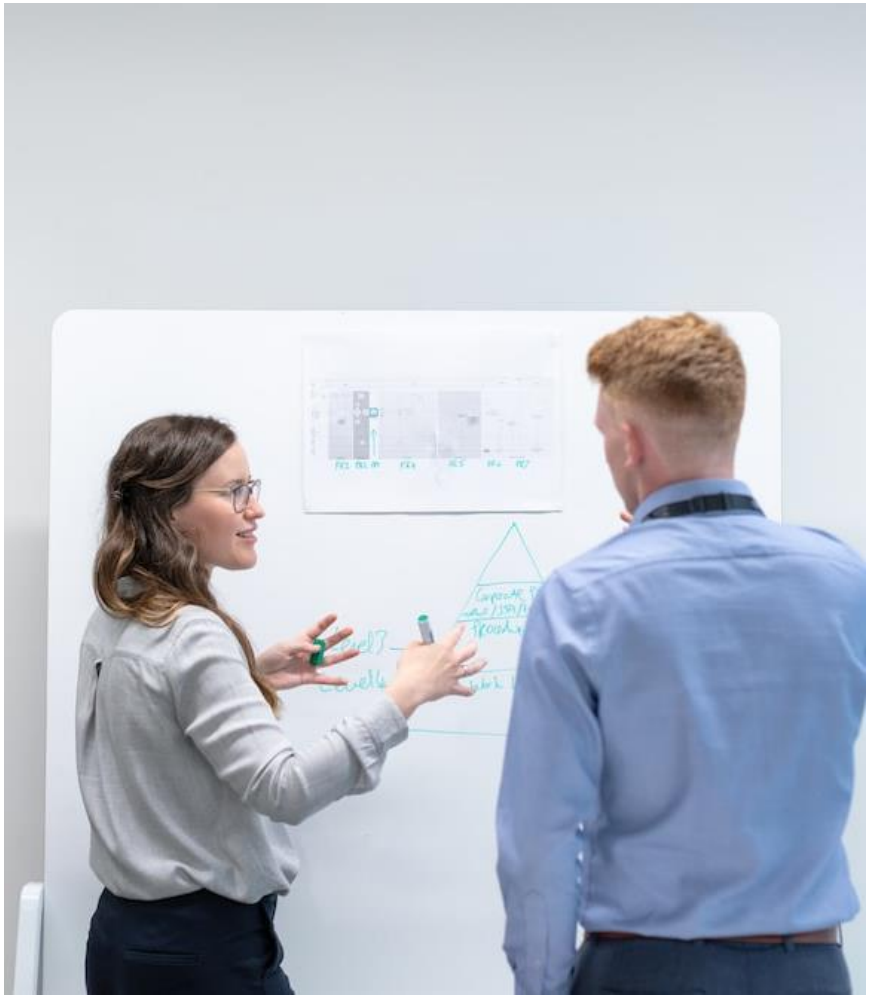
Agenda



Introduction

Introduction

- how COVID-19 deaths might be connected to things that make people happy.
- if there's a link between how many people passed away due to COVID-19 in different countries and factors that contribute to happiness
- Example factors:
  - how much money people have
  - how healthy they are
  - how much support they get
  - how free they feel

Loading Datasets

Datasets

We go over datasets that are picked for this project

World Happiness Report up to 2022

Based on :

- **evaluation question asked in the Gallup World Poll (GWP)**

Some Factors:

- **GDP per capita**
- **Healthy Life Expectancy**
- **Social support**
- **Freedom to make life choices**
- **Generosity**
- **Corruption Perception**
- **Residual error**

Novel Coronavirus (COVID-19) Cases Data

Published by : Johns Hopkins

- **three years of COVID-19 data from 1/22/20 to 3/10/23**

Some Factors:

- **Province/State**
- **Country/Region**
- **Last Update**
- **Confirmed**
- **Suspected**
- **Recovered**
- **Deaths**
- **We only use number of death cases**

Final Dataset Info

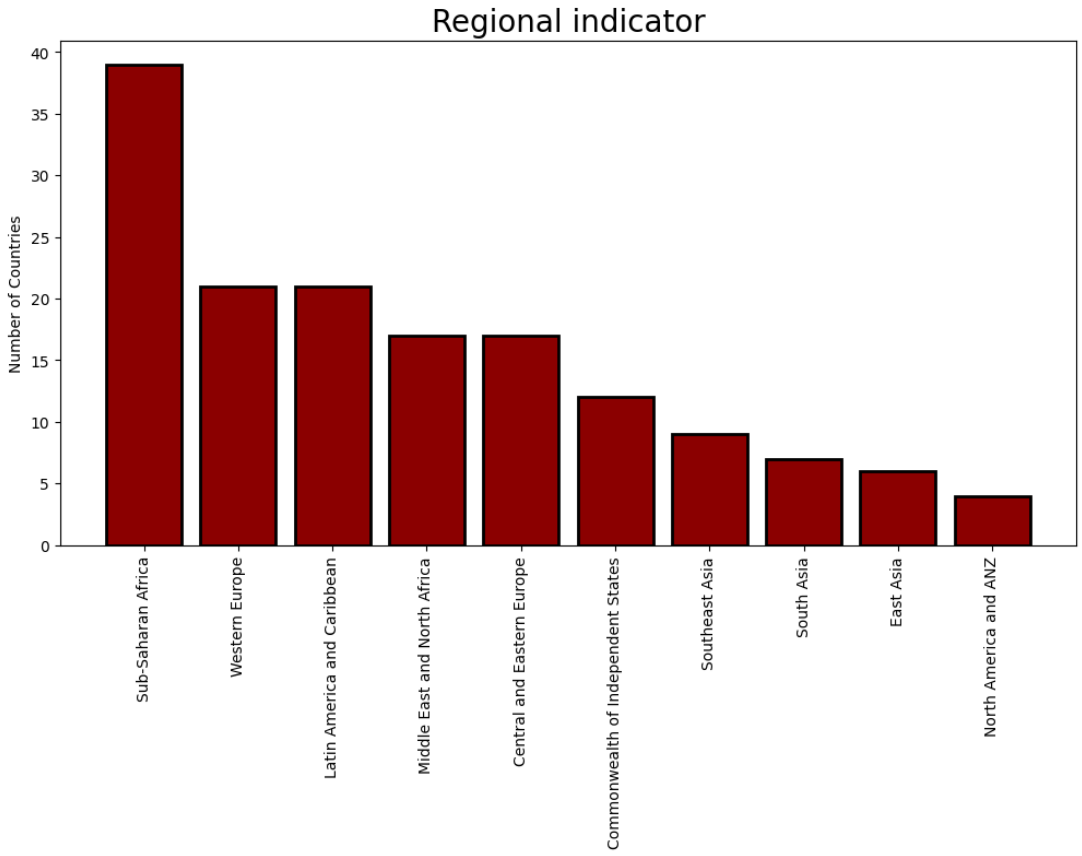
```
df.info()
```

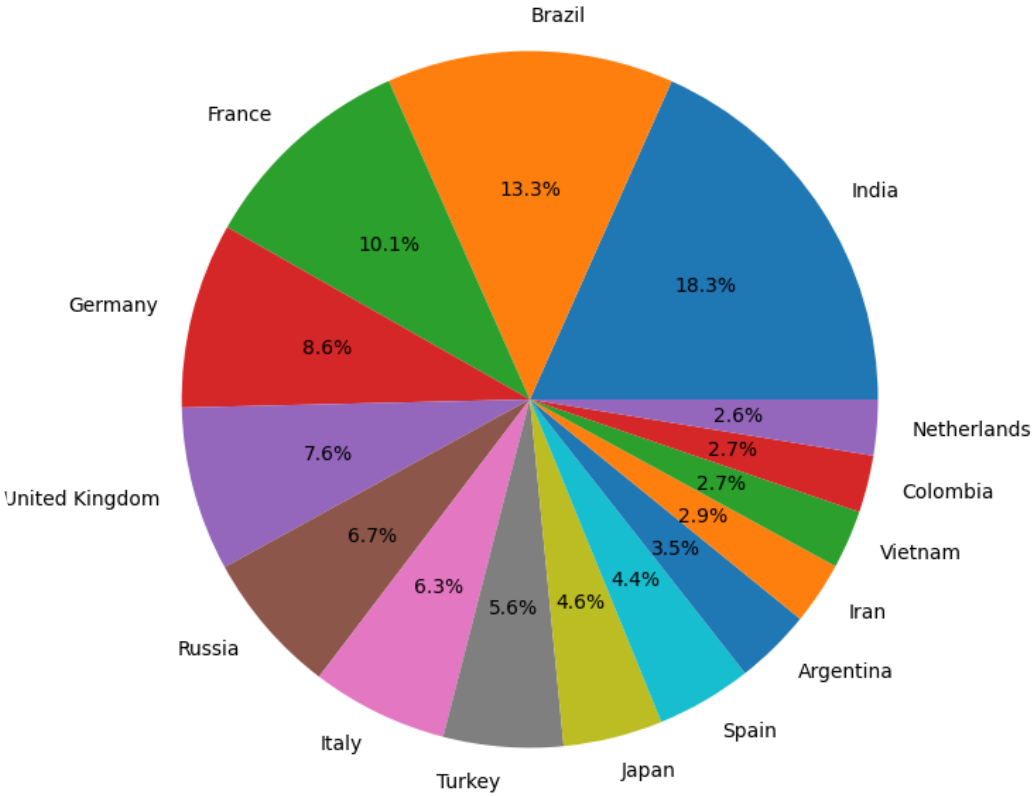
```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 141 entries, 0 to 140
Data columns (total 21 columns):
 #   Column                                    Non-N
---  ------                                    -----
 0   Country/Region                            141 n
 1   sum_for_each_country                      141 n
 2   Regional indicator                        141 n
 3   Ladder score                              141 n
 4   Standard error of ladder score            141 n
 5   upperwhisker                              141 n
 6   lowerwhisker                              141 n
 7   Logged GDP per capita                     141 n
 8   Social support                            141 n
 9   Healthy life expectancy                   141 n
 10  Freedom to make life choices              141 n
 11  Generosity                                141 n
 12  Perceptions of corruption                 141 n
 13  Ladder score in Dystopia                  141 n
 14  Explained by: Log GDP per capita          141 n
 15  Explained by: Social support              141 n
 16  Explained by: Healthy life expectancy     141 n
 17  Explained by: Freedom to make life choices 141 n
 18  Explained by: Generosity                  141 n
 19  Explained by: Perceptions of corruption   141 n
 20  Dystopia + residual                       141 n
dtypes: float64(18), int64(1), object(2)
memory usage: 23.3+ KB
```

Data Visualization

Dataset Visualization

- Categorical Variable
- Based on regional indicatior

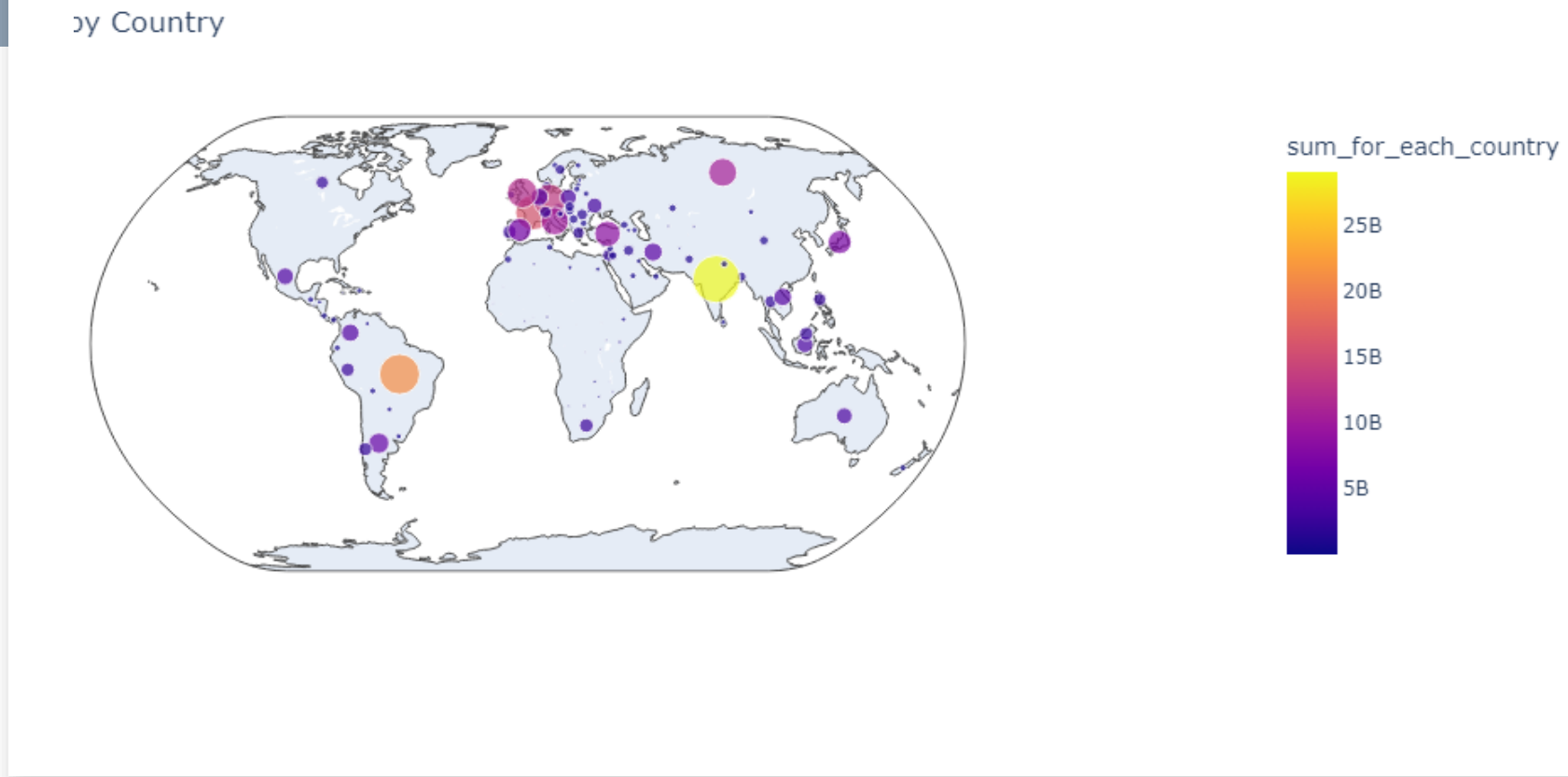




Dataset Visualization

15 highest death cases around world

Dataset Visualization

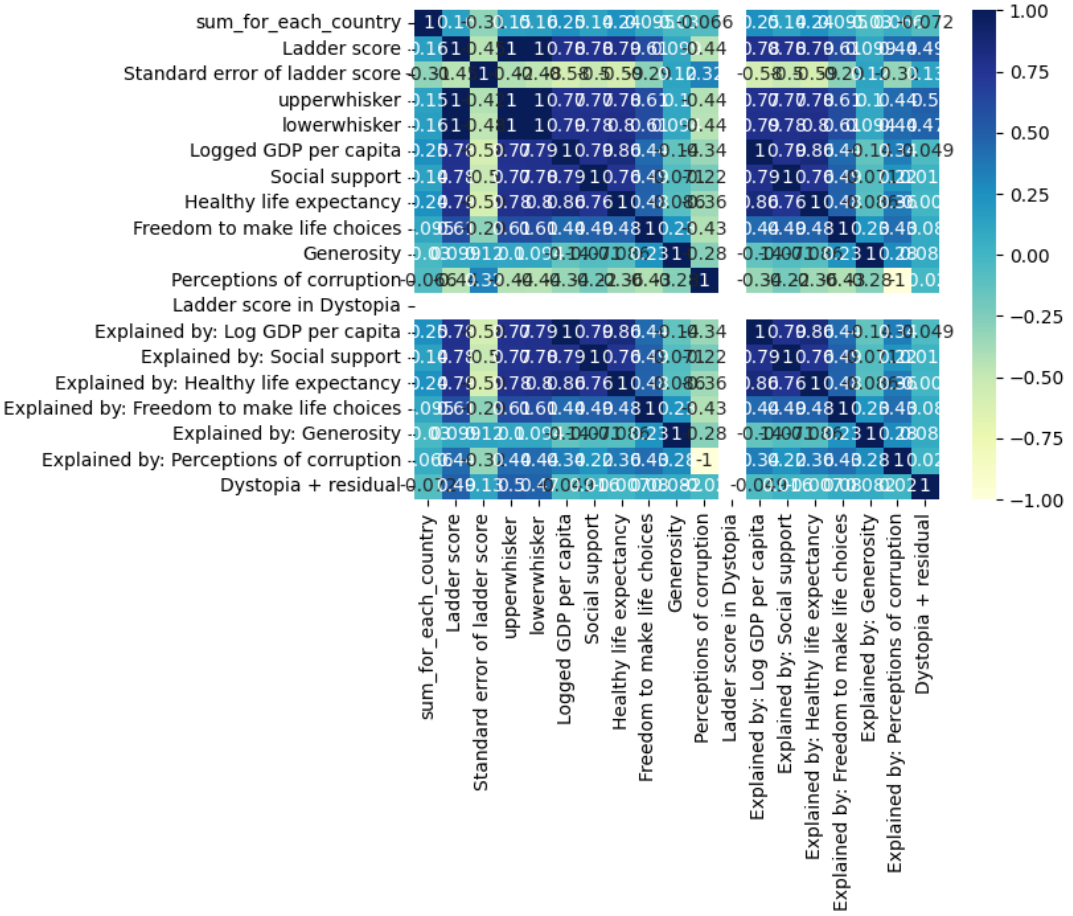


- Bubble map

Result

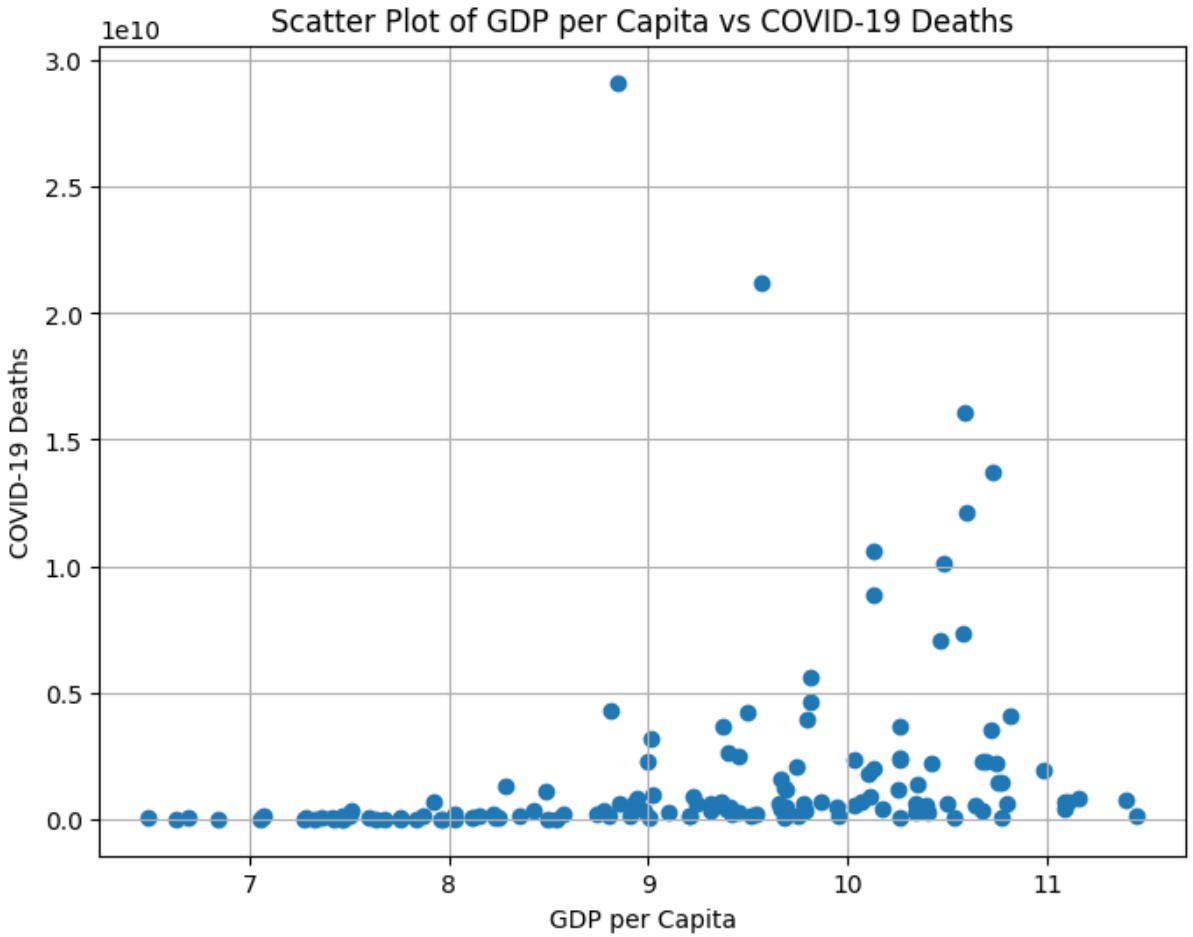
Correleation Matrix for the final Data

- used to summarize data
- to understand the relationships between different variables in a dataset
- the variables are displayed on both rows and columns, and each cell shows the correlation coefficient between the variables



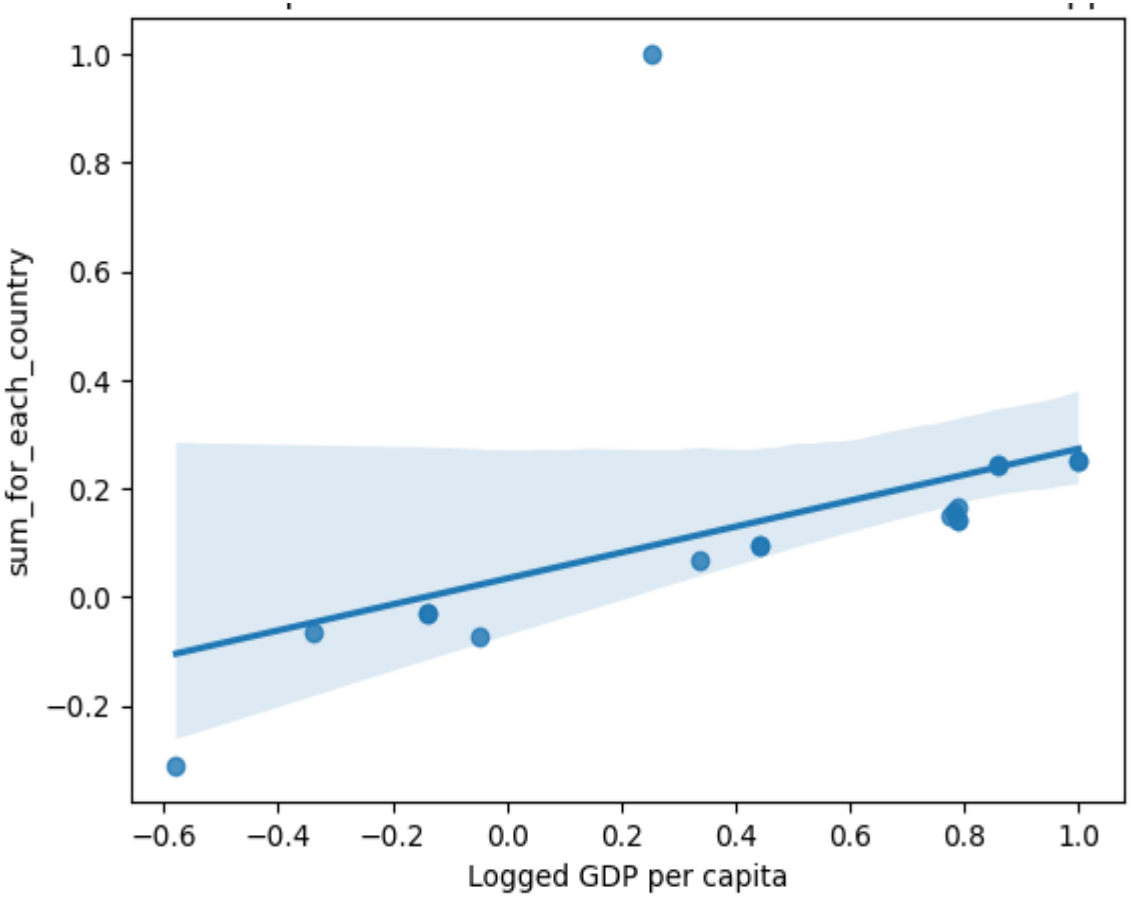
Dataset Visualization

- for visualizing the relationship between two continuous variables
- create scatter plots to see how the number of deaths due to COVID-19 relates to each of the factors



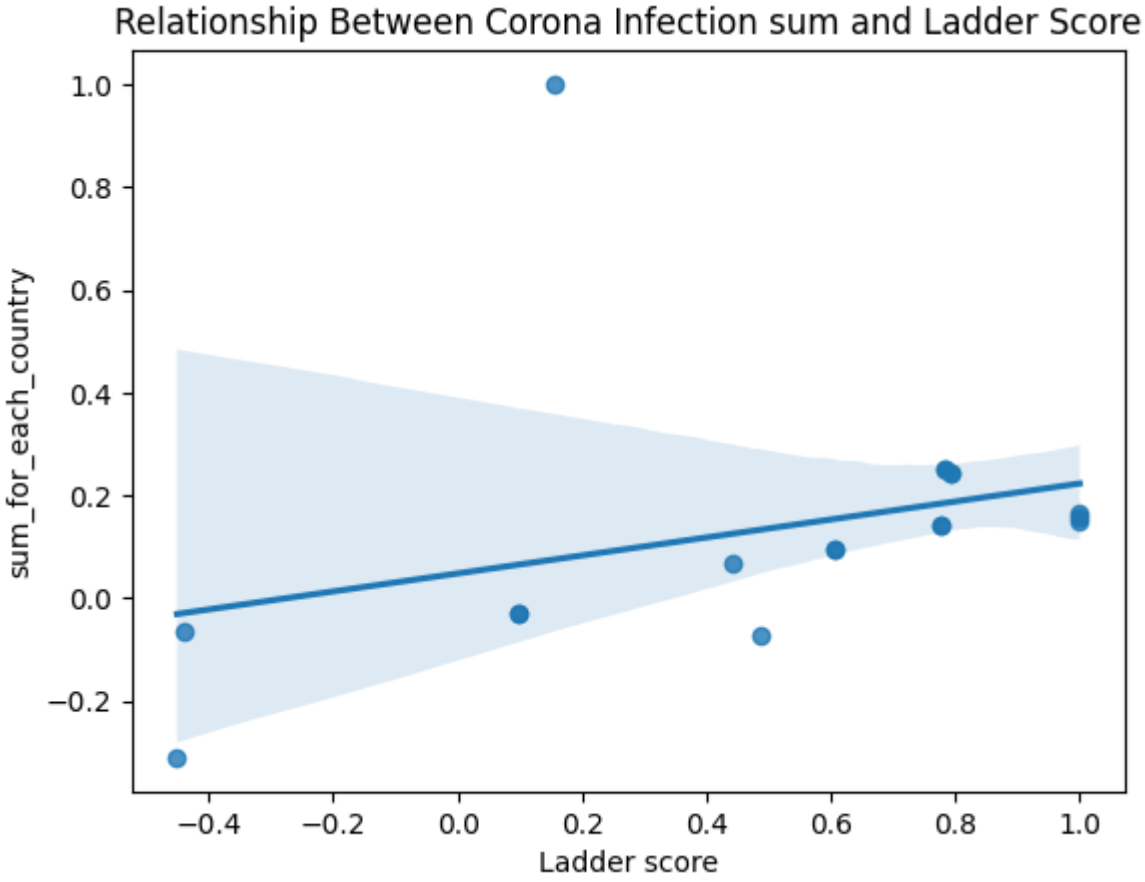
Dataset Visualization

Plotting sum of deaths vs GDP



Dataset Visualization

- Plotting Ladder score vs Sum for deaths



Results

a fascinating trend emerged. It appears that individuals living in more affluent countries have a higher likelihood of contracting the Coronavirus compared to those residing in less economically developed nations. This discovery hints at a potential link between a country's wealth and the number of people affected by the virus. It's intriguing to see that places with more resources and advancements might have more cases of COVID-19. This finding sparks curiosity about the underlying reasons behind this discrepancy in infection rates between wealthier and less affluent regions. It prompts us to consider how factors like access to healthcare, social structures, and other aspects tied to a country's level of development might influence the spread of the virus among its population.

Discussion

Disscussion

Possible Explanations

- **Healthcare Access:**

Advanced healthcare systems in affluent nations might lead to heightened testing, diagnosis, and reporting, potentially inflating infection rate statistics.

- **Social Structures and Behaviors:**

Dense urban living, extensive travel, and societal behaviors in wealthier societies could facilitate virus transmission.

- **Testing and Reporting Disparities:**

Discrepancies in testing availability and reporting standards between richer and poorer countries may skew infection rate comparisons.

Considerations and Limitations:

- **Data Quality and Variability:**

Acknowledging limitations related to data accuracy, completeness, and consistency across diverse countries is crucial.

- **Multifactorial Nature:**

Economic status alone may not fully explain infection rates; various factors like population density, governance, and cultural norms might contribute significantly.

Vielen Dank
für Ihre Aufmerksamkeit!