

# Analysis of 2022 World Developmental Indicators

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## Descriptive Statistics

We see here that the mean gdp per capita per country is \$20,345 with a standard deviation of \$31,308. We also see the median is \$7,587 and the max is \$240,862. This tells us the data is right skewed heavily, and there is a lot of deviation between gdp per capita by country.

```
gdp_stats
```

```
count      203.000000
mean       20345.707649
std        31308.942225
min         259.025031
25%        2570.563284
50%        7587.588173
75%        25982.630050
max        240862.182448
Name: gdp_per_capita, dtype: float64
```

We see here that only 14 countries have no data on GDP per capita, meaning our data is a good estimator for all countries.

```
gdp_null
```

14

We see here that the mean is 80% and median 84%, max is almost 100% for literacy rate of a country.

#### literacy\_stats

```
count    49.000000
mean     79.574801
std      19.375539
min      27.280001
25%      72.400002
50%      83.779999
75%      95.500000
max      99.999977
Name: adult_literacy_rate, dtype: float64
```

But the number of countries that don't have data is 168, telling us the data could be biased towards countries that have resources to conduct these tests, which could lead to literacy rates higher than the true rate. The data is not a good estimator for all countries.

#### literacy\_null

168

We see here the mean measles immunization rate per country is 84%, the median is 90%, the max is 99%. The data is left skewed.

#### measles\_stats

```
count    193.000000
mean     83.854922
std      15.996083
min       0.000000
25%      76.000000
50%      90.000000
75%      96.000000
max      99.000000
Name: measles_immunisation_rate, dtype: float64
```

We also see here only 24 countries have not reported data on their rates. A bit higher than we want, but the data is a decent estimator for all countries.

```
measles_null
```

24

## Figures

GDP Visualization:

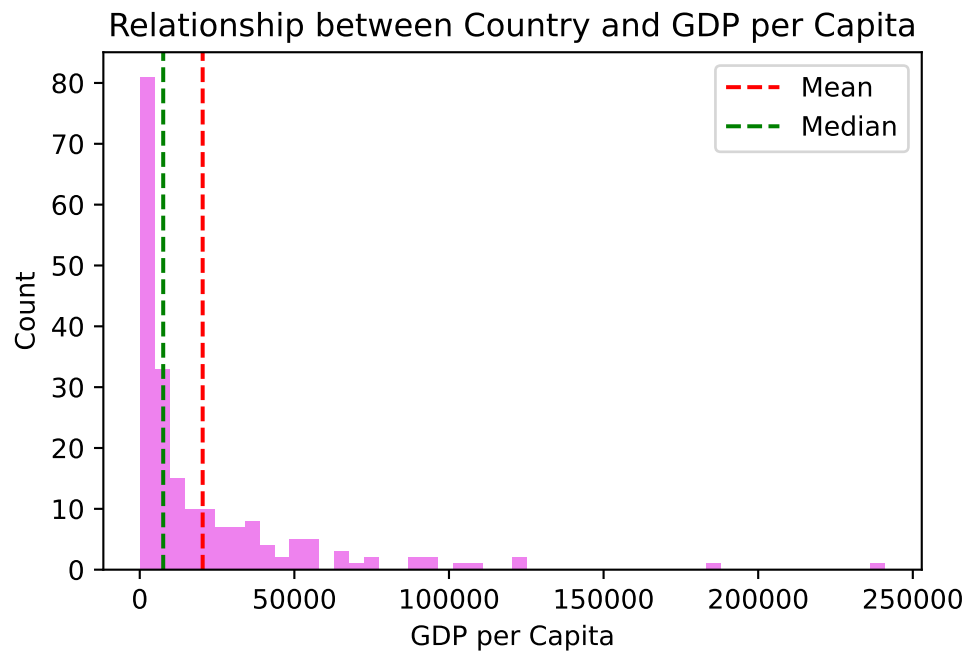


Figure 1: Country and GDP per Capita

Literacy Rate Visualization:

Measles Immunization Rate Visualization:

- **Source:** World Development Indicators (2022)
- **Link:** <https://databank.worldbank.org/source/world-development-indicators>

## Key Statistics

From our analysis between Country and GDP per Capita, Literacy Rate, and Measles Immunization Rate for Figure 1, Figure 2, Figure 3, we have:

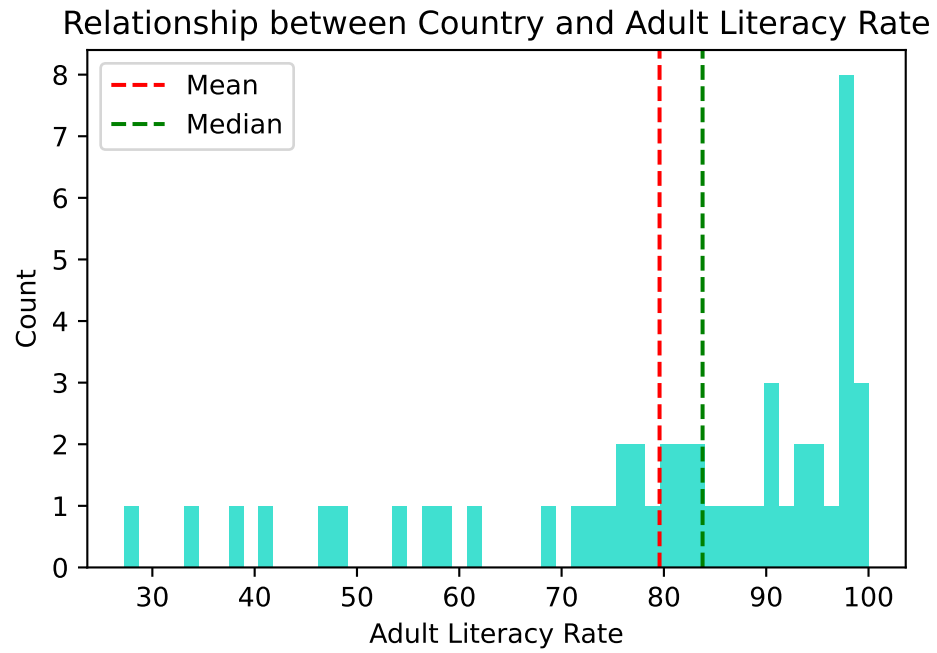


Figure 2: Country and Literacy Rate

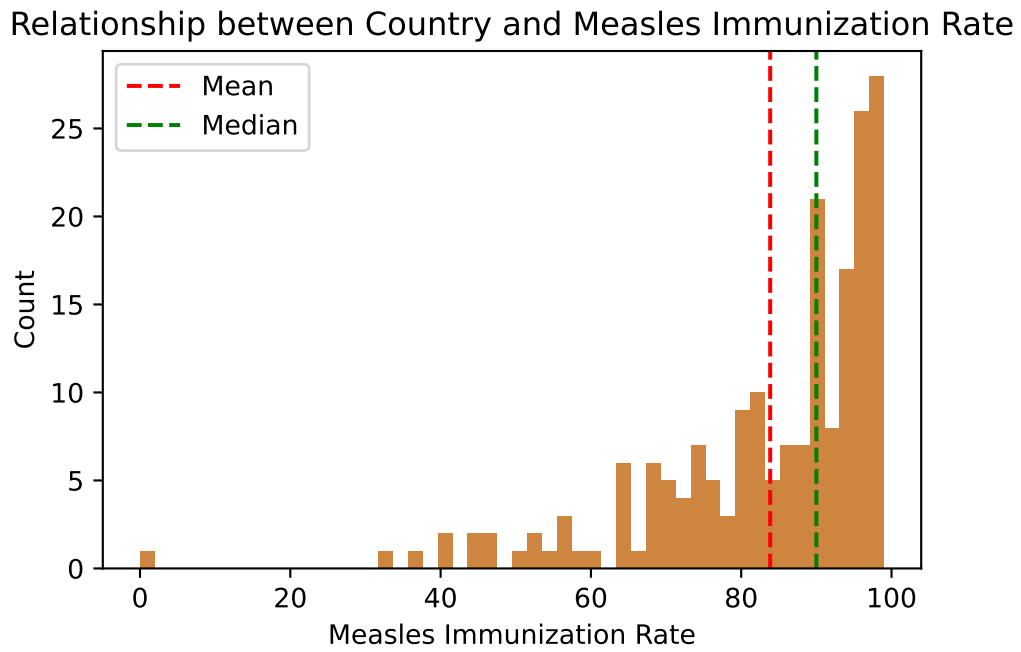


Figure 3: Country and Measles Immunization Rate

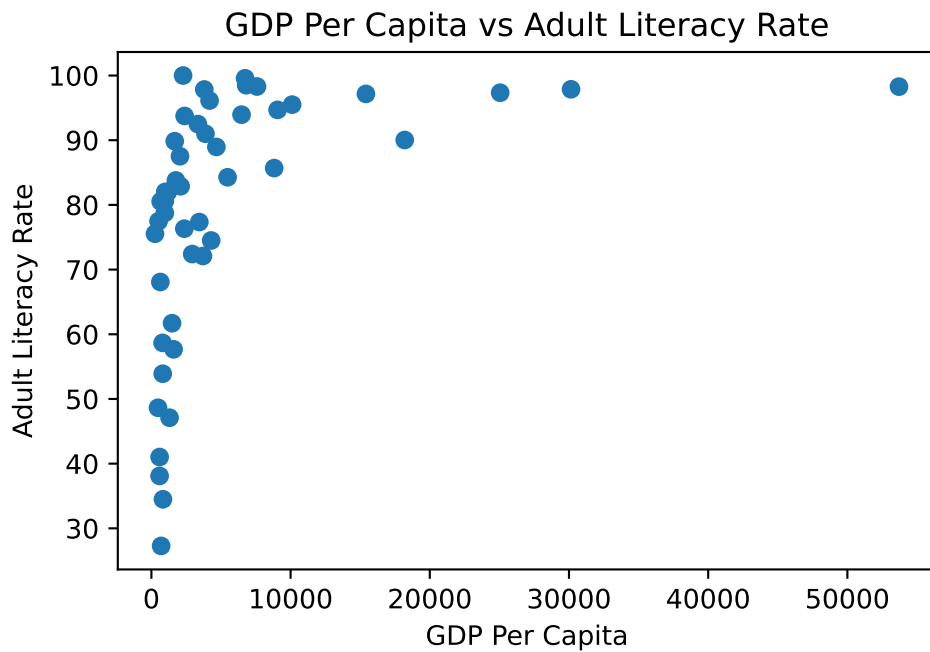


Figure 4: Relationship between GDP Per Capita and Literacy Rate

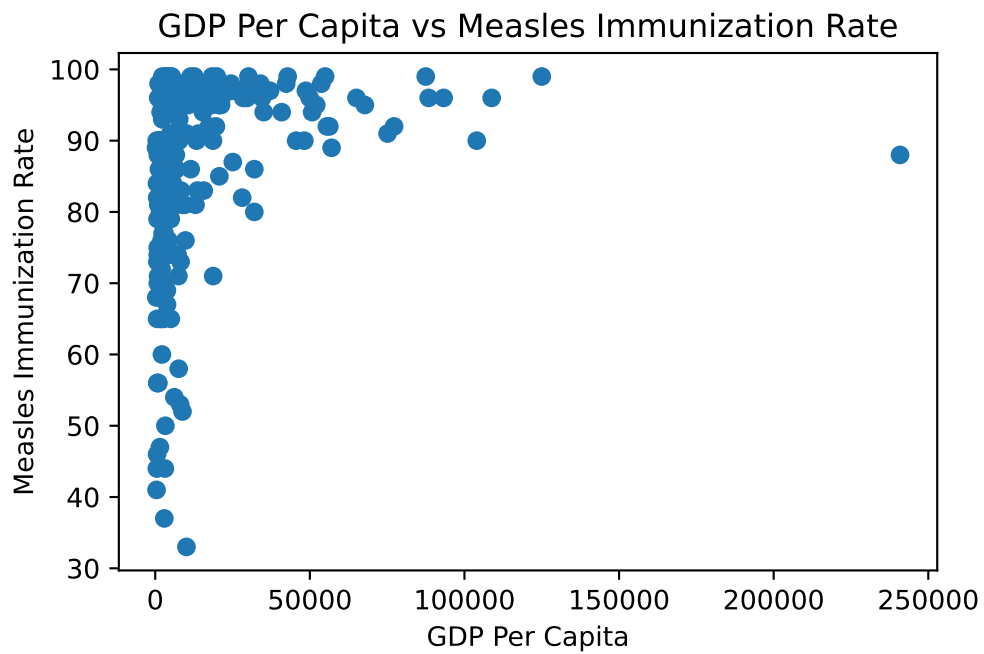


Figure 5: Relationship between GDP per Capita and Measles Immunization Rate

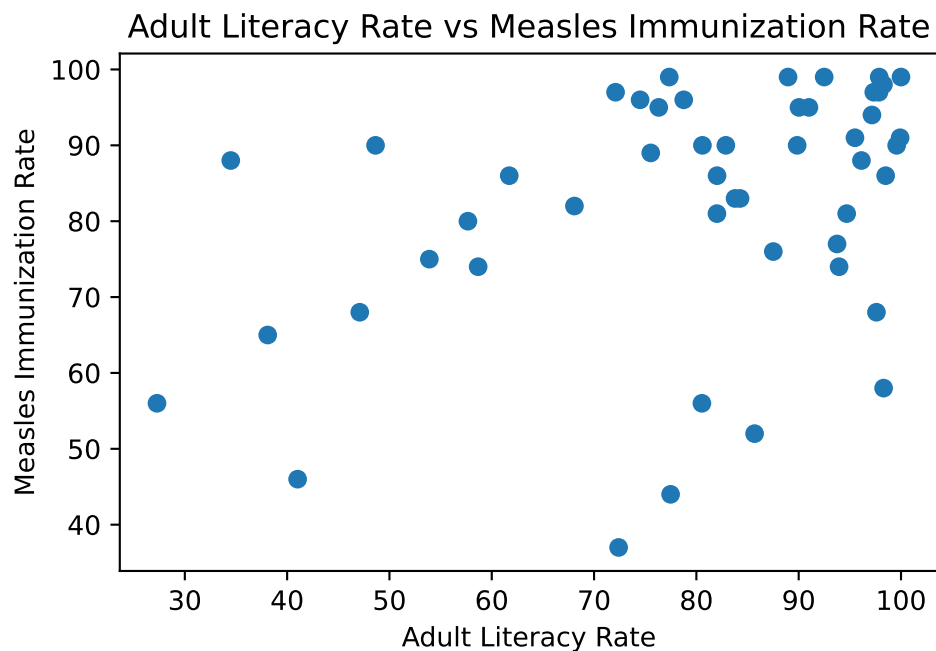


Figure 6: Relationship between Literacy Rate and Measles Immunization Rate

Type	Mean	Median	Max	SD
GDP Per Capita	20345.7	7587.6	240862.2	31309.0
Literacy Rate	79.6	83.8	100	19.4
Immunization Rate	83.6	90.0	99.0	16.0

We can also find the correlation between the variables of the last 3 plots for Figure 4, Figure 5, Figure 6 :

Relationship	Correlation
0 GDP per Capita and Literacy Rate	0.425476
1 GDP per Capita and Measles Immunization Rate	0.313709
2 Literacy Rate and Measles Immunization Rate	0.386177

We see that the correlation is not that high for any, but they have a weak positive correlation.