

Mental Health

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In this project, we tried to analyze the factors responsible for depression in countries, and we decided to explore the relationship of depression with Age, Gender, Substance use disorders, and Economic factors. Here are our findings:

1. How depression varies by Gender?

Based on EDA only, females tend to have higher depression rates than males. Most depression is found in African countries, and the least depression is reported in Oceanian countries. The model fitting is explained in question 5.

2. How does depression vary by Age?

Depression, on average, tends to increase when moving up the age bracket across continents. This trend is most evident in African countries with the exception of some countries in Oceania and North America.

3. Does depression vary with changes in economic factors?

Countries with low GDP per capita have the highest depression rates. There is a drop in the depression rate where GDP per capita is around average and starts rising again as GDP per capita increases.

4. Does substance disorder explain depression?

We analyzed the almost U-shaped curve again between alcohol-use/drug-use disorder and depression percent. We tried to fit a linear model, but the model gave poor results when fitted without any interaction between drug use and alcohol use.

5. Explore the correlation of Age, Sex, and Substance disorders w.r.t depression to analyze the model explainability.

We tried to fit a linear model with interactions between Age and sex, Age and substance use and sex, and substance use which explained about 61% of the variation in the data. We observed depression in females was generally higher in males regardless of age and substance use. The depression rates of females generally increased with an increase in alcohol use but seemed to decrease with an increase in drug use for some age groups. For males, the depression rates seem to increase with alcohol and drug use in teens, while adults and senior males showed variation in this trend.