Global Homicide Rates Data Analysis

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outline :

- ☑ ~~Brief topic introduction~~
- ☑ ~~Question 1: (freedom index)~~
  - ☑ ~~Findings~~
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- ☑ ~~Question 2: (gender)~~
  - ☑ ~~Findings~~
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- ☑ ~~Question 3: (GDP)~~
  - ☑ ~~Findings~~
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- ☑ ~~Question 4: (literacy)~~
  - ☑ ~~Findings~~
  - ☑ ~~Visuals~~
- ☑ ~~Conclusion~~
  - ☑ ~~Summarize all findings~~
  - ☑ ~~Discuss limitations of data~~
  - ☑ ~~Propose ideas for future research~~

Introduction

Research shows that homicide rates have been steadily decreasing over the past several decades. This analysis aims to uncover more specific trends within this broad one, and reveal possible correlations between homicide rates and other factors such as gender, gdp, and freedom index. The primary dataset used originated from (insert website) and supplementary data was gathered as well. Collectively, these datasets delineate homicide rates between the years 1990 and 2020 as broken down by country.

Homicide Rates & Freedom Scores

The first question we examined for this project was the correlation between homicide rates and freedom score. The hypothesis was that the decrease in homicide rates was in part caused by the increase in freedom scores. Using data from The Index (heritage.org/index) with the homicide dataset from the World Bar, the datasets were cleaned, organized, and merged. Data was analyzed by percent change and exact figures for homicide rates and freedom scores. Our findings contradicted our hypothesis; while the majority of countries did see an increase in freedom score and a decrease in homicide rates, countries who saw a decrease in freedom score still witnessed a decrease in homicide rates. In some cases, countries who lost freedom score saw a larger decrease in homicide rates than countries that improved their freedom score. The given evidence does not support the idea that freedom scores affect homicide rates.

Homicide Rates & Gender

Another Question we aimed to explore in this project was the correlation between homicide rates and gender. We hypothesized that females would have a significantly lower homicide rate as compared to their male counterparts, though both would show a steady decrease over the decades. To perform this analysis, we gathered data from (Gender Data), cleaned the data using Excel, and then merged the male and female datasets by year and country. Our initial hypothesis was supported during the analysis, which showed that females did in fact commit homicides at a much lower rate than males did, though there was a decrease over time for both groups. The average female homicide rate per 100,000 people collectively over all years was 2.45, while for males, it was 10.38.

Homicide Rates & GDP

The third question that we explored was the correlation between homicide rates and economic growth(key identifier:GDP). According to literature, crime as a whole imposes significant direct and indirect cost to society and tends to impede economic progress. There is a relationship between crime and economic growth but what about a specific type of crime: homicide? Does an increase in homicide affect economic growth or vice versa. In order to conduct our analysis, we extracted data from world bank (GDP Data), cleaned and merged the data using python to reflect pertinent information. The GDP data and Homicide rates data was analyzed by average % change in GDP/homicides per year . We hypothesized that the decrease in homicide rate from 1995-2015 can be attributed to an increase in Gross Domestic Product (GDP) over that span. In other words, we expect a moderate to strong

negative correlation (-1<r<-0.5). According to the graphical analysis, it appears that the decrease in homicide rate over the 20 years span is not correlated to GDP since all the scatter plots (as a whole and grouped by Country's income level) showed a weak to no correlation as indicated by the coefficient of correlation (r). Thus, the evidence does not support our hypothesis.

Conclusion & Discussion

To summarize, there were no significant correlations between freedom score and homicide rates, literacy rates and homicide rates, as well as GDP and homicide rates. Males were more likely to commit homicide than their female counterparts. However, more research would need to be performed to draw more definitive conclusions. The data used was very broad, and if more specific data was collected for individual countries, displaying specific metrics about employment, income, happiness levels, etc., perhaps we would find that these things could in fact be correlated to the decrease in homicide rates.