

Unveiling Connections: US Crimes and Mass Shootings Analysis

Introduction

This study aims to find the relationship between the US Crimes and the mass shootings analysis patterns in the different regions of the Americas. By the analyzing the historical data on US crimes and mass shootings analysis over a specific time period, the project will tell us or will show us how the mass shootings can greatly affect the US crimes ration in overall. Understanding this relationship is very crucial for assessing the crime ration of the desired city or state in the specific region of the America.

Data Sources:

1. US Crimes Dataset:
 - **Data URL** : https://www.kaggle.com/datasets/johnybhiduri/us-crime-data?select=US_Crime_Data.csv
 - **Description** : This dataset contains the details of the all US crimes from the year 2017 to onward and I used it because it give me the macro level understanding of it.
 - **Data Structure**: Tabular format with the columns for title , organization , city , state, URL , summary.
 - **Data Quality** : The data is consistent , cleaned and contains all necessary information.
2. History of Mass Shootings in the USA Dataset:
 - **Data URL** : https://www.kaggle.com/datasets/rprkh15/history-of-mass-shootings-in-the-usa?select=History_of_Mass_Shootings_in_the_USA.csv
 - **Description** : This dataset contains the details of the all US shooting crimes from the year 1924 and this complements with the first data set to pluck out the information
 - **Data Structure**: Tabular format with the columns for date , city , state, dead , injured , total and description.
 - **Data Quality** : The data is consistent , cleaned and contains all necessary information with no null values.

Reasons for Choosing these Data Sources:

- **Relevance** : Both datasets are from the USA details , which made them highly relevant for this project needs.
- **Coverage Period** : As both data do contains the relevant time frame till 2022 which I need to pluck out the information and going to use for the analysis.
- **Open Data** : Both of the datasets are the publicly available.

Analysis:

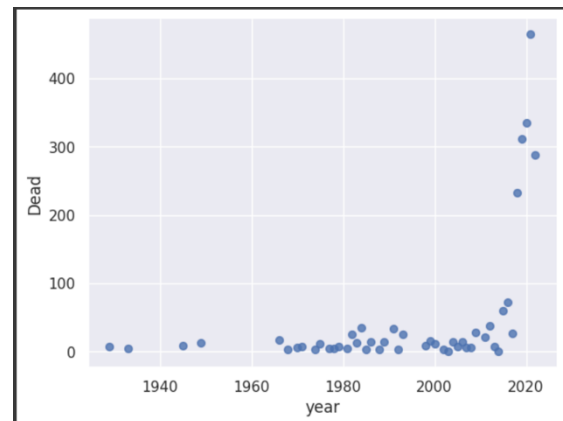
The report utilizes python libraries matplotlib and seaborn to visualize the patterns across the two datasets. This data shows yearly crimes which occurred in the different states , cities and other statistics from the year 1929 – 2022.

year	Dead	Injured	Total
1929	7	0	7
1933	5	3	8
1945	9	19	28
1949	13	3	16
1966	17	31	48
1968	3	27	30
1970	6	21	27
1971	8	1	9
1974	3	2	5
1975	11	0	11
1977	5	11	16
1978	5	0	5

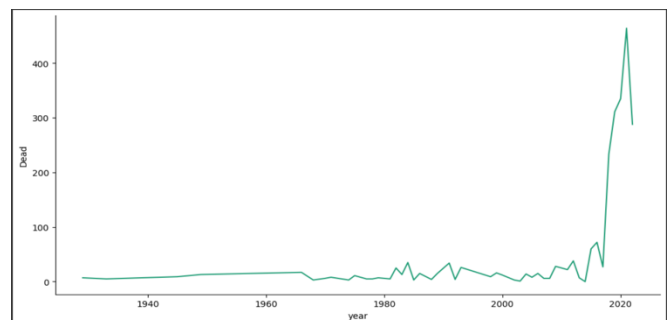
2014	0	4	4
2015	60	74	134
2016	72	73	145
2017	27	63	90
2018	233	885	1118
2019	311	1333	1645
2020	335	1959	2294
2021	464	2169	2633
2022	288	1309	1597

1. Year Vs Dead:

The death rate showing several changes here overall and there was a tremendous growth in 2020 and there was a sharp decline after the 2020 as well.

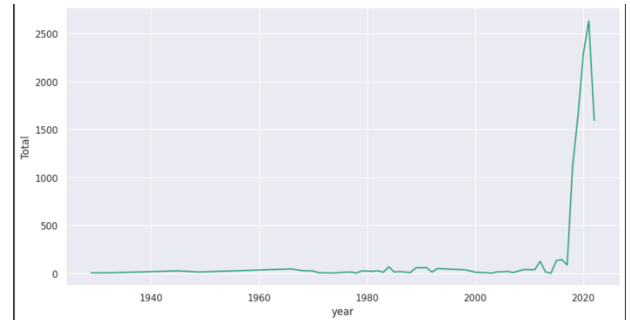


2. Injured Vs Year: The injured rate showing several changes here overall and there was a tremendous growth in 2020 and there was a sharp decline after the 2020 as well.



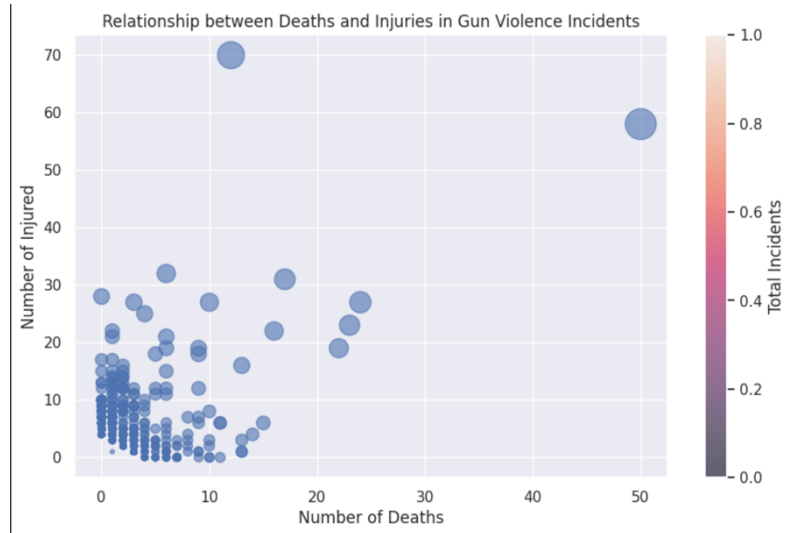
3. Total Frequency of Casualties:

Here is the total number of casualties which has been occurred with the passage of time from the year 1929 to 2022.

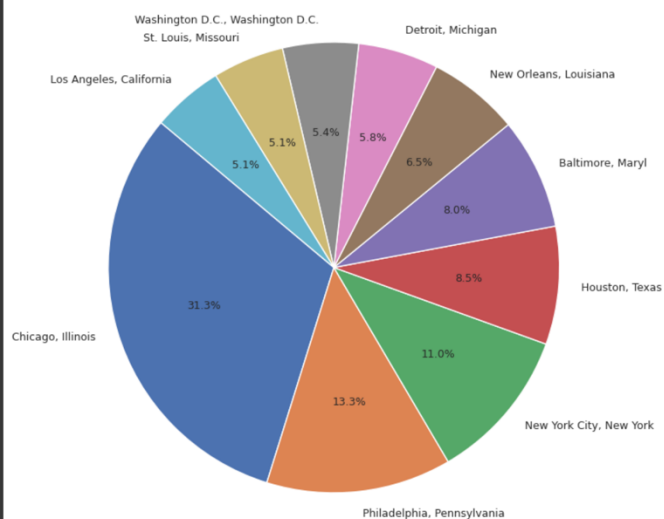


4. Occurrence in Gun Violence Incidents:

Here is the respective graph you can see which shows the relation ship between the number of injured and the number of deaths in the Gun Violence Incidents.



Distribution of Events by Top 10 City-State Combinations



5. Top 10 City-State Combination:

This pie chart is showing you the top 10 city-state combination percentage where the crime ration is quite higher in all these respective years.

Conclusion

The question posed was “ How do mass shooting impact the different cities and states in all those years ?” Based on the analysis conducted, We can see that before the 2020 the ratio of the shooting in the USA is quite higher and in result we got the higher number of injured persons as compared to the number of dead's in past few years.

This analysis provided the answer correlation between the various factors , such as the total number of the casualties and the number of mass shooting incidents with respect to the state and the city as well that revealed potential relationships that could inform future preventive measures. For instance in the pie-chart showing us the cities with higher overall crime rates also exhibited a greater occurrence of mass shootings suggesting us the broader criminal activities and the mass violence as well.

The data also revealed the devastating toll of these events , with a significant number of injuries consistently surpassing fatalities which can be seen before the year 2020. This indicates that while many survive , the consequences remain deeply impactful for victims and the communities. Which calls for targeted interventions by the policymakers and law enforcement to mitigate the risk in these vulnerable regions.

In conclusion, this overall analysis not only provide us with the comprehensive understanding of the patterns and impacts of the mass shooting but also gives you the initial point or serve as a foundation for the actionable recommendations. Government , policy makers or the police an utilize these insights to take the valuable actions to allocate the resources effectively , strengthen gun control measures and focus on the prevention of these kind of events which can occur in the future and focus on the mental health and the community support system. While the study of these kind of findings also give us the constrained time range of some datasets highlight the need for the continued research to build more understanding and the root cause of these events and do the possible strategies for the mass shootings.