US Mass Shootings Project Description

When it comes to gun voilence, the United States experience is definitely an outlier when compared to other parts of the world. From the very first recorded mass shooting event in 1966, these occurrences have only got worse. It has become necessary to understand the trends and be able to make data driven policies to curb these shootings

In this report, we will obtain the data relating to mass shootings, prepare it for analytics, extract insights from it using visualisation tools and identify trends in mass shootings which includes the number of shootings over the years, the deaths and injuries caused, demographics of the shooters. This analysis and visuals can act as persuasion tools to elected government officials to enact policies that can help reduce the impact of gun voilence in the society.

Data Design

There are a variety of data sources for mass shootings in the US. These data are dependent on the definition of mass shooting to the organisations. The following data design were used from data selection, to data cleaning and finally analysis and visualisation using Tableau

- **Data Selection:** A Combination of the Kaggle data and Mother Jones data were used. The Kaggle data had information from 1966 to 2017. 2017 to 2022 data from Mother Jones was merged with the former to have data covering the time period under investigation.

- **Data Cleaning:**
  - Critical fields/columns were selected, and others deleted.
  - Text to Date: The date column in the raw data were formatted as text. It was necessary to format it as date in the MDY format. The text to column function on excel was used to achieve this
  - Trim: Was used to remove the whitespaces observed in the data.
  - Split Values from Location Column: the raw data had city and state under one column. It was used to separate the city and state fields in two different columns.
  - Null Values: Null values were checked for and none found in all the worksheet.
  - Duplicates: Only one duplicate was found and removed.

Findings

An analysis of 439 mass shootings committed in the United States of America between 1966 and 2022 was carried out. The number of recorded shootings has significantly increased over the year with rapid spikes in 2015 - 2017 Out of the 50 states in the United States of America, only 3 states have not encountered mass shooting. California has experienced 56 mass shootings making it top on the list and accounts for 12.7% of total shootings. Most shootings happen at the beginning of the year (Jan - Mar) with a peak in February. There is also a rise in mass shootings during summer (June & July). Highest number of shootings are committed on Thursdays. Significant occurrences also observed during weekends. 49% of shooters are White and 93% of shooters are male.
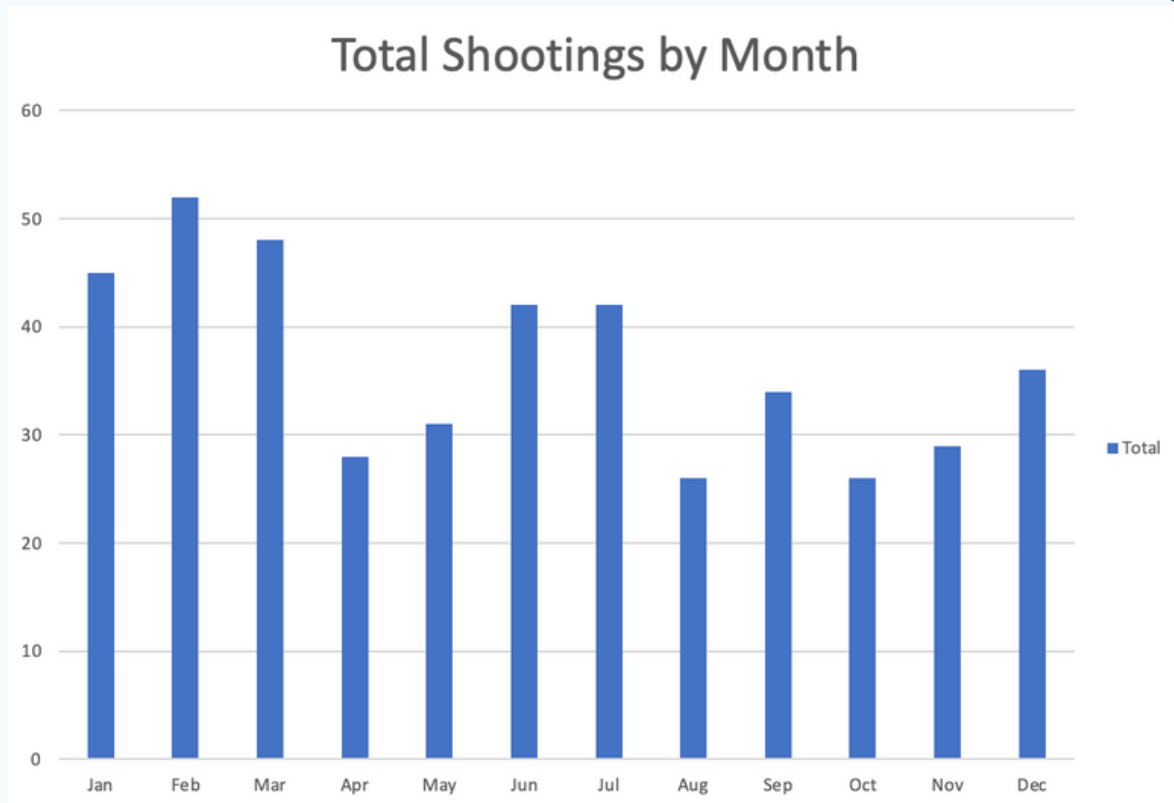
Figure 7: Total Shootings by Month

Total Shootings by Month

Figure 8: Shootings by Gender and Race

Figure 9: Dashboard

Mass Shootings in USA
An analysis of 439 mass shootings committed in the United States of America from Jan, 1966 to July, 2022

439 Mass Shootings — **2,290** Fatalities — **2,819** Injured — **5,109** Total Victims

% of Shooters by Race
49% of shooters are White

- 48.75%
- 23.01%
- 2.51%
- 9.11%
- 10.93%
- 5.69%

Race: Asian, Black, Latino, Other, Unknown, White

% of Shooters by Gender
93% of shooters are male

- 93.17%
- 5.01%
- 1.82%

Gender: Female, Male, Unknown

Mass Shootings by State
Out of the 50 states in the United States of America, only 3 states have not encountered mass shooting

Total Victims per State: 1 — 56
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Top States by Number of Mass Shootings
California has experienced 56 mass shootings making it top on the list

State	Number of Mass Shootings
California	56
Florida	34
Texas	31
Washington	22
Georgia	19
Illinois	16
New York	15
Arizona	14

Number of Fatalities vs Injured by Year

Mass Shootings by Month
Most shootings happen at the beginning of the year (Jan - Mar) with a peak in February. There is also a rise in mass shootings during summer (June & July)

Maximum = 52

Mass Shootings by Day of Week
Highest number of shootings are committed on Thursday. Significant occurences also observed during weekends.

Maximum = 88

Created by: @Nnenna Okereke | **Data sources:** Kaggle 'US Mass Shooting data' | Mother Jones
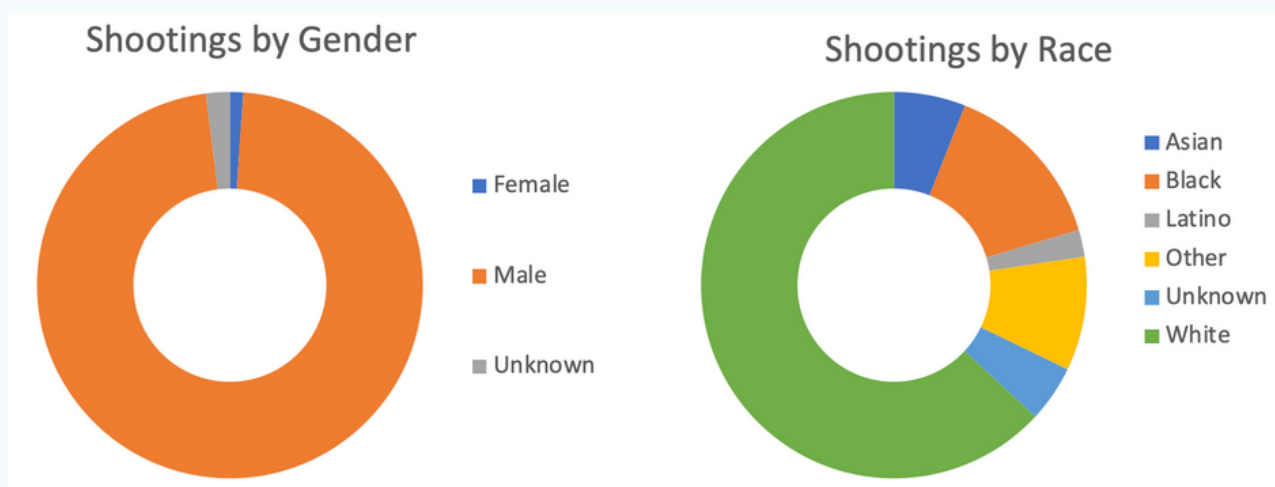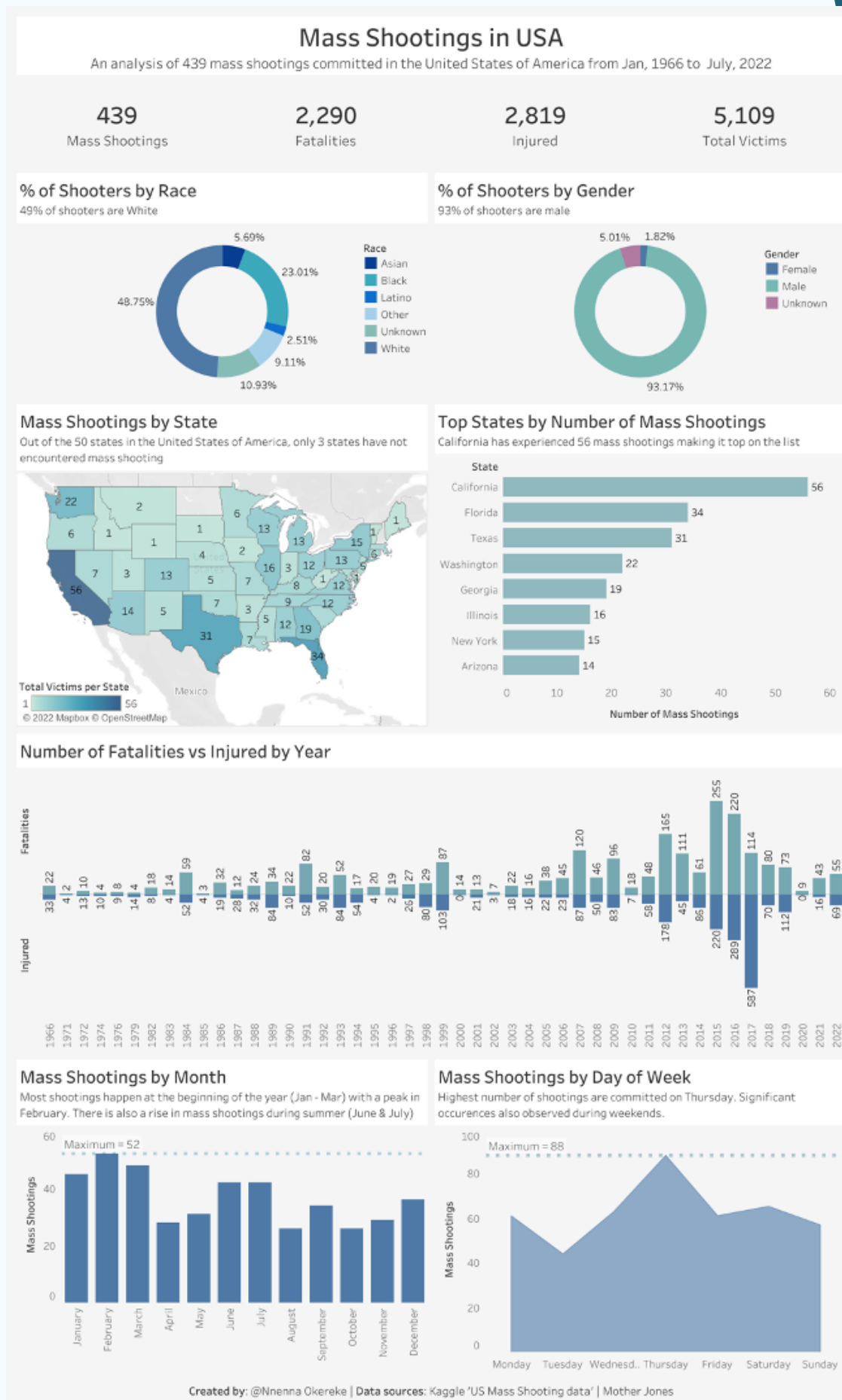
Analysis

Over time, there has been an increasing number of mass shooting occurrences, deaths, and injuries. The data reveals that there has been 439 mass shootings from 1966 till July 2022. This has led to 5109 total number of victims including 2290 fatalities and caused injuries to 2819 people. Out of the 50 states of the United states of America, only 3 states have not experienced mass shootings. States like California, Florida and Texas top the list of highest number of mass shootings encountered. 48 percent of shooters are whites and 93% of shooters are male. Peak shootings are observed to happen on Thursday while significant shooting events are experienced in the weekends as well.

These observations highlight the urgent need of having appropriate gun laws that can help curtail the rising trends in mass shootings. There is no doubt that U.S experiences this the most since U.S. has by far the highest estimated number of guns per capita in the world. Hence, with such number of guns in civilians' hands, it can be difficult ensuring that these guns don't fall into wrong hands and eventually lead to mass shootings.

Conclusion

This study has shown the upward trend of mass shootings in the USA and emphasis the need to curtail the trend by instituting policies that can curtail mass shootings. A lot of grey areas still exist in the analysis.

Other data that would be helpful in answering some data driven question include Age, place of shooting and mental state of shooter if known and if the weapon was legally obtained or not. With the Age on can see if the shooters are within a particular age group and how that can relate to their mental health. Place of shooting can also give insight into the most exposed places like schools, place of worship, supermarkets etc.