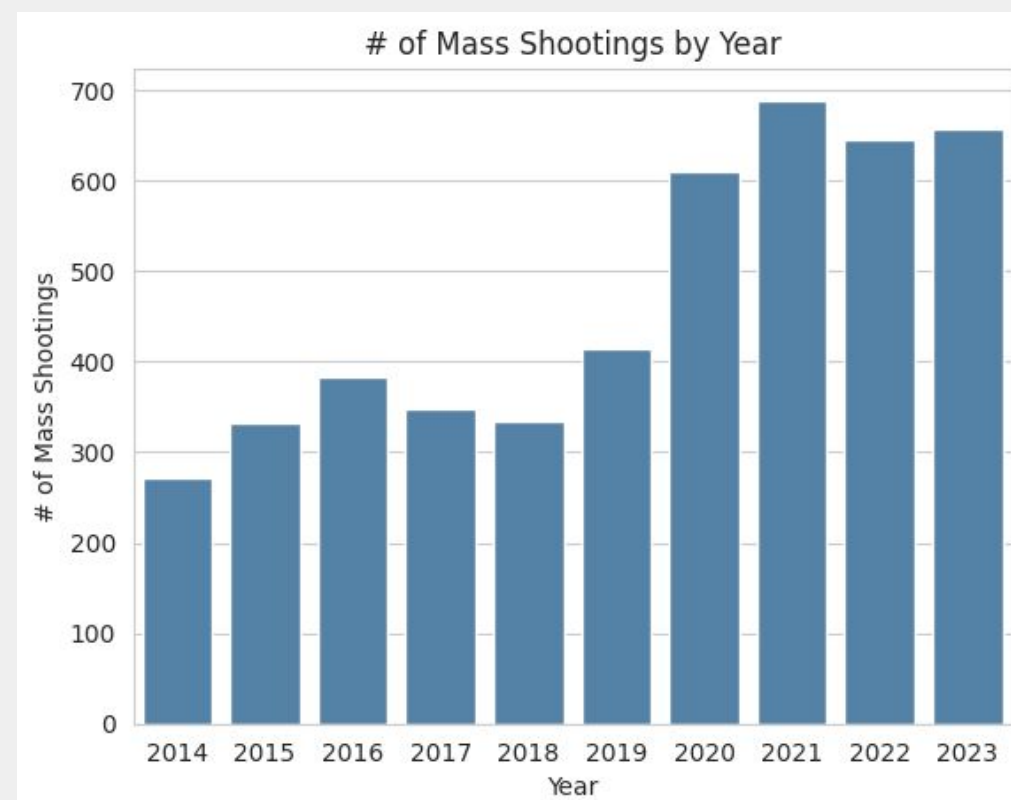


# Mass Shootings in America

by Daniel Olusheki

## Introduction

For my social justice project, I decided to research mass shootings in America. Mass shootings are a unique issue to America and with this research and data, I hope to find out more about this topic and how it can be prevented. The graph below shows the total number of mass shootings per year. The data shows that the amount of mass shootings have spiked in 2020, hovering over 600 mass shootings in following years.



## Questions

- ★ What trends are happening concerning mass shootings in America?
- ★ What's the correlation between gun laws, the population, and the number of mass shootings?
- ★ Which states have the most gun laws and how do those states fare in mass shooting frequency?

## Sources

<https://www.gunviolencearchive.org/mass-shooting>  
<https://www.kaggle.com/datasets/peretzcohen/2019-census-us-population-data-by-state/data>  
<https://www.kaggle.com/datasets/jboysen/state-firearms>

## Observations

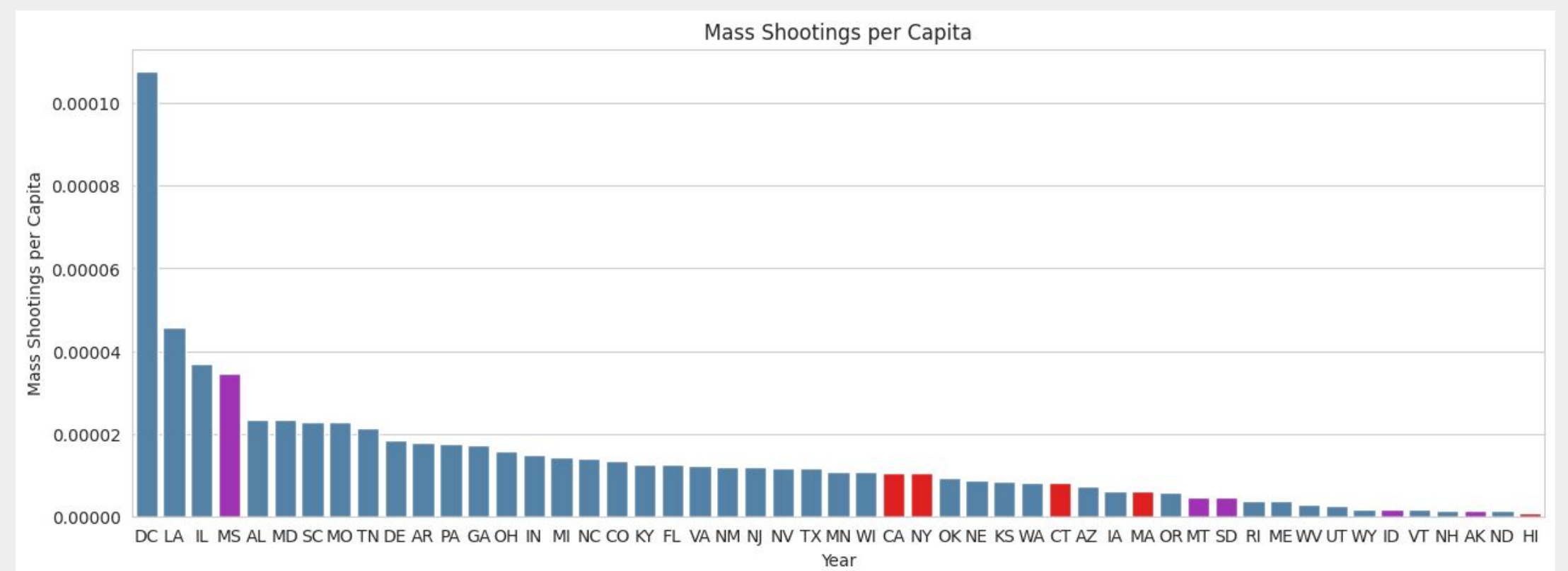
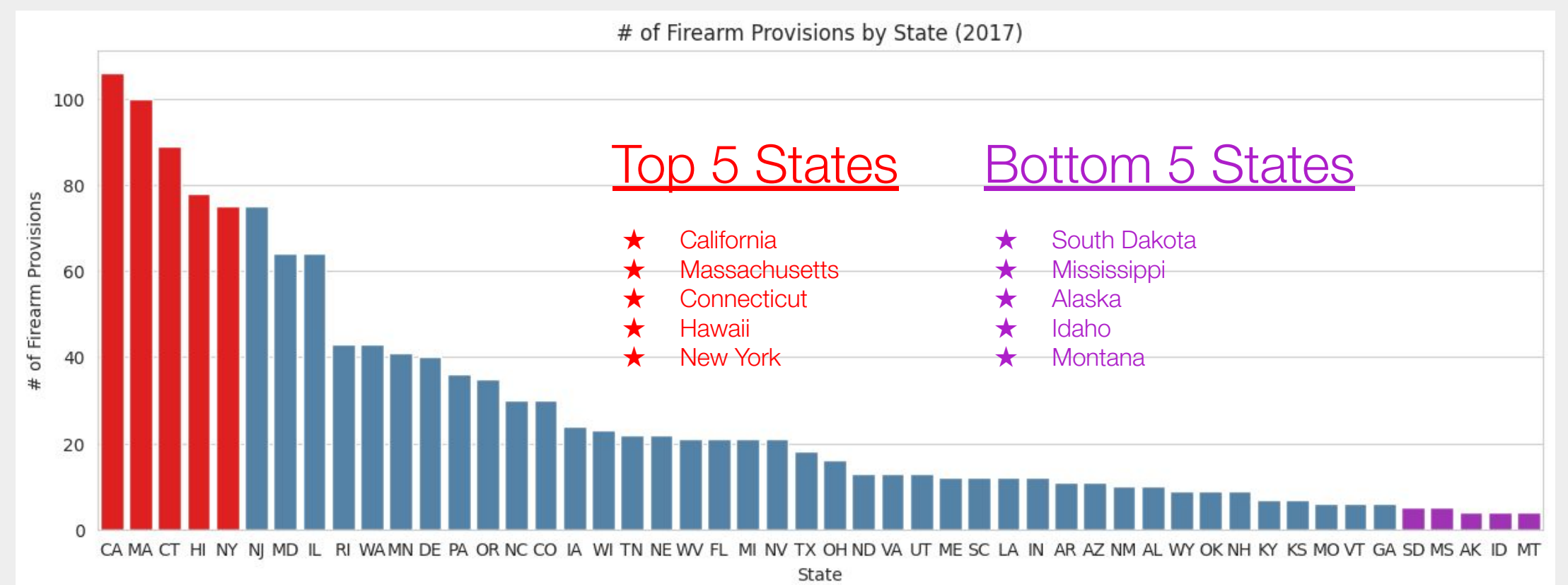
I used three databases for these graphs in an attempt to find a correlation between the # of gun laws a state has and the amount of mass shootings they've had.

The graph above shows the # of gun laws a state had in 2017 (concealed weapon law, mental health evaluations, background checks, etc). The top five and bottom five states with gun law strength are highlighted with red and purple (respectively) across all graphs to evaluate a connection between population and mass shooting frequency.

The graph below was made using GVA data and the US Census Data. I divided the total # of mass shootings that occurred (from 2014-2023) to the population (2019).

I noticed that the top 5 leaders in gun legislature have a lower mass shooting per capita compared to other state, however the bottom five states usually had even less mass shootings per capita. This result isn't what I expected when I started this topic, because I usually hear that stronger gun laws make a large difference.

I suspect that the reason for this outcome is that places with less gun laws usually have lower populations and naturally less mass shootings. For example, Montana has only had 5 mass shootings with ~1 mil, Idaho had 3 with ~1.7 mil, and Alaska had 5 with 730K. Compared to California's 420 mass shootings with a population of 39 mil, it's hard to compare. Larger states need more gun laws because the potential to cause harm is much larger.



## Conclusion

Mass shootings in America has been growing, and a contributor for that may be the growing population of America. Through our observations, we've established a link between gun laws and mass shootings. Some other contributors are gun ownership, gun laws, and mental health.

## Colabs & Acknowledgements

<https://colab.research.google.com/drive/1yXcoJa0fPe5AspEbV2SBBIP4o6ui0g#scrollTo=niy8d6AleyYq>  
<https://colab.research.google.com/drive/15Cu9Ua-cb9pToJoJEaxLO9iTOsdPt18l#scrollTo=n6Fuls2U4x1a>  
<https://colab.research.google.com/drive/1Jmq0yr6pZ43PVJ6cbTT3fPWqoYGImsmg>  
Credits to: Kelly, Leo, Freya, Willow, ChatGPT, StackOverflow, and Blogs. Thank you all!

## Justice

- ★ Who collected the data?
  - Gun Violence Archive, Thomson Reuters Westlaw legislative database; Everytown for Gun Safety and Legal Science, LLC; US Census
- ★ How did they collect it?
  - GVA creates it's database through utilizing automated queries, manual research through over 7,500 sources from local and state police, media, data aggregates, government and other sources daily.
  - Everytown surveys gun laws of all states and documents them in a database
  - The US Census uses current data on births, deaths, migration, and # of people in homes to calculate population change since the most recent decennial census
- ★ How did those decisions affect the results?
  - The GVAs definition of mass shooting (gun violence incident with 4+ shot not including perpetrator) can make gun violence seem more or less extreme
  - Undocumented births or deaths or homeless people aren't counted in population.
- ★ What's missing?
  - What type of mass shooting is it? (family annihilation, spree shooting, etc)
  - The varying time period of these graphs might not be a fully accurate representation
  - The observations may not fully explain the recent increase in mass shootings