GUN VIOLENCE ACROSS AMERICA

Presenters:
Krystal Sandez, Mika Hua, Norman Steele, & Vartan Haghverdi

June 21st, 2018

Good evening everyone. We are Team USBHub also known as team six. I am Krystal Sandez, (point to other team members to say their name)

The topic we choose for our project is around gun violence across America.

Why Gun Violence?

- We each have had our own experiences to how gun violence has impacted and shaped people's lives

- Do you know of someone who has been affected by gun violence, whether it be a relative, friend, or co-worker?

- From social media, news outlets, and from our experiences, we all may have misconceptions about the topic and wanted to understand from data if our perceptions hold truths or were misleading

So why did we choose gun violence? In our team discussion, we found commonality that we each have had our own experiences to how gun violence has impacted and shaped people's live here in America. We ask ourselves and to you our audience, do you know of someone who has been affected from gun violence whether they be a relative, friend or coworker?

When we think about this topic, we wondered from social media, news outlets or from our own experiences, that we may all have misconceptions around gun violence and we wanted to understand from data, if our perceptions hold any truths or could have been misleading from this sources.

Sources

- Stanford Geospatial Center: dataset on mass shootings
https://github.com/StanfordGeospatialCenter/MSA

- Non-Profit: Gun Violence Archive
http://www.gunviolencearchive.org/reports

- USA Census Data: American Community Survey 1-Year Estimates
https://www.census.gov

- State Policy Database: Ruger & Sorens Database of State and Local
Public Policies and Policy Ideology Indices
http://www.statepolicyindex.com/data

With that we combed through the internet with its abundance of information and chose the following sources to answer some of our questions.

Sources used is first a dataset on mass shootings from Stanford Geospatial Center, an organization that conduct their own datamining. Second, a non-profit organization called Gun Violence Achieve that tracks gun incidences in America. Thirdly, we leveraged the US Census Bureau information and lastly, a state policy database by Ruger and Sorens that houses US laws and policies.

What can data tell us about gun violence?

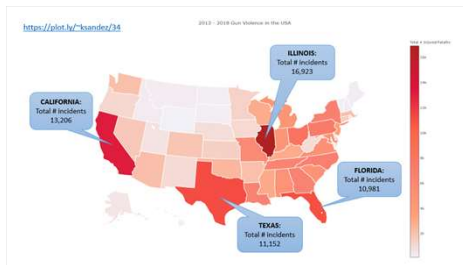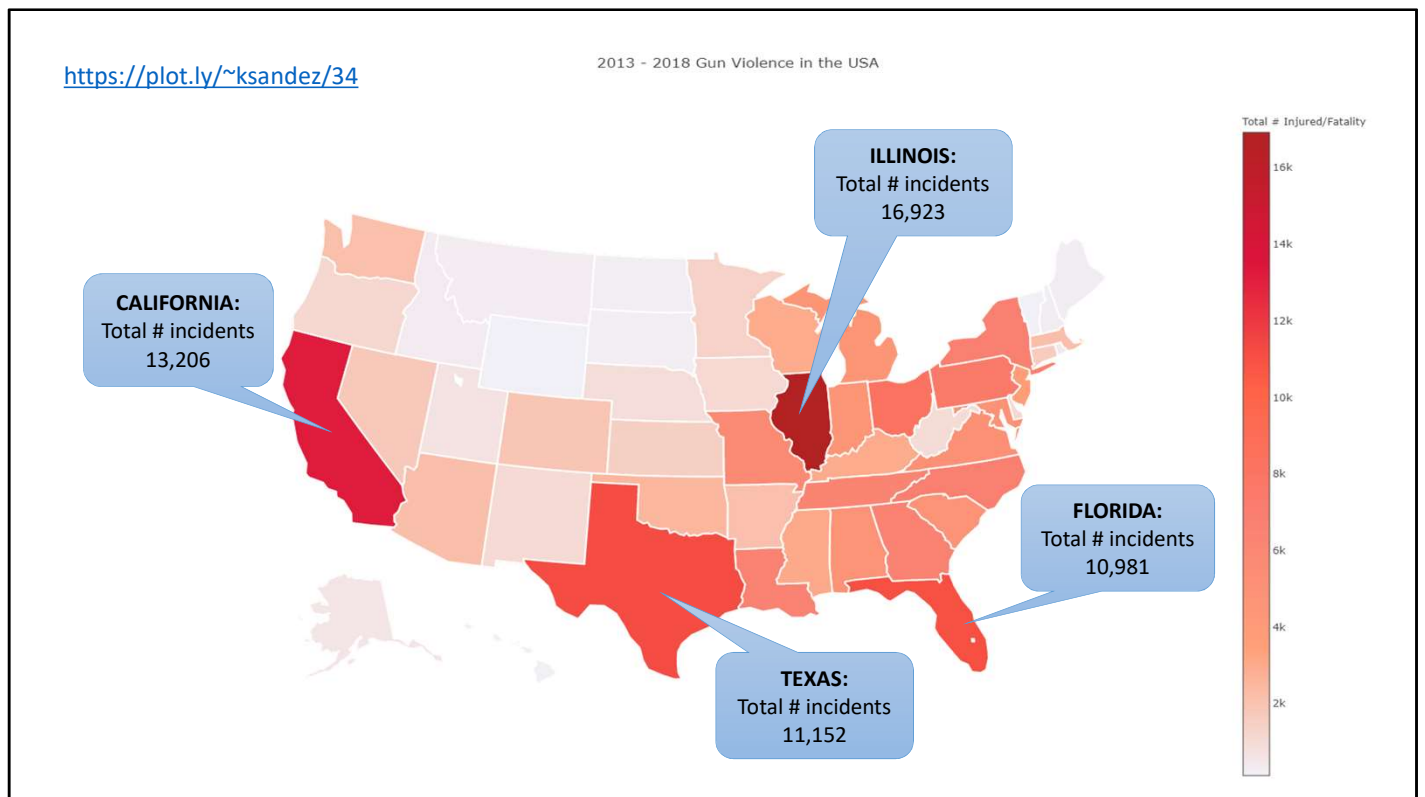|	
Race distribution correlation of mass shootings	Age & Gender analysis of Victims & Suspects
Increase or decrease of gun violence rates	Effectiveness of gun control laws

From these 4 sources, what can data tell us about gun violence and to start, I had questions relating to whether there is a race distribution correlation to mass shootings.
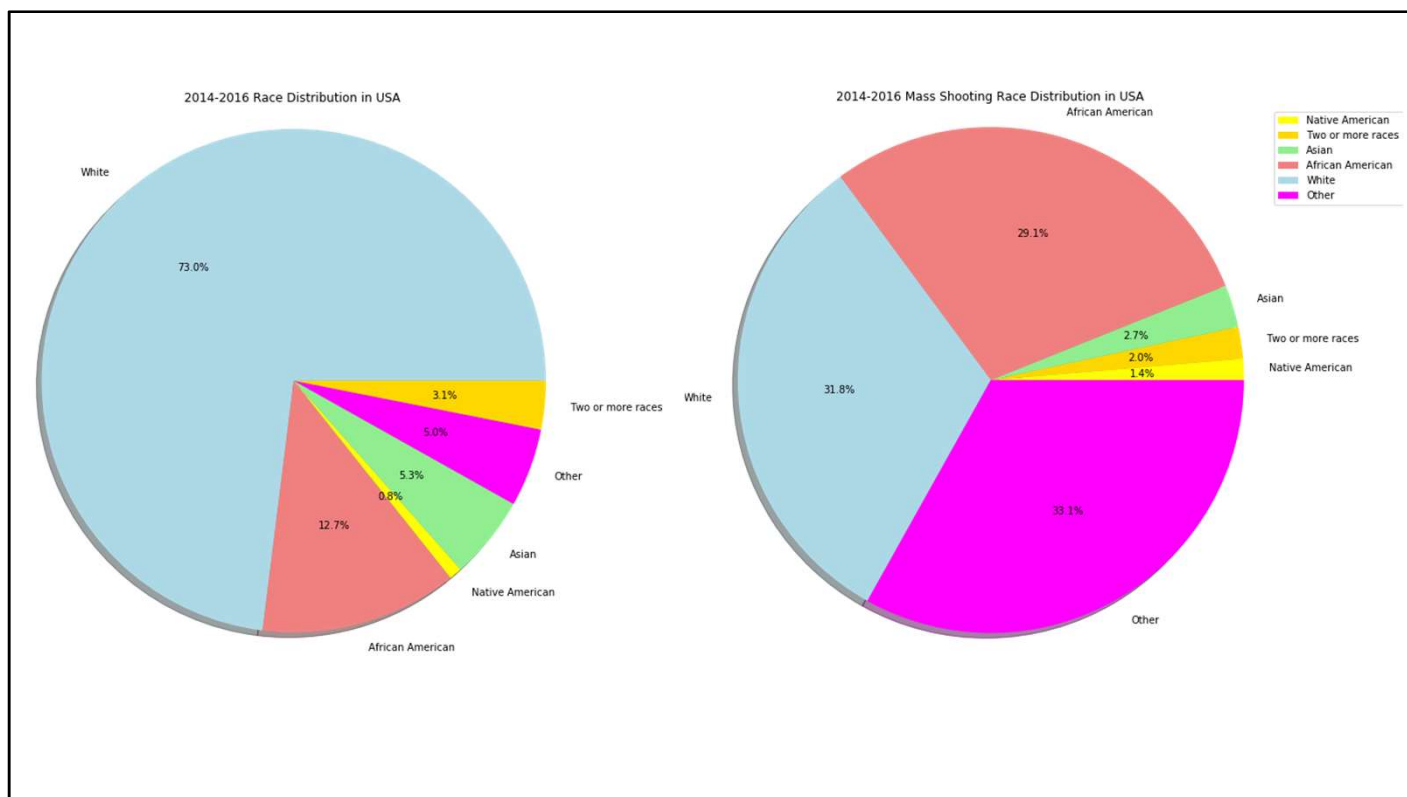
What can data tell us about gun violence?

Race distribution correlation of mass shootings

1. How many gun violence incidents has there been in the USA?
2. What is the race distribution within the USA?
3. What races are mass shooters?

2013 - 2018 Gun Violence in the USA

In this illustration, mapped are all gun violence incidents from 2013 to the end of March of this year. I wanted to see as a choropleth in what parts of the nation is there more prevalence of this type of violence. In order to do this map, I went thru the massive dataset which contained 240 thousand rows and getting the state abbreviated. From there, getting the count in 51 states which included Washington DC and then utilizing the plotly program to get an interactive map.

url: https://plot.ly/~ksandez/34

2014-2016 Race Distribution in USA

2014-2016 Mass Shooting Race Distribution in USA

Next with pie charts I wanted to see the correlation of race distribution of the states in comparison to the identified race of the shooter in mass shootings. Mass shooting is defined by the FBI incidents where 4 or more were killed including the perpetrator.

What can data tell us about gun violence?

Race distribution correlation of mass shootings	Age & Gender analysis of Victims & Suspects
Increase or decrease of gun violence rates	Effectiveness of gun control laws

What can data tell us about gun violence?

Age & Gender analysis of
Victims & Suspects

- 2014-2018 Average Age of Victims vs Suspects
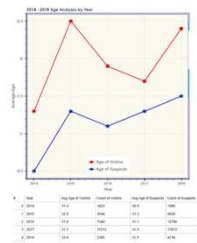
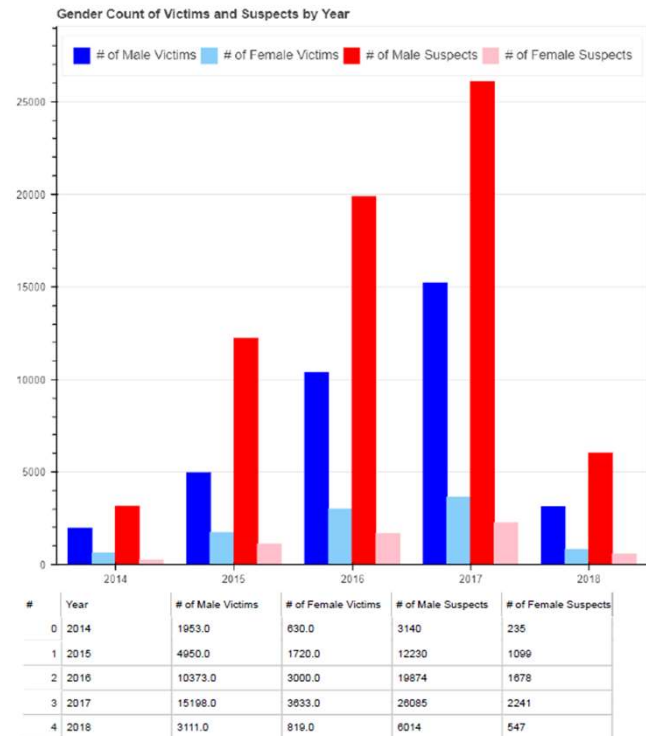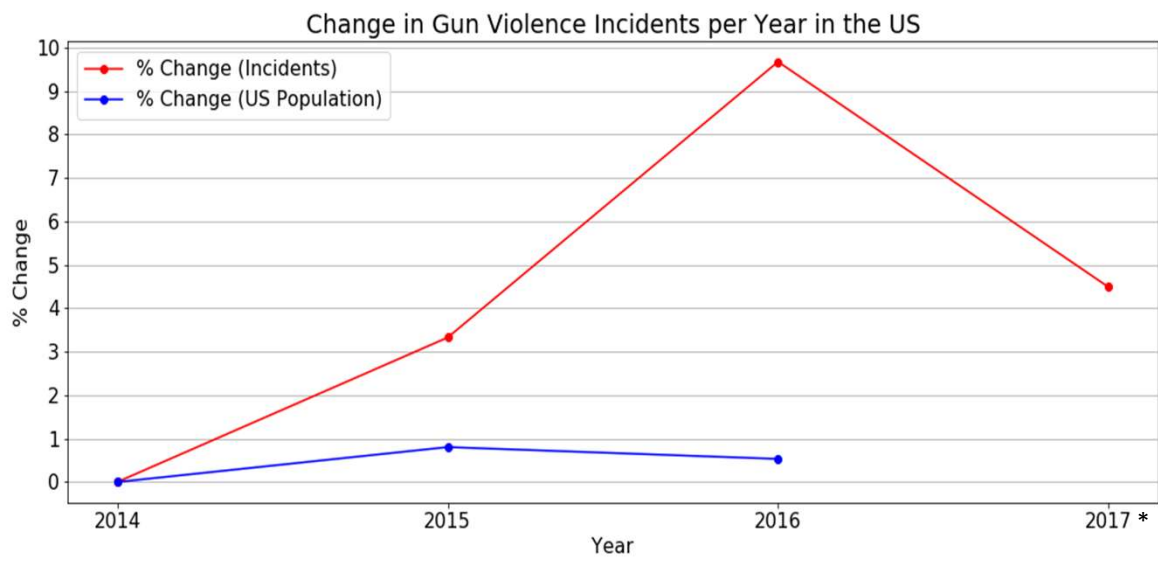- 2014-2018 Count of Genders of Victims vs Suspects
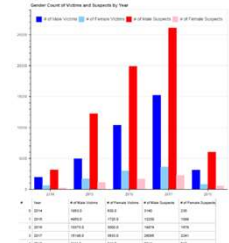
1. Is there correlation to the age and gender of the victims and the suspects

- [2014-2018 Average Age of Victims vs Suspects](#)

2014 - 2018 Age Analysis by Year

#	Year	Avg Age of Victims	Count of Victims	Avg Age of Suspects	Count of Suspects
0	2014	31.3	1423	30.5	1909
1	2015	32.5	3544	31.3	8029
2	2016	31.9	7349	31.1	12796
3	2017	31.7	11513	31.3	17613
4	2018	32.4	2385	31.5	4139

2014-2018 Average Age of Victims vs Suspects url:
http://htmlpreview.github.io/?https://github.com/zhua1/Project1/blob/master/ageLineCharts.html

- [2014-2018 Count of Genders of Victims vs Suspects](#)

Gender Count of Victims and Suspects by Year

#	Year	# of Male Victims	# of Female Victims	# of Male Suspects	# of Female Suspects
0	2014	1953.0	630.0	3140	235
1	2015	4950.0	1720.0	12230	1099
2	2016	10373.0	3000.0	19874	1678
3	2017	15198.0	3633.0	26085	2241
4	2018	3111.0	819.0	6014	547

2014-2018 Count of Genders of Victims vs Suspects url:
http://htmlpreview.github.com/?https://github.com/zhua1/Project1/blob/master/genderBarCharts.html

What can data tell us about gun violence?

Race distribution correlation of mass shootings

Age & Gender analysis of Victims & Suspects

Increase or decrease of gun violence rates

Effectiveness of gun control laws

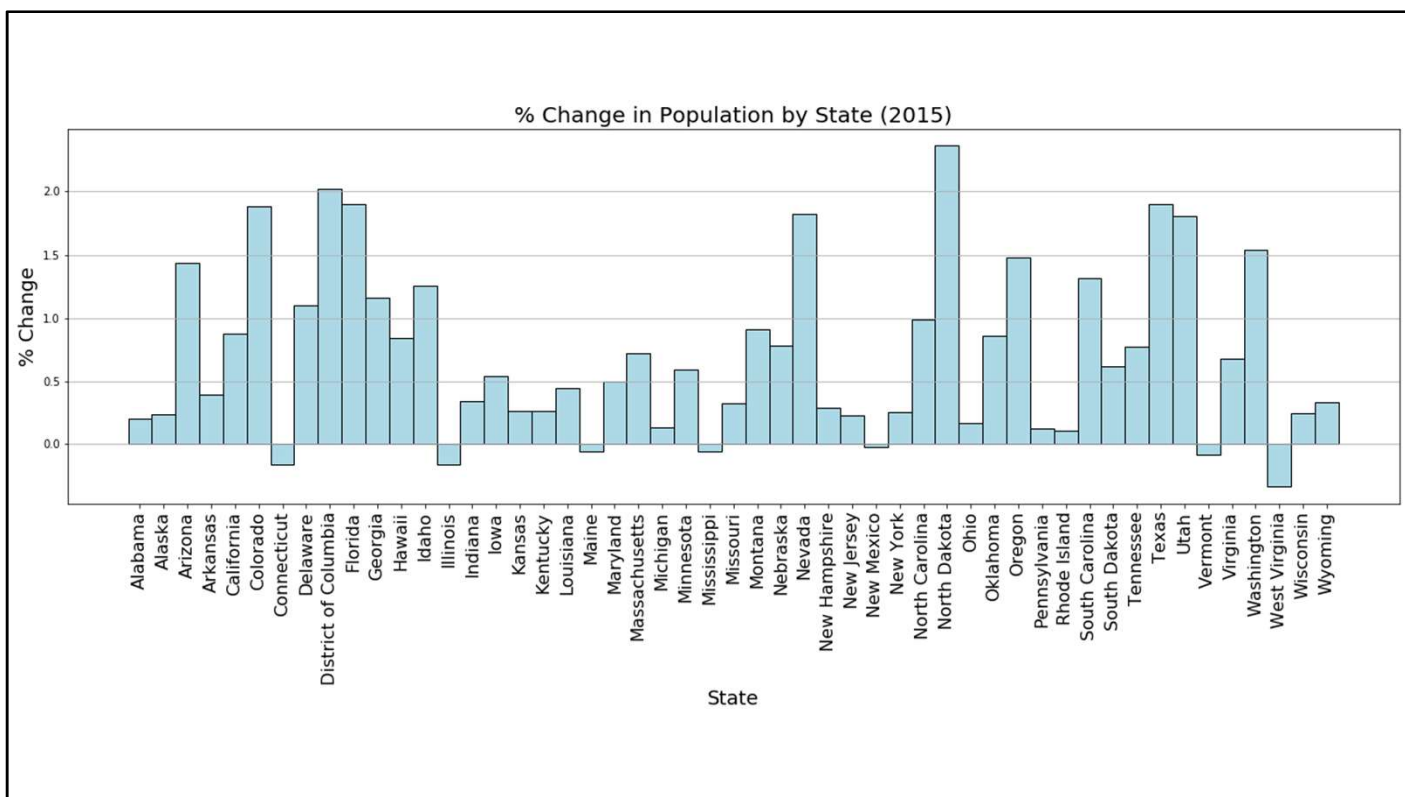# What can data tell us about gun violence?
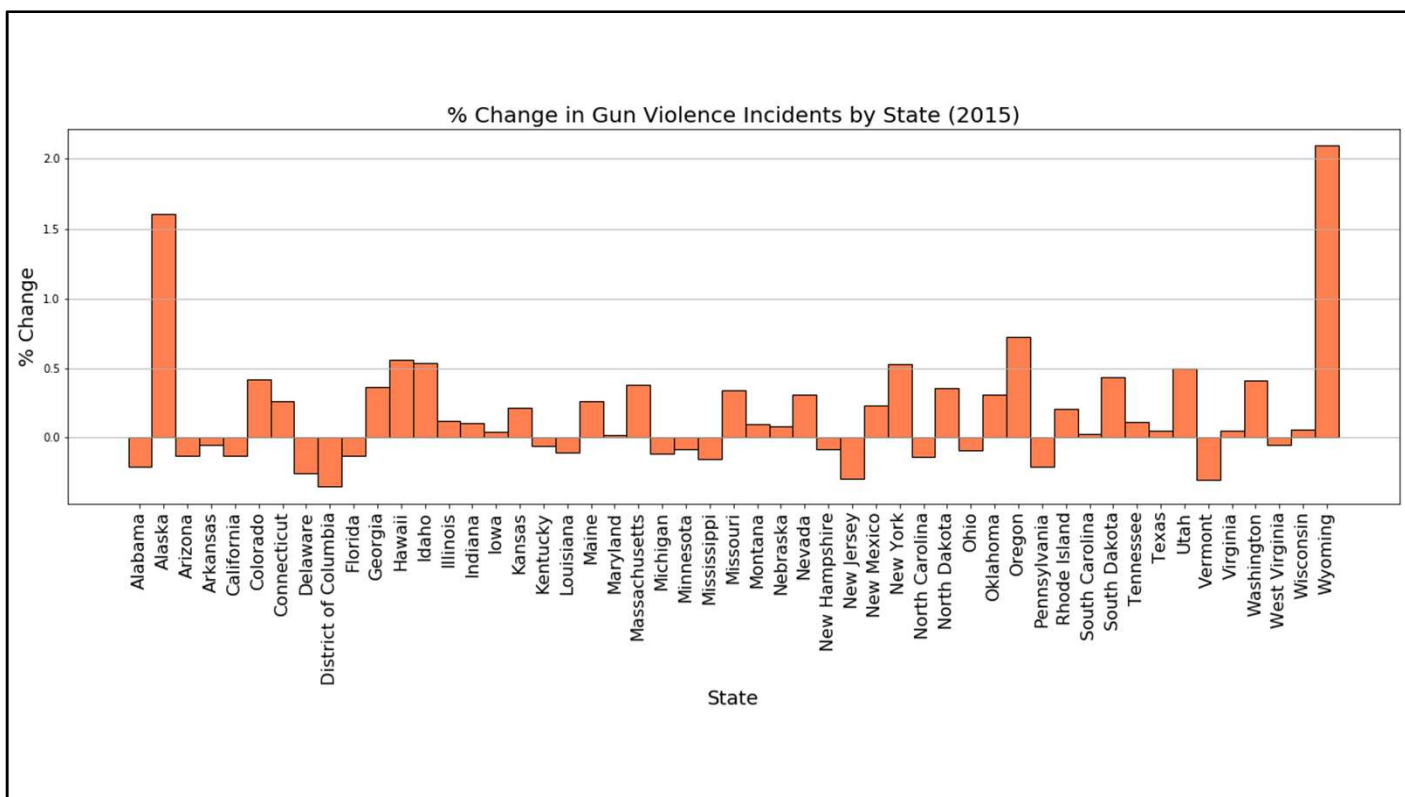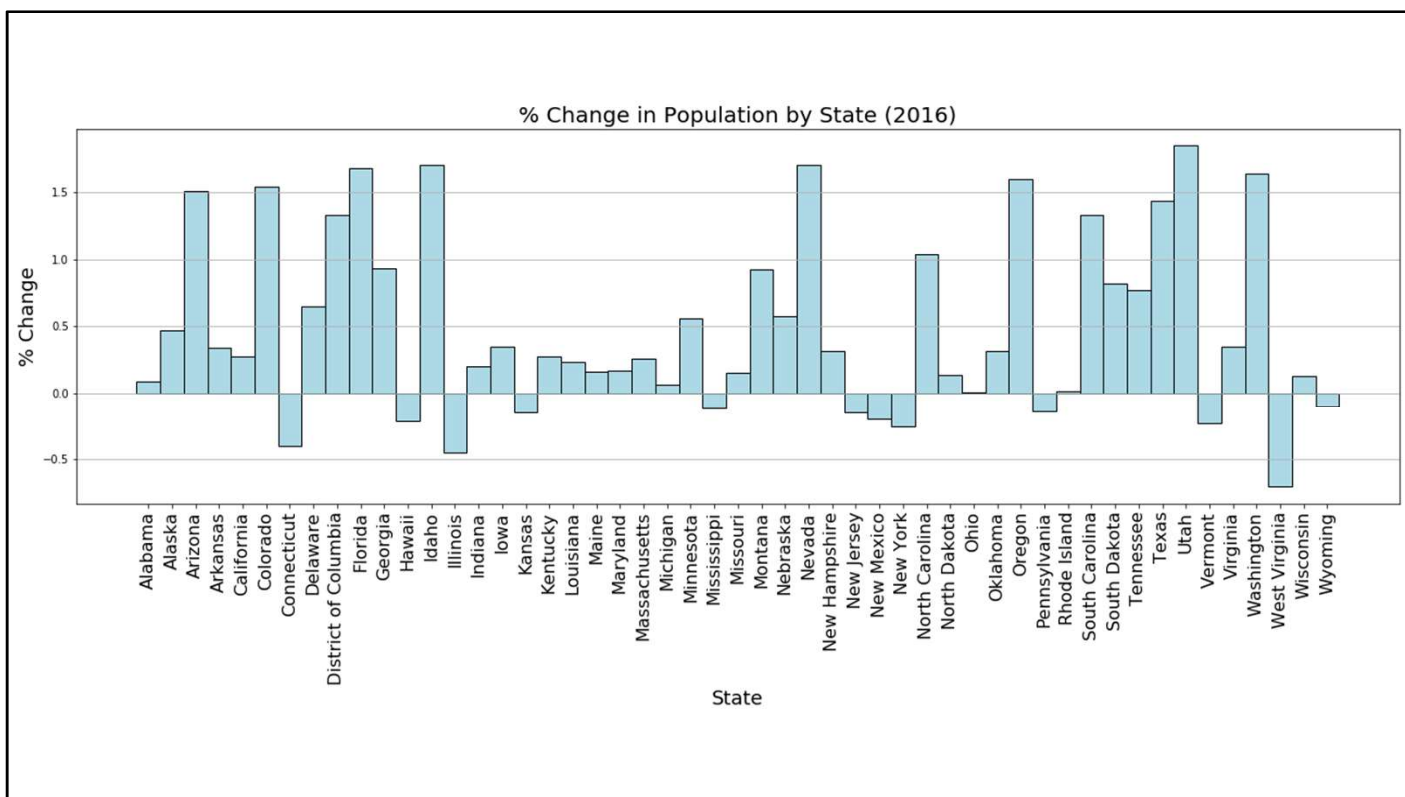
Increase or decrease of gun violence rates
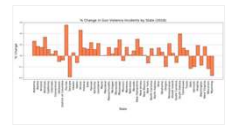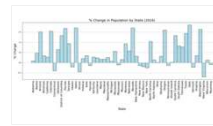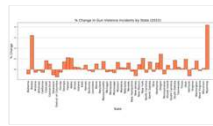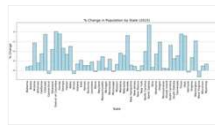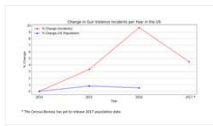
1. Does gun violence go +/- year over year compared to the population per 100k ppl
2. Is gun violence getting out of control as portrayed by the media?
3. Is there a time when gun violence happens more often?

Change in Gun Violence Incidents per Year in the US

* The Census Bureau has yet to release 2017 population data
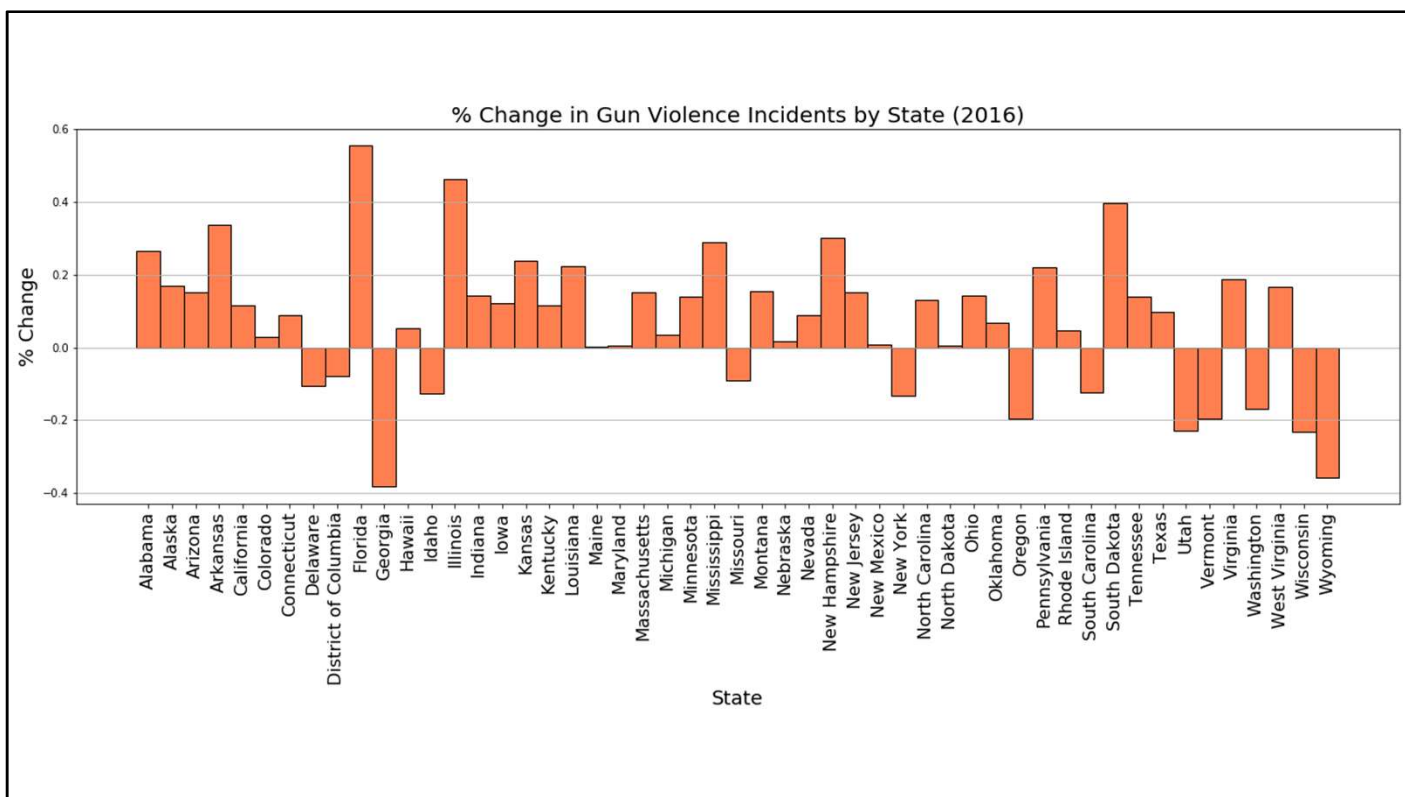
% Change in Population by State (2015)

% Change in Gun Violence Incidents by State (2015)

% Change in Population by State (2016)

17

% Change in Gun Violence Incidents by State (2016)

What can data tell us about gun violence?

Race distribution correlation of mass shootings

Age & Gender analysis of Victims & Suspects

Increase or decrease of gun violence rates

Effectiveness of gun control laws

What can data tell us about gun violence?
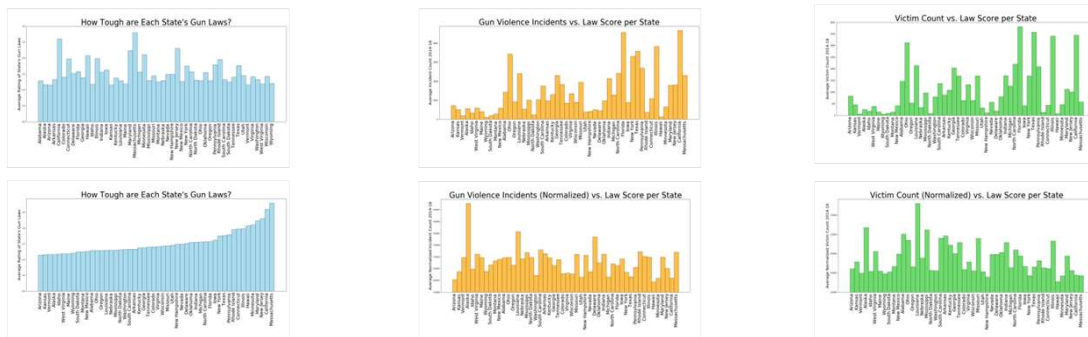
1. Gun Violence Law rating per state
2. Gun violence law rating per state vs total incidents per state averaged from 2014-16
3. Gun violence law rating per state vs total incidents per state averaged from 2014-16 normalized against total population
4. Gun violence law rating per state vs total victims per state averaged from 2014-16 normalized against total population
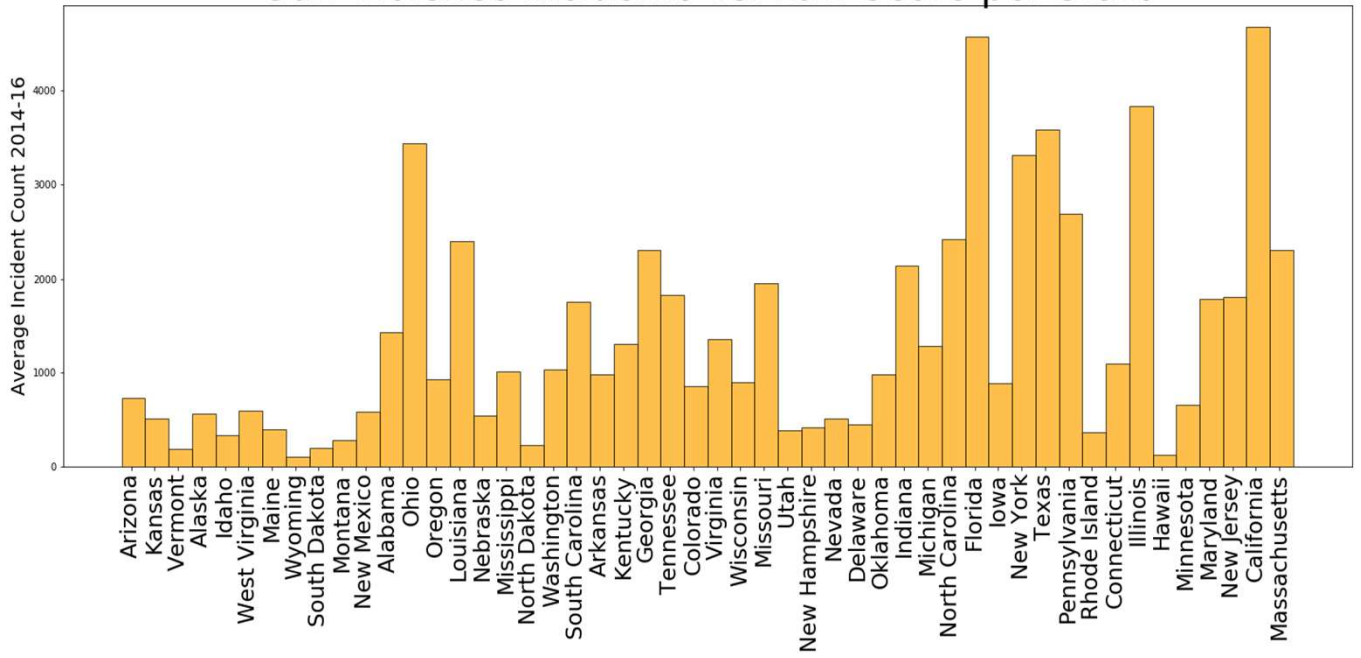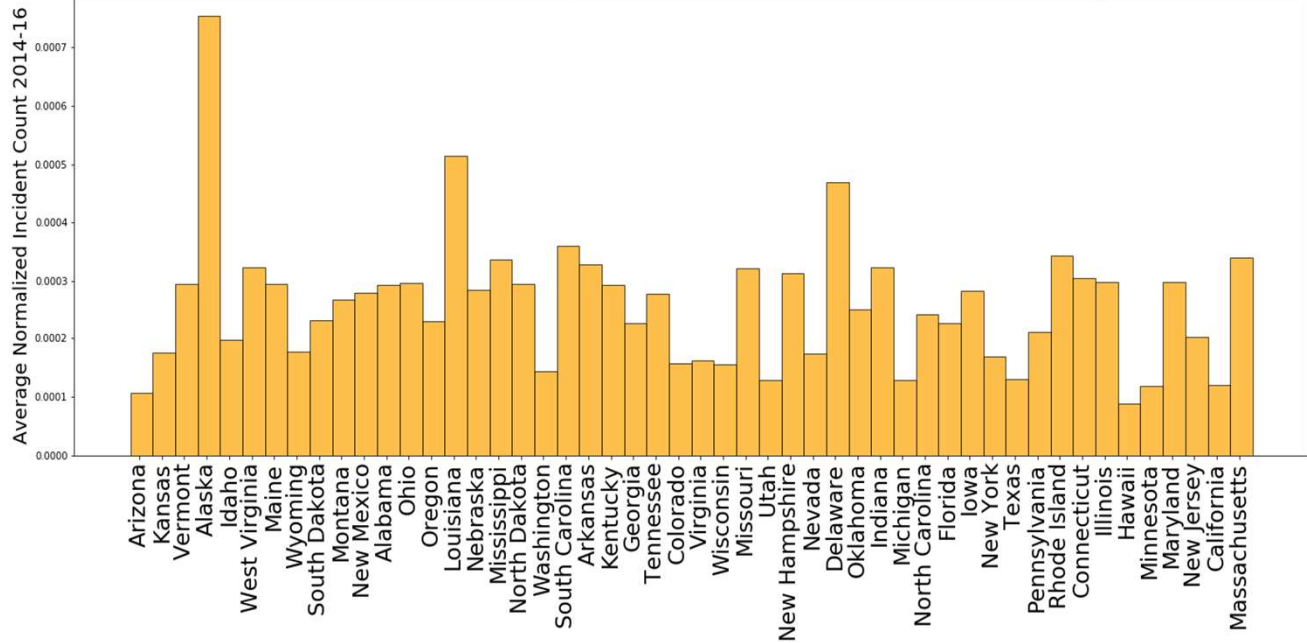
How Tough are Each State's Gun Laws?
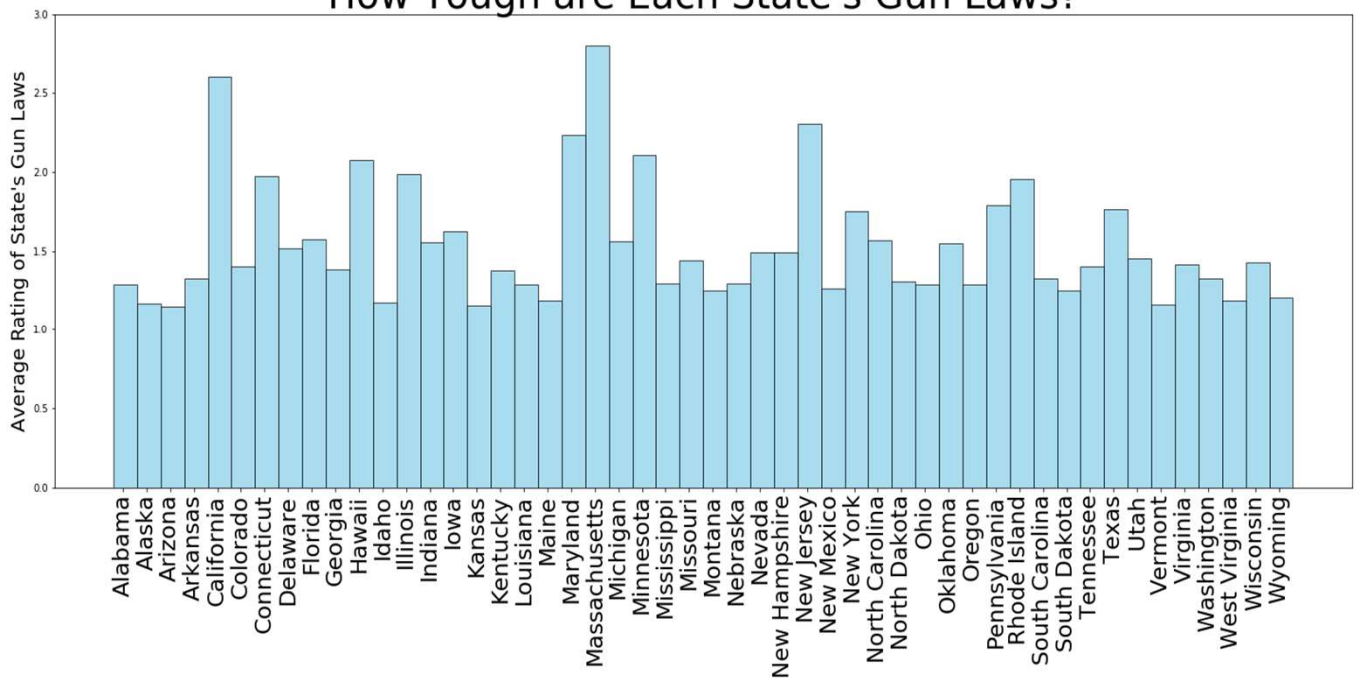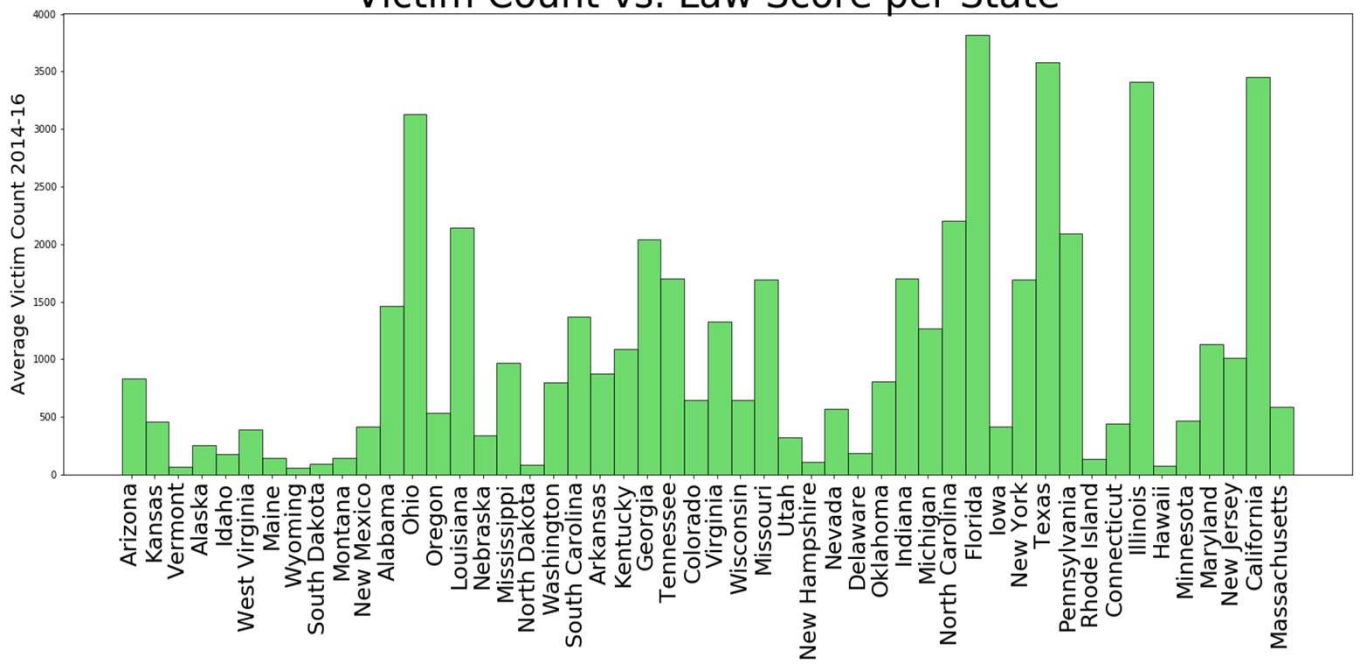
How Tough are Each State's Gun Laws?
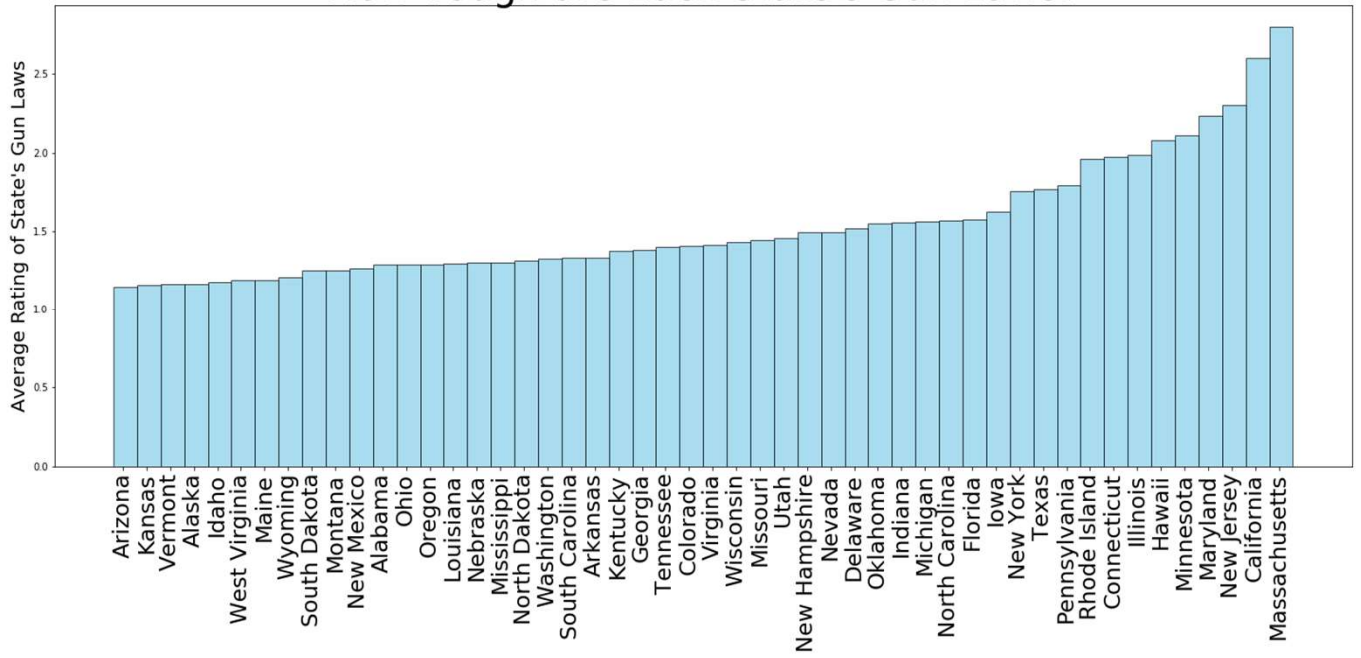
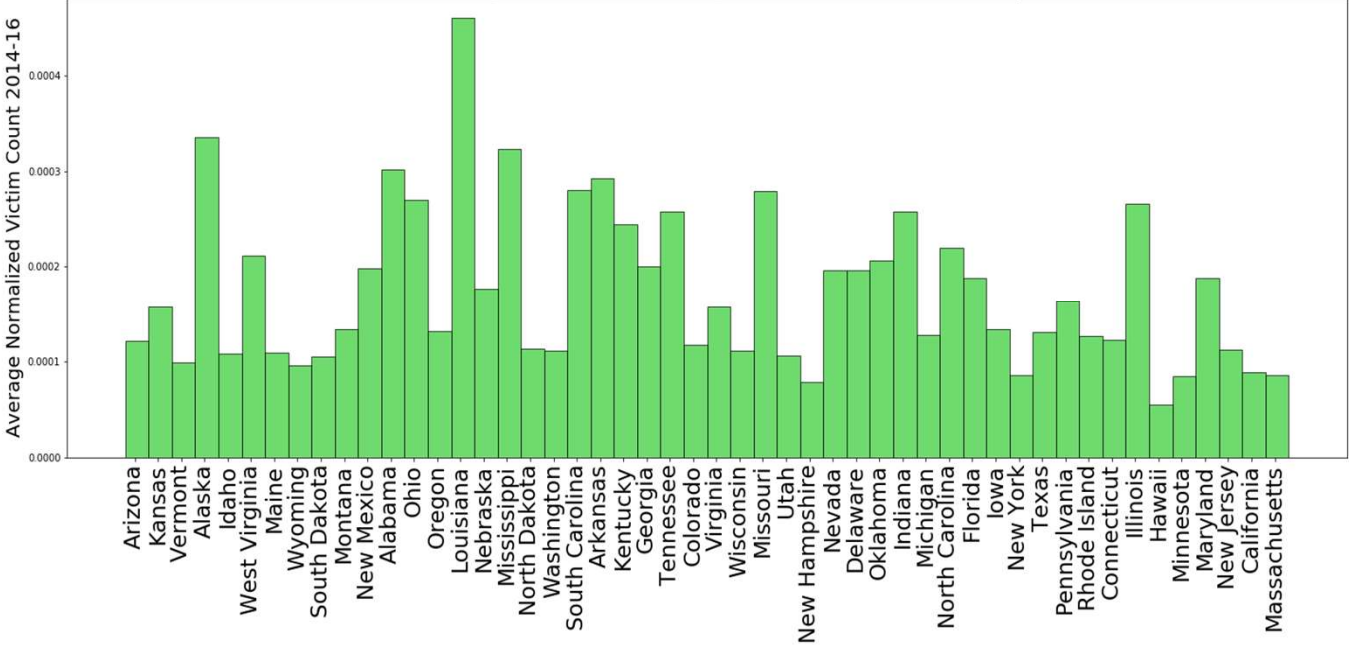Gun Violence Incidents vs. Law Score per State

Gun Violence Incidents (Normalized) vs. Law Score per State

Victim Count vs. Law Score per State

Victim Count (Normalized) vs. Law Score per State

Conclusions

Questions?