



US Gun Violence Data

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Areas of Focus

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graph LR; A((Victim Proximity to Shooter)) --- B((Shooter-Specific Findings)); B --- C((Regional Overview)); C --- D((Violence over Time));
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Victim
Proximity
to Shooter

Shooter-
Specific
Findings

Regional
Overview

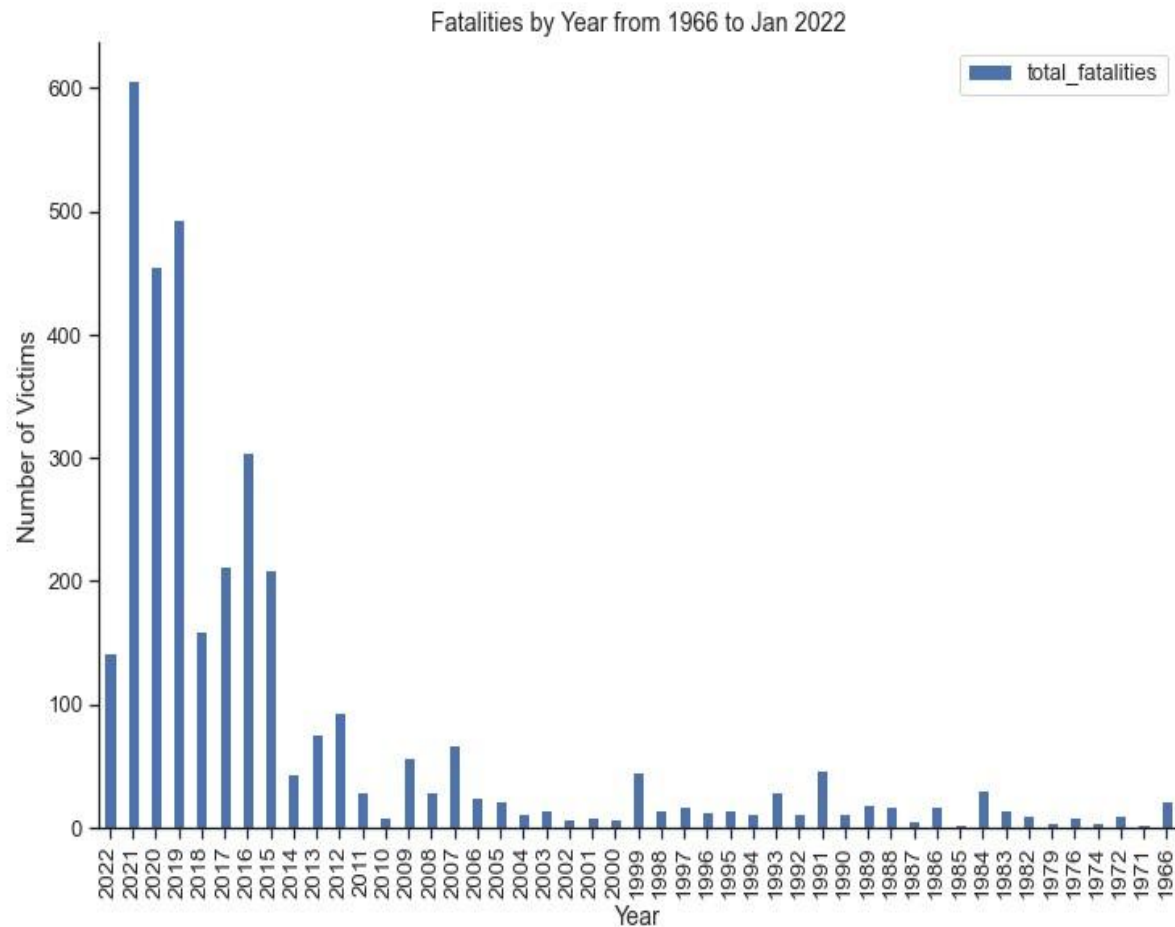
Violence
over
Time

Gun Violence Fatalities Over Time



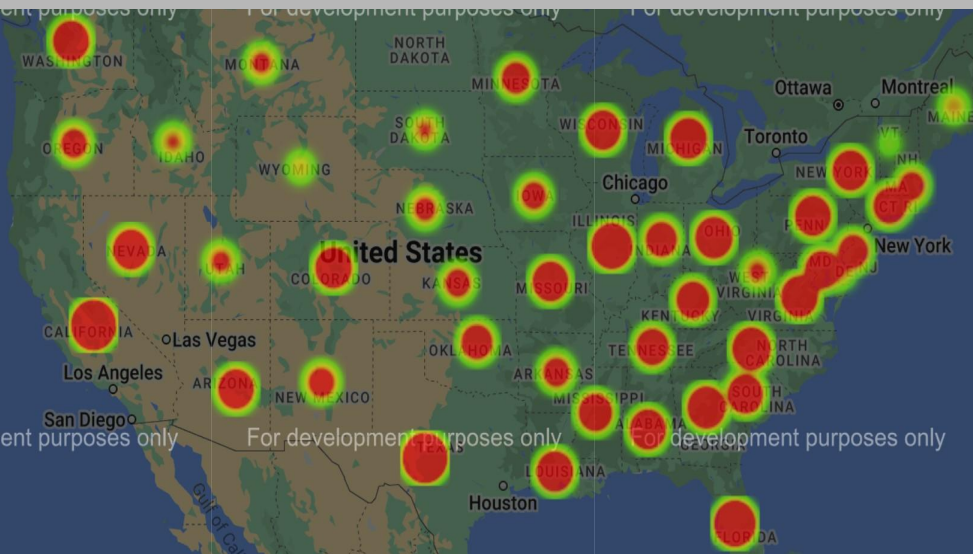
Fatalities by Year

From 1966 to 2022

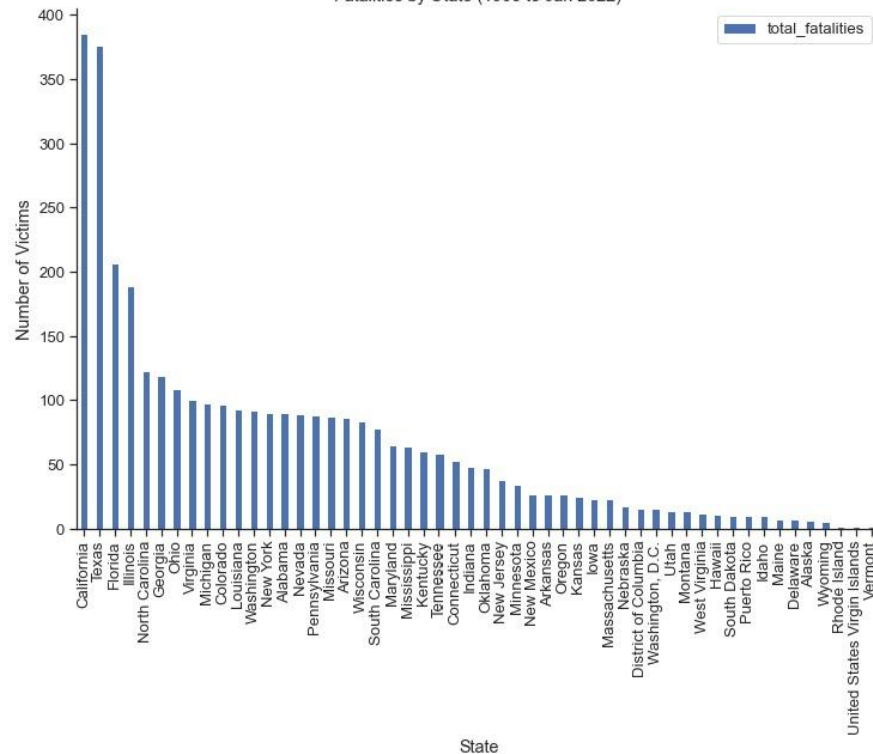


Fatalities by State

From 1966 to 2022

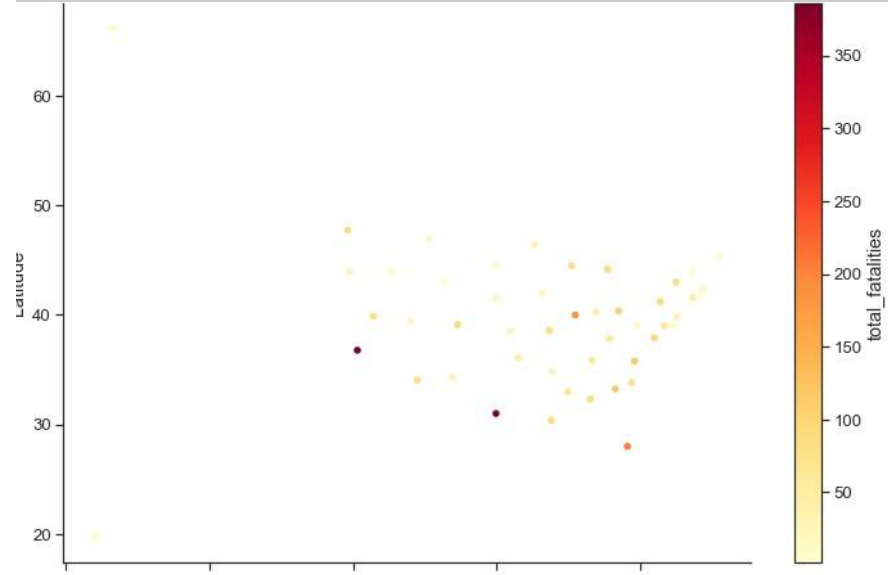
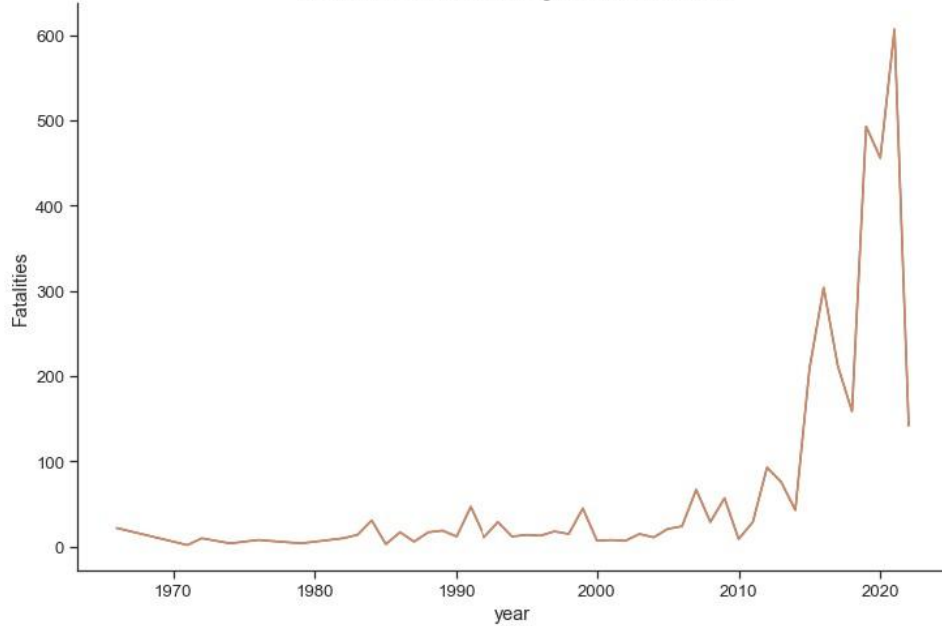


Fatalities by State (1966 to Jan 2022)

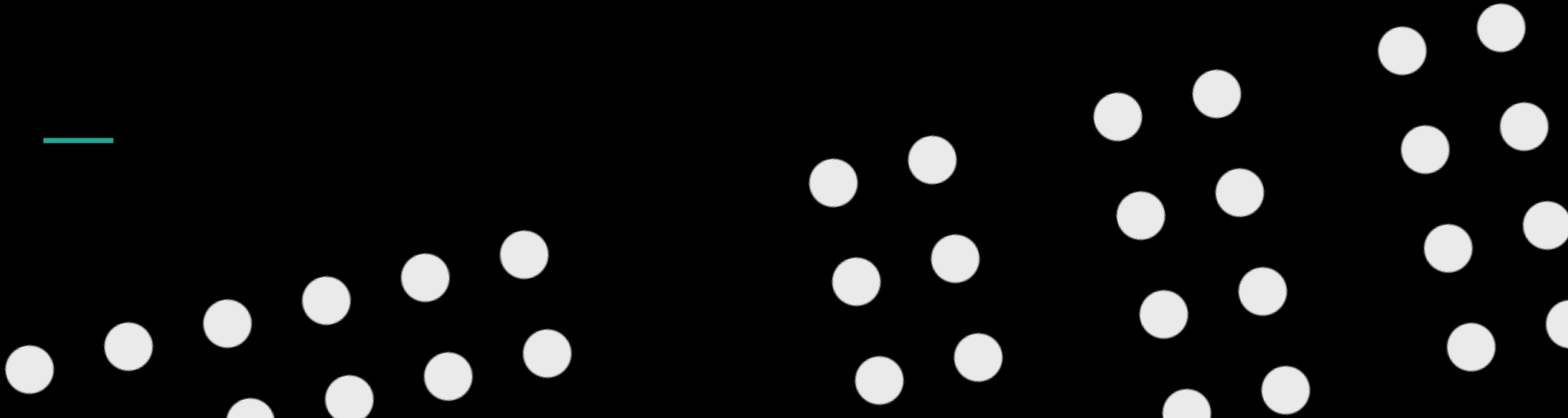


Time Series Analysis

Time Series of Mass Shooting Fatalities Since 1966



In what ways do one's proximity to a shooter impact their chance of becoming a victim?



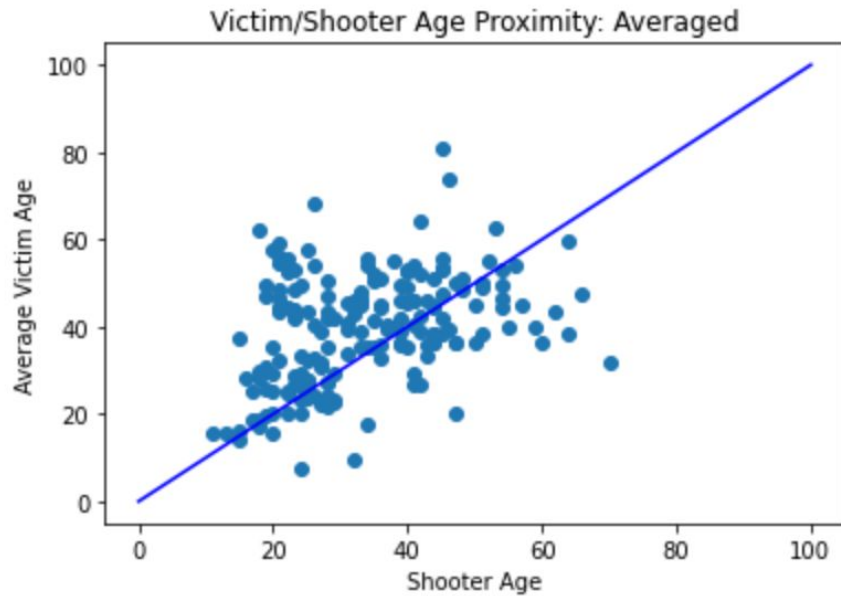
1st Hypothesis

Null: The proportion of victims within five years of the shooter's age is the same as the proportion of the victim's age.

Two-Tail Hypothesis A: Being within five years of age of the shooter makes it more likely to be victimized.

Two-Tail Hypothesis B: Being either 5+ years older or younger than the shooter increased the likelihood of becoming a victim.





Ratio of individuals
within 5 years of age as
the shooter vs not:
261:1303

Our Findings

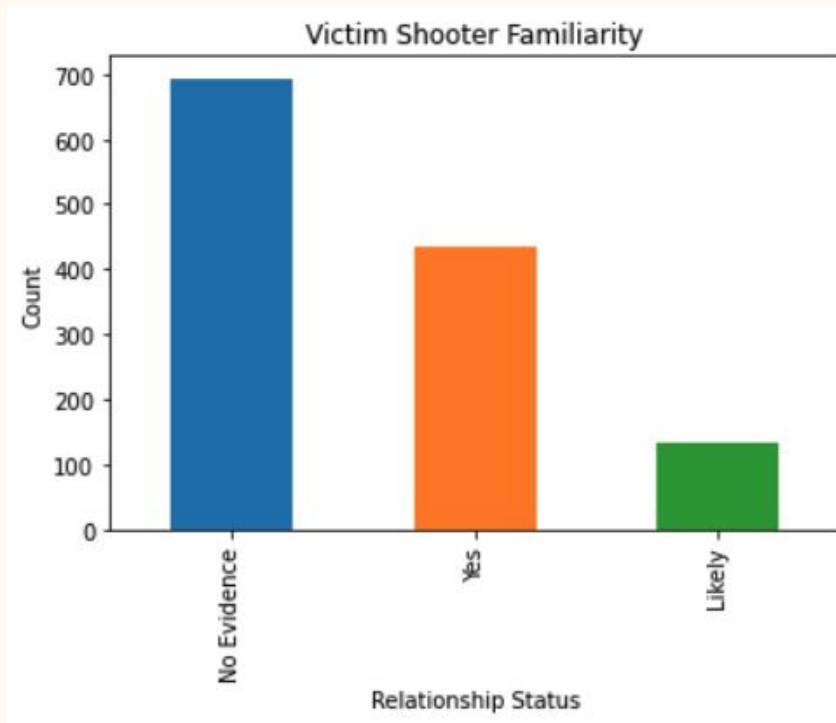
2nd Hypothesis

Null: Having been familiar with the shooter before an incident does not impact whether or not one became a victim in a shooting incident

Two-Tail Hypothesis A: Circumstantial/Concrete evidence of a victim and shooter knowing each other increased the likelihood of becoming victimized.

Two-Tail Hypothesis B: No evidence to show a relationship between the victim and shooter corresponds with a higher likelihood of one becoming victimized.



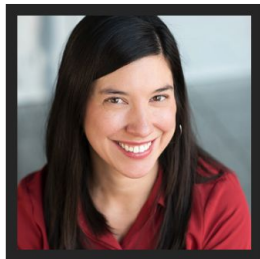


No evidence: 694
Circumstantial(likely): 434
Verified evidence: 134

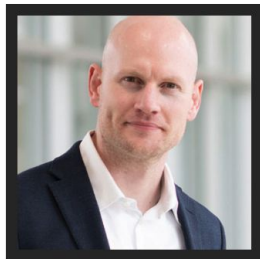
Our Findings

Dataset Source

Co-Founders



Jillian Peterson, PhD
Co-founder and President



James Densley, PhD
Co-founder and President

The Violence Project Dataset

- Dates from 1966-2022
- Over 200 recorded variables (Location, victims, shooter background, etc.)

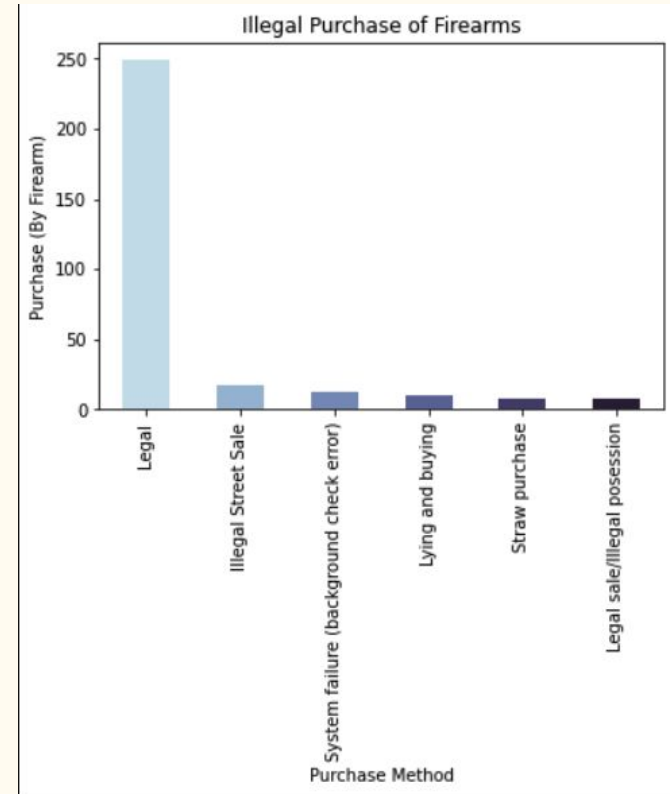
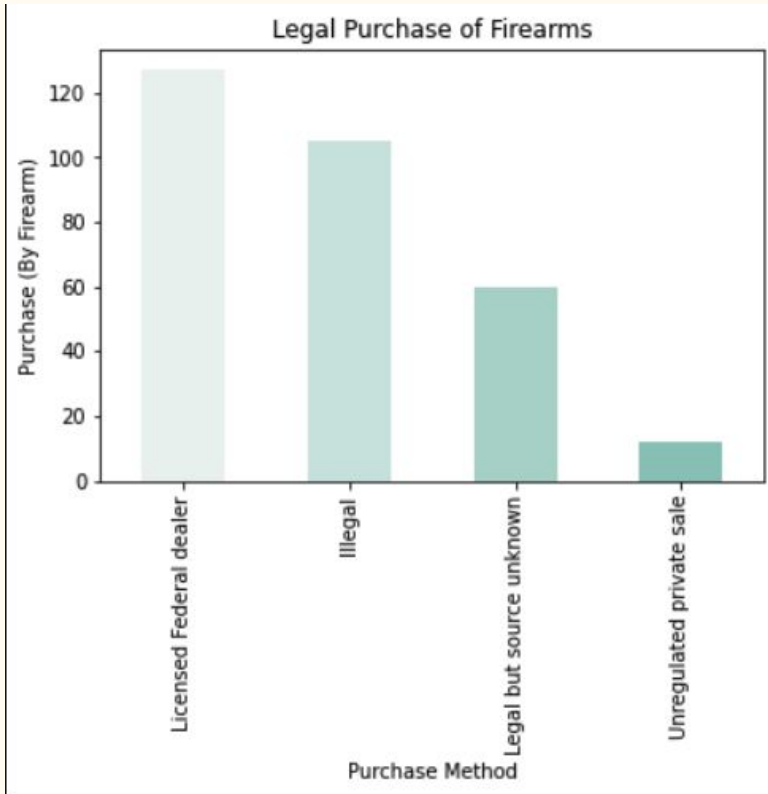
Defines mass shootings as: Four or more victims killed, regardless of number injured.

Areas of interest



1. Distribution of shootings by location, time, day, month, religion, race, education, and gender.
 2. Shootings by licensed vs unlicensed firearms.
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Confusing data for Illegal vs Legal Firearms Purchases



One Proportion z-test on: Gender of shooter

Null Hypothesis: Shooters are equally as likely to be male vs female.

Hypothesis: Shooters are more likely to be male.

Total Population: 180

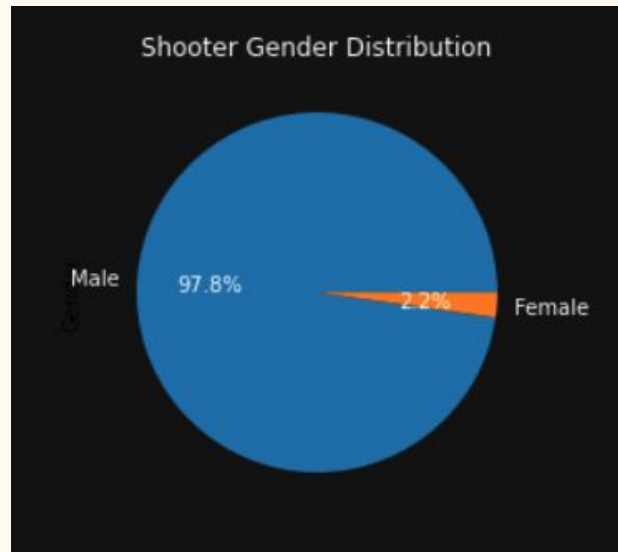
Sample population: 18

Null Hypothesis population: 0.5 (50% Male/50% Female)

Sample population results: 18 male/0 female

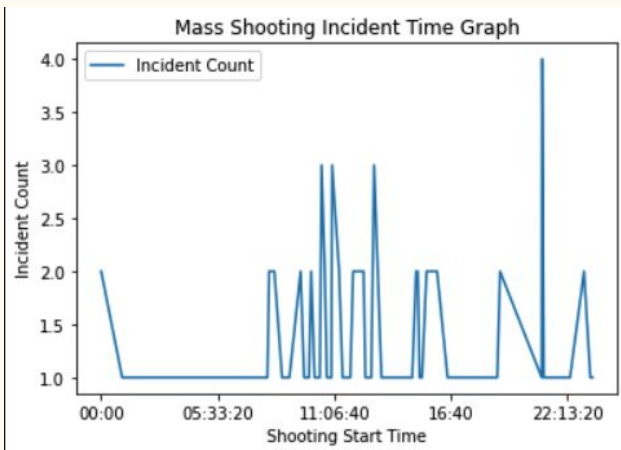
P-Value = 0.00016

Conclusion: Null hypothesis can be rejected. Shooters are more likely to be male.

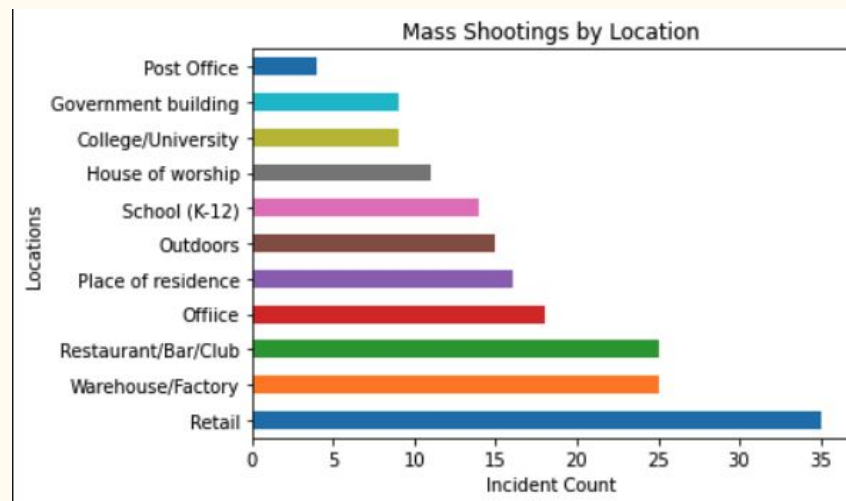
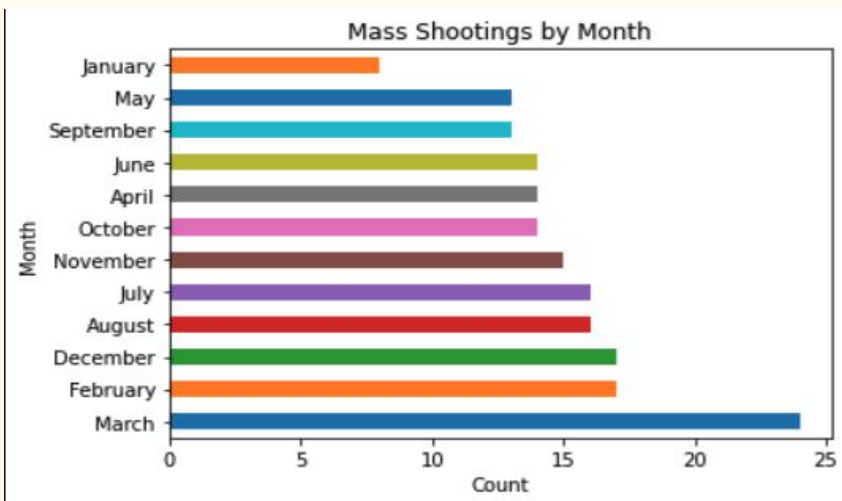
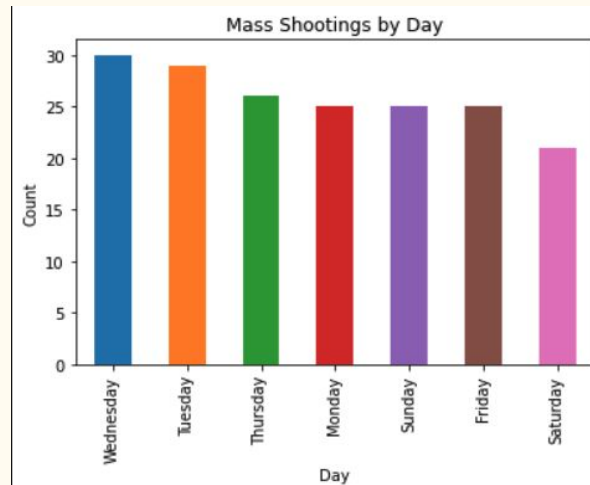


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proportions_ztest(9,18,value=count_1)
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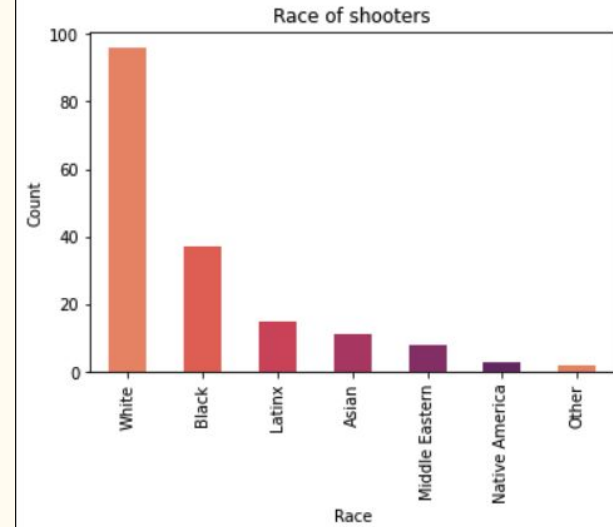
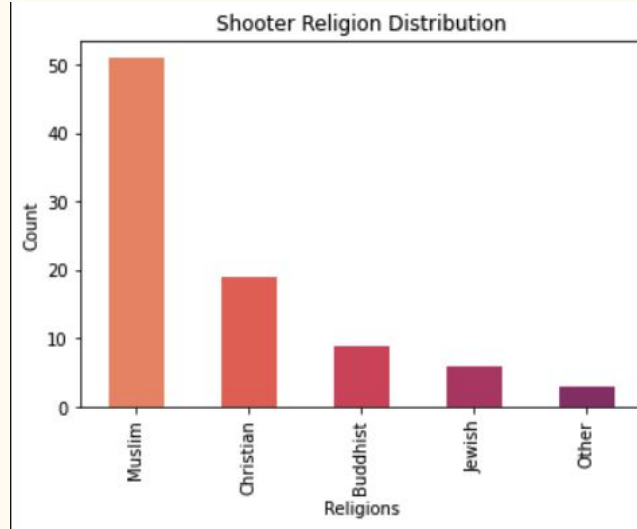
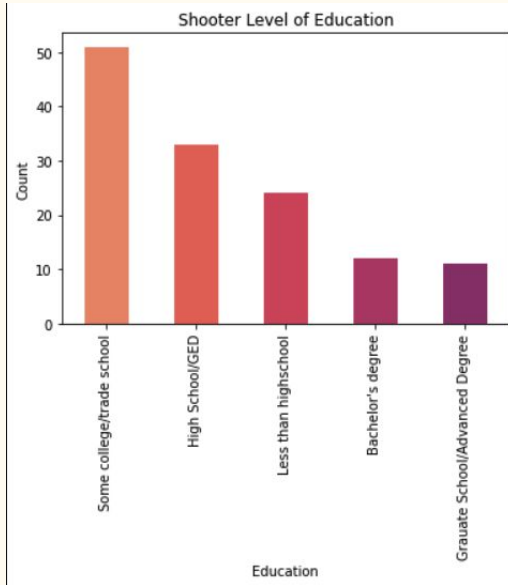
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(3.7712361663282534, 0.00016244084518680075)
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Location/Time

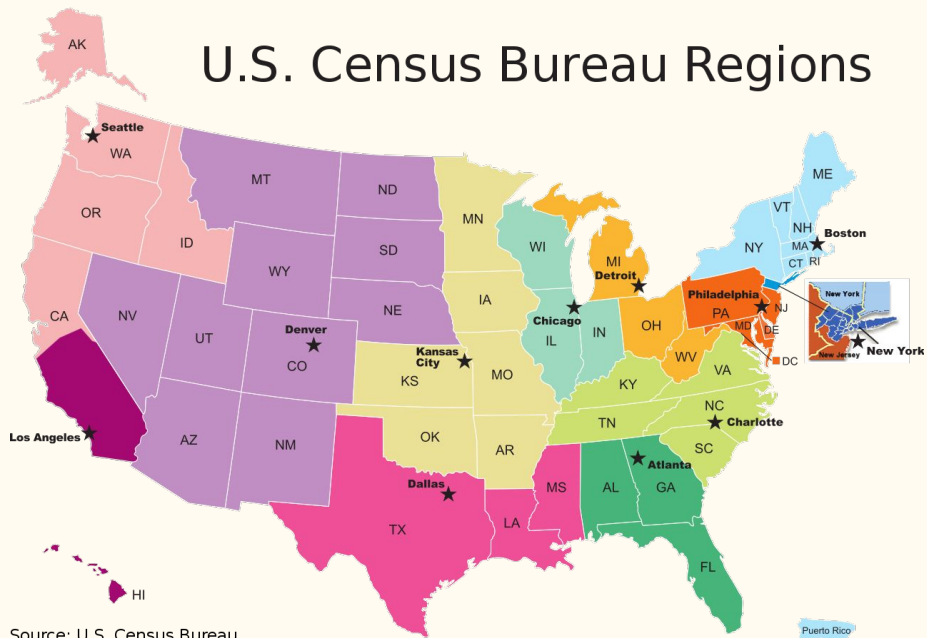


Distribution of race, age, and education

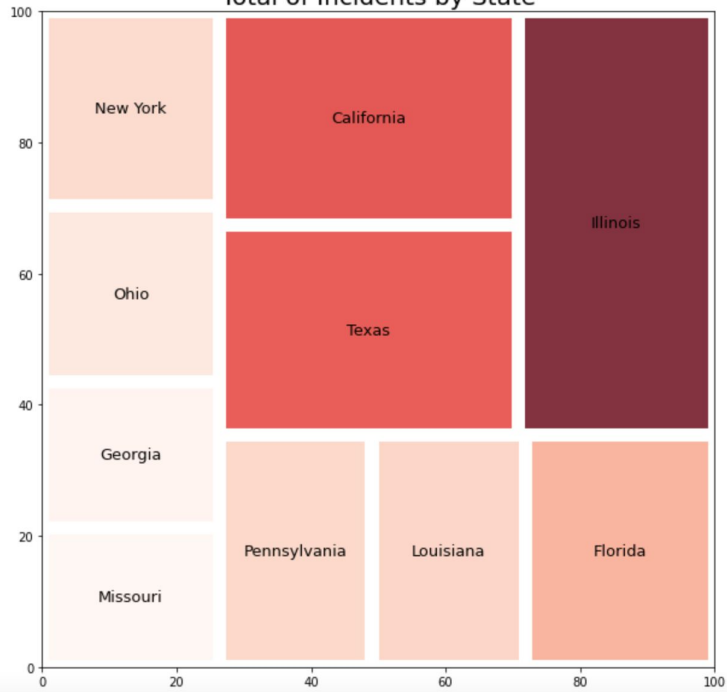


Our Regional Data Analysis

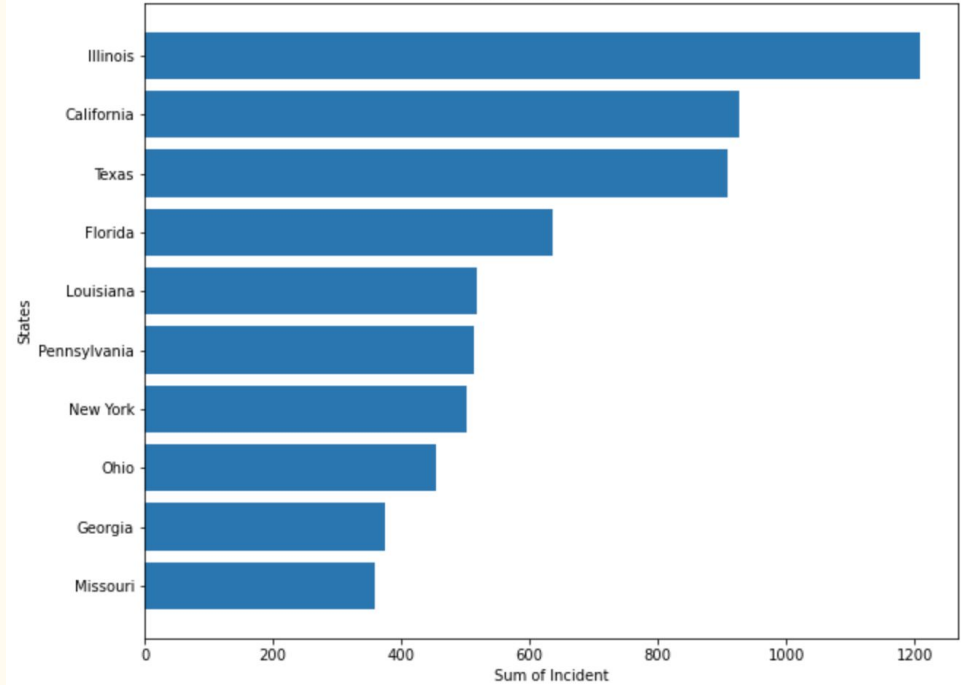
U.S. Census Bureau Regions



Total of Incidents by State



Total Incident by State



Our Findings

Thank you for listening.

