

US



Geographic Hotspots and Incident Repetition Analysis of Gun Violence in the United States



Areas of High

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Introduction

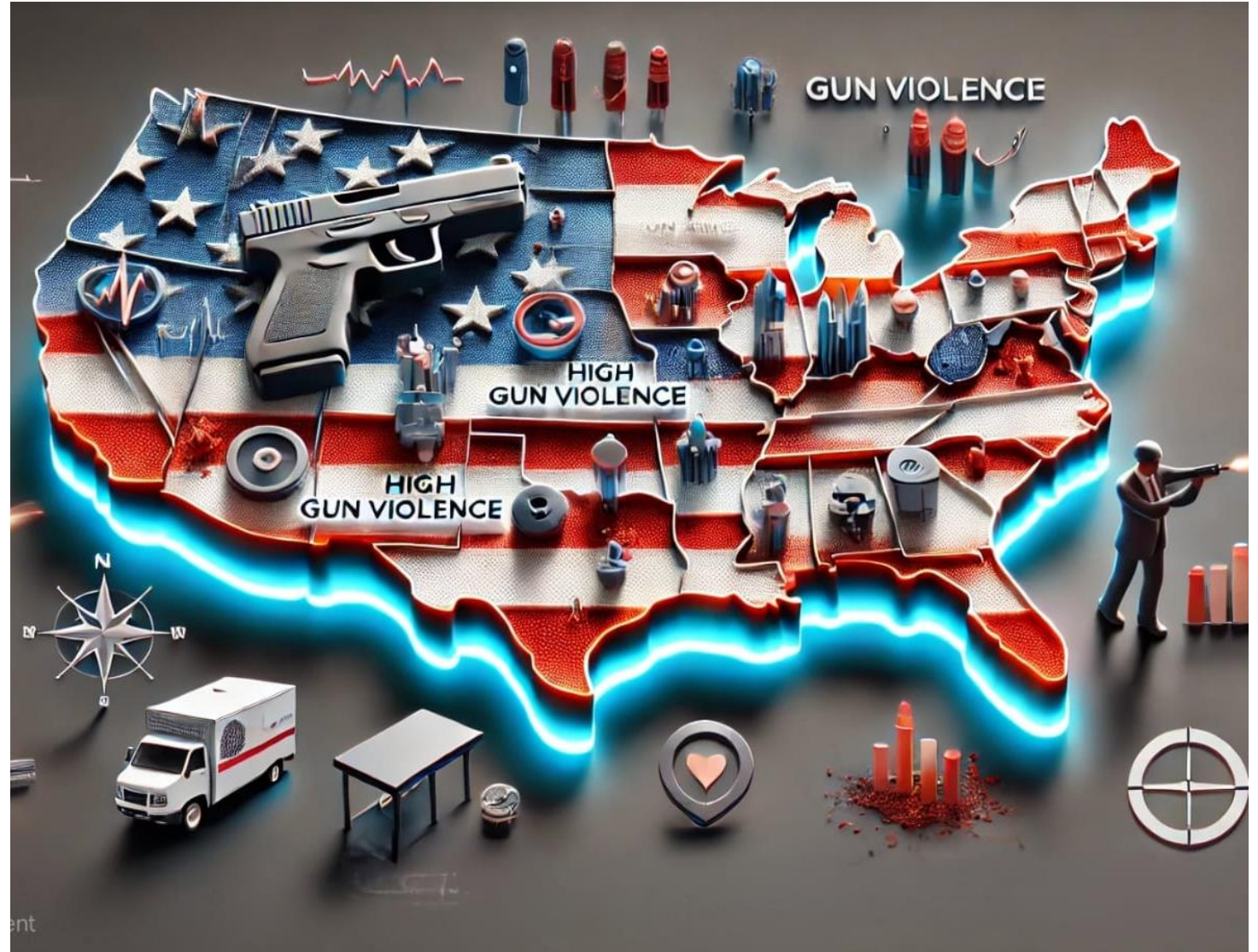
Research Question:

- Identify high-risk areas and investigate patterns of gun violence.

Datasets:

- FiveThirtyEight Gun Deaths Dataset (2011-2014) [\[1\]](#)
- Jamesqo Gun Violence Incident Data (2013-2018) [\[2\]](#)

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Methodology

ETL Pipeline: Data collection, cleaning, and transformation.

Geographic Analysis: Identified regions with the highest fatalities and injuries.

Temporal Analysis: Applied 3-month moving average to identify trends and spikes.

Demographic Analysis: Analyzed characteristics such as race, gender, and education level.



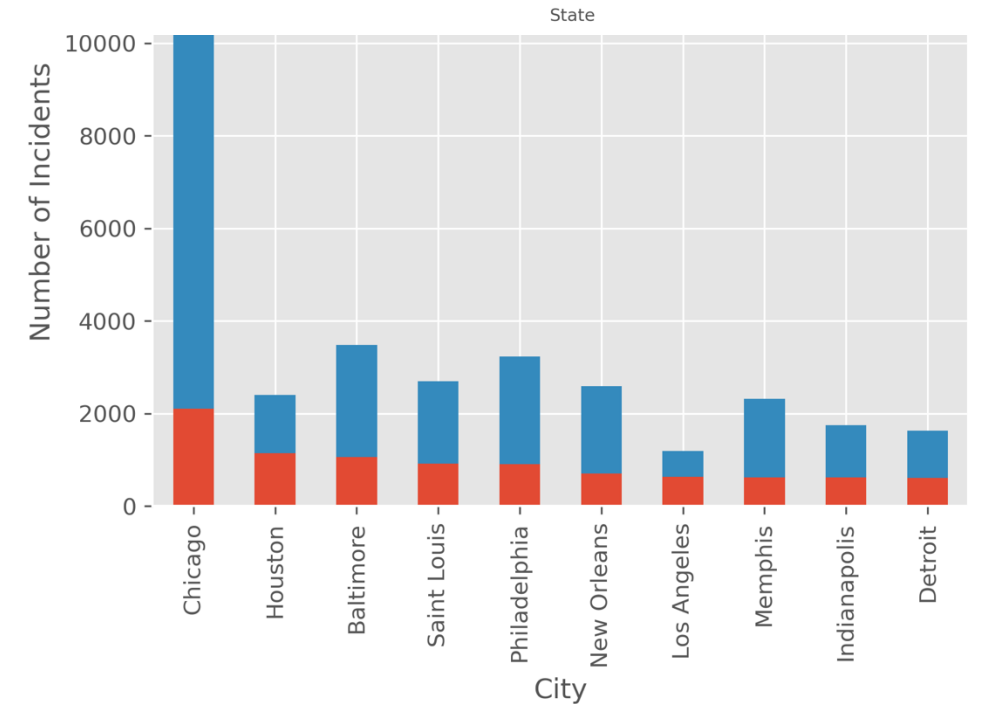
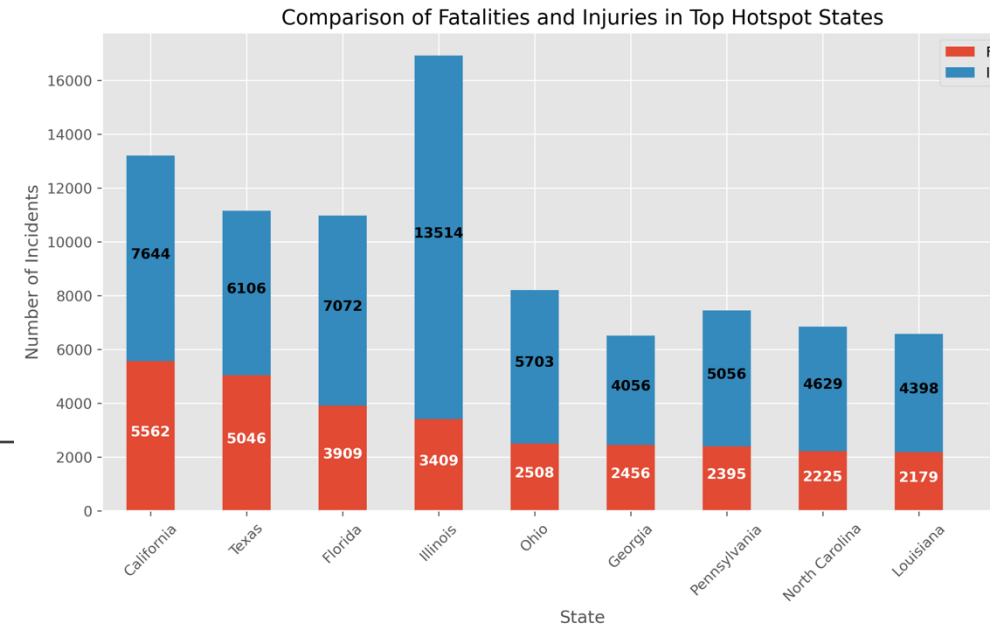
Results and Interpretation (1/3)

Geographic Hotspots:

Top States: Illinois, California, Texas

Top City: Chicago (highest fatalities)

Insight: Targeted interventions in these high-risk areas are critical to reducing gun violence.

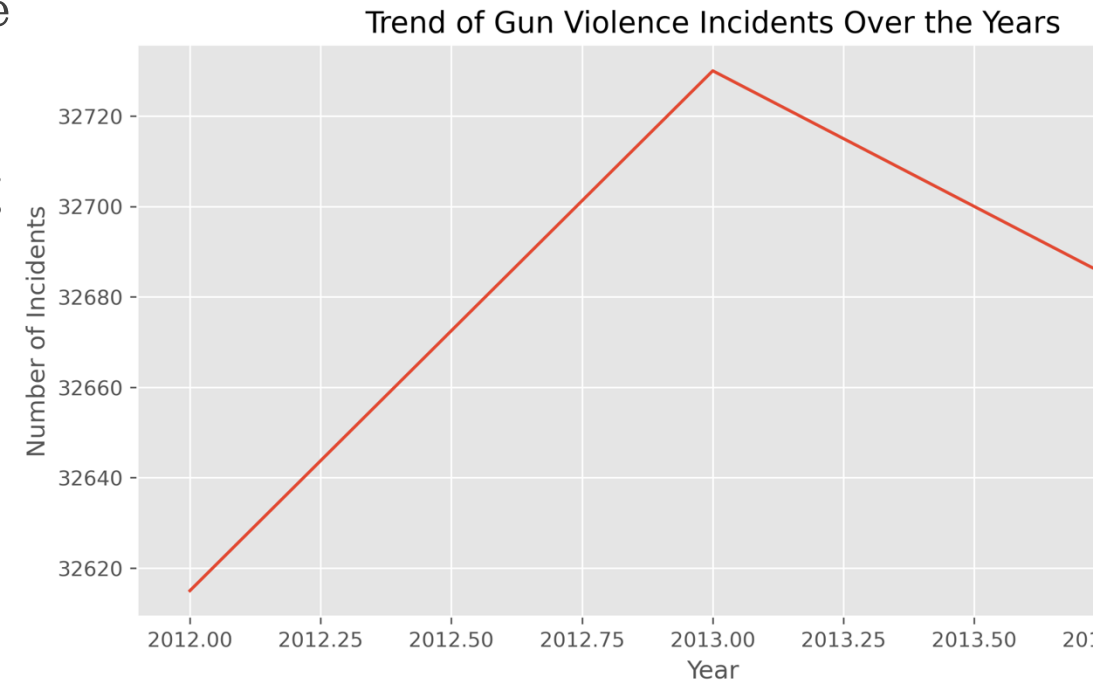
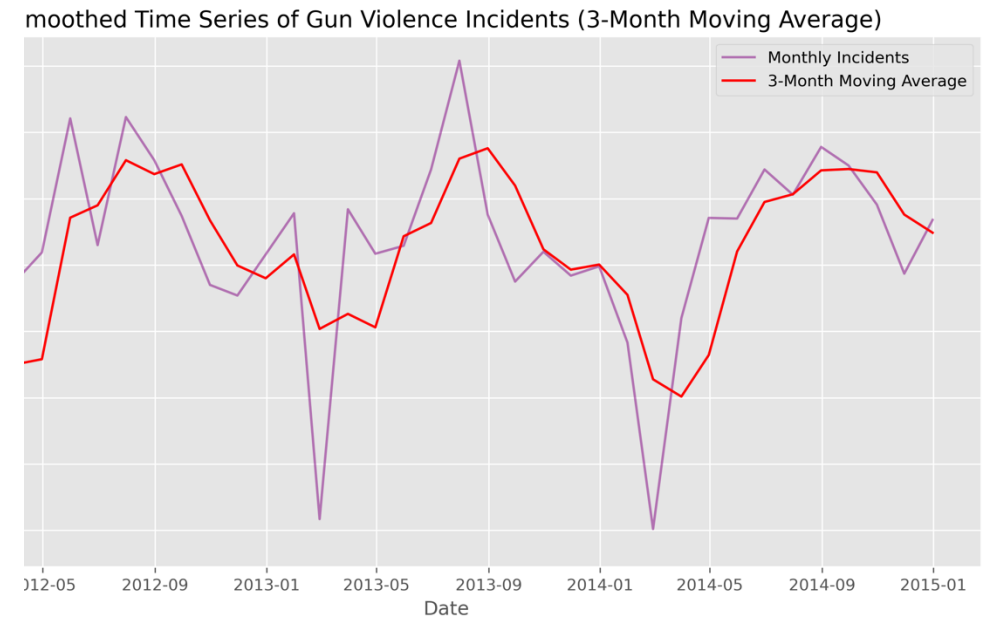


Results and Interpretation (2/3)

Temporal Patterns:

Escalation Periods: Significant spikes in gun violence incidents during **2012-2013** and **2014-2015**.

Insight: These periods indicate escalation, suggesting the need for proactive, timely interventions.



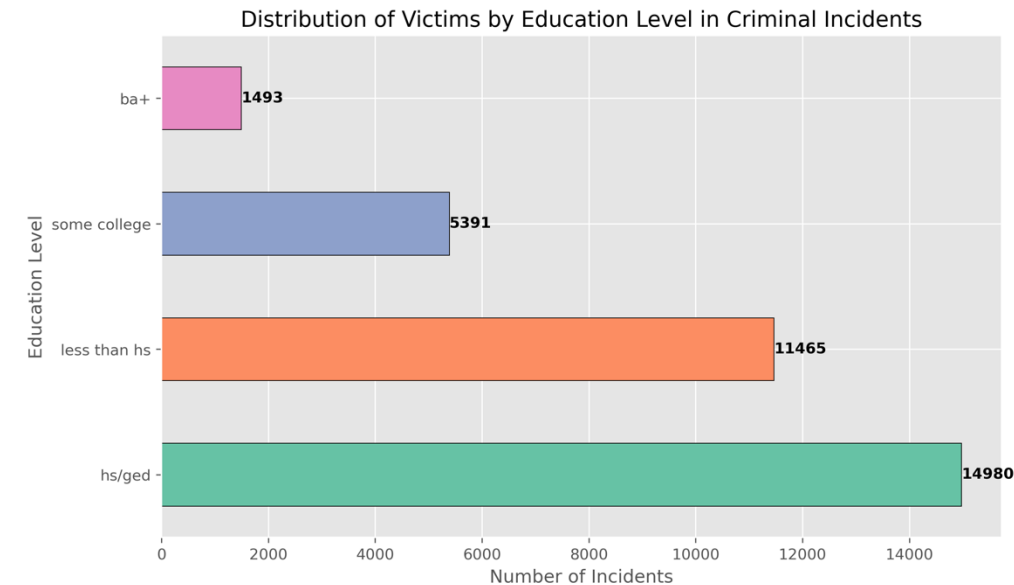
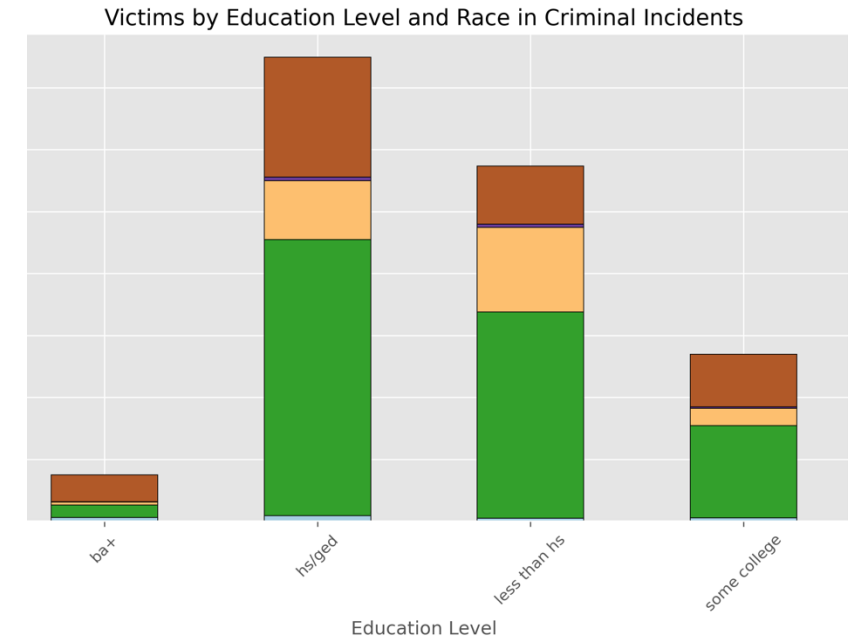
Results and Interpretation (3/3)

Demographic Disparities:

Black Males: Disproportionately affected by homicides.

Education Levels: Individuals with lower educational attainment, especially within the Black community, are more vulnerable.

Insight: Socioeconomic factors, such as education, should be prioritized in policy decisions to reduce vulnerability.



Conclusion

Disparities: Black males and low-education individuals are most affected.

Recommendations:

1. Target interventions in high-risk areas and during escalation periods.
2. Address educational and socioeconomic factors.

Future Research:

Investigate the impact of gun control laws and mental health.





Any question?
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Reference

- [1]. FiveThirtyEight, “Gun Deaths Dataset,” available at: https://raw.githubusercontent.com/fivethirtyeight/guns-data/master/full_data.csv, accessed on Nov. 26, 2024.
- [2]. Jamesqo, “Gun Violence Incident Data,” available at: <https://github.com/jamesqo/gun-violence-data/raw/master/DATA%202013%2003-2018.tar.gz>, accessed on Nov. 26, 2024.
- [3]. Creative Commons, “Creative Commons Attribution 4.0 International (CC BY 4.0) License,” available at: <https://creativecommons.org/licenses/by/4.0/>, accessed on Nov. 26, 2024.

A large crowd of diverse people, including men, women, and children of various ages and ethnicities, are holding hands in a circle around a large map of the United States. The map is filled with numerous small flags, symbols, and icons, including the American flag, the rainbow flag, and various religious and cultural symbols. The people are dressed in a wide variety of clothing, including traditional Islamic attire like hijabs and abayas, Western clothing, and religious symbols like a Star of David and a cross. The scene is a powerful representation of multiculturalism and unity.

Thank You