

US

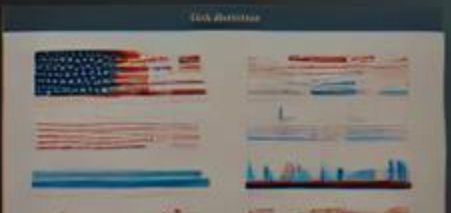


Geographic Hotspots and Incident Repetition Analysis of Gun Violence in the United States



Areas of High

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Introduction

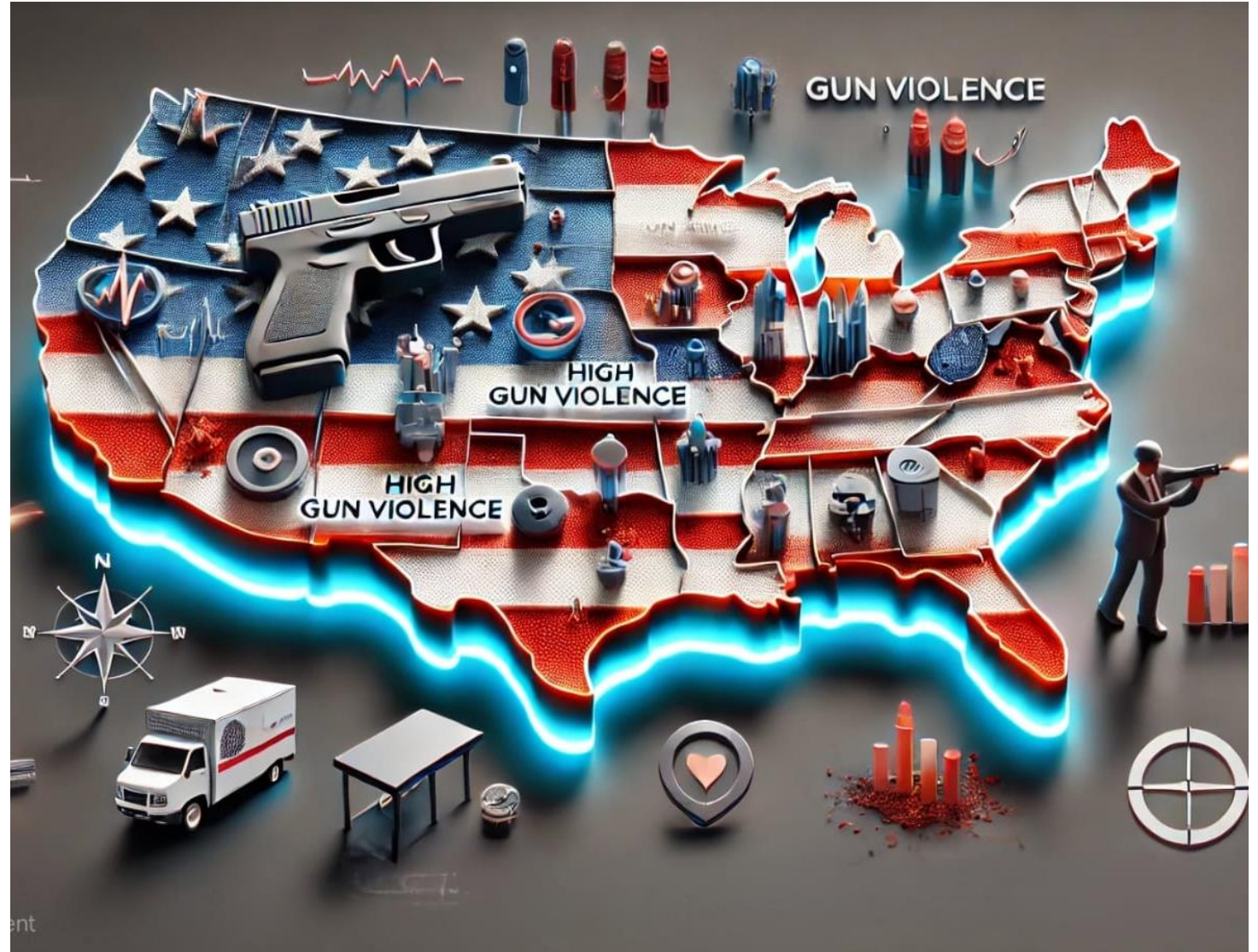
Research Question:

- 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.



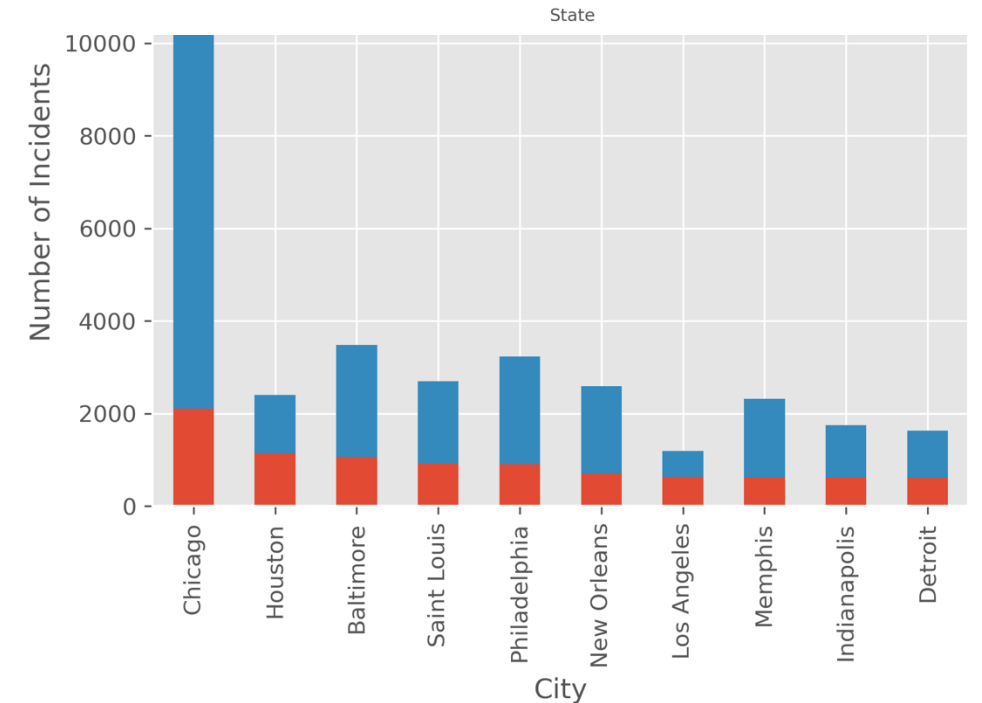
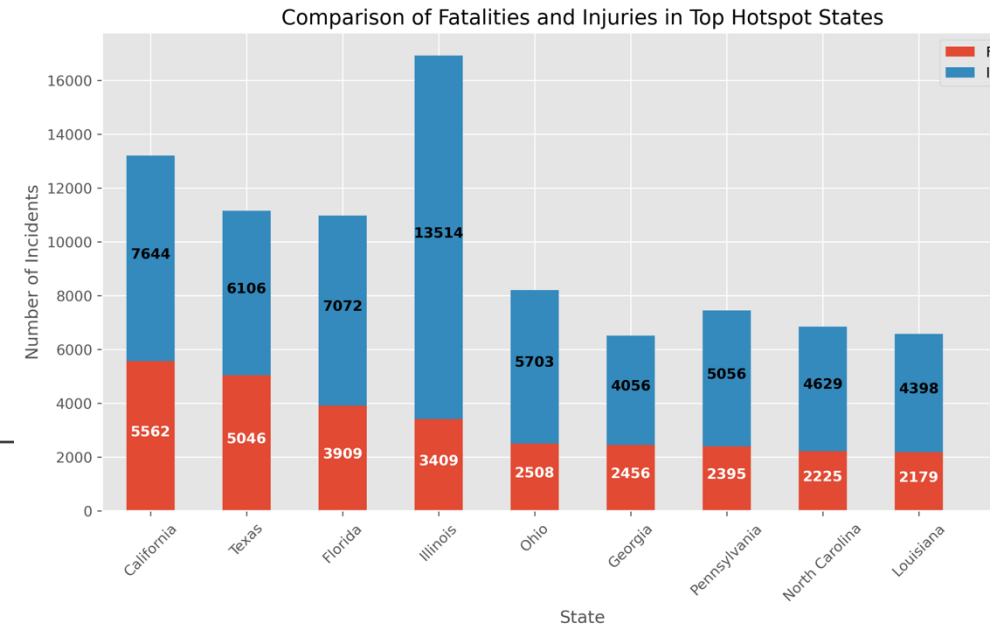
Results and Interpretation (1/3)

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.

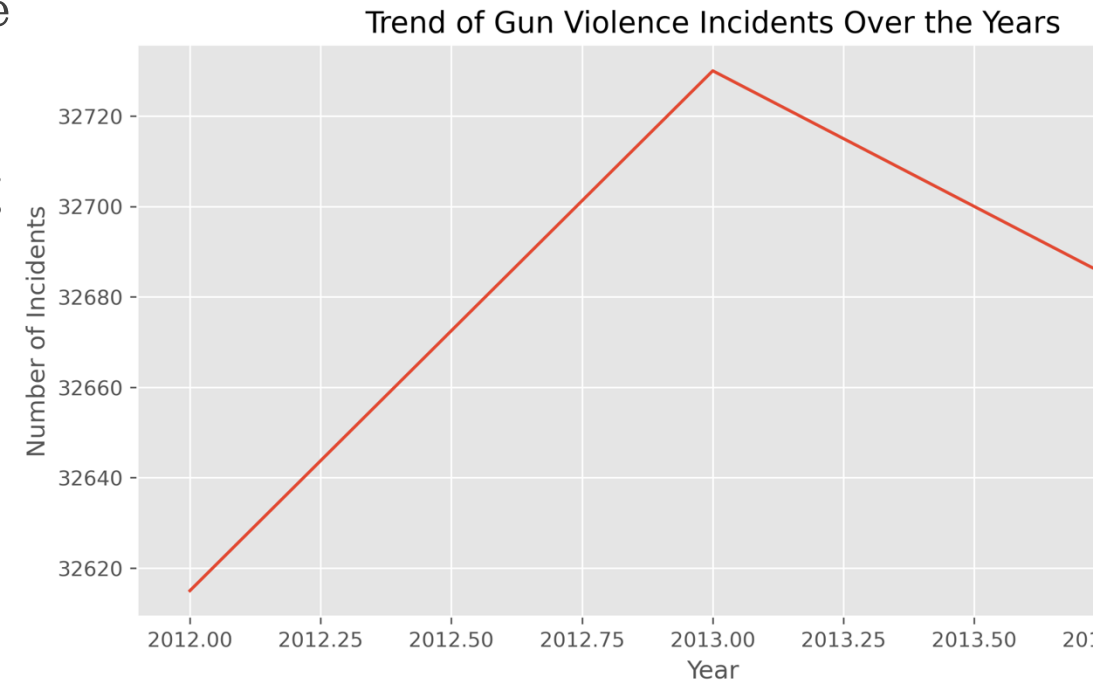
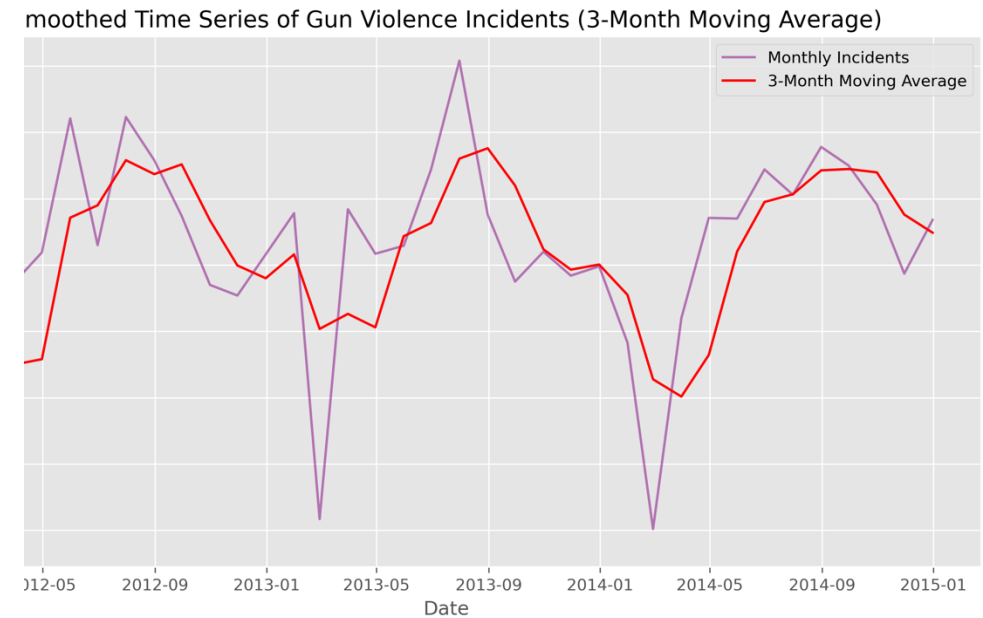


Results and Interpretation (2/3)

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.



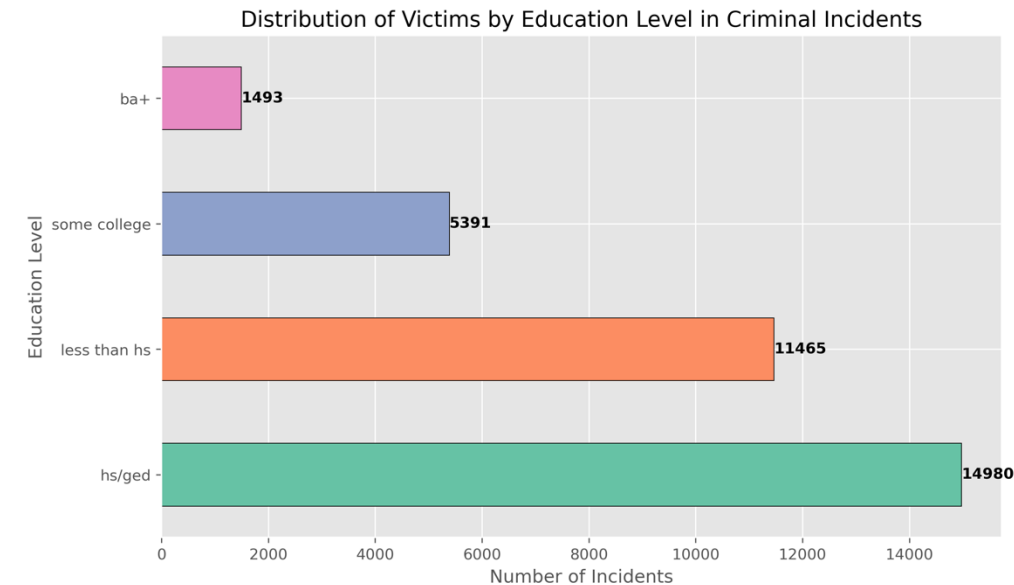
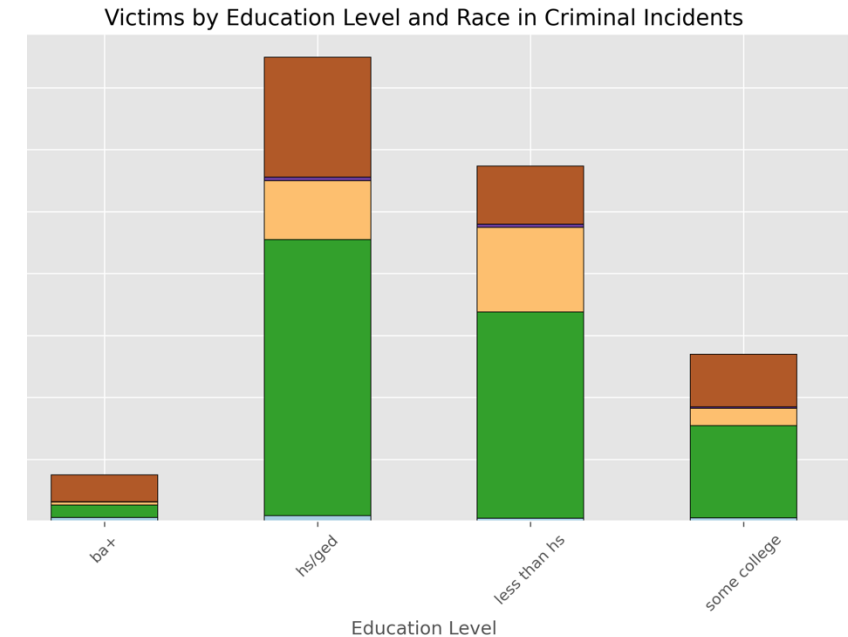
Results and Interpretation (3/3)

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.



Thank You