

Analysis of US Police Shootings (2015-2020): A Comprehensive Power BI Report on Demographics, Threat Levels, and Regional Disparities

1. General Overview of US Police Shootings (2015-2020)

Between 2015 and 2020, the United States experienced a staggering 4,895 police shooting incidents. The issue of police-related shootings has been a significant point of concern and debate in both public policy and civil rights discussions, particularly following notable events like the deaths of unarmed individuals such as George Floyd in 2020. These incidents have led to calls for increased accountability and reforms in law enforcement procedures, sparking nationwide protests and discussions on race relations, the use of force, and mental health.

2. Data Cleaning Techniques and Power BI Utilization

For this report, the raw data on police shootings had no anomalies except with the writing of the headers so I made the changes and loaded my data into Power Bi.

Power BI was then used to create interactive charts and dashboards that provided a detailed breakdown of incidents by race, age, gender, threat levels, and mental health status. The tool allowed for comprehensive visual insights into the data, enhancing our understanding of trends and disparities across different demographic groups and states.

3. Detailed Insights on Police Shootings

Age and Gender of Victims

I created a bin size of ten to be able to categorize and rank the ages into groups since the ages were spread between 8 to 90 years and I was able to generate an insight on the age group of the various victims that were affected by the shooting incident.

Ages 10-20: 262 males and 8 females were shot.

Ages 20-30: 1,307 males and 63 females.

Ages 30-40: 1,480 males and 69 females.

Ages 40-50: 841 males and 52 females.

Ages 50-60: 425 males and 31 females.

Ages 70-80: 46 males and 3 females.

Ages 80-90: 1 male and no females.

The data reveals that males, particularly in the 20-40 age range, were disproportionately affected by police shootings, accounting for the largest share of victims. Females, though significantly less in number, were not immune to these incidents, with more women affected in the 30-40 age group compared to others.

State of Mental Health of Victims

Of the 4,895 victims, 3,790 were reported to be mentally sound, while 1,100 were deemed to be mentally unfit at the time of the shooting. This indicates a significant proportion of shootings involved individuals facing mental health challenges, emphasizing the need for improved training in dealing with mentally unstable individuals in law enforcement

Level of Threat to Police

The data also provided some information on the level of threat that the victims posed to the officers in order to give some level of justification on whether shooting of the victims was right and out of self defense to the officers or not. The details are as follows;

Attacking the police: 3,160 incidents.

Undetermined threat level: 210 incidents.

Other categories of threat: 1,530 incidents.

The data suggests that the majority of the victims were perceived to pose a direct threat to law enforcement, though 210 cases remain unclear, raising concerns about the transparency and accuracy of threat assessments.

Weapons Used by Victims

The victims were classified based on the types of weapons they carried, ranging from guns and vehicles to unusual objects. This categorization reflects the complexity of the situations law enforcement officers face and highlights the variability in the perceived level of danger during these encounters.

Race of Victims

A bar chart was used to show the various disparities in shooting incidents based on the races and the findings were as follows;

Asian: 89 males, 4 females.

Black: 1,251 males, 47 females.

Hispanic: 876 males, 26 females.

Native American: 73 males, 5 females.

Other: 44 males, 4 females.

White: 2,340 males, 136 females.

Whites constituted the majority of the victims, but African Americans, Hispanics, and other minority groups experienced disproportionately high numbers of incidents relative to their population sizes, raising serious concerns about racial disparities in police shootings.

4. Overview of Shooting Incidents by State and City

The data was provided for all the incidents that happened across the 50 states in US so I used a tree map to do the visualization. From the analysis the top ten states with the highest number of police shooting incidents were:

Texas: 426 incidents

Florida: 324 incidents

Arizona: 222 incidents

Colorado: 168 incidents

Georgia: 161 incidents

Oklahoma: 161 incidents

North Carolina: 148 incidents

Ohio: 146 incidents

Washington: 126 incidents

Tennessee: 125 incidents

On the opposite end, states such as Rhode Island (4 incidents), Delaware (10 incidents), and Vermont (8 incidents) reported significantly fewer incidents, indicating regional disparities in police use of force across the country.

5. Recommendations and Conclusion

The findings from this report highlight several key areas for intervention:

Mental health training for police officers: With over 1,100 victims identified as mentally unfit, law enforcement must be equipped with the skills and knowledge to de-escalate situations involving individuals with mental health challenges.

Racial bias and disparity: The overrepresentation of African Americans and other minorities in police shooting incidents underscores the need for comprehensive racial bias training and reforms within the justice system.

Transparency in threat assessment: The 210 cases classified as "undetermined" regarding the threat level suggest the need for better guidelines and clear documentation in the decision-making processes of law enforcement officers.

In conclusion, while police officers often face dangerous and unpredictable situations, the data from 2015-2020 suggests a need for reform in police training and practices, particularly regarding mental health crises and racial bias. By addressing these systemic issues, the goal is to reduce the number of incidents, foster greater community trust, and ensure justice and safety for all citizens.