

FATAL POLICE SHOOTINGS IN THE USA FROM 2015 TO 2019

AN EXPLORATORY DATA ANALYSIS



BY MILTON SUGGS

DEFINING THE PROBLEM

Since its inception, police in The United States have continued to have a tenuous and volatile relationship with many of its citizens, especially those of lower economic status and those whose race is not classified as White. The United States in particular has a far higher rate of fatal police encounters than her counterparts of developed nations.

The purpose of this project is to learn about the circumstances around fatal police shootings through an exploratory data analysis on a dataset that consists of people killed by police throughout the United States.

Our primary area of focus is race. Because race is a crucial factor in the economic and social structure of the United States both historically and currently, it remains a high point of interest when studying social problems of the United States.

This notebook will provide insight and hopefully we may work toward rectifying the racial and economic disparity that continues to fuel police brutality in these United States of America.



ABOUT THE DATA



The data used in this project was taken from a dataset on Kaggle uploaded by user Andriy Samoshyn and originally documented by The Washington Post.

Although the FBI and the Centers for Disease Control and Prevention log fatal shootings by police, in 2015 the Post documented more than two times more fatal shootings by police than had been recorded by the FBI. In 2019 the FBI announced plans to overhaul how it tracks fatal police encounters.

US Census data was referenced to compare deaths with country and state population numbers.

The dataset consists of 14 columns including:

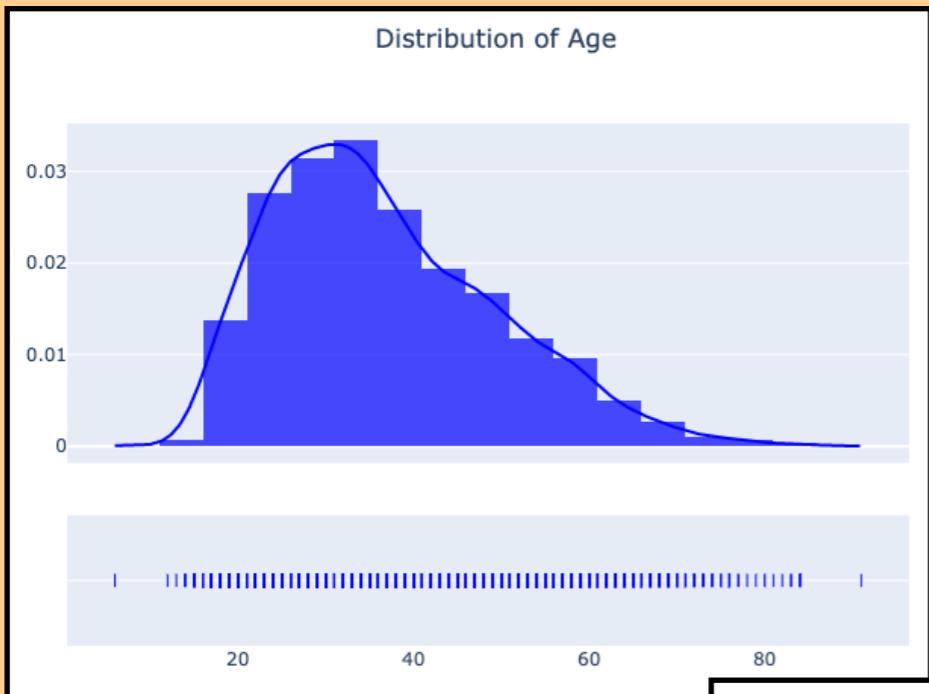
- ID
- Name
- Date
- Manner of Death
- Armed
- Age
- Gender
- City
- State
- Signs of Mental Illness
- Flee Threat Level
- Body Camera

EXPLORATORY DATA ANALYSIS

UNIVARIATE EXPLORATION

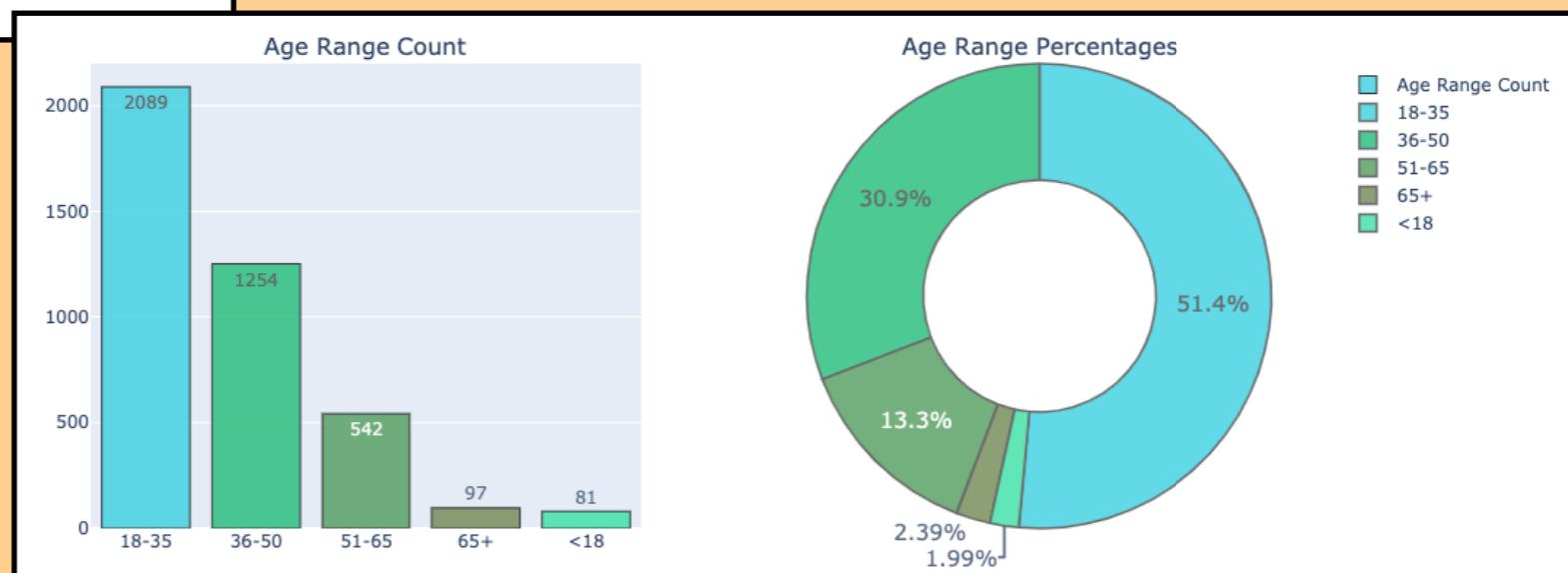
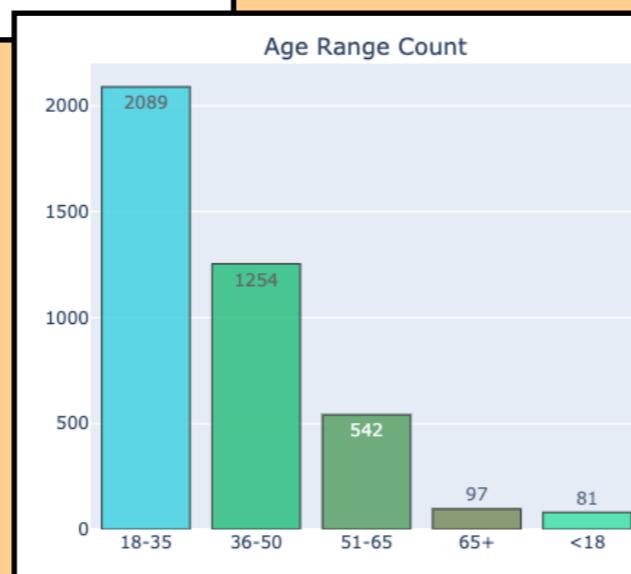
Visualizing individual variables

AGE & AGE RANGES

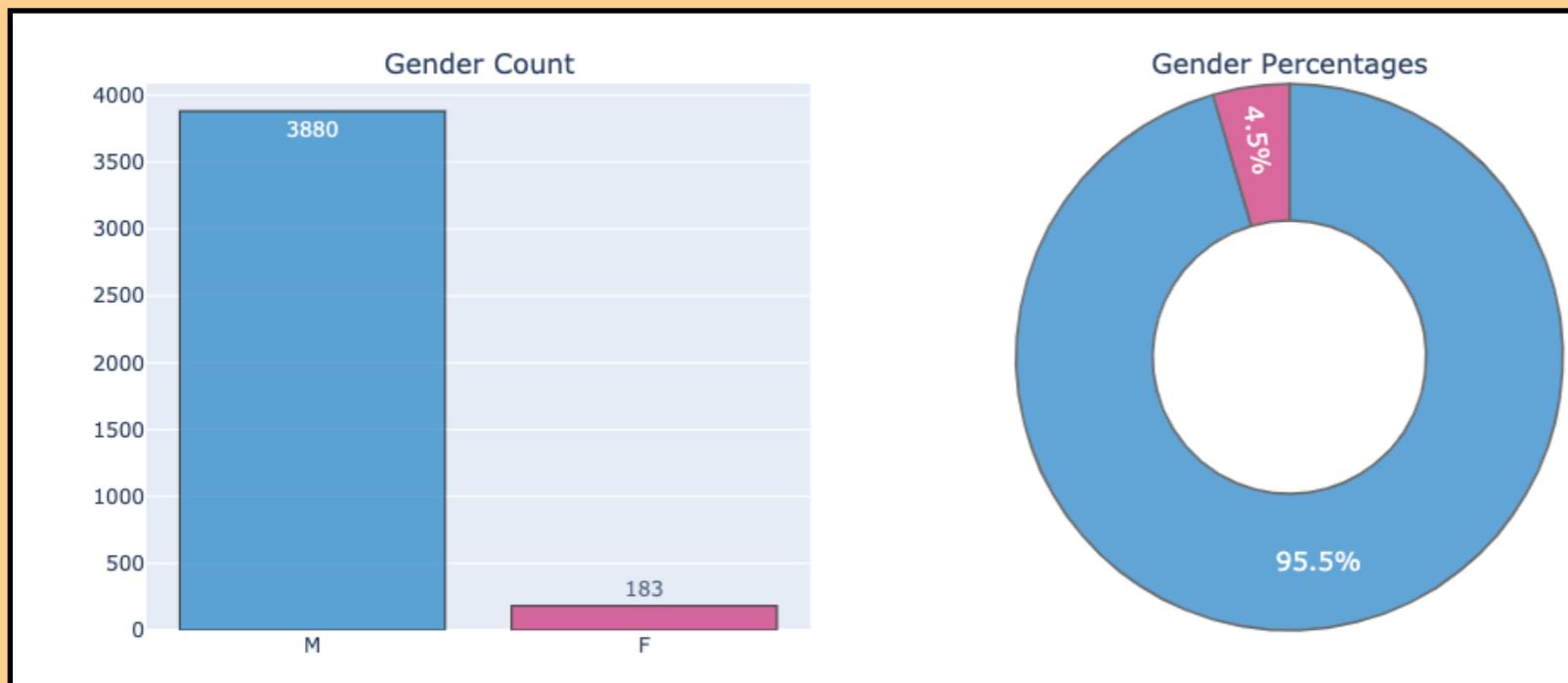


The majority of people in this dataset (73%) are between the ages of 18 and 50.

People age 18-35 are killed by police at a rate of 51.4%, far more than any other group.



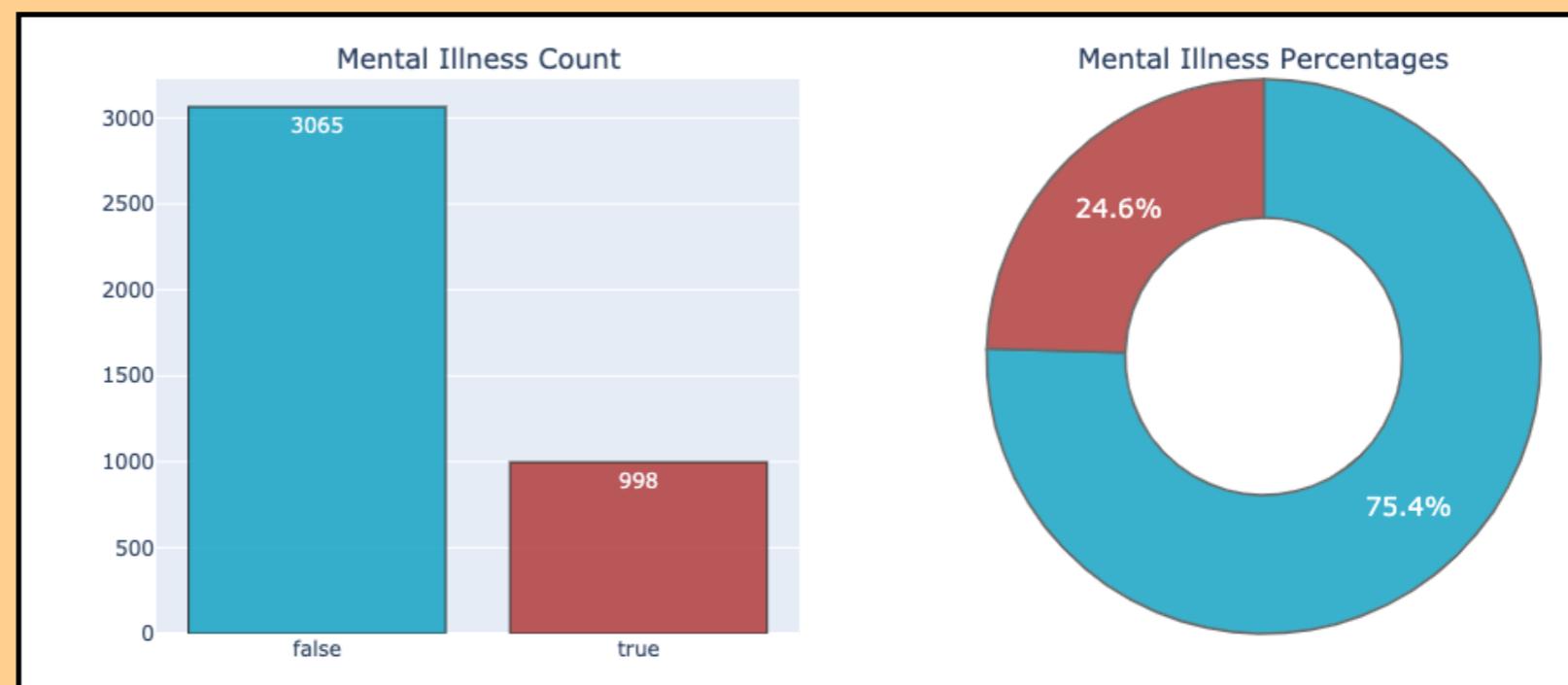
GENDER



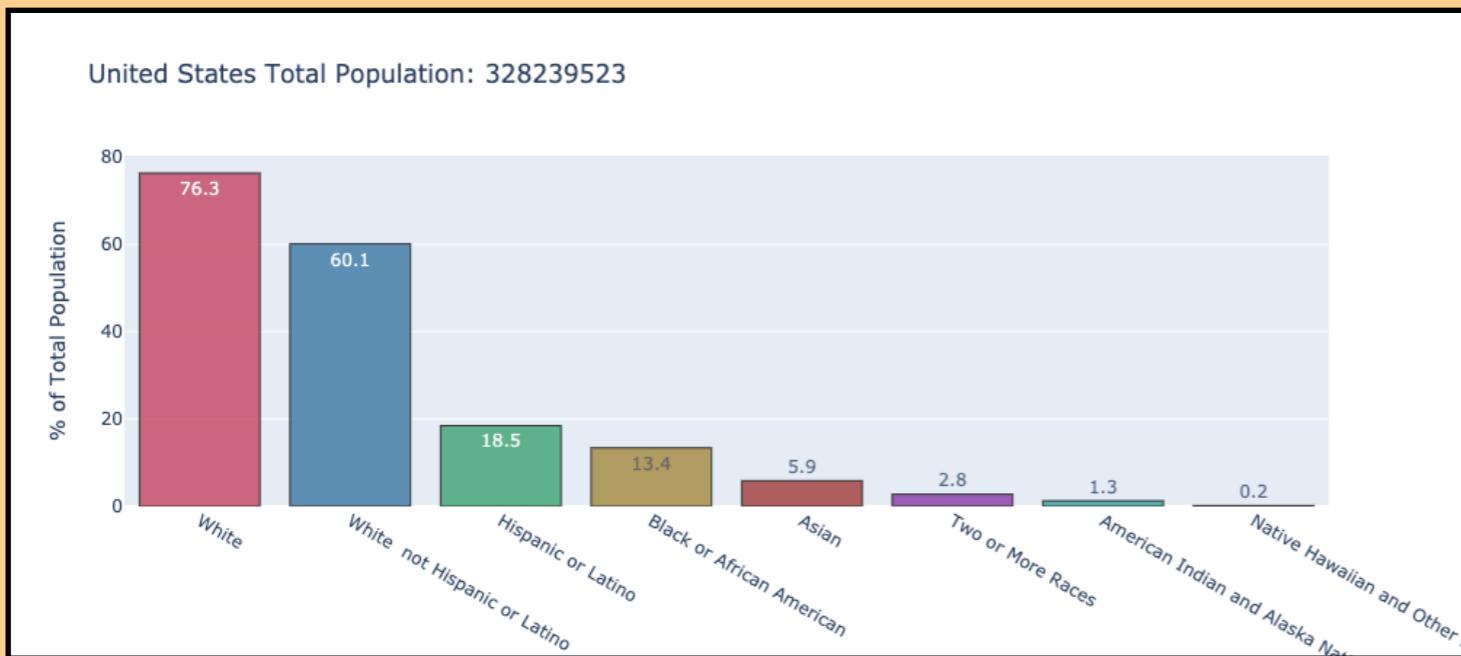
There are very few female victims of police shootings. Could it be that males commit the most crime? Or are women far less likely to be shot and killed by the police? Perhaps a combination of both.

MENTAL ILLNESS

The majority of people killed by police displayed no signs of mental illness; however, many did. This of course does not indicate a clinical diagnosis and is probably up to the discretion of the reporting officer.

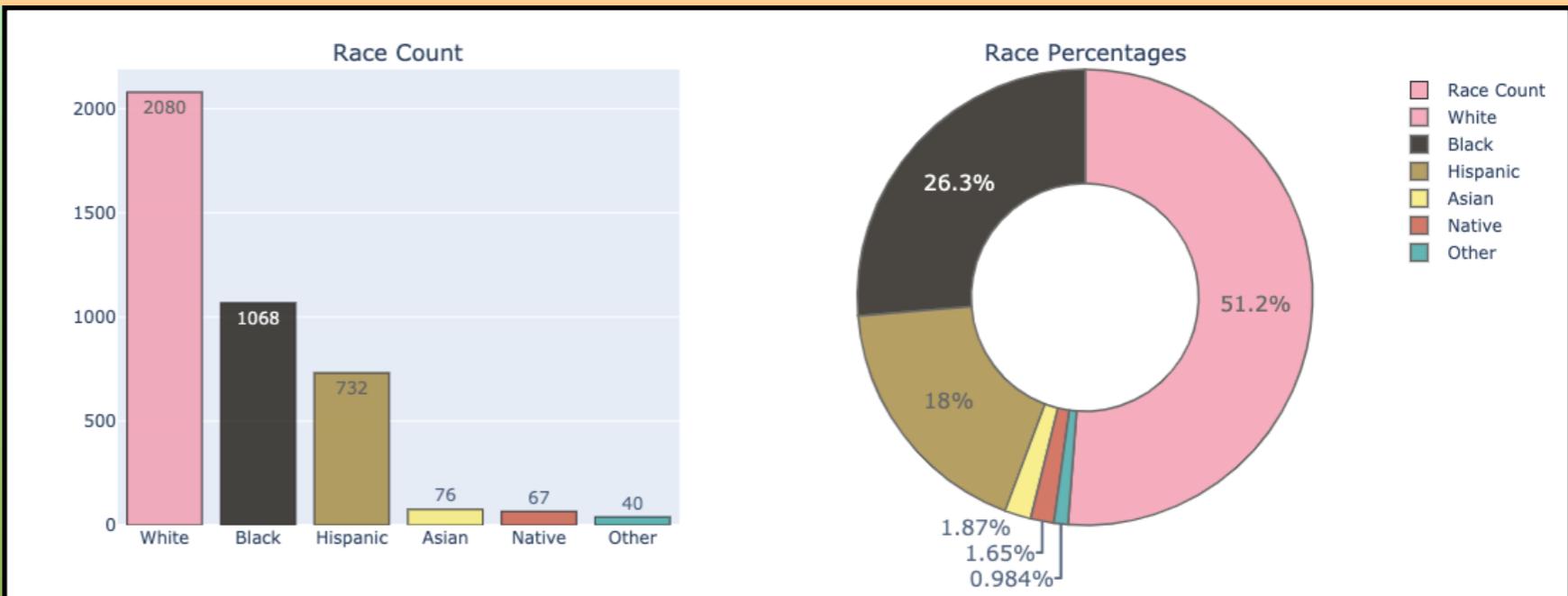


RACE

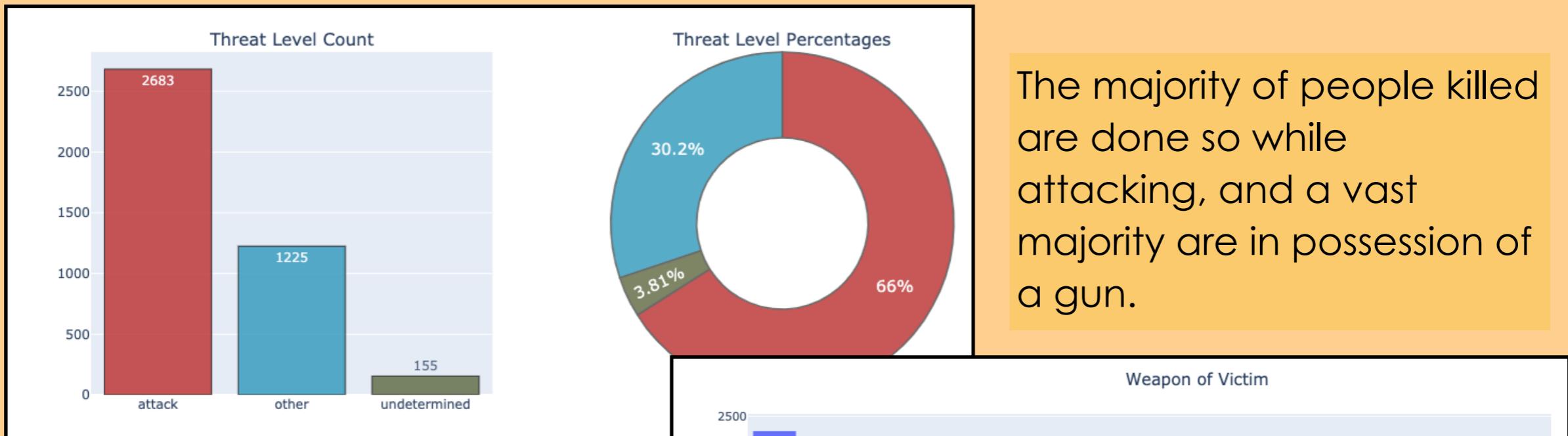


According to US census data, Black and Hispanic people make up about 13% & 19% of the United States population respectively and White people make up about 76%.

Although white people are killed at a higher number than other races, it is not proportionate to their population. Of the people listed in the data set, 51% are White, 18% are Hispanic, and 26% are Black (twice the population!).



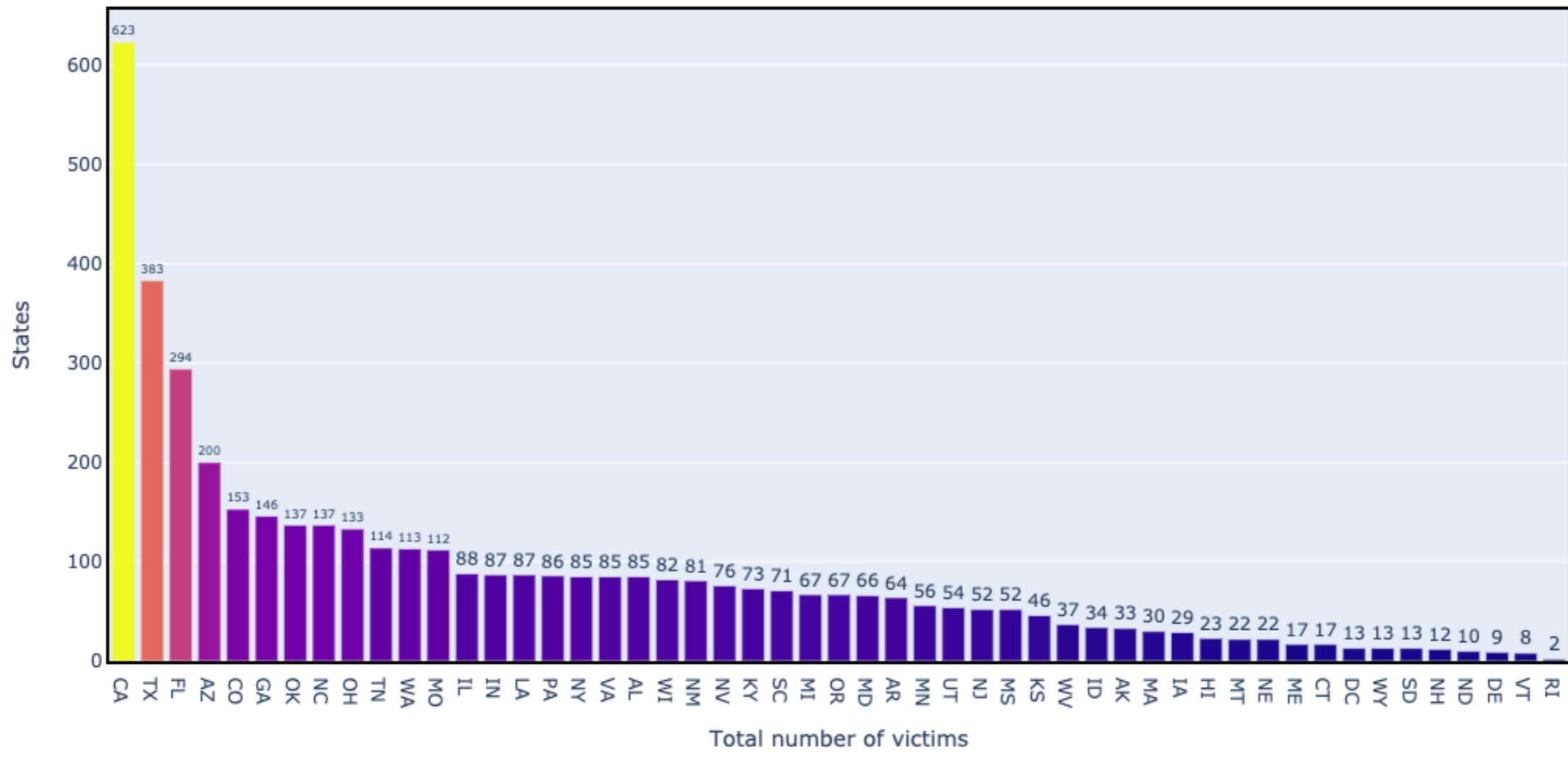
THREAT LEVEL



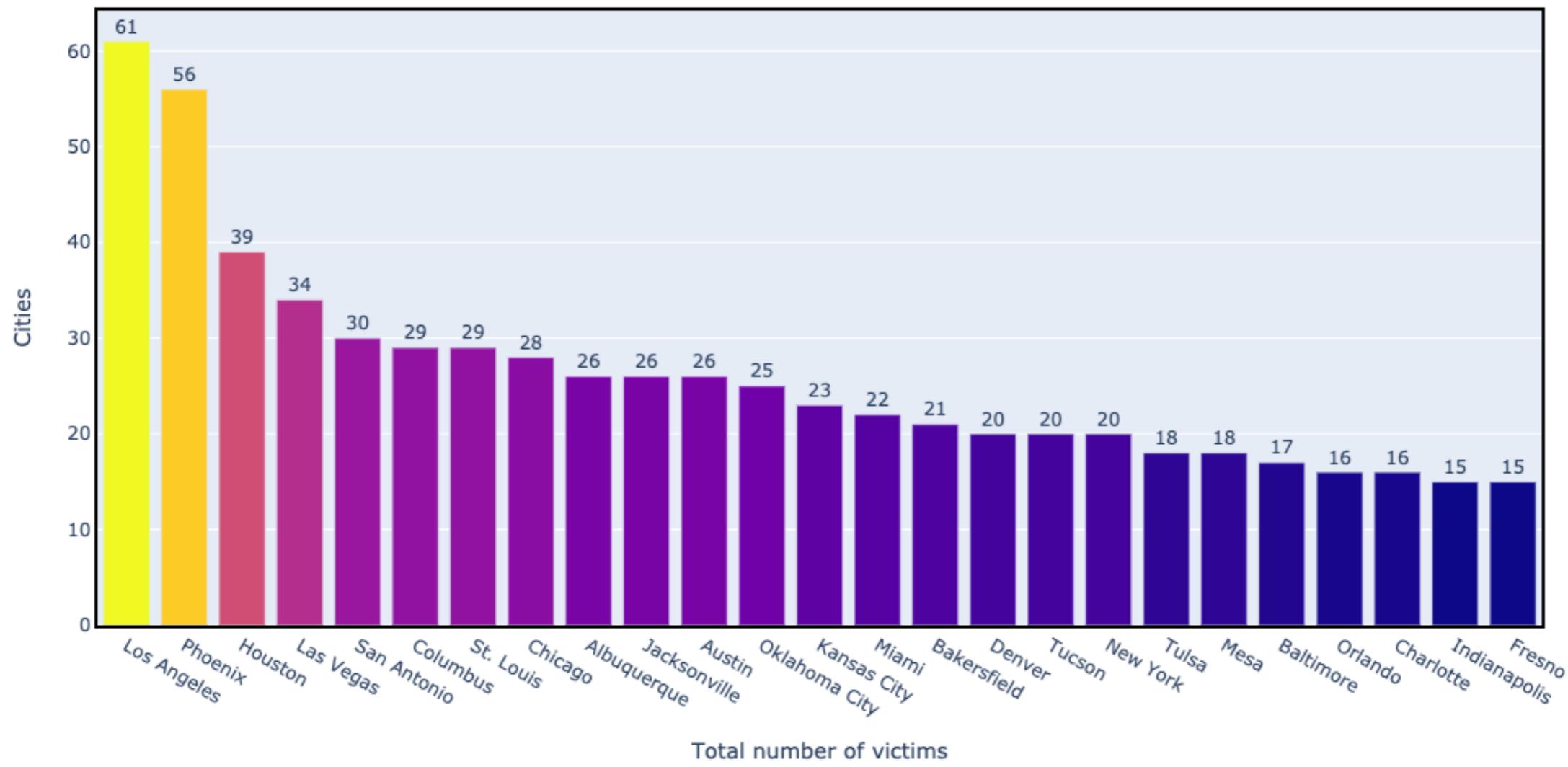
FLEE



Police Killings, Organized by States

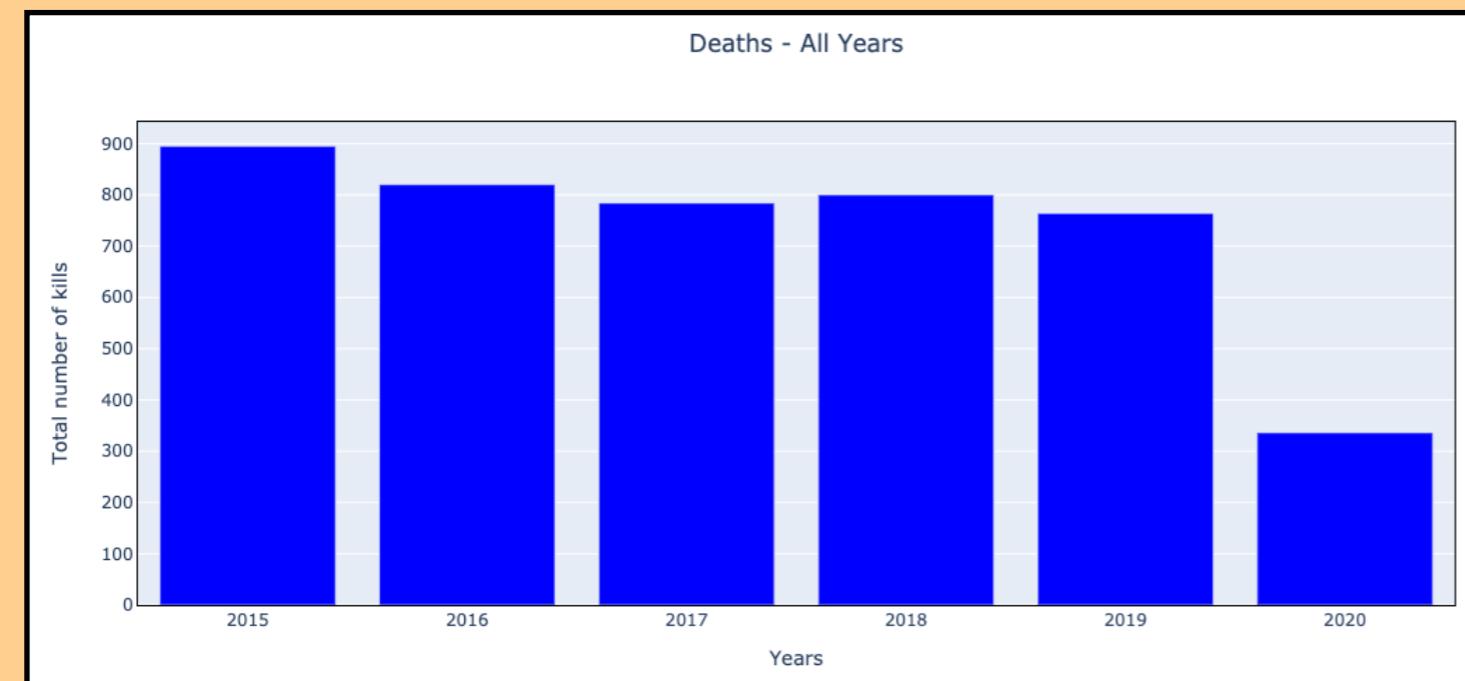


Police Killings, Organized by Cities



TIMELINE ANALYSIS

Visualizing the timeline of killings by Year, Month, & Day



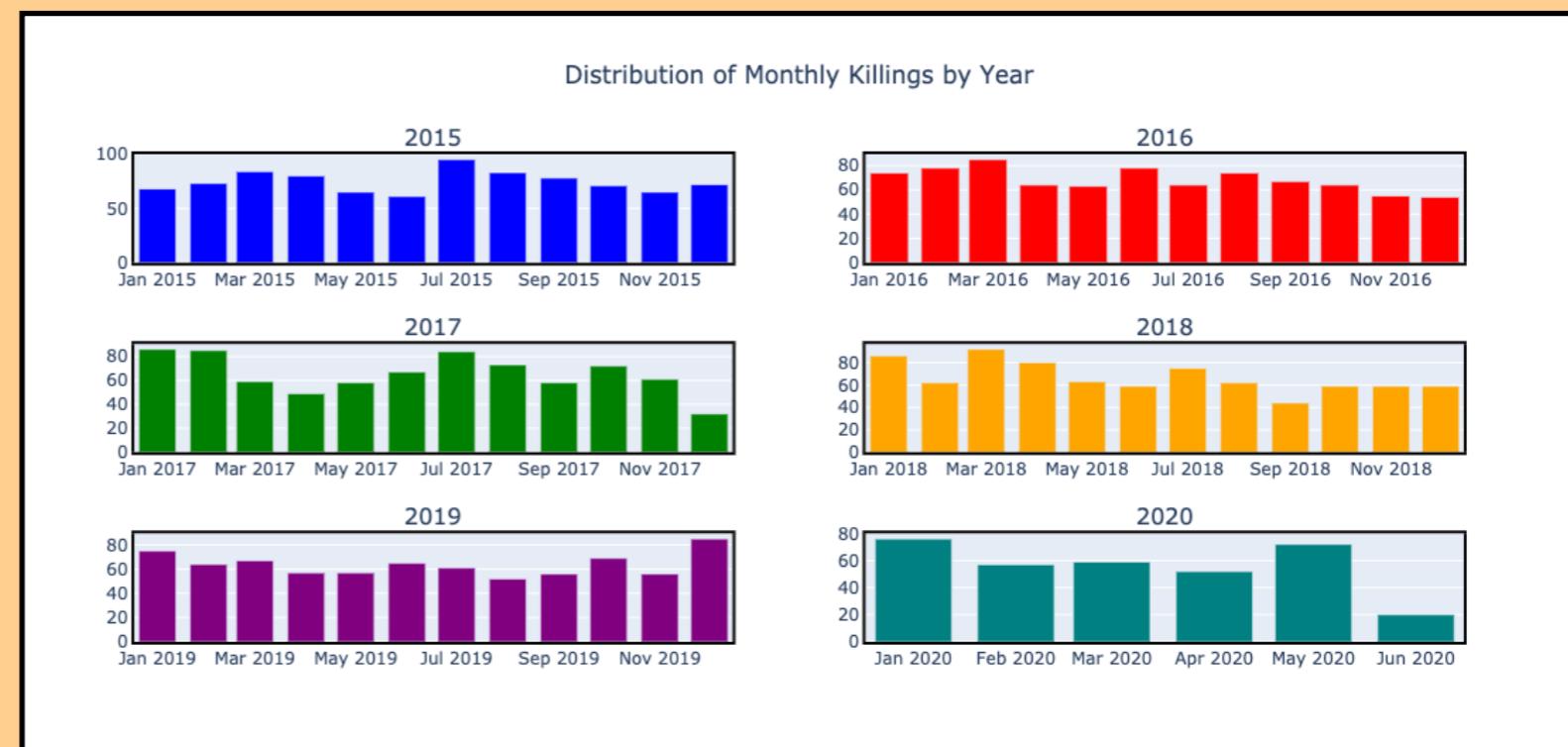
2015 had the highest number of killings, and because 2020 was incomplete 2017 had the lowest number of killings.

In each year (except 2020) there were between 700 and 900 killings.

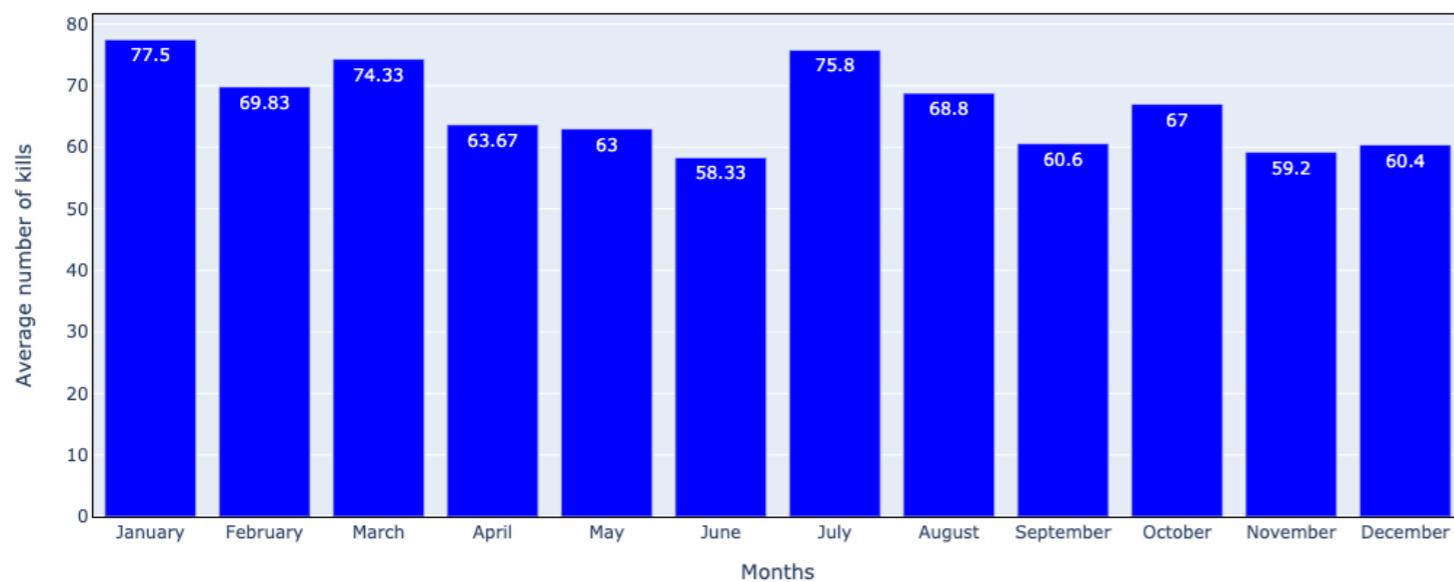
Would 2020 have shown the same trend? A monthly analysis for each year may provide an answer.

The following charts give a good overview of how many killings occurred each month. We see that July 2015 had the highest while December 2017 and Jun 2020 (though incomplete) had the lowest.

We can also see that the first five months of the year 2020 contained a comparable number of killings as the months of the other years.



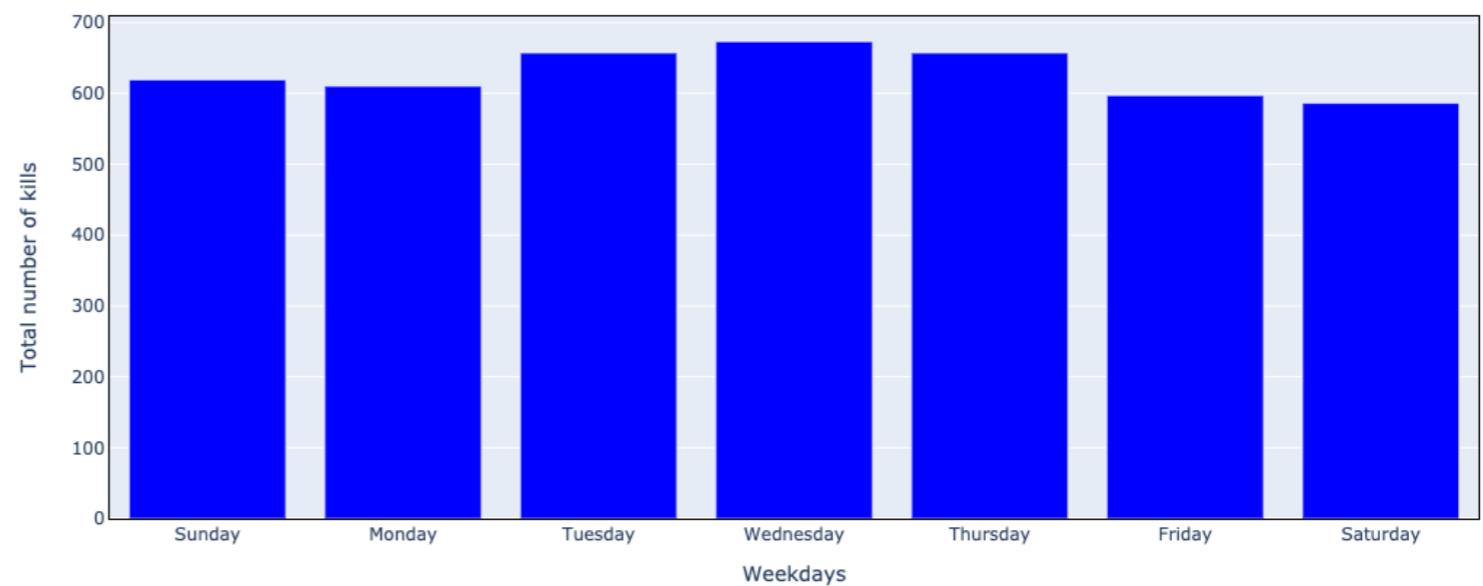
Deaths - All Months



Most killings occur during the month of January while June has the lowest average deaths.

Wednesday has the highest total number of deaths. Perhaps there is truth to the idea of Wednesday being the most stressful day of the week.

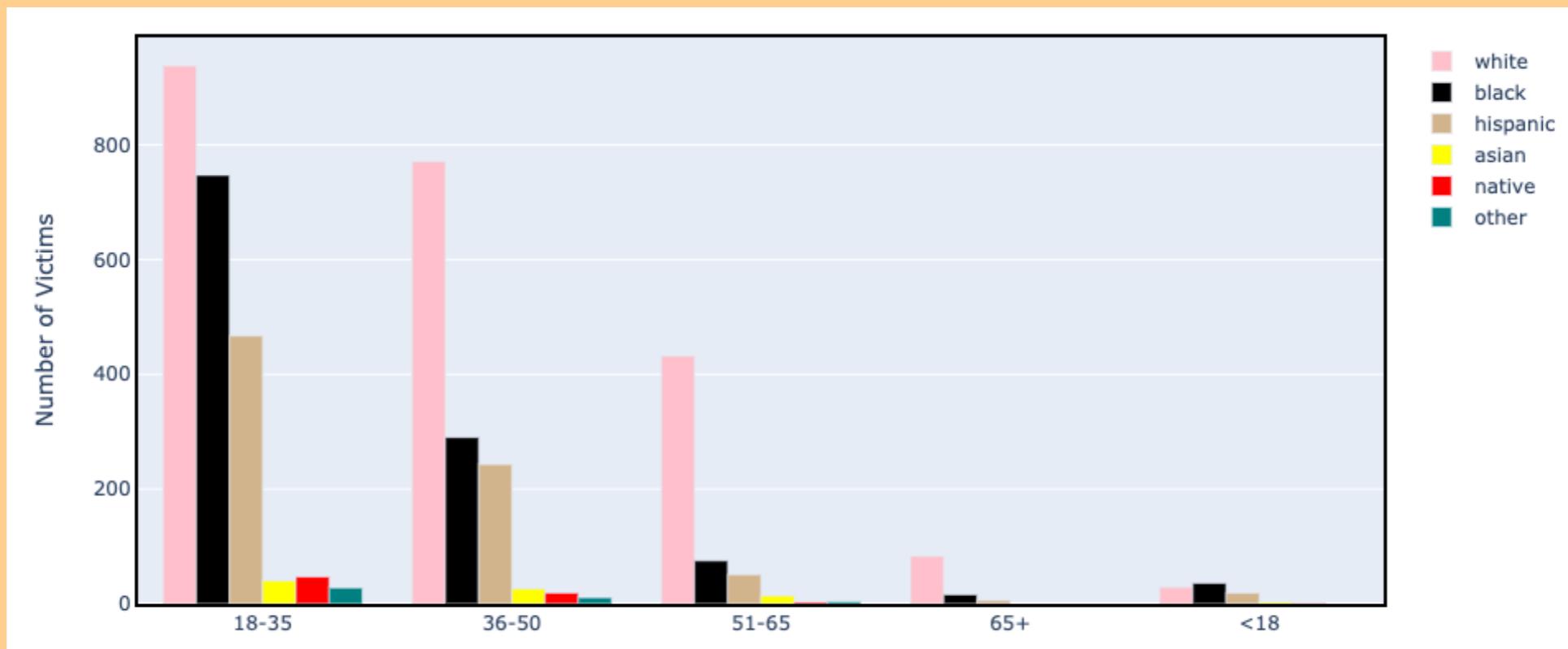
Deaths - Days of the Week



RACIAL CORRELATIONS

Visualizing the relationship between race and other variables

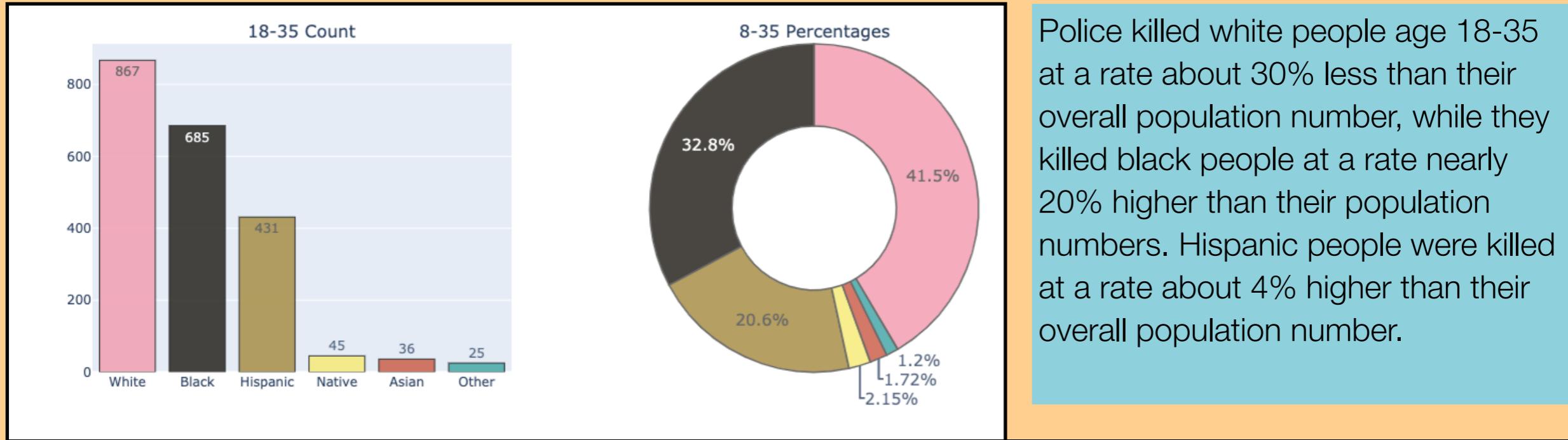
RACE & AGE



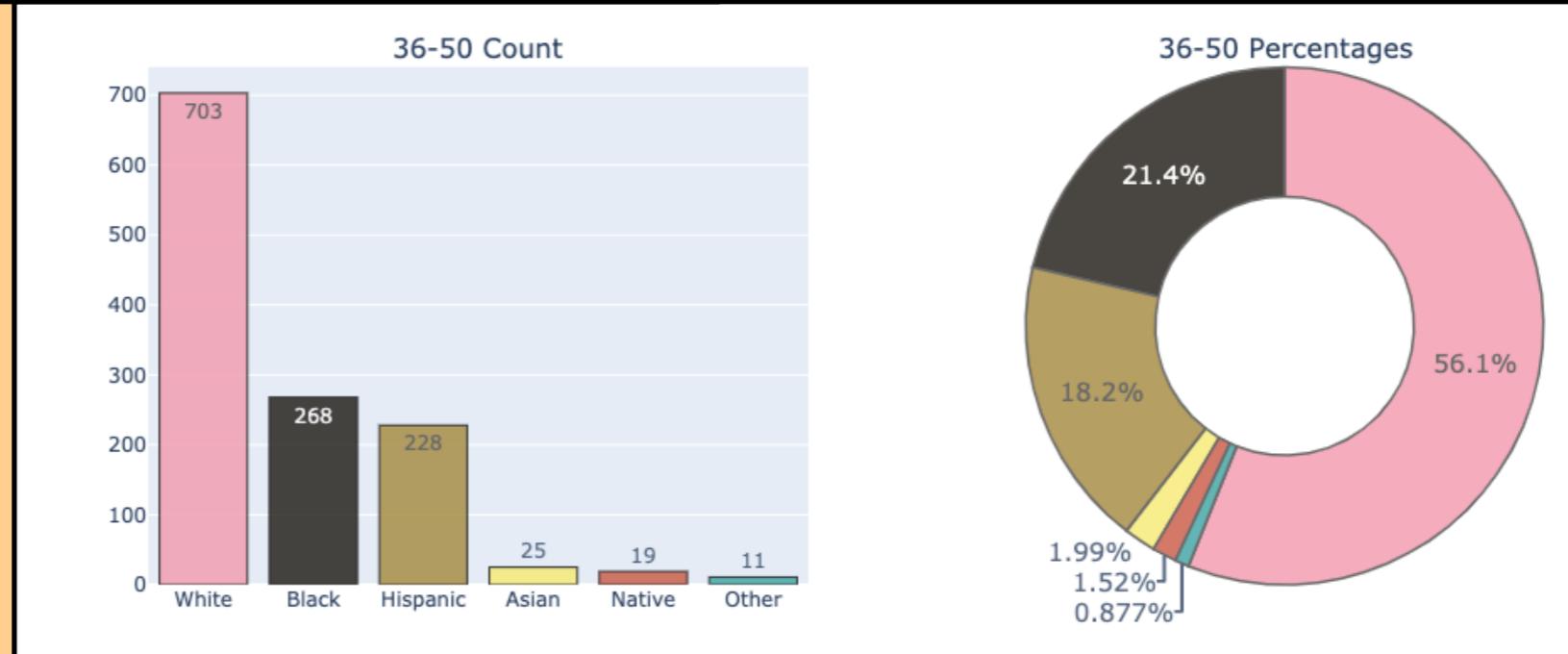
As noted previously, most people who are killed by police are between the ages of 18-35. However, it is interesting to note that there is a very wide margin of deaths between black and hispanic people age 18-35 and those age 36-50.

The number of deaths of black people age 18-35 seems disproportionately high. Let's take a closer look at those two age groups and see what the actual percentages are.

RACE & AGE CONT.

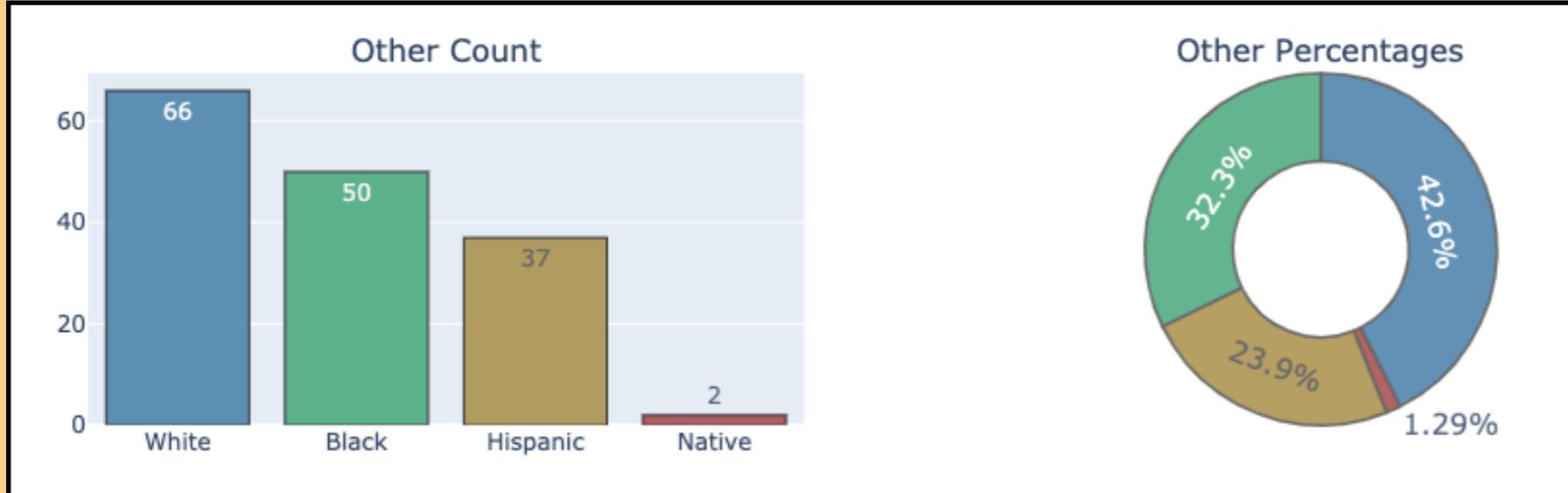
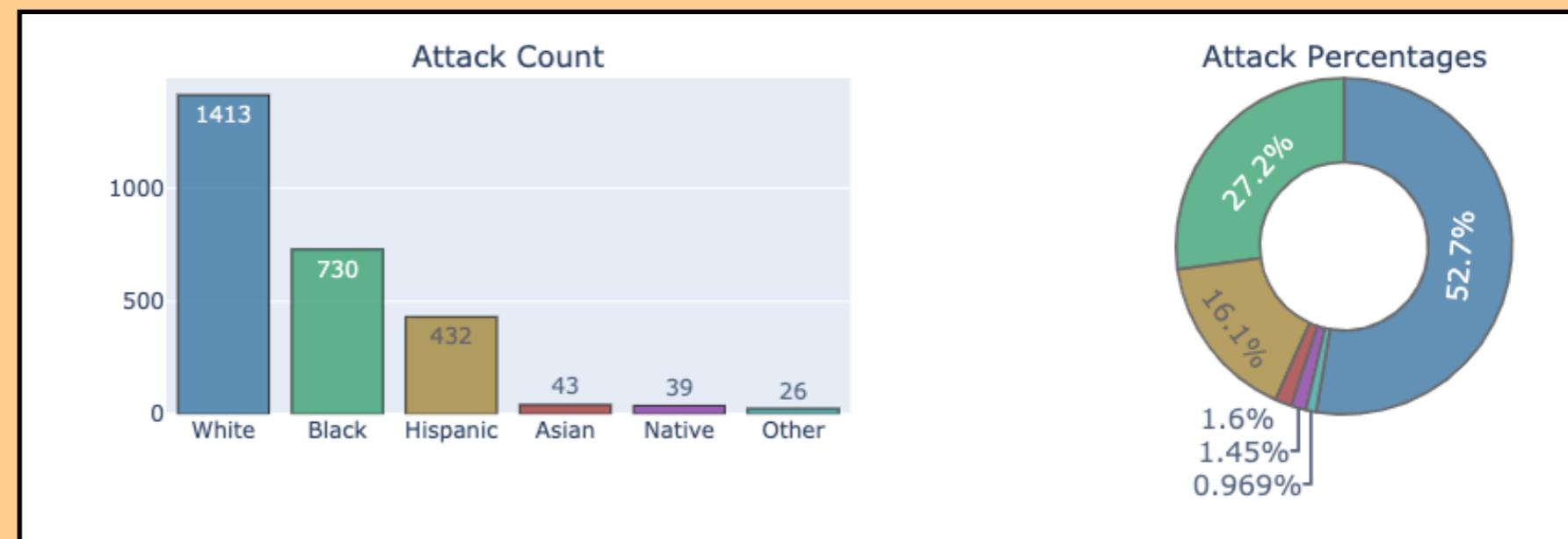


When it comes to people ages 36-50, black and Hispanic people were killed at a much lower rate than their counterparts age 18-35, yet white people were killed at a rate comparable to that of the 18-35 age range. However, white people were still killed at a substantially lower rate than their population numbers while black people were killed at a higher rate.



RACE & THREAT LEVEL

Of the 66% of people who were killed while attacking the police, 52.7% of them were white and 27.2% were black.



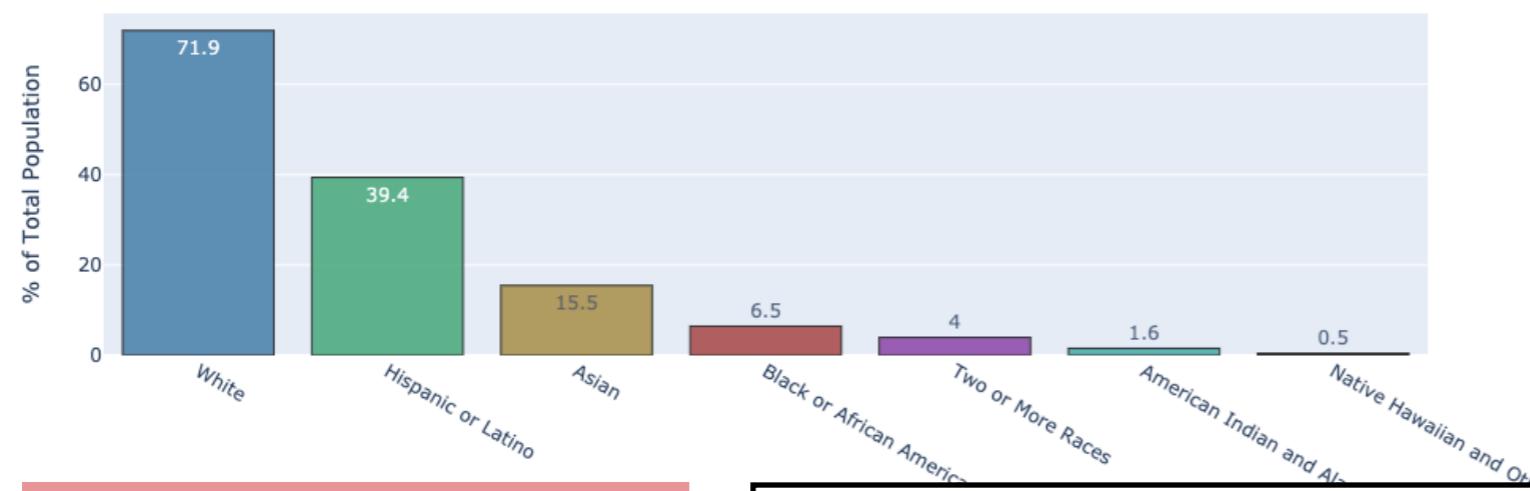
Of the 30% of people who were not attacking the police when they were killed. White people were a lesser percentage (42.6%) while black and hispanic people were higher (32.3% & 23.9% respectively).

RACE vs STATE

Visualizing the five states with the most deaths

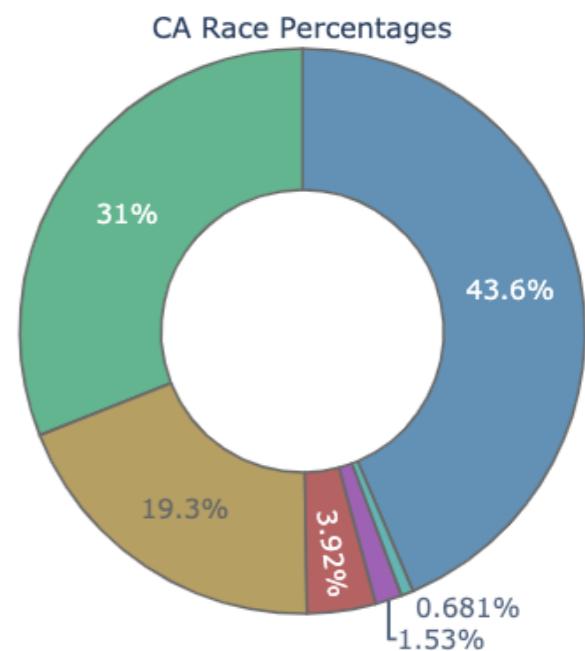
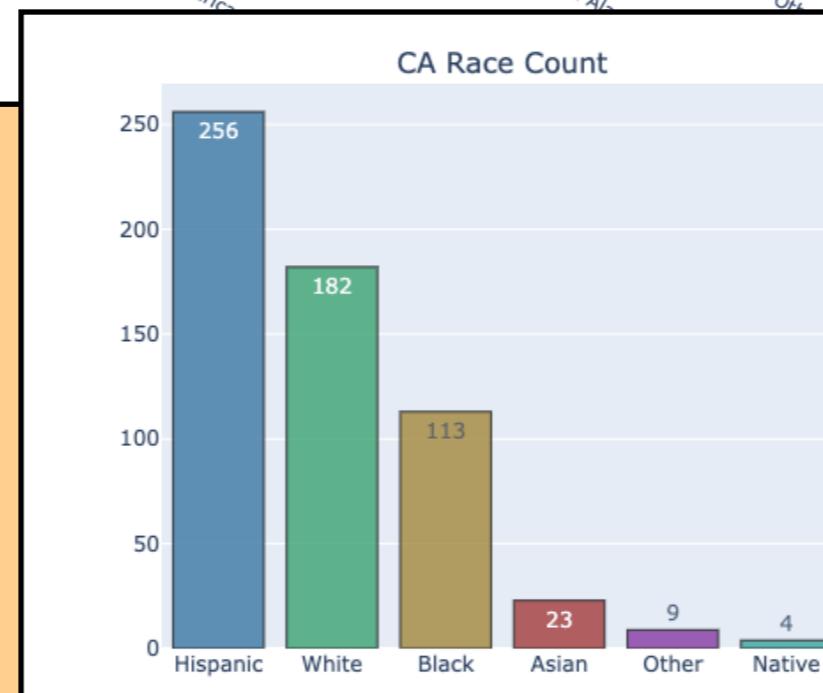
CALIFORNIA

California Total Population: 39,512,223

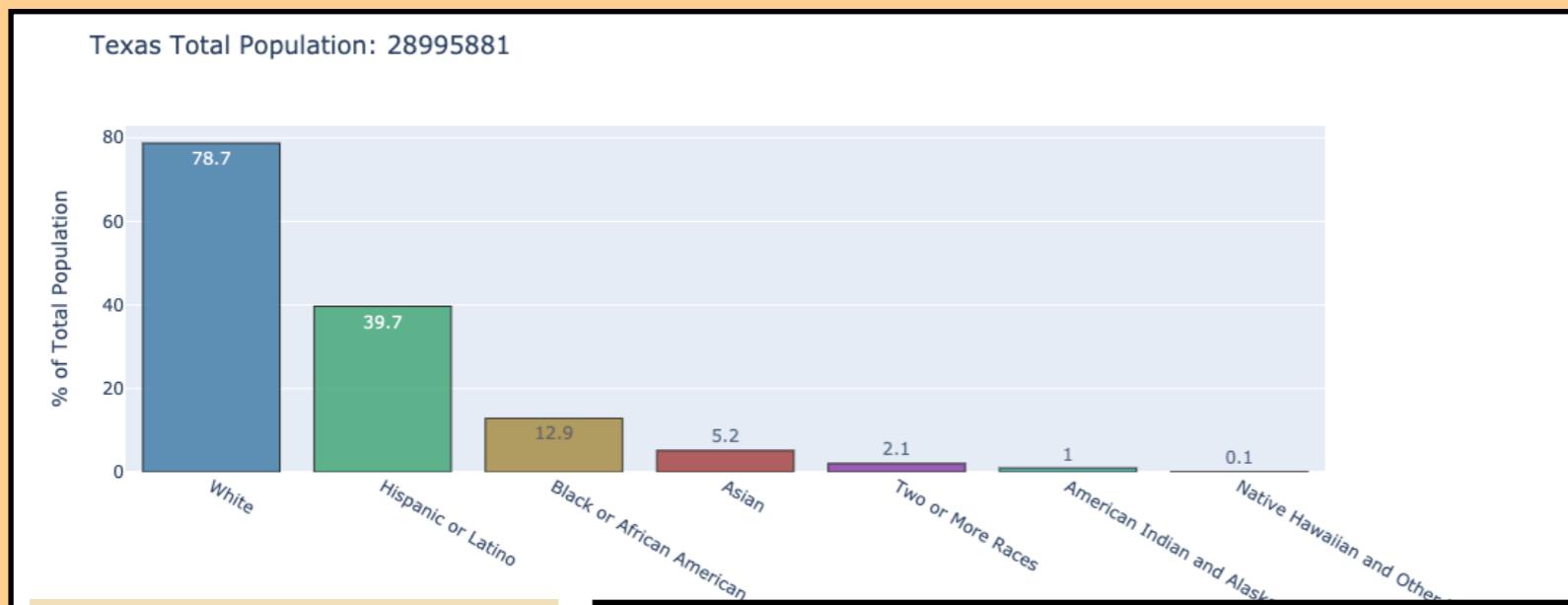


The most populated state in the US. 71.9% of its residents are white, while 39.4% are Hispanic. Asians and Black people are 15.5% and 6.5% respectively.

Asians and white people were killed at lower percentage than their population numbers. Hispanics were killed at a rate 4% higher, while Black people were killed at a rate 3x their population.

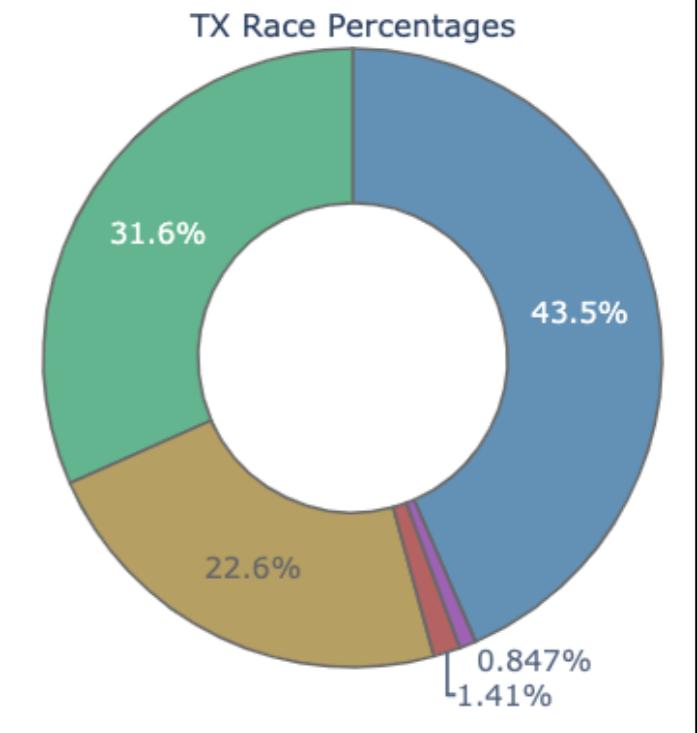
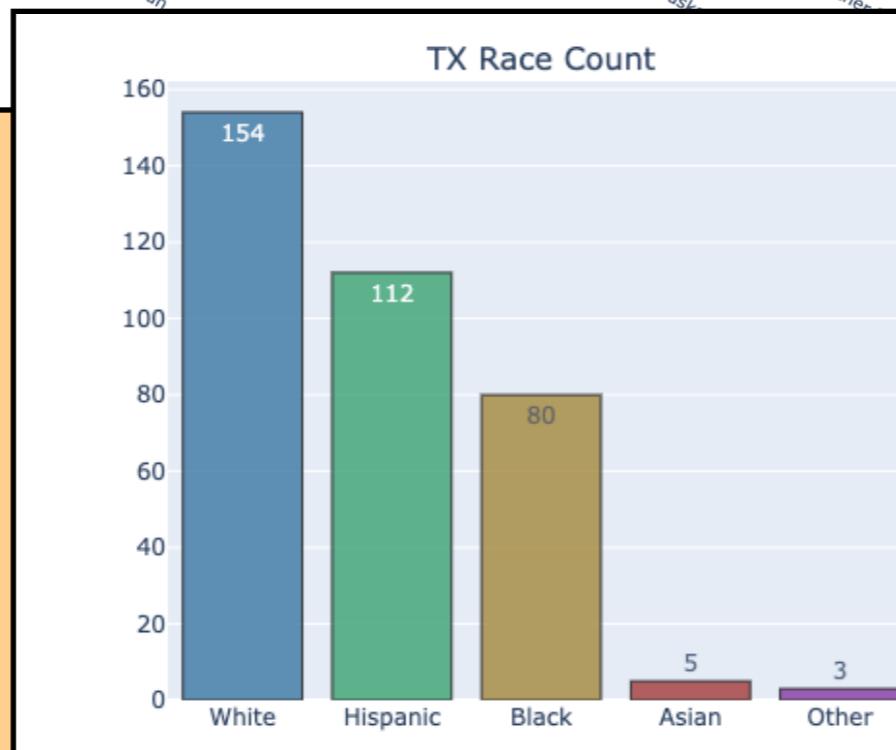


TEXAS



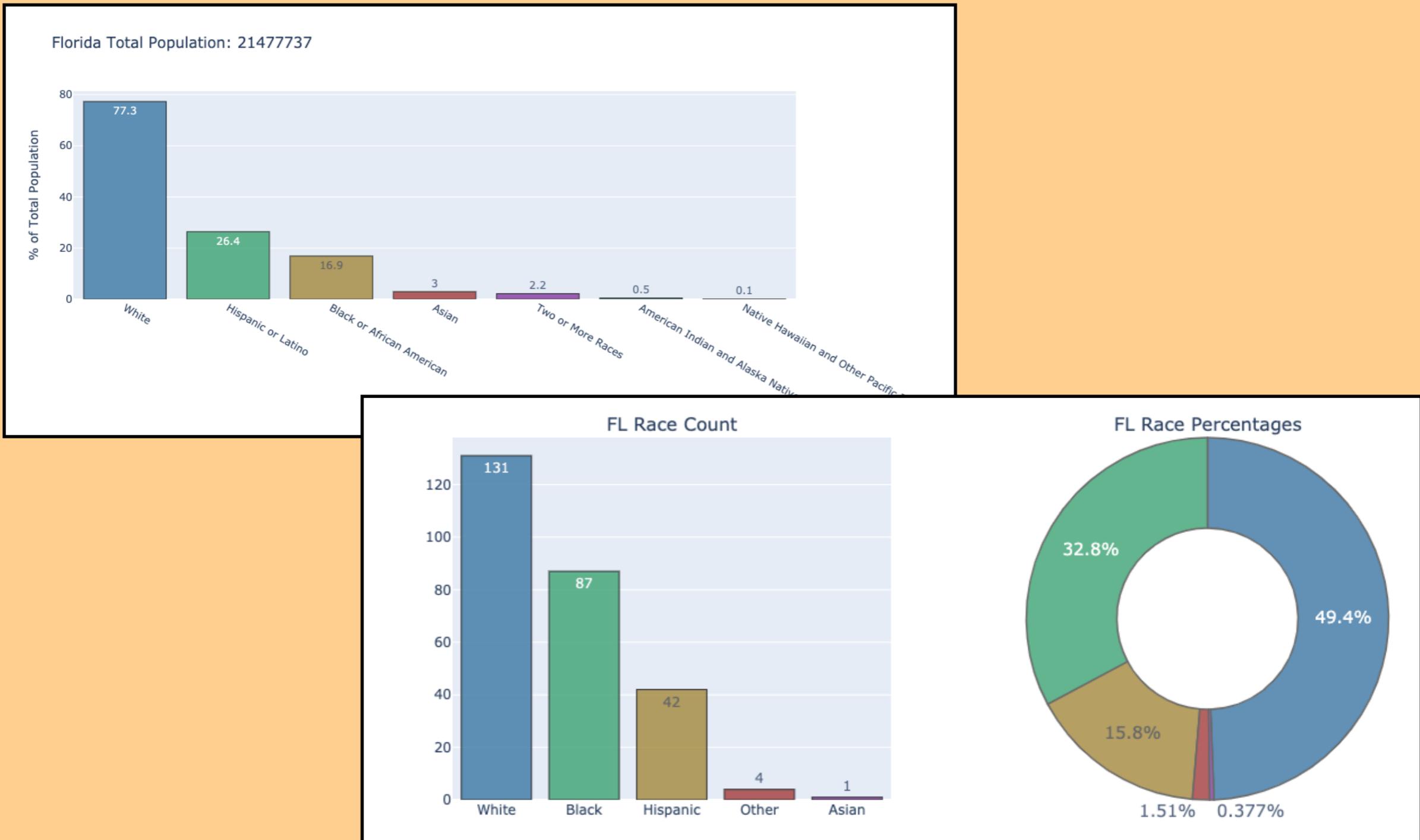
White: 78.7%
Hispanic: 39.7%
Black: 12.9%

The observed trend continues with white people being killed at a lower rate than their population while hispanic and black people are killed at a disproportionately higher rate.



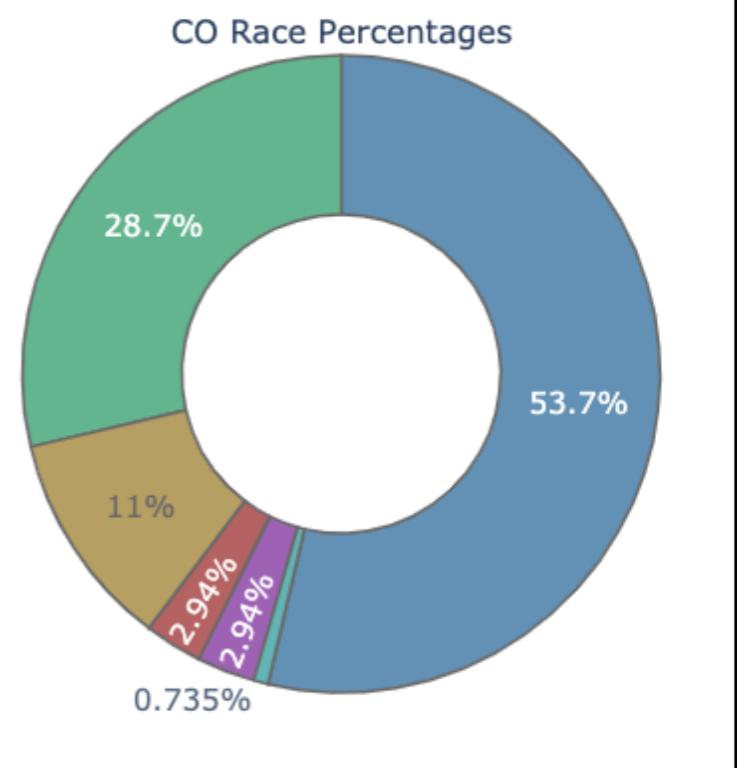
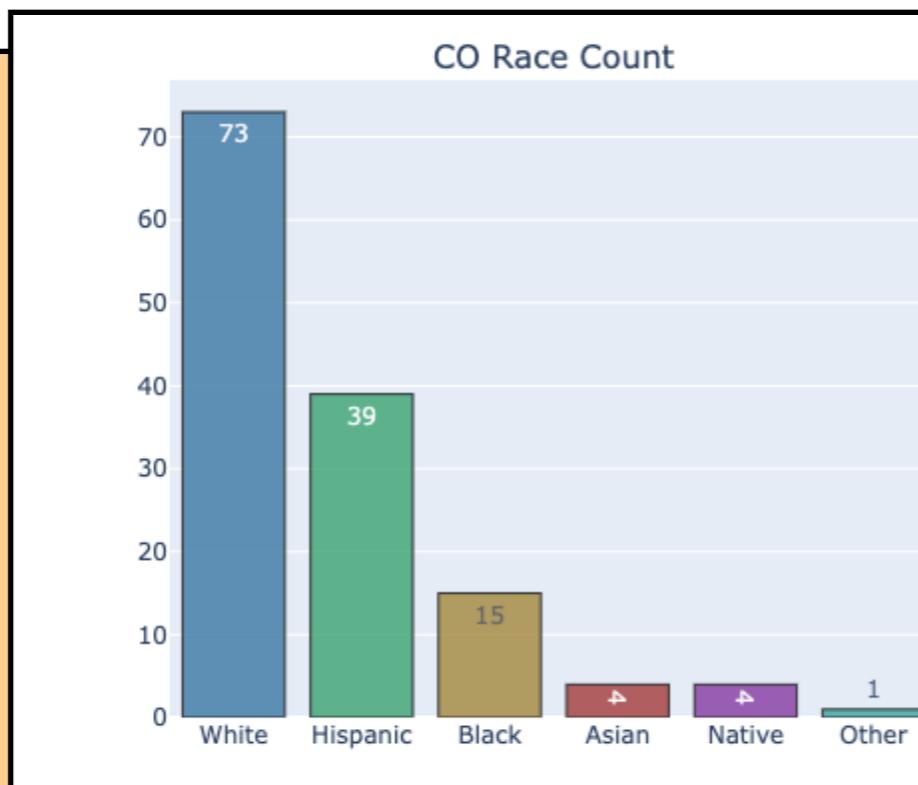
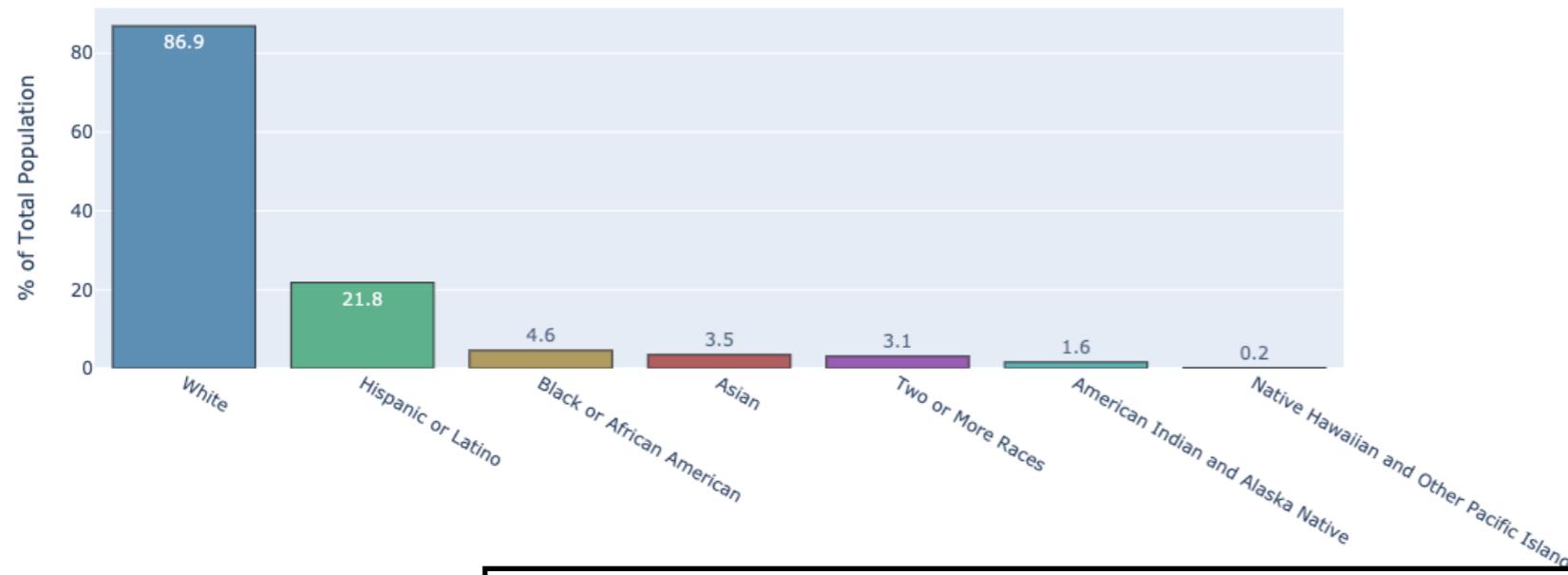
Three more states are visualized below.

FLORIDA



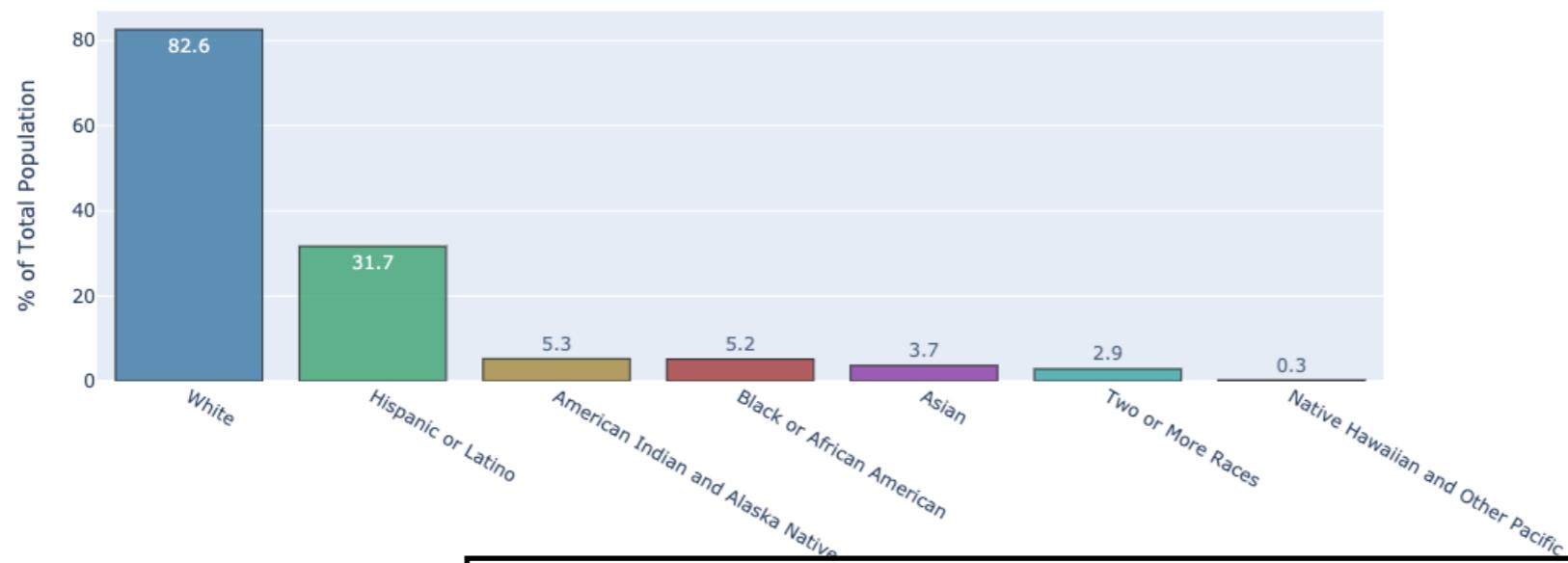
COLORADO

Colorado Total Population: 5758736

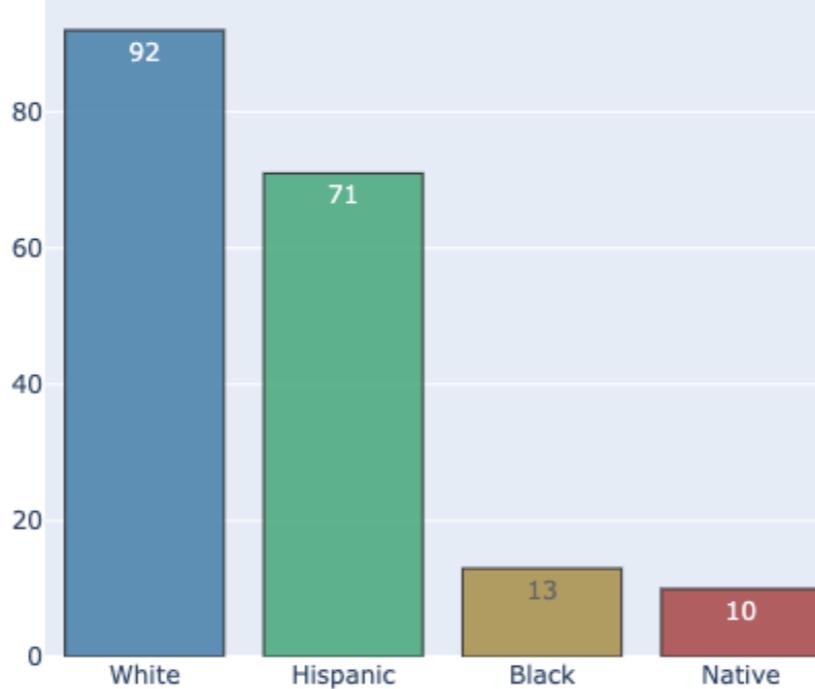


ARIZONA

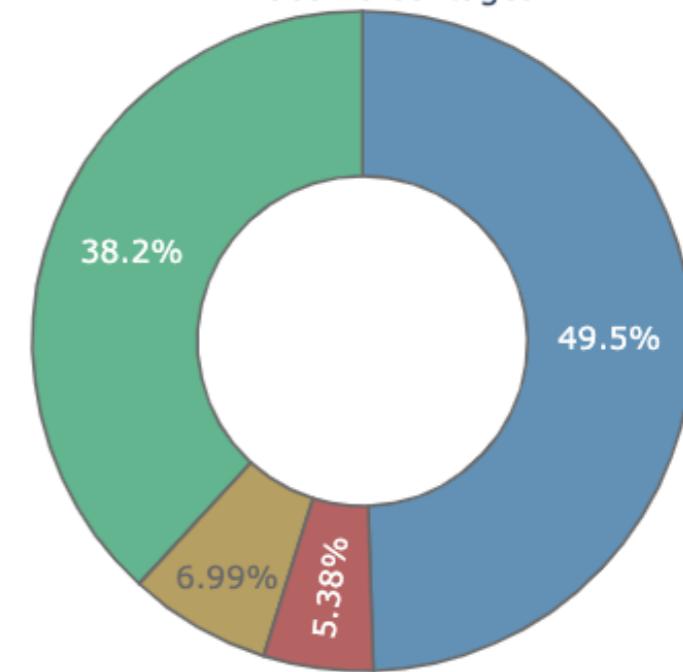
Arizona Total Population: 7278717



AZ Race Count



AZ Race Percentages



CONCLUSION



Though a grim subject, this dataset provides an important and informative perspective on the realities of the United States.

Through a thorough analysis we were able to gain insight into many of the factors that surround the deaths of people at the hands of police.

Race, though a social construct, has been an ever present factor influencing the judicial, economic, and social realities of the United States. It is part of the American DNA and continues to contribute to the zeitgeist. Therefore it is important that race be thoroughly examined so that biases and racist

discrepancies can be exposed.

Through this analysis we were able to see that White, Hispanic, and Black people are killed at disproportionate rates to their overall population numbers. Younger people age 18-35 are more likely to be killed by police as well.

Perhaps certain inferences can be made as to the reason behind these outcomes; however, there is not enough data in this dataset to support any inferences, and to do so would only be conjecture.

SOURCES

DATA

Shooting Data: <https://www.kaggle.com/mrmorj/data-police-shootings>

Census: <https://www.census.gov/quickfacts/fact/table/US/PST045219>

IMAGES

Cover: REUTERS/Shannon Stapleton - <https://www.washingtonpost.com/news/fact-checker/wp/2015/03/19/hands-up-dont-shoot-did-not-happen-in-ferguson/>

Defining the problem: Jim Vondruska/NurPhoto/Getty Images - <https://www.vox.com/21292688/police-killings-data>

Conclusion: Clay Banks - <https://unsplash.com/photos/VxftGRv6IH8>

**FOR ADDITIONAL PROJECTS & PRESENTATIONS:
[HTTP://MILTONSUGGS.WIXSITE.COM/DATA](http://MILTONSUGGS.WIXSITE.COM/DATA)**