

# Math 130 Final Project

9-25-2022

## #Math 130 Final Project

```
library(readxl)
police_shootings <- read_excel("Math130 Final Project/FatalShootings.xlsx", sheet=1, col_names=TRUE)

head(police_shootings)
```

```
## # A tibble: 6 x 14
##   id name      date                manne~1 armed  age gender race  city  state
##   <dbl> <chr>    <dtm>                <chr>  <chr> <dbl> <chr> <chr> <chr> <chr>
## 1     3 Tim El~ 2015-01-02 00:00:00 shot   gun    53 M     A    Shel~ WA
## 2     4 Lewis ~ 2015-01-02 00:00:00 shot   gun    47 M     W    Aloha OR
## 3     5 John P~ 2015-01-03 00:00:00 shot a~ unar~ 23 M     H    Wich~ KS
## 4     8 Matthe~ 2015-01-04 00:00:00 shot   toy ~ 32 M     W    San ~ CA
## 5     9 Michae~ 2015-01-04 00:00:00 shot   nail~ 39 M     H    Evans CO
## 6    11 Kennet~ 2015-01-04 00:00:00 shot   gun    18 M     W    Guth~ OK
## # ... with 4 more variables: signs_of_mental_illness <lgl>, threat_level <chr>,
## #   flee <chr>, body_camera <lgl>, and abbreviated variable name
## #   1: manner_of_death
```

## #Introduction

For this product I'll be examining the Fatal Police Shootings dataset. After examining the dataset as a whole to examine all of the variables, I decided that I'm interested in learning more about the gender, and the race of the shooting victims. There are many instances of statistical analysis that show there is oftentimes a disproportional amount of fatal police encounters against people of color, so I am interested to see whether or not that is prevalent in this dataset. I'm also interested to see whether or not the police shooting victims are mostly male, since men are often viewed as more violent or threatening than women.

## #Univariate

For the univariate portion I'll be analyzing gender. I started by making a table comparing male and female police shooting victims. Next, I created an sjPlot to compare the amount of male and female police shooting victims graphically. I found that 95.5% of the police shooting victims were males, and that 4.5% were females.

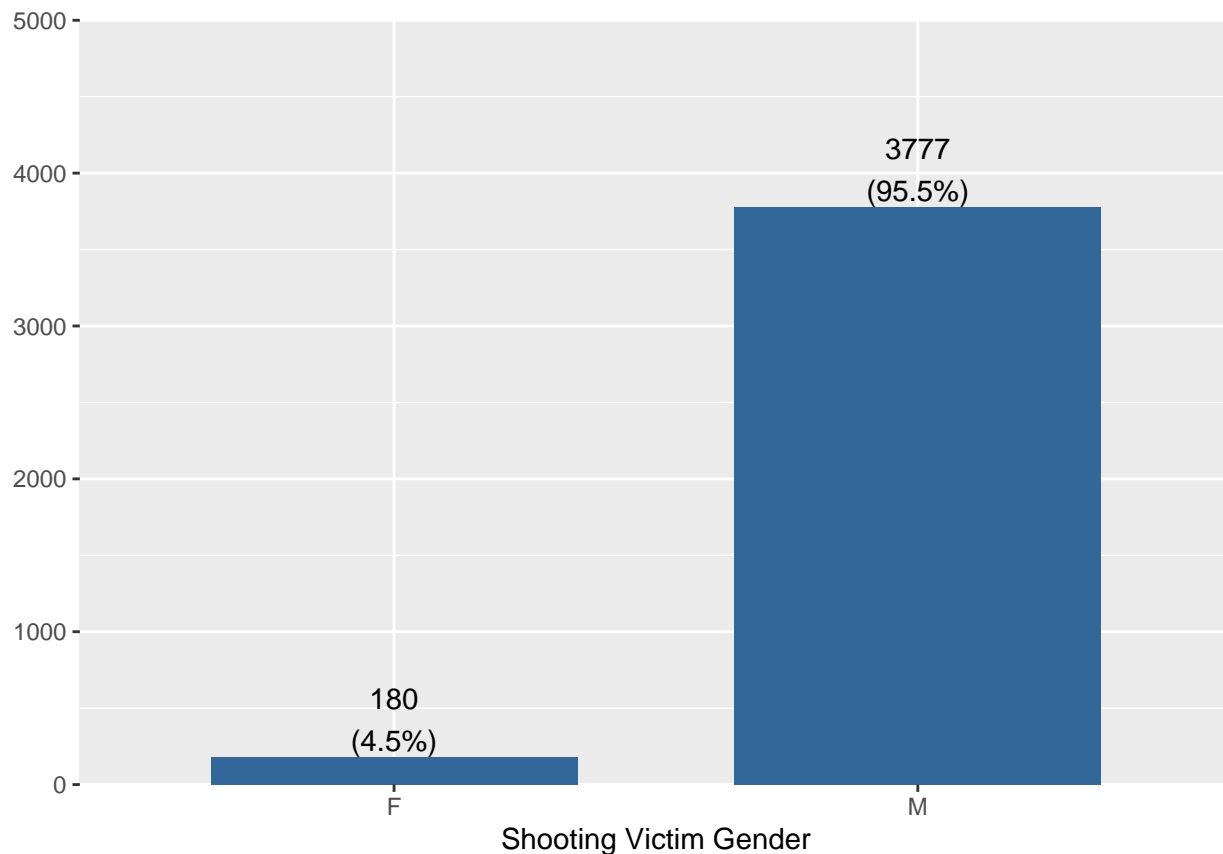
```
table(police_shootings$gender, useNA = "always")
```

```
##
##   F     M <NA>
## 180 3777     3
```

```
library(sjPlot)
```

```
## Learn more about sjPlot with 'browseVignettes("sjPlot")'.
```

```
library(ggplot2)
plot_frq(police_shootings$gender)+
  xlab('Shooting Victim Gender')
```



### #Bivariate

For the bivariate section I wanted to analyze the races of the police shooting victims. I started by making a table, which showed that the different races of the police shooting victims included Asian, Black, Hispanic, Native American, Other Pacific Islander, and White.

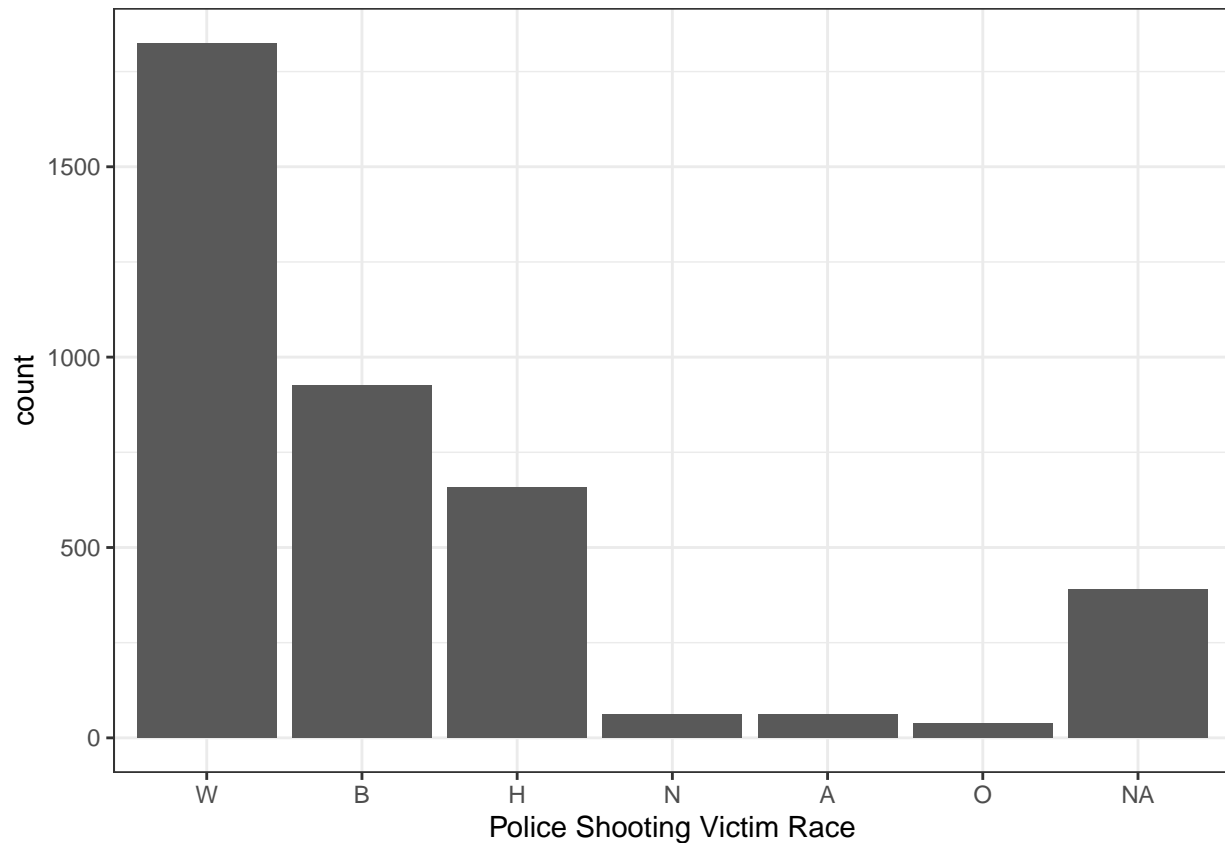
```
table(police_shootings$race)
```

```
##
##   A   B   H   N   O   W
##  61  927  659  62  37 1825
```

Next, I created a bar chart to look at the races of the police shooting victims side by side. The graph shows that a majority of the shooting victims were either White, Black or Hispanic.

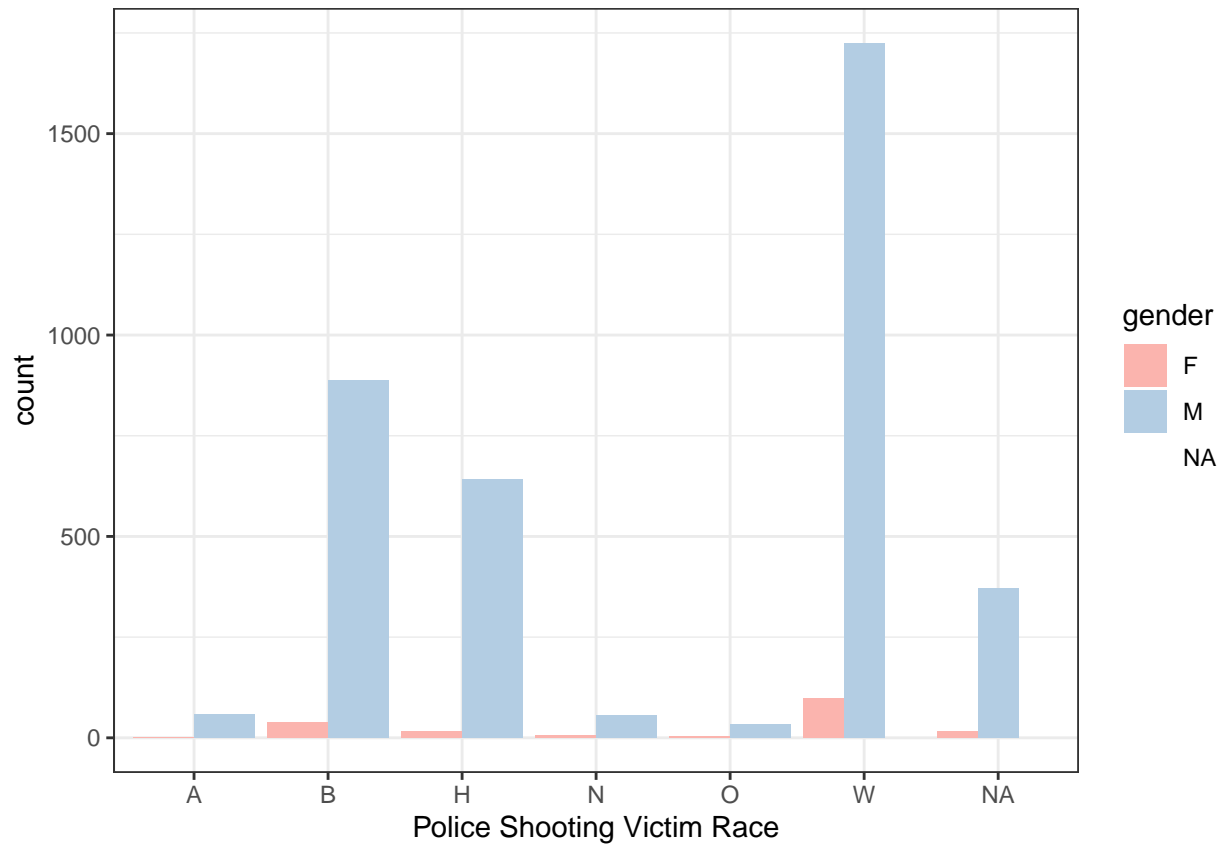
```
library(forcats)
library(ggplot2)
```

```
ggplot(police_shootings, aes(x=forcats::fct_infreq(race))) + geom_bar() + xlab("Police Shooting Victim R")
  theme_bw()
```



Next, I wanted to compare both the race and the gender of the police shooting victims. To do this I created another bar chart, using the “dodge” command to make it easier to compare both variables.

```
ggplot(police_shootings, aes(x=race, fill=gender)) +  
  geom_bar(position="dodge")+  
  xlab("Police Shooting Victim Race")+  
  theme_bw()+  
  scale_fill_brewer(palette = "Pastel1")
```



### #Conclusion

According to the results from my analysis of the dataset, my hypothesis that there would be more male than female police shooting victims was correct. However, my hypothesis that there would be more minority group shooting victims was incorrect.

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