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title: "Exploratory Data Analysis Project"
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date: '2024-03-09'
output: html_document
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### Introduction

Today, we will analyze the correlation between age, race, and the manner in which
individuals have been killed in police shootings.

### Univariate Analysis

First, we will analyze the variables in an individualized manner using bar charts, and
acquire information from each. This extraction will allow us to visualize the data we are
working with. Then, we will add analyze with respect to more than variable to take into
account different factors present in our data.

## Age

```{r}
library(readxl)
data <- read_excel("/Users/emmanuelorejel/Documents/Math130/Data/fatal-police-shootings-
data.xlsx")
# Frequency Distribution of Age
age <- table(data$age)
barplot(age, main="Data Distribution of Age", xlab="Age", ylab="Frequency", col="green")
```

## Race

```{r}
# Frequency Distribution of Race
race <- table(data$race)
barplot(race, main="Data Distribution of Race", xlab="Race", ylab="Frequency", col="blue")
```

## Manner of Death

```{r}
# Frequency Distribution of the Manner of Death
manner_of_death <- table(data$manner_of_death)
barplot(manner_of_death, main="Data Distribution of the Manner of Death", xlab="Manner of
Death", ylab="Frequency", col="red")
```

Now, let us plot more than one variable to make comparisons and produce a proper
conclusion.

## Bivariate Explanation

## Age and Manner of Death Variable Examination

```{r}
# Contingency Table
Age_Mannerofdeath_Table <- table(data$age, data$manner_of_death)
barplot(Age_Mannerofdeath_Table, main="Age and Manner of Death Variable Examination",
xlab="Age", ylab="Frequency", col=c("blue","red"), legend=c("Shot", "Else"), beside=TRUE)
```

## Race and Manner of Death Variable Examination

```{r}
````
````

```
# Contingency Table
Race_Mannerofdeath_Table <- table(data$race, data$manner_of_death)
barplot(Race_Mannerofdeath_Table, main="Race and Manner of Death Variable Examination",
xlab="Race", ylab="Frequency", col=c("blue","red"), legend=c("Shot", "Else"), beside=TRUE)
```

Extra Information

Let us take into account whether or not these individuals who were unfortunately killed had a weapon, more specifically a gun, on them or not.

```{r}
# Frequency Data of Armed
armed <- table(data$armed)
barplot(armed, main="Data Distribution of Armed with Gun", xlab="ee", ylab="Frequency",
col="blue")
```

Conclusion

As can be seen, there is a correlation between race and police shootings. Caucasian Americans are shot at higher frequency, though that can be due to higher population. African Americans are only 14% of the population, so they are killed quite often comparitavely. Additionally, younger folk are killed more often than elderly people. However, we must keep in mind that a lot of them where armed with a gun. So, we must be cautious at all times. It is quite a complex subject, but by reducing the fear police officers so that they only shoot as a last resort, and reducing the fear of citizens so that they do not give a tough time to the officers. It starts with understanding each other's perspectives, but we must first see each other as humans.