WHAT DID YOU SAY?

Data Visualization

Group #20

Adarsh Ravi
Aeshna Kapoor

The words we chose to use can have many effects towards a listener; the words can make them happy or make them feel sad or agitated towards us. Thus, the words we chose to use could change the way people feel about us. These words have the ability to influence whether people pursue good or bad actions in society. We humans tend to be poor decision makers when we are under pressure or emotionally distraught.

"Achhe din aane waale hain" (Good days are coming) and "Make America Great Again" were two campaign slogans that made people decide their Prime Minister (India) and President (USA) respectively. The two mentioned campaigns used various forms of digital marketing to target their respective population using their slogan. For example, there was widespread news coverage about Cambridge Analytica, a British political consulting firm, using 50 million Facebook profiles to harvest data. They used these data to identify the personalities of American voters and influence their behavior.


Cambridge Analytica whistleblower: "We spent $1m harvesting millions of Facebook profiles" – video

Realizing the power of words, we decided to work on a dataset taken from Kaggle.com, Last words of Death Row Inmates. The data set had records of death row inmates from Texas and their last statements before execution. We analyzed several factors, including their last statements and how their last words reflect their sentiments before execution. The main agenda of this project was to examine and learn how we can use certain "words" to change and improve decision making of people. We have seen how Cambridge Analytica's involvement in the US presidential election helped to change voting choices of the population using their digital marketing tactics. We might be able to use the same methodologies to improve and change how society thinks about various concepts.

At first, we examined at which age these inmates were sentenced to death row.

Age when people received sentence
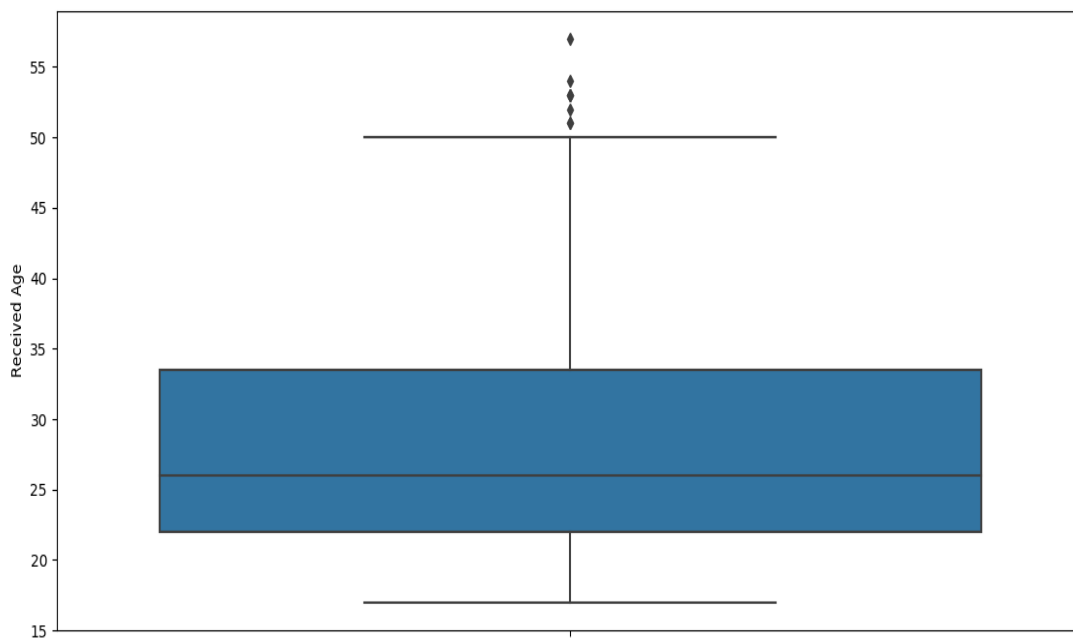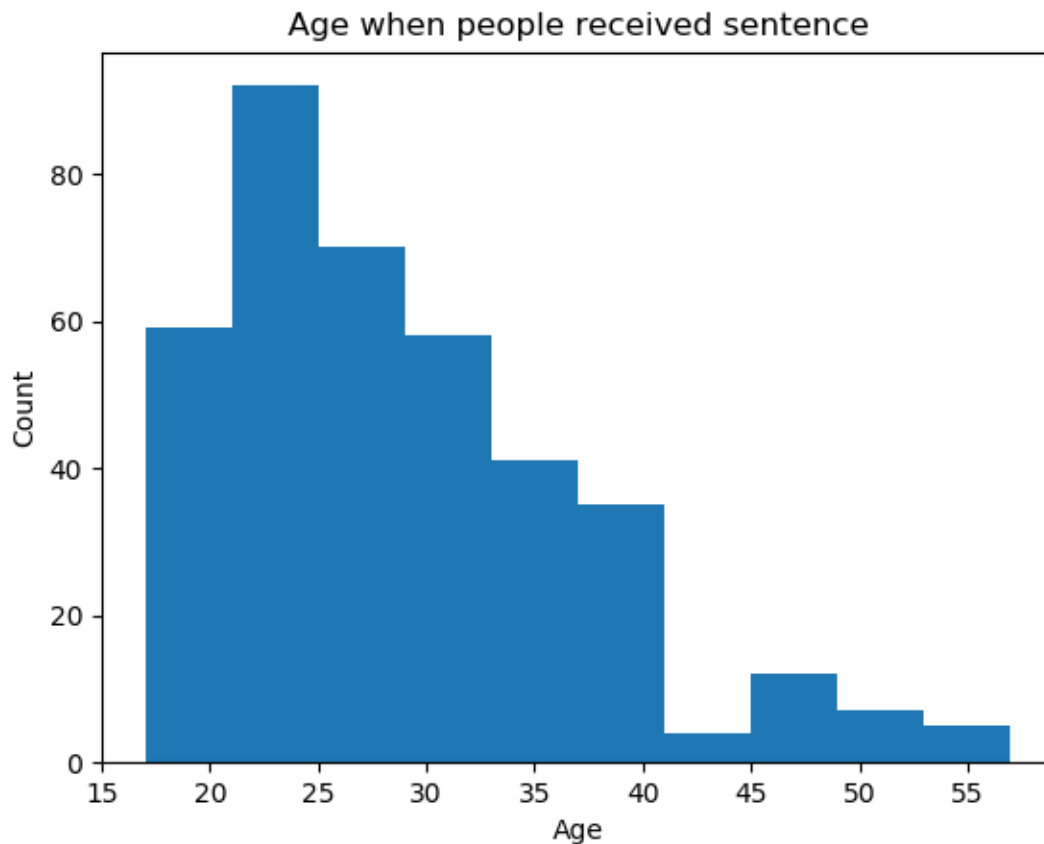
From the histogram above, we can easily evaluate that most of the convicts where in the range of 20-25 years.

Race of people who were convicted
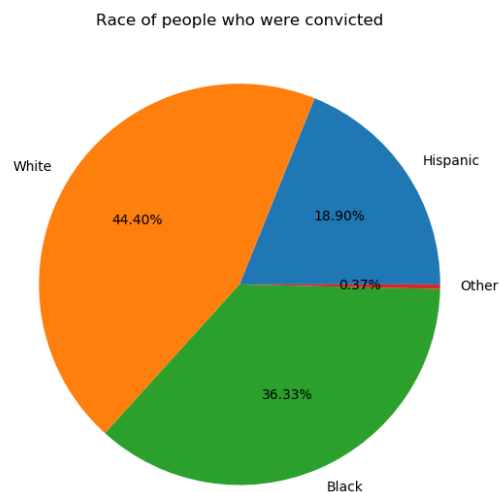
On checking the race of the inmates, we were able to find that many of the inmates where whites with 44.40%, followed by blacks 36.33% and Hispanic with 18.90% and the other races accounted for only 0.37%.

Education level of death row inmates
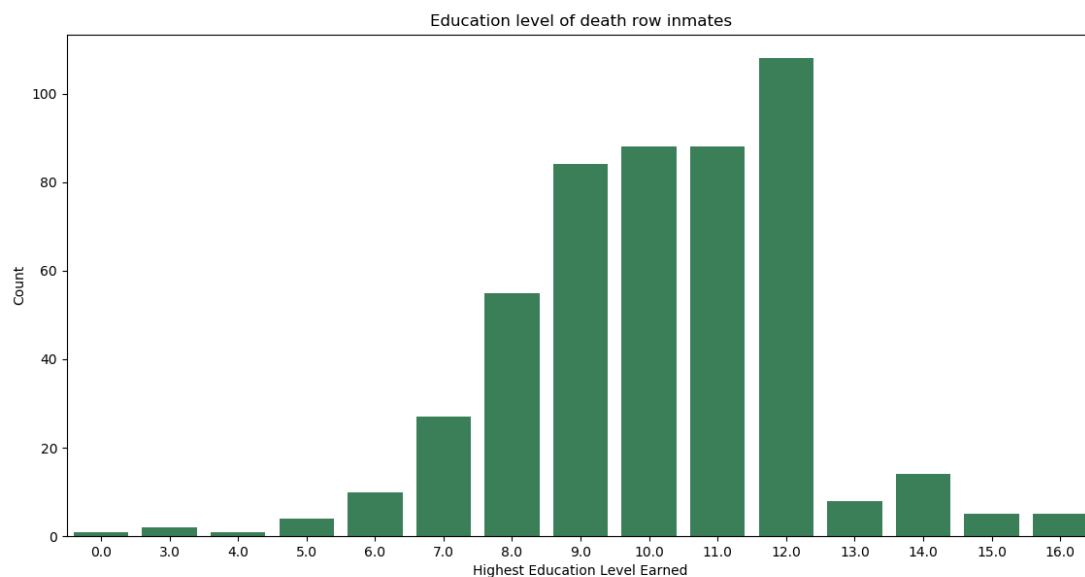
On examining the education level of the inmates, we see that most of them have high school education.

Race of the victims
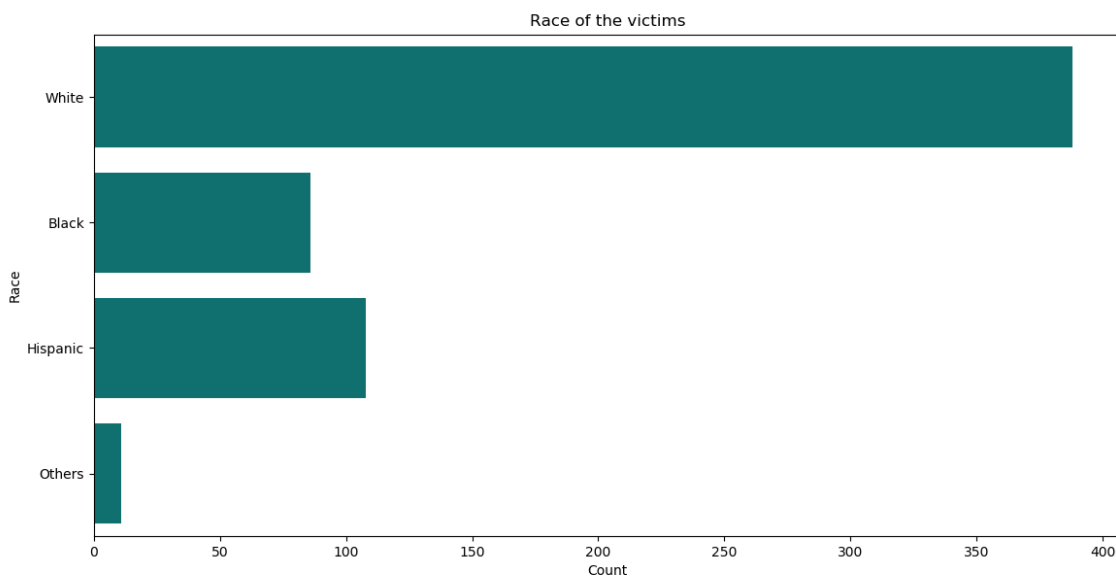
In this section we combined statements of all the death row inmates into a single statement and looked at the most frequently used words. There is a group of words of emotions such as "love", "family", "sorry", "thank", "life", "forgive", "like", "apologize" etc. Then we have another group of words of religious nature "god", "allah", "jesus", "bless", "christ", "lord".

forgive god father yes always **love** feel lord warden may make lot something still bless caused everything strong peace happened heaven home everybody people world sir care victim sorry tell help row give said christ time hurt going hope year nothing let want say kill support thank way see death sister wish heart know tonight got allah statement find apologize son keep life forgiveness stay get pray first really right today friend head loved please name never ask man wrong thing mom innocent pain good ready much come done take one jesus none like back hate everyone day brother **family**

The most important factor in studying this dataset was to understand the sentiment of the last statement given by each inmate before their execution. In order to understand that, we used AWS comprehend sentiment analysis which categorizes any statement into four sentiment categories namely Positive, Negative, Neutral and Mixed. By using the sentiment analysis on the statements, we found that there were 279 neutral, 230 positive, 25 negative and 11 mixed sentiment statements. The same has been projected in the bar graph below.

Sentiment of the Last Statement
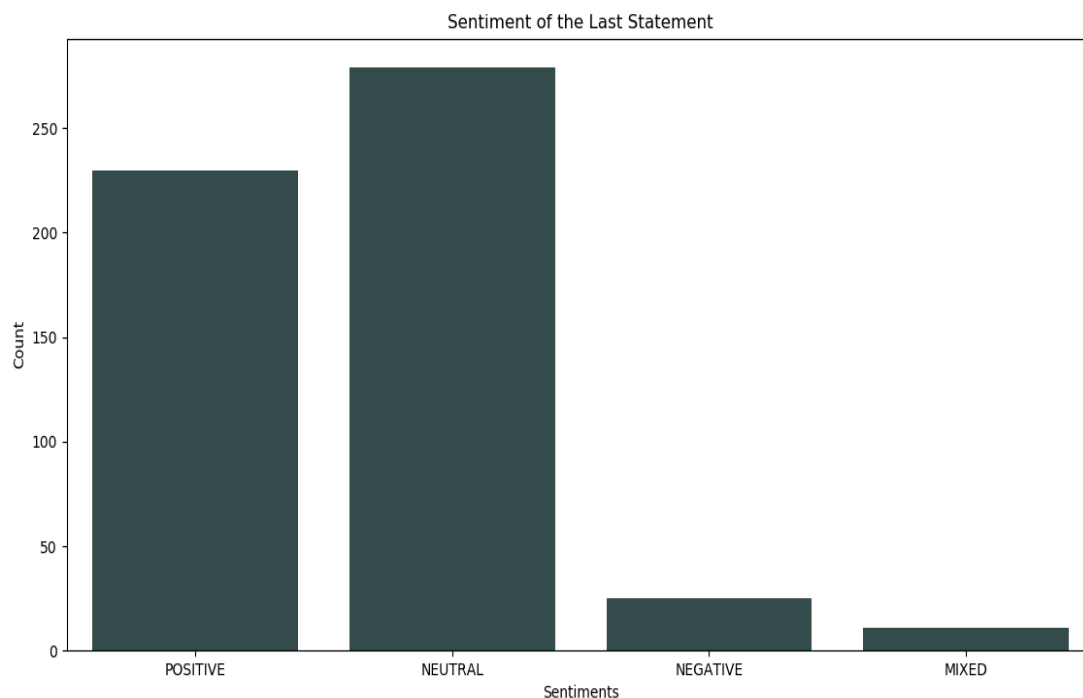
While these inmates serve their time in prison before being executed, they go through a lot of psychological changes. Could we say that their last statement reflects their journey to the end?

While we were working on this project, we reflected on how Cambridge Analytica was able to influence their audience (18 years and above) through digital marketing. What if the power of words and its influence transcended beyond someone who was of legal age? In the world of ever-increasing digital influence, what if we can use words to shape the moral and ethics of young adults as they grow older. For example, rape has been a prevailing crime that has been around for thousands of years. Words or phrases such as "inappropriate attire," "girls are not supposed to stay out long," or "consent" have powerful meaning that influence the behavior of rape perpetuators.

In order to analyze what goes through the mind of a rapist, we web scraped an interview by BBC news of a man who was convicted of a gang rape in Delhi, India.

What did you say?

TOOK (3)   MAYA (3)   ESPECIALLY (3)   PERHAPS (4)   BELIEVE (3)   SINGH (7)   ASKED (3)   AMONG (3)
TRUTH (3)   CASE (3)   OFFENCE (3)   LIFE (3)   SENT (3)   ORDINARY (3)   THROUGHOUT (4)   CHILD (3)   HIGH
(3)   GIRL (19)   WORLD (4)   DETAIL (4)   SCREAM (3)   MAKE (3)   PLACE (4)
WORTH (2)   BIG (3)   FILM (5)   DECEMBER (3)   BIRTH (3)   MEN (9)   COME (3)   HEART (3)   HOME
(4)   CULTURE (3)   CERTAINLY (3)   WORK (2)   MONSTER (3)   DEATH (5)   PROBLEM (4)   EVEN (4)
SOCIETY (4)   TWO (3)   STORY (3)   RIGHT (3)   INJURY (3)   MARCH (3)   GMT (3)   SISTER (3)   SAY (4)
LAWYER (4)   SPOKE (3)   BUS (5)   VALUE (3)   SAID (10)   SUNDAY (3)   STAND (4)
RAPE (13)   WRONG (3)   HEIGHT (3)   NIGHT (3)   RAPIST (3)   STUDENT (3)   HAND (3)   FAR (3)
LONG (3)   CHANGE (3)   CAME (3)   HUMAN (3)   TURN (3)   PUT (4)   UDWIN (3)   YOUNG (2)   PART (3)
DAUGHTER (6)   INDIAN (3)   EXTREMELY (3)   THING (4)   RAPED (5)   LEAVE (3)   ONE (6)
THREE (3)   KILL (3)   WRING (2)   YEAR (2)   INSPIRED (3)   YOUTH (2)   WOMAN (13)   TELL (3)
ENOUGH (3)   HOUR (3)   INDIA (9)   FRIEND (4)   FAMILY (4)   BOY (7)   LIKE (4)   COUNTRY
(3)   PRESENCE (3)   HUSBAND (3)   ALLOW (3)   DELHI (3)   AROUND (3)

We noticed certain words, such as "society", "culture", "scream", and "dress" were used quite recurrently by the rapist.

Once people are convicted of crimes, the dialogue often stops there. We don't dig deeper into why they did it and what influenced them. Given that we have the technology to analyze words and its impact on people's thought process, shouldn't we aim to analyze the words of crime perpetrators to better understand why they committed the crime?