YouTube Comments Sentiment Analysis

UCSD ECE 143

Group 11
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Problem Statement

- Does the demographics of the content creator affect the negativity of the comments they receive?

- Does political affiliation of a channel affect the positivity/negativity of the comments being made?

Methodology

- BeautifulSoup, Selenium
- TextBlob
  - Used to determine the polarity value of each YouTube comment by using the function, ranging from -1 to +1
  - Averaged polarity per YouTuber per category
- Matplotlib, WordCloud
  - Python library to create plots

PsychotikPanda

pewdiepie sucks!!

👍 👎   REPLY

Score = -0.46875

Heather Mclean

Hi Ninja!! I SUBBED!!!😃 😃   Btw your awesome!!

👍 👎   REPLY
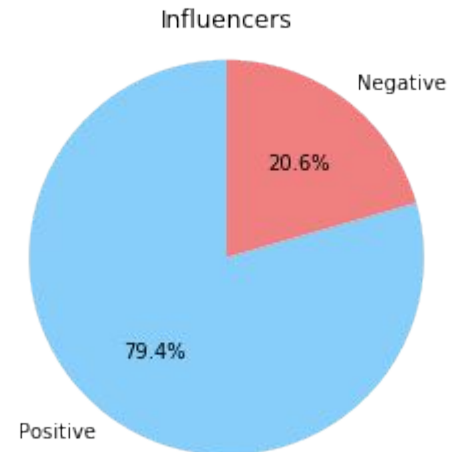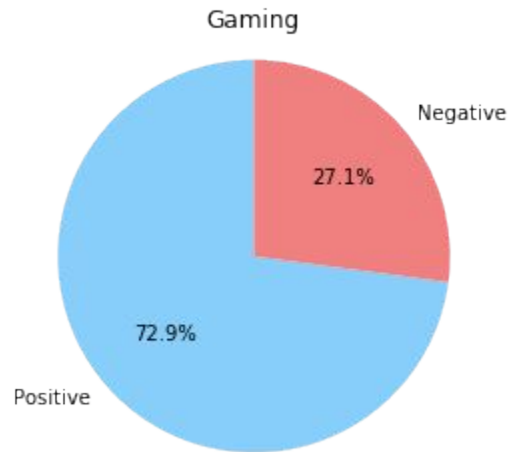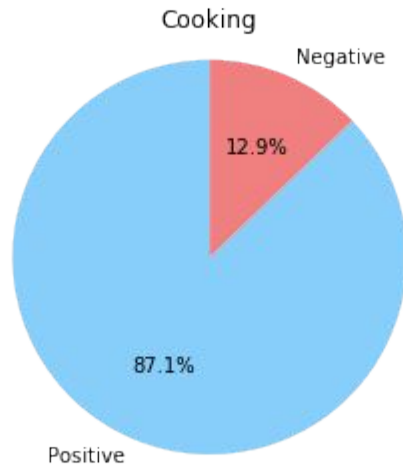
Score = 1

Dataset Generation

- Demographic Analysis:
  - Scraped subscriber counts and comments from videos for 10-15 YouTubers per category
    - Cooking - Instructional
    - Gaming - Entertainment
    - Influencers - Survey of the field
- News Channel Analysis:
  - Channels that cover different political affiliations
  - News stories that are covered across all channels

Number of comments scraped ≃ 1 Million
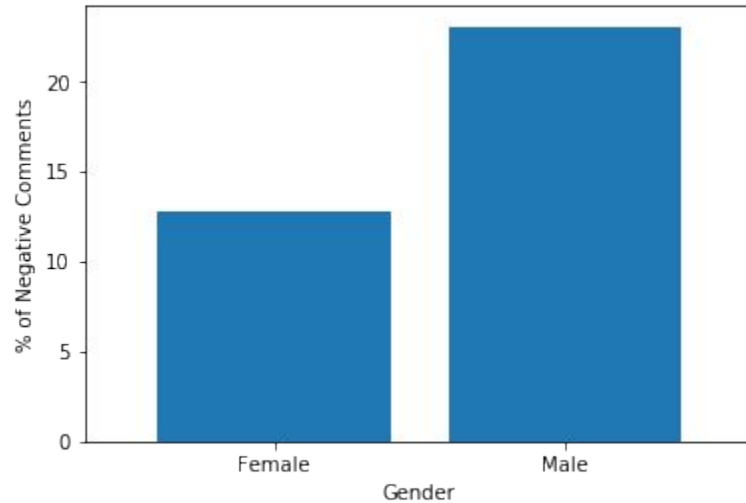
Demographic Analysis

Gaming, Influencers, & Cooking

- Examined the what percentage of the sentiment expressed in the comments was positive or negative
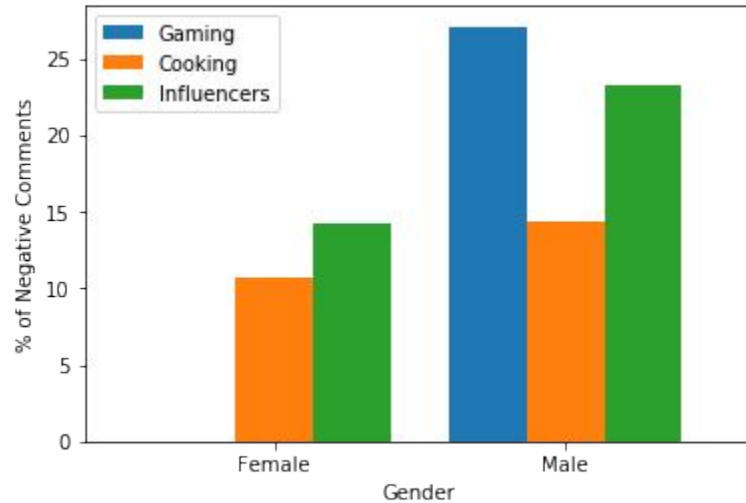- Gaming videos have the highest negative percentage

Cooking — Negative 12.9%, Positive 87.1%

Gaming — Negative 27.1%, Positive 72.9%

Influencers — Negative 20.6%, Positive 79.4%

Gaming, Influencers, & Cooking

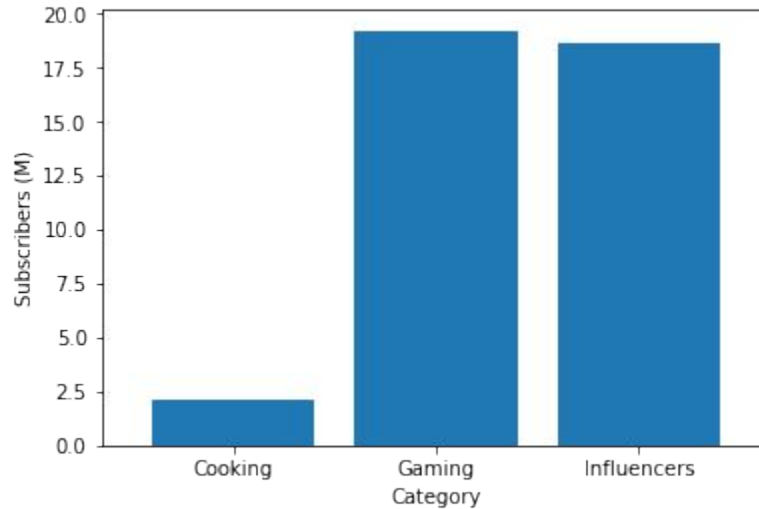- Surprisingly, male YouTubers have a higher percentage of negative sentiment

Gaming, Influencers, & Cooking

- Gaming has higher negativity because of lack of female content creators
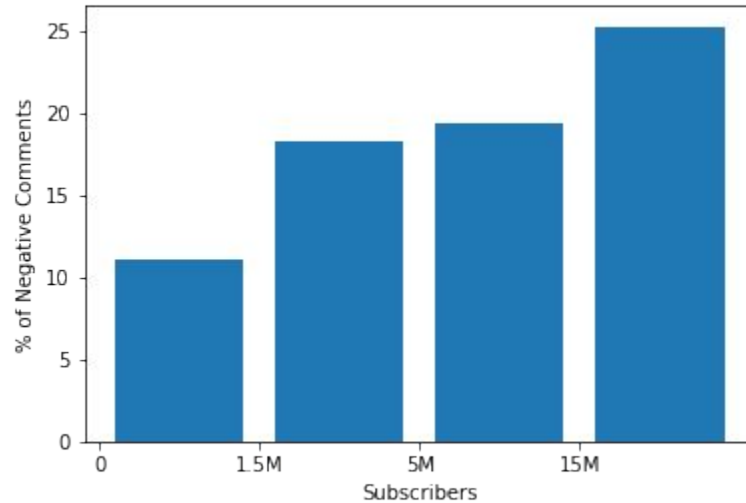- Overall, male YouTubers still have a greater percentage of negativity

Gaming, Influencers, & Cooking

- Cooking channels have the lowest subscriber count, by a large amount!
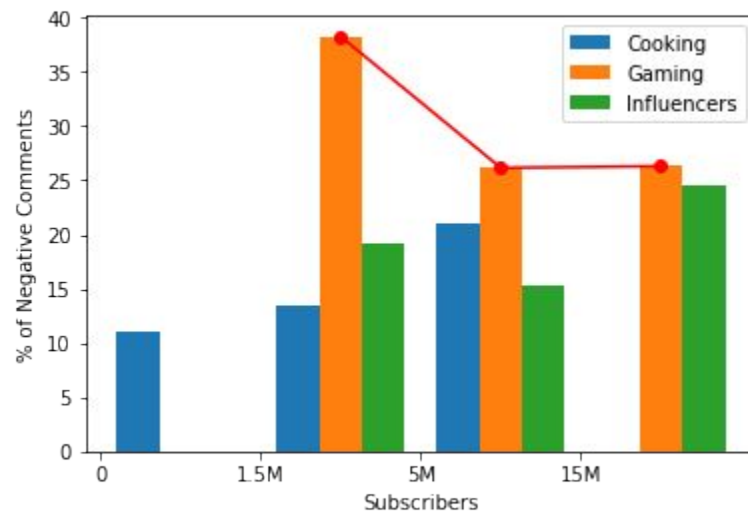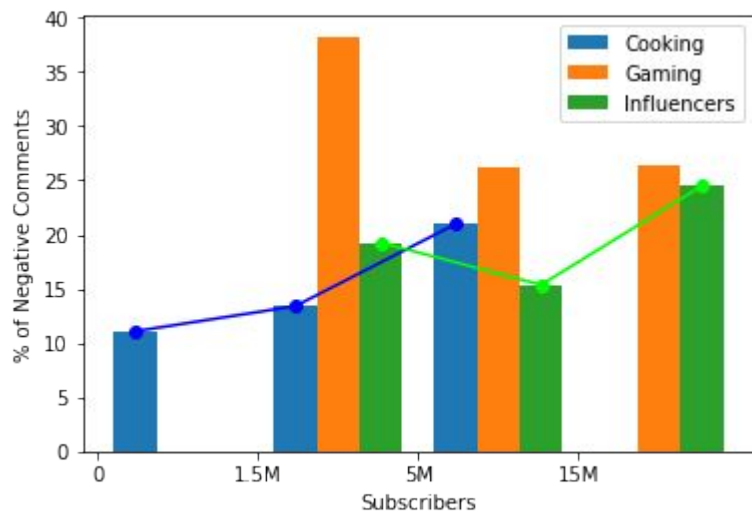
Gaming, Influencers, & Cooking

- In general, the more popular a YouTube content creator, the greater the percentage of Negative comments
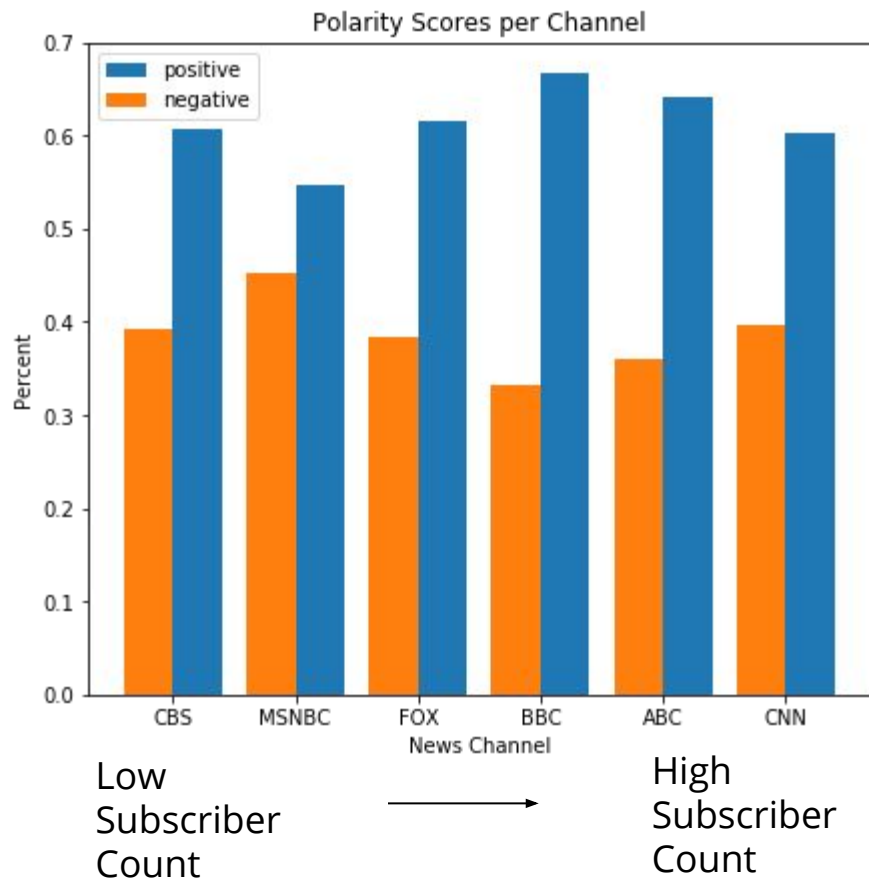
Gaming, Influencers, & Cooking

- Trend holds for cooking and influencer channels
- Trend is inverted for gaming channels
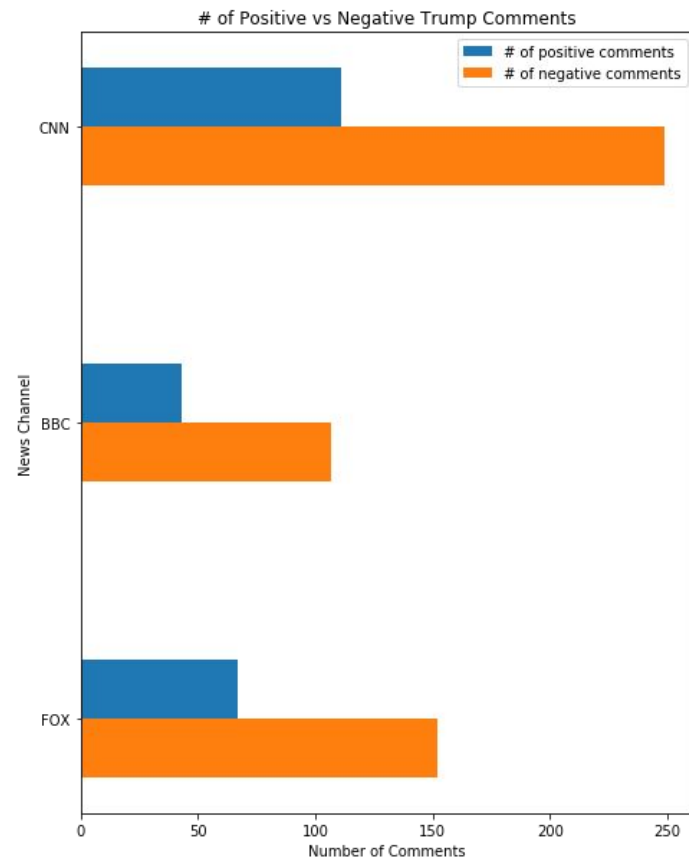
News Channel Analysis

News Channels

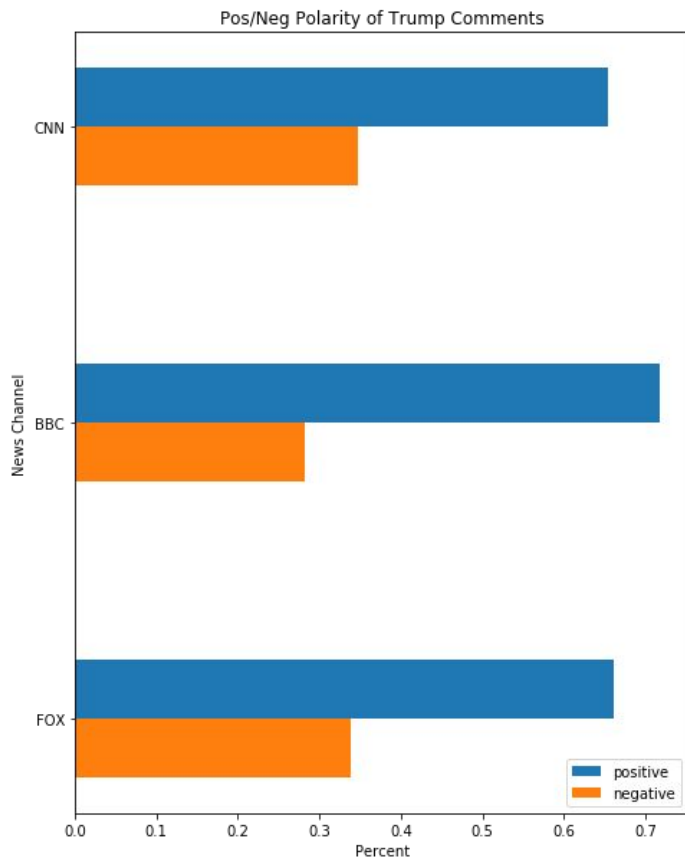Polarity Scores per Channel

Low Subscriber Count → High Subscriber Count

- Ratio of comment polarity stays the same regardless of subscriber count or political affiliation

- British viewers seem to be slightly more positive than US viewers

How did viewers react to Trump?

- Strong positive support for Trump
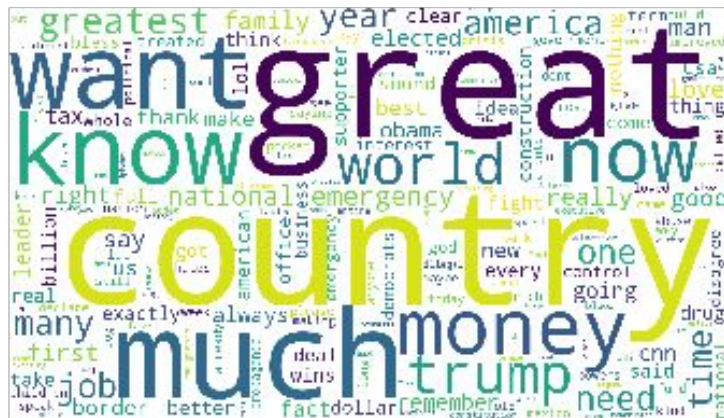
- Political affiliation does not matter

Positive Trump Word Clouds

- Usage of strong positive words

- Larger positive words average ~ 0.8 polarity

BBC

CNN

FOX

Negative Trump Word Clouds

- Weaker negative words

- Average polarity of the negative words ~ -0.5 polarity

BBC

CNN

FOX

Summary

Summary

- Demographic Analysis:
  - Videos for entertainment (gaming) have the highest percentage of negative comments
  - Surprisingly, male YouTubers get more negativity than female YouTubers
  - As subscriber count increases, percentage of negative comments increase
- News Channel Analysis:
  - News channel comments are not significantly affected by political affiliation
  - Similar language is used between channels
  - Non-US news channels have similar positive to negative comment ratios

Thank You