

# Understanding Racial Hate Speech on Twitter

Emma Sun | Chang Shu  
Iuliia Oblasova | Joe Littell

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# 01

## INTRODUCTION



## RESEARCH FOCUS

Understand the landscape of explicit hate speech against  
**5 key races** on Twitter  
through various text mining techniques

WHITE

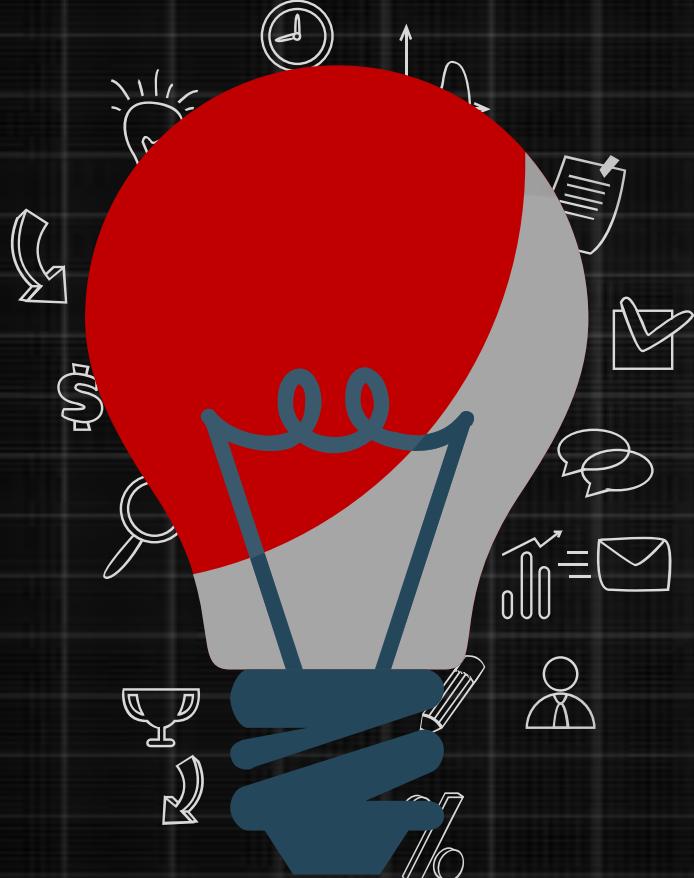
BLACK

ASIAN

JEWISH

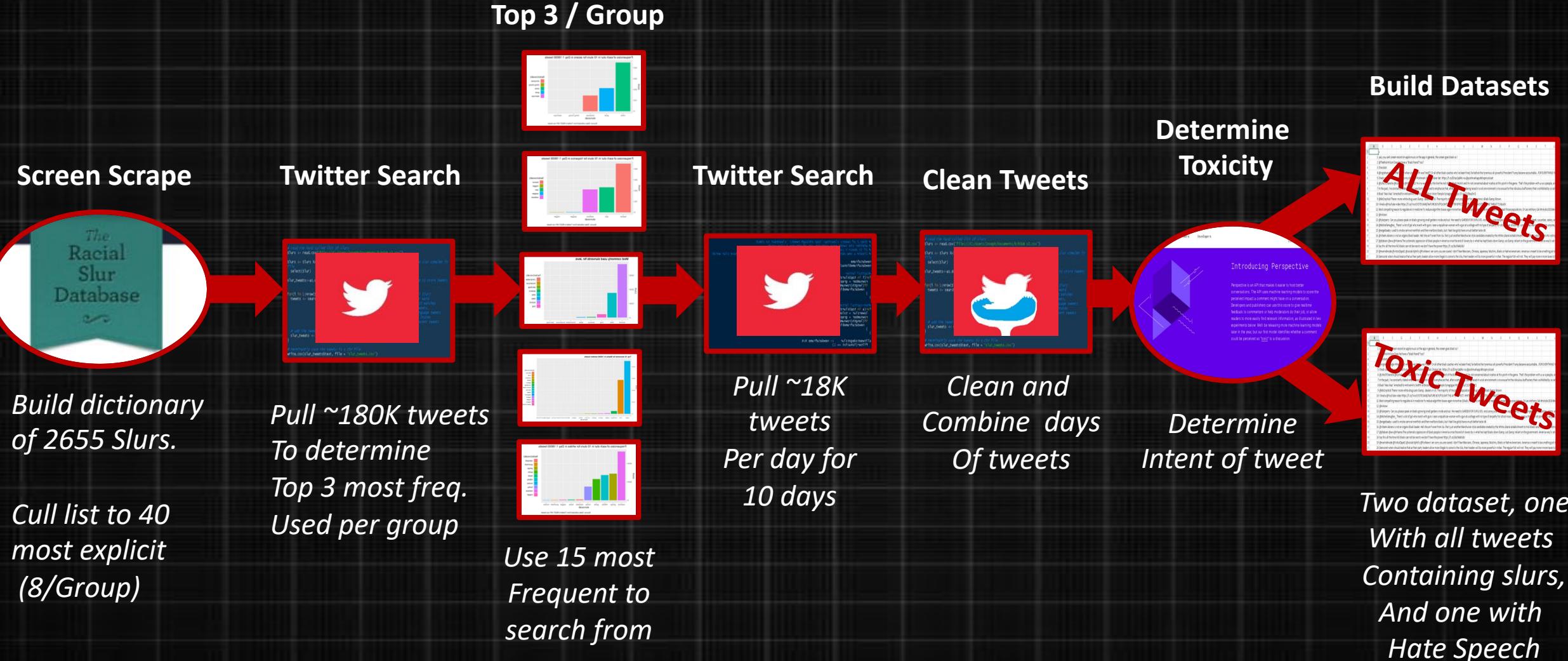
HISPANIC

# Questions that we would like to answer.....



- Content: Wh
- Race: What's the most discriminated race?
- Location: Does location affect who is being discriminated against?
- Topics: How do events affect hate speech?
- Words: What are words that have the highest association with racial slurs?
- Word Network: Are there associations among words used in Hate speech against different races?
- Social Network: What are associations among people who tweeted hate speech?

# Curation of Racism Tweets



# What Toxicity Actually Means...

University of Sussex  
Professor Emeritus  
Claims 'Israelis Blew Up  
Twin Towers With Help  
From Zionists'

"You'd be surprised at how  
many more coon black men  
there are than coon black  
women. And that number is  
extensively huge.  
<https://t.co/XvAkR2pE7a>"

By Perspective API

0.2

0.4

0.6

0.8

1.0

Toxicity Score

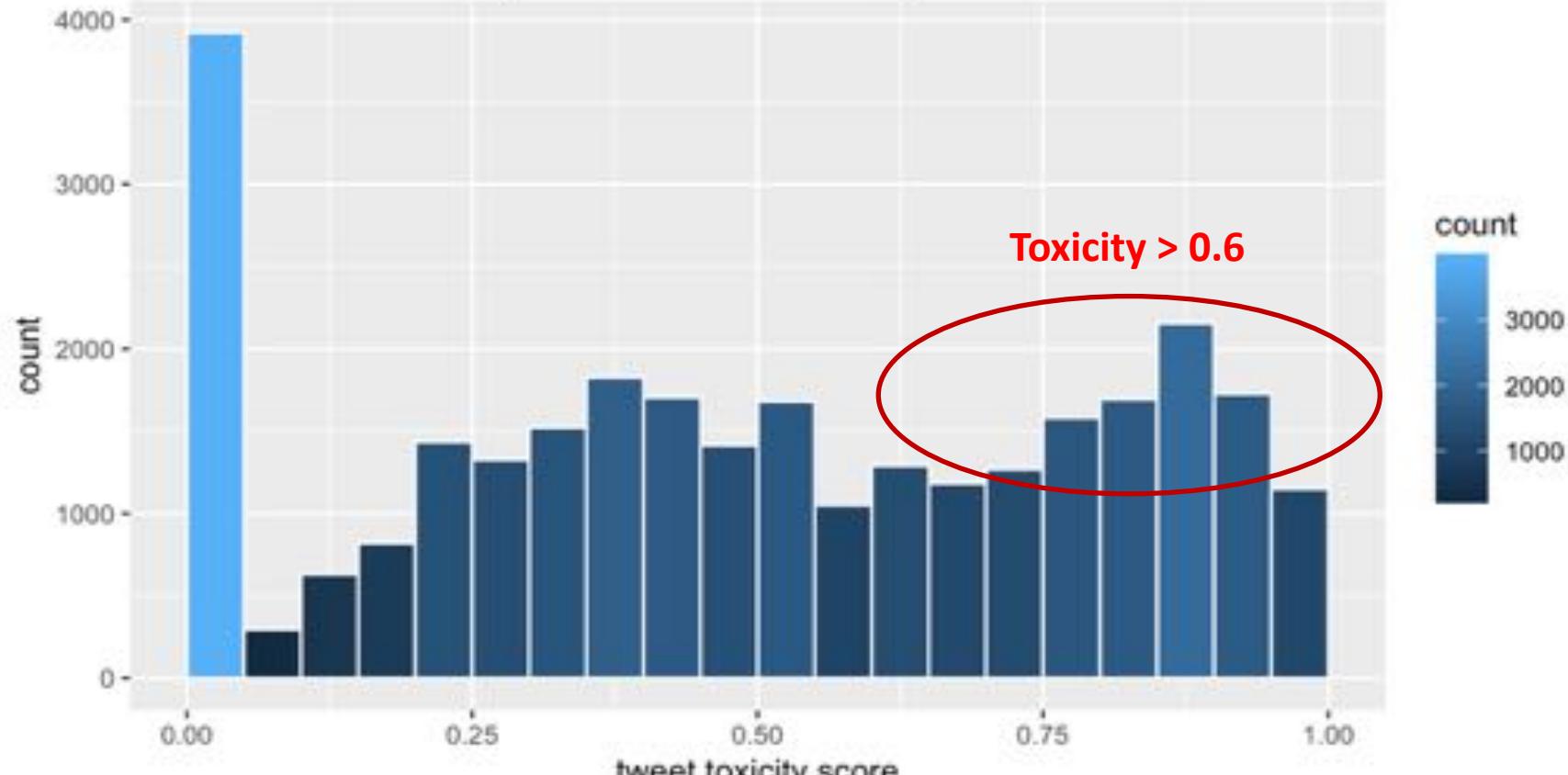
"All these white boys that  
would call me a chink and  
say that i'm yellow in  
elementary/middle school  
are now raving about pho  
and Vietnamese coffee"

"Shut up Nigger!"  
"These hillbilly motherfuckers  
better salt the goddamn roads."  
"dumb hillbilly!"

# Percentage of Toxicity

- Toxicity is bimodal
- Removing events below a 0.6 threshold allows for better analysis

Distribution of Toxicity Score of tweets of top 3 racial slur words for 5 races



Source: Data collected from Twitter's REST API via rtweet

02



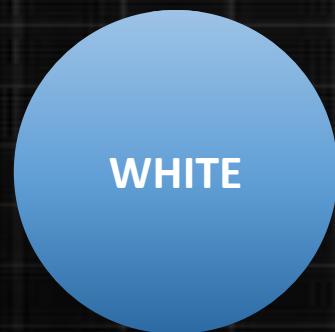
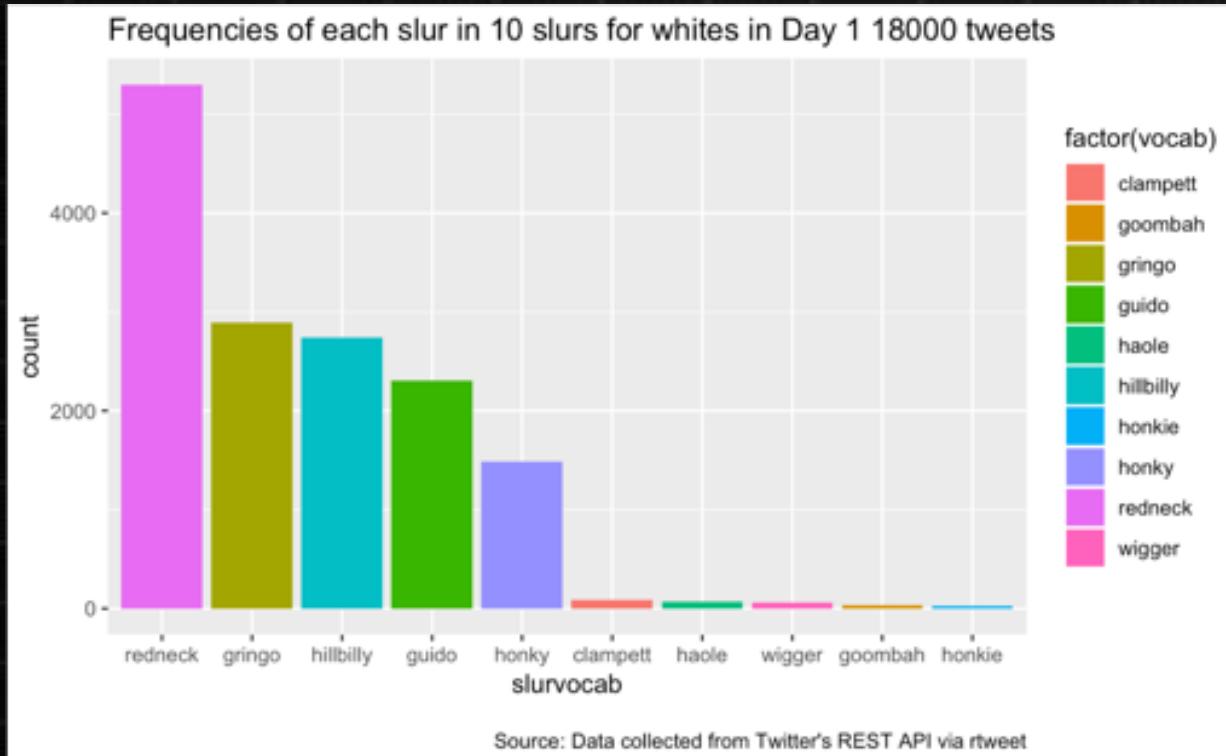
**Content, Race & Location**

# Questions that we would like to answer.....

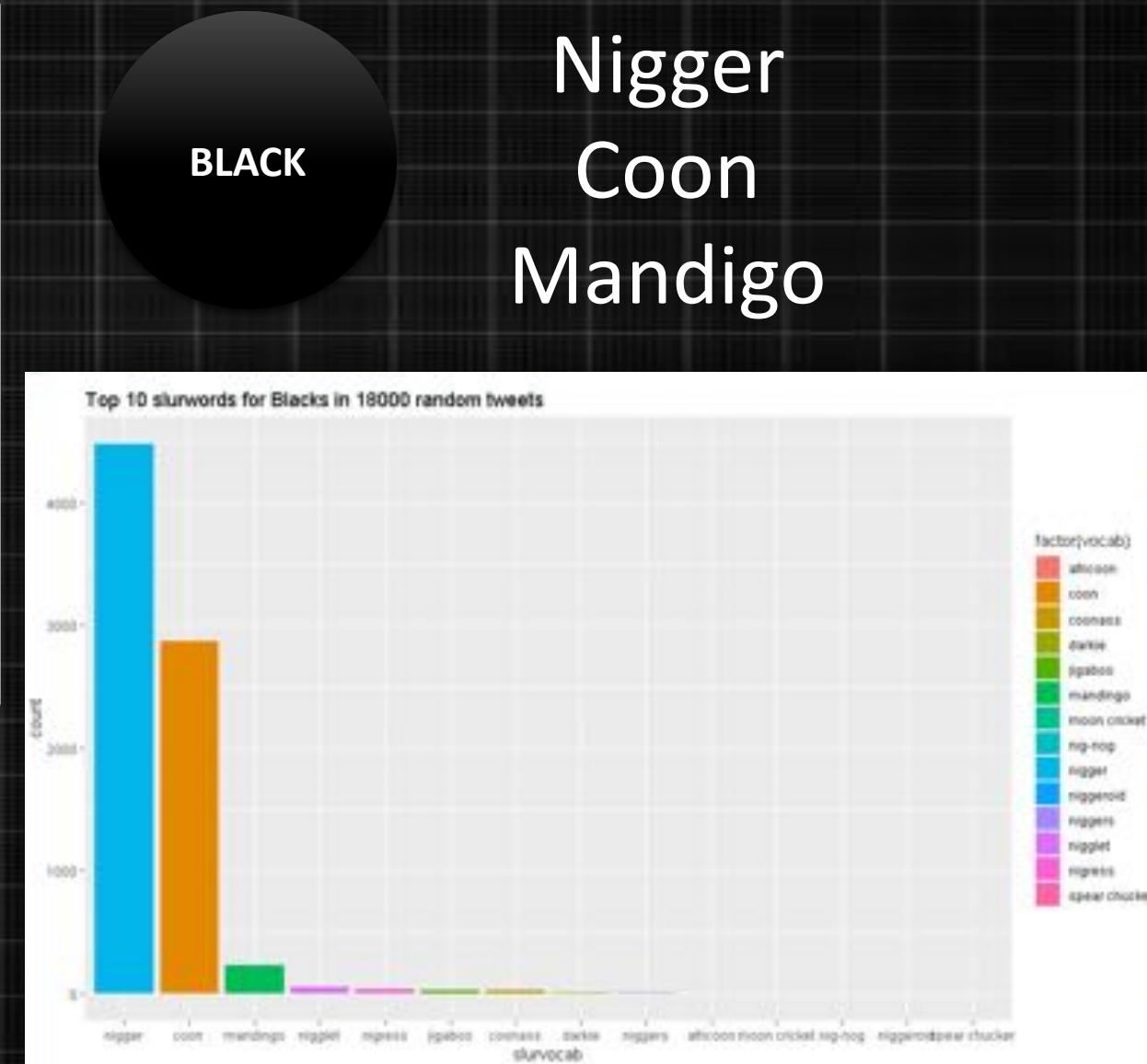


- **Content:** What's the most frequently used racial slur?
- **Race:** What's the most discriminated race?
- **Location:** Does location affect who is being discriminated against?

# Top 3 Racial Slurs for Each Race

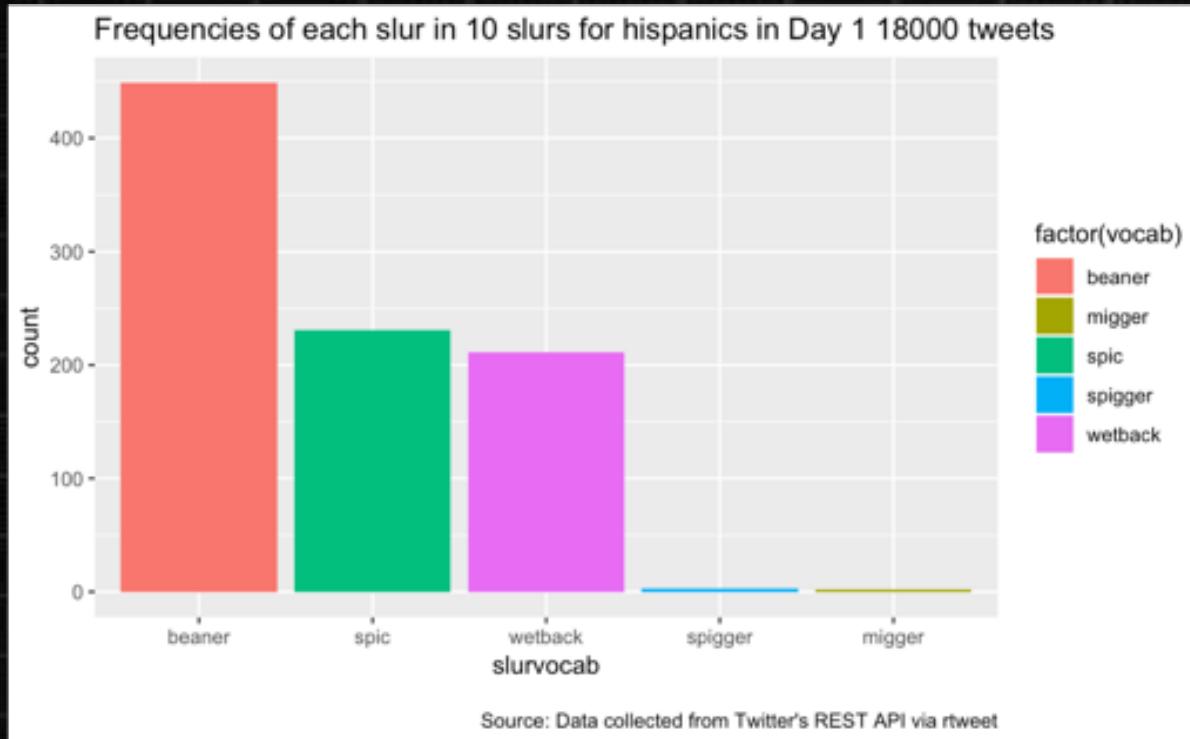


Redneck  
Gringo  
Hillbilly



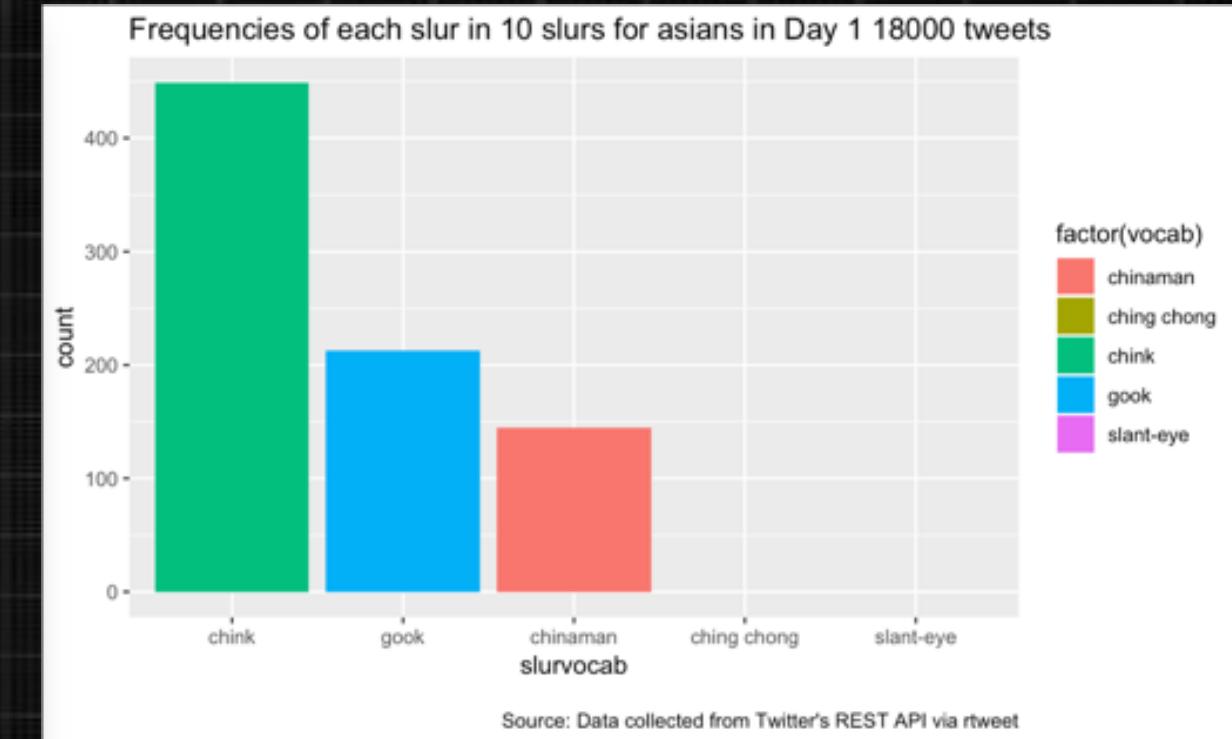
Nigger  
Coon  
Mandigo

# Top 3 Racial Slurs for Each Race



HISPANIC

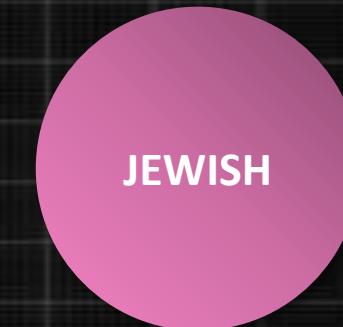
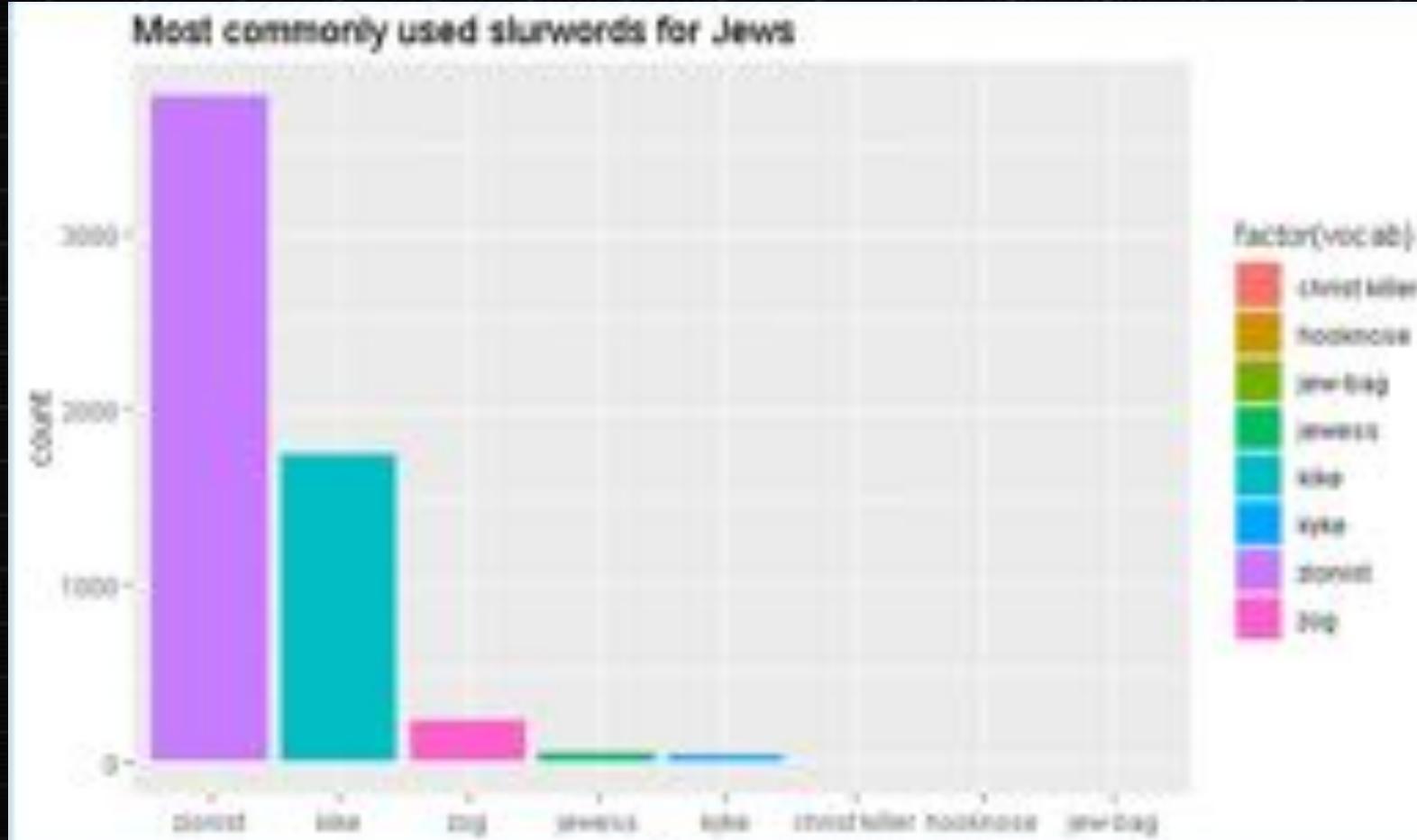
Beaner  
Spic  
Wetback



ASIAN

Chink  
Gook  
Chinaman

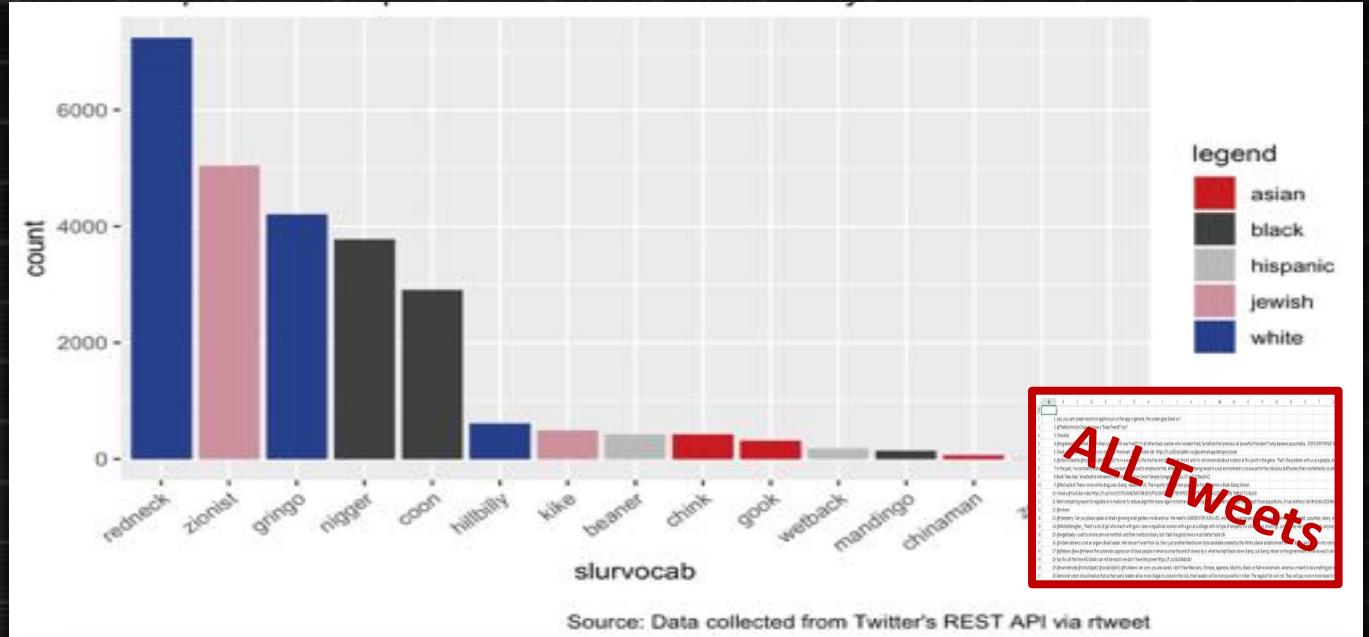
# Top 3 Racial Slurs for Each Race



Zionist  
Kike  
Zog

# Rank of Racial Slurs of 5 Races

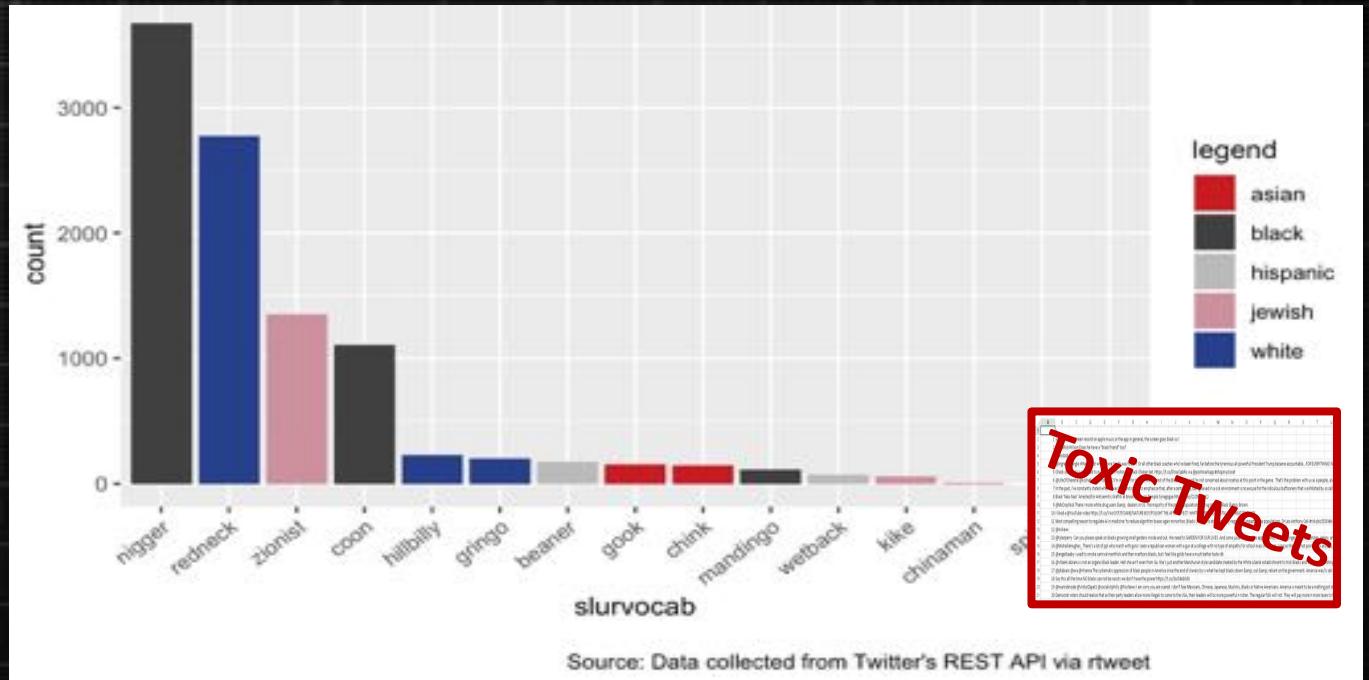
- Among tweets containing racial slurs, Redneck, Zionist and Gringo are top 3 frequent slurs
- Among tweets containing racial slurs and confirmed to be hate speech, Nigger, Redneck, Zionist are top 3 frequent slurs



Source: Data collected from Twitter's REST API via rtweet.

## Insights

Racial slurs most frequently used may not be the ones most associated with hate speech.



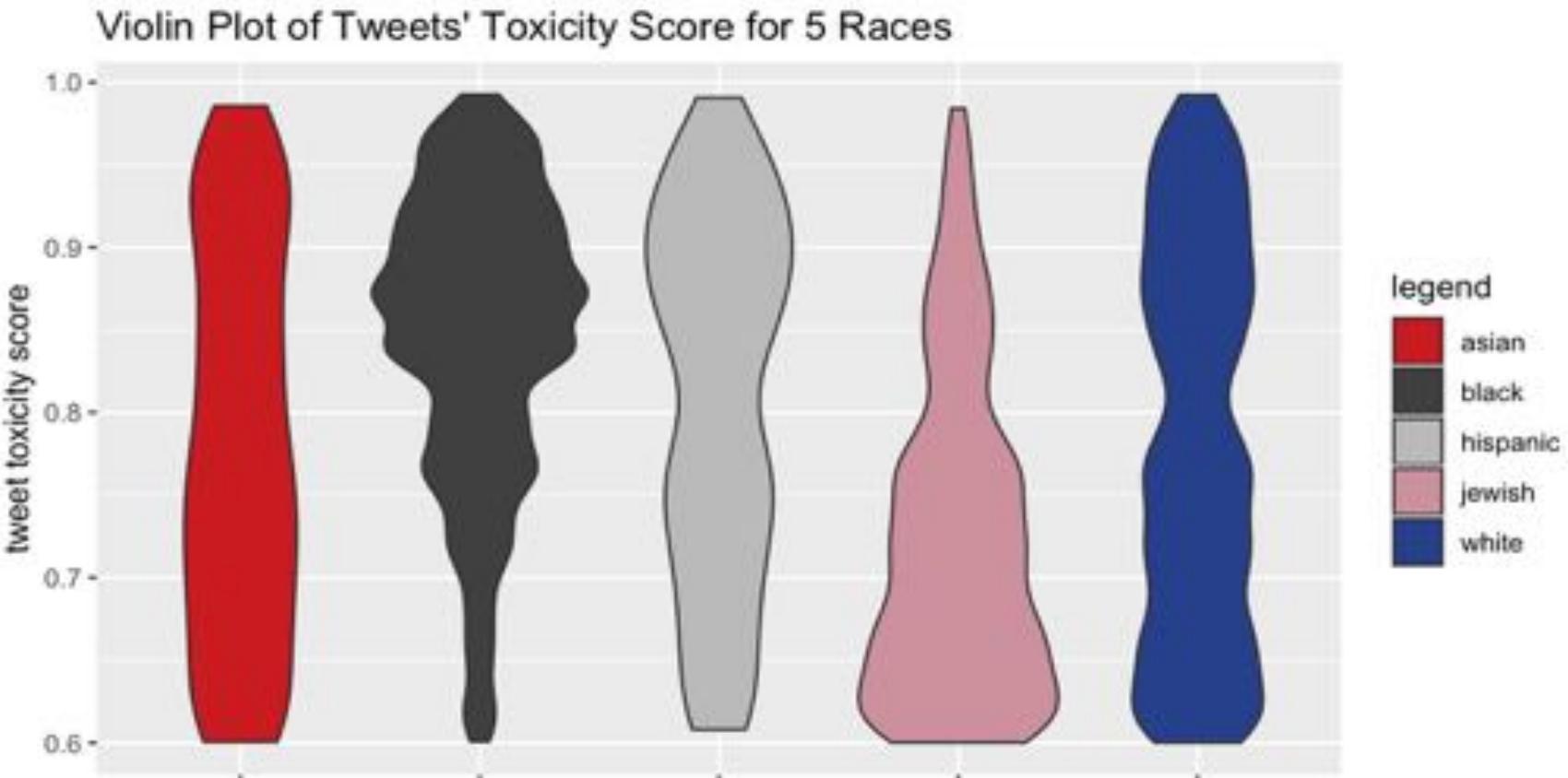
Source: Data collected from Twitter's REST API via rtweet.

ALL Tweets

Toxic Tweets

# Which race is mostly discriminated against?

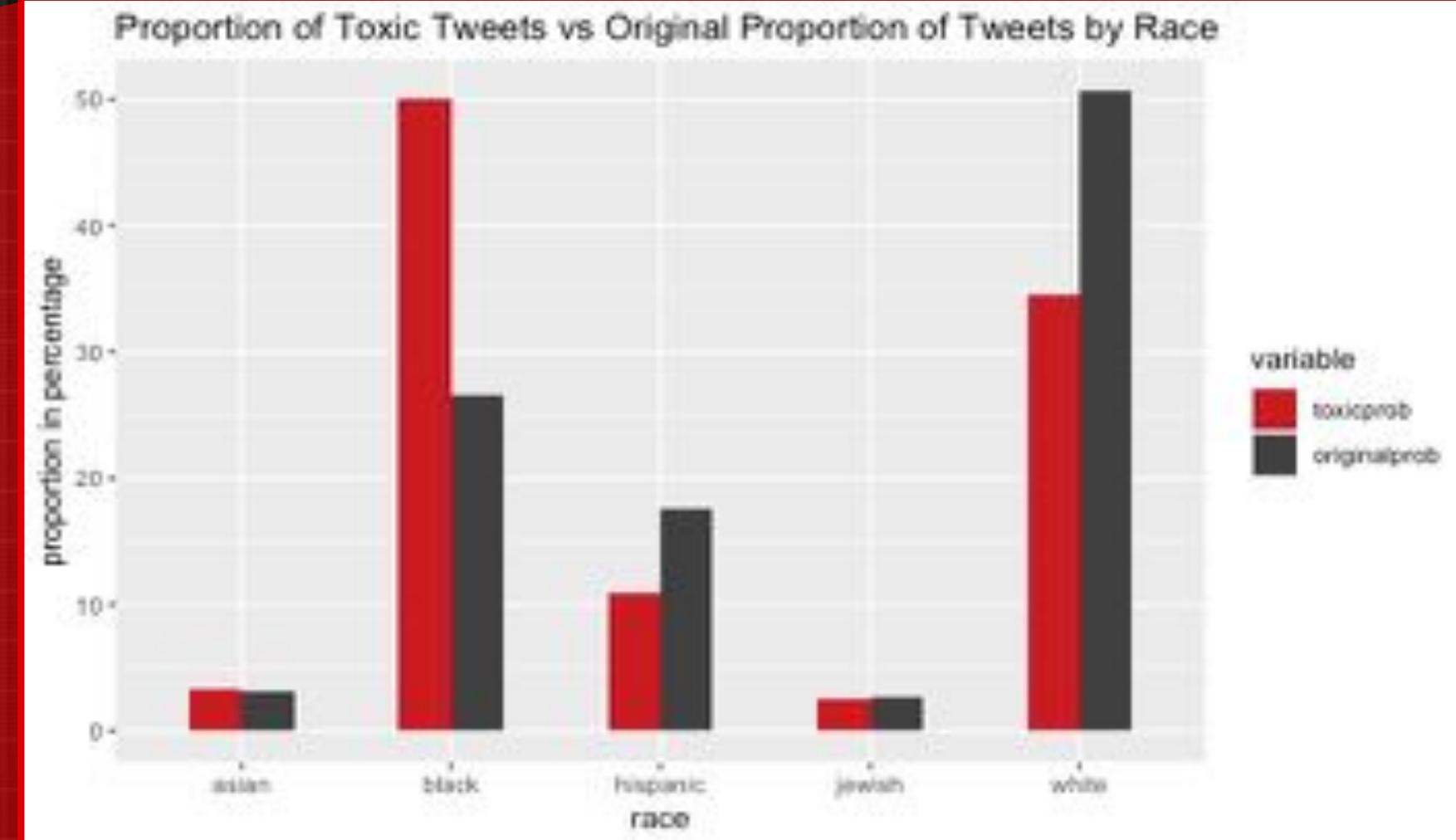
- Both Black and Hispanics see a higher volume of toxicity in Tweets against them.



Source: Data collected from Twitter's REST API via rtweet

# Which race is more discriminated against?

- Usage Frequency:  
White slurs > Black  
slurs, Jewish slurs >  
Asian slurs
- Hate Speech  
Tendency: Black  
slurs > White slurs,  
Asian slurs > Jewish  
Slurs



# Does location affect who is being discriminated against? (Whites)

- The vast majority of Tweets were against whites.
- Interestingly the number of anti Asian tweets in Southern Florida given limited population.

Location Distribution of Tweets of Top 3 Racial Slurs for white



# Does location affect who is being discriminated against? (Blacks)

- Blacks saw the second most frequent amount of vitriol
- Most tweets didn't align with any particular topic that was identifiable

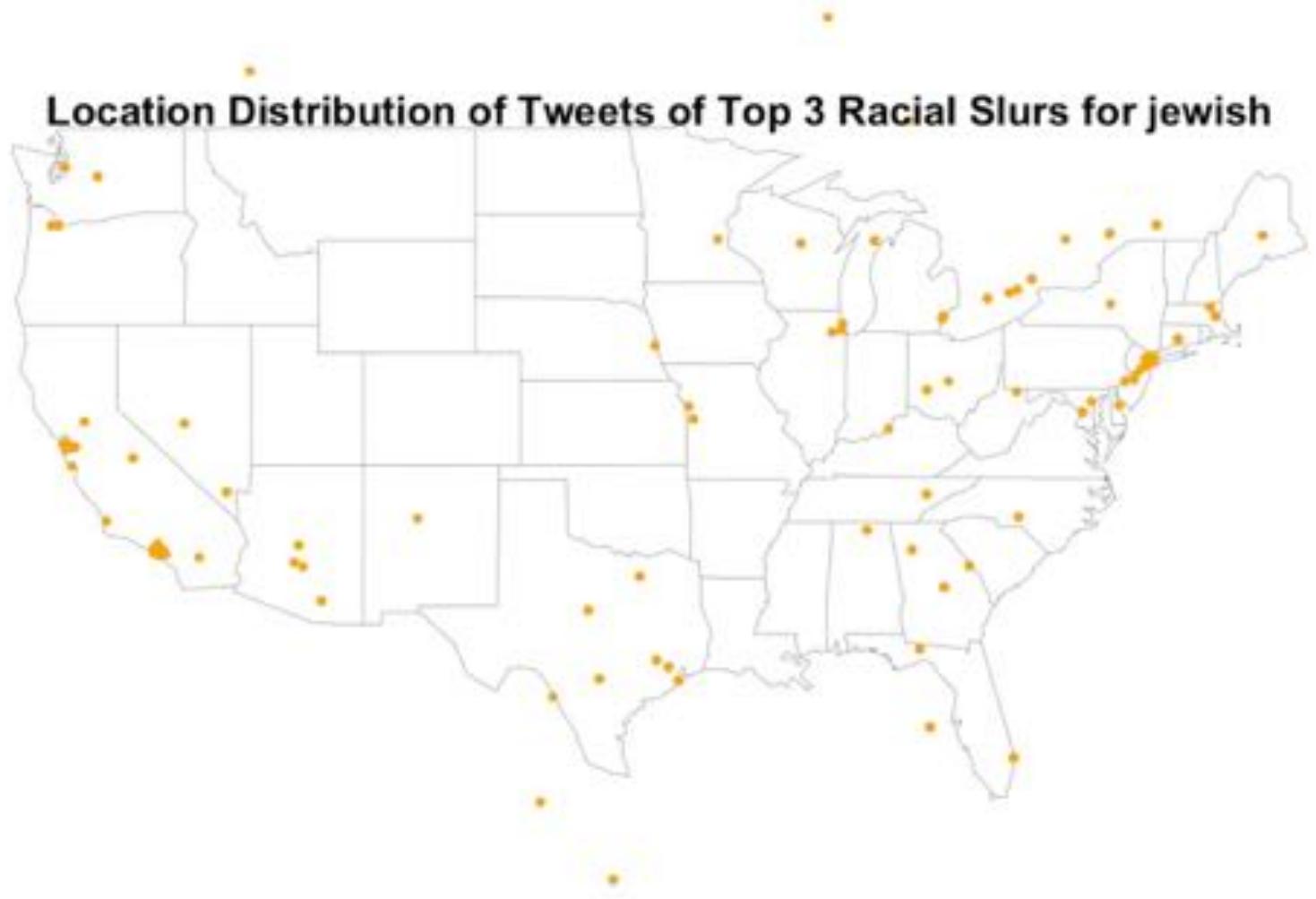
Location Distribution of Tweets of Top 3 Racial Slurs for black



# Does location affect who is being discriminated against? (Jewish)

- Jewish saw the third most frequent amount of vitriol
- Topics are mostly about the recent happened shooting case, or Israel-Palestine conflict

Location Distribution of Tweets of Top 3 Racial Slurs for jewish



# Does location affect who is being discriminated against? (Asians)

- Limited amount of data leaves analysis minimal
- Interestingly the number of anti Asian tweets in Southern Florida given limited population.

Location Distribution of Tweets of Top 3 Racial Slurs for asian



# Does location affect who is being discriminated against? (Hispanics)

- Unsurprisingly, most anti- Hispanic speech correlates to anti immigrant sentiment.
- This sentiment is highly visible in large Hispanic areas, particularly along the border.

Location Distribution of Tweets of Top 3 Racial Slurs for hispan

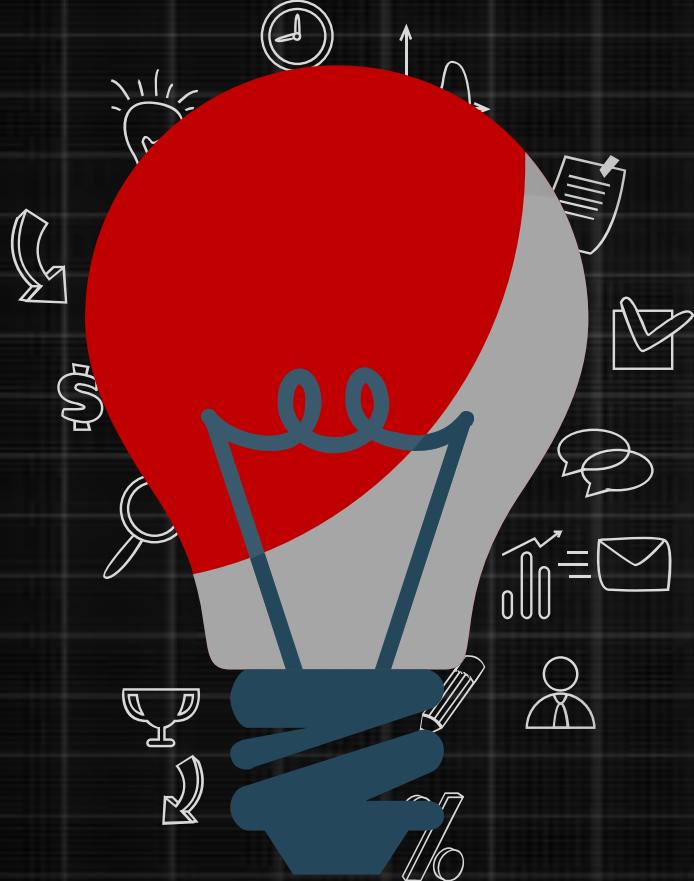


# 03

Topics & Words



# Questions that we would like to answer.....

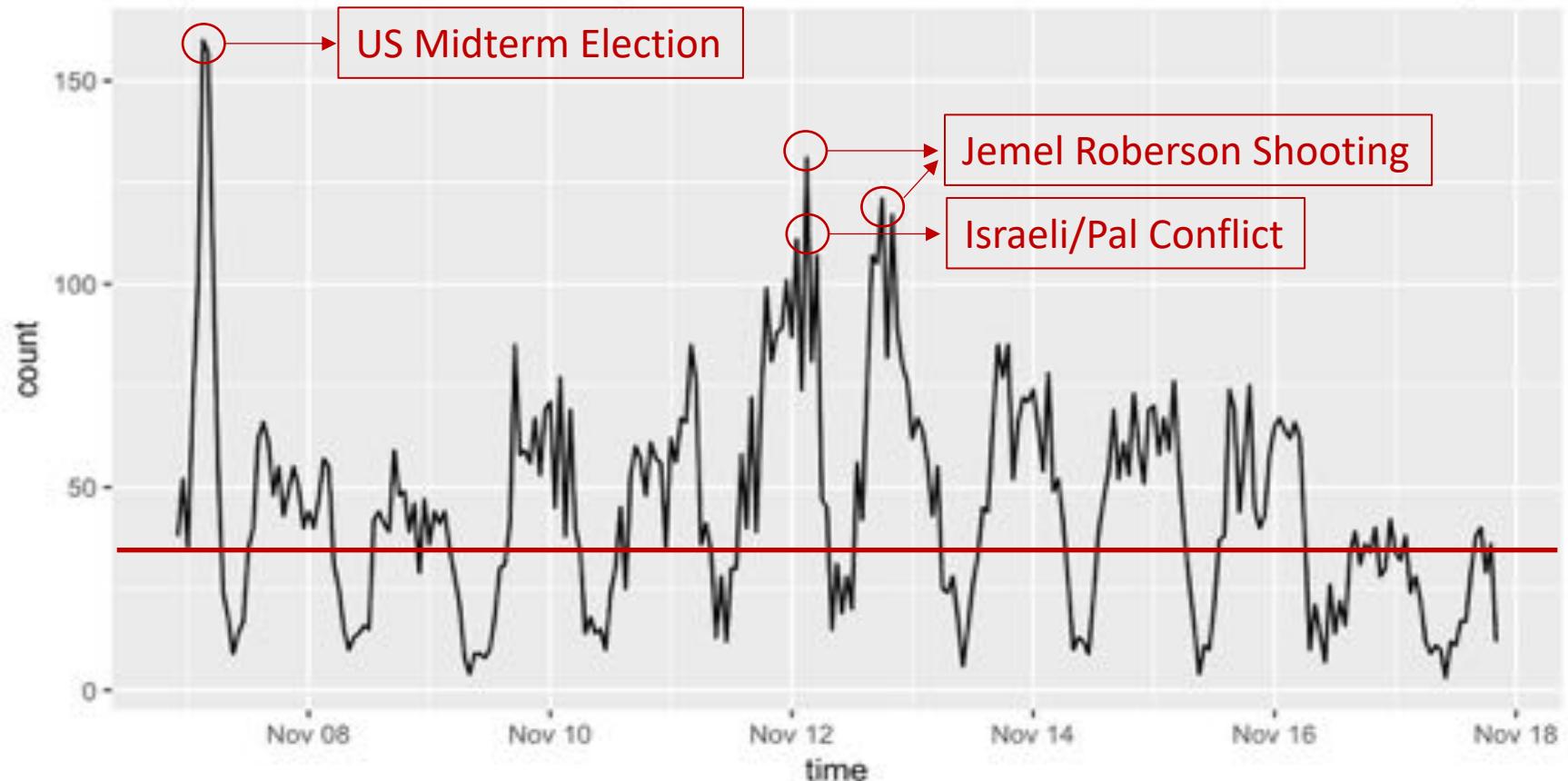


- Topics: How do events affect hate speech?
- Words: What are words that have the highest association with racial slurs?

# How do events affect hate speech?

- US Midterm Elections were racially charged.
- Israel/Pal Conflict resulting in nearly 370 rockets being fired into Israel

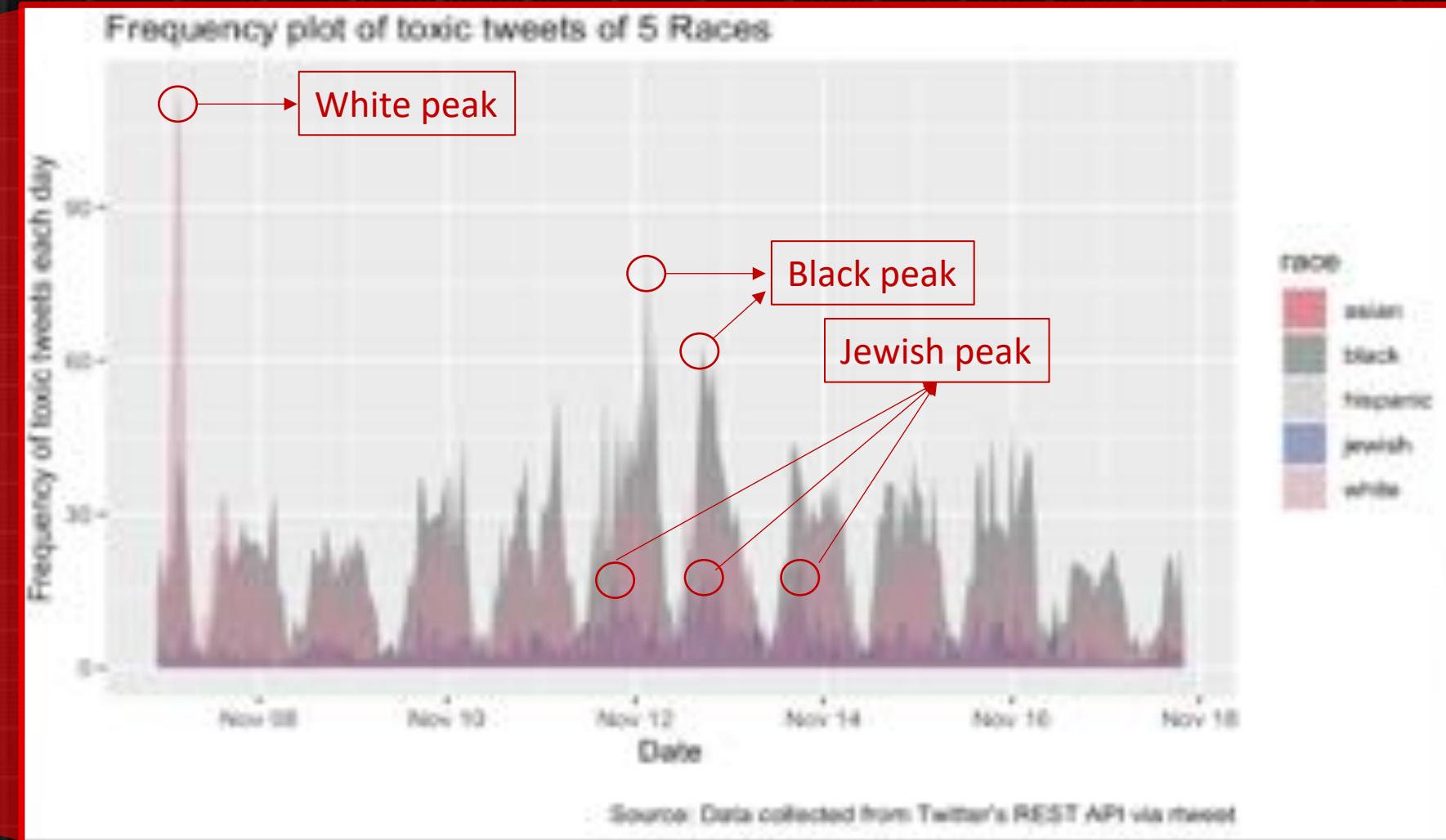
Frequencies of Tweets of Top 3 Racial Slur Words for 5 Races across 10 Days



Source: Data collected from Twitter's REST API via rtweet.

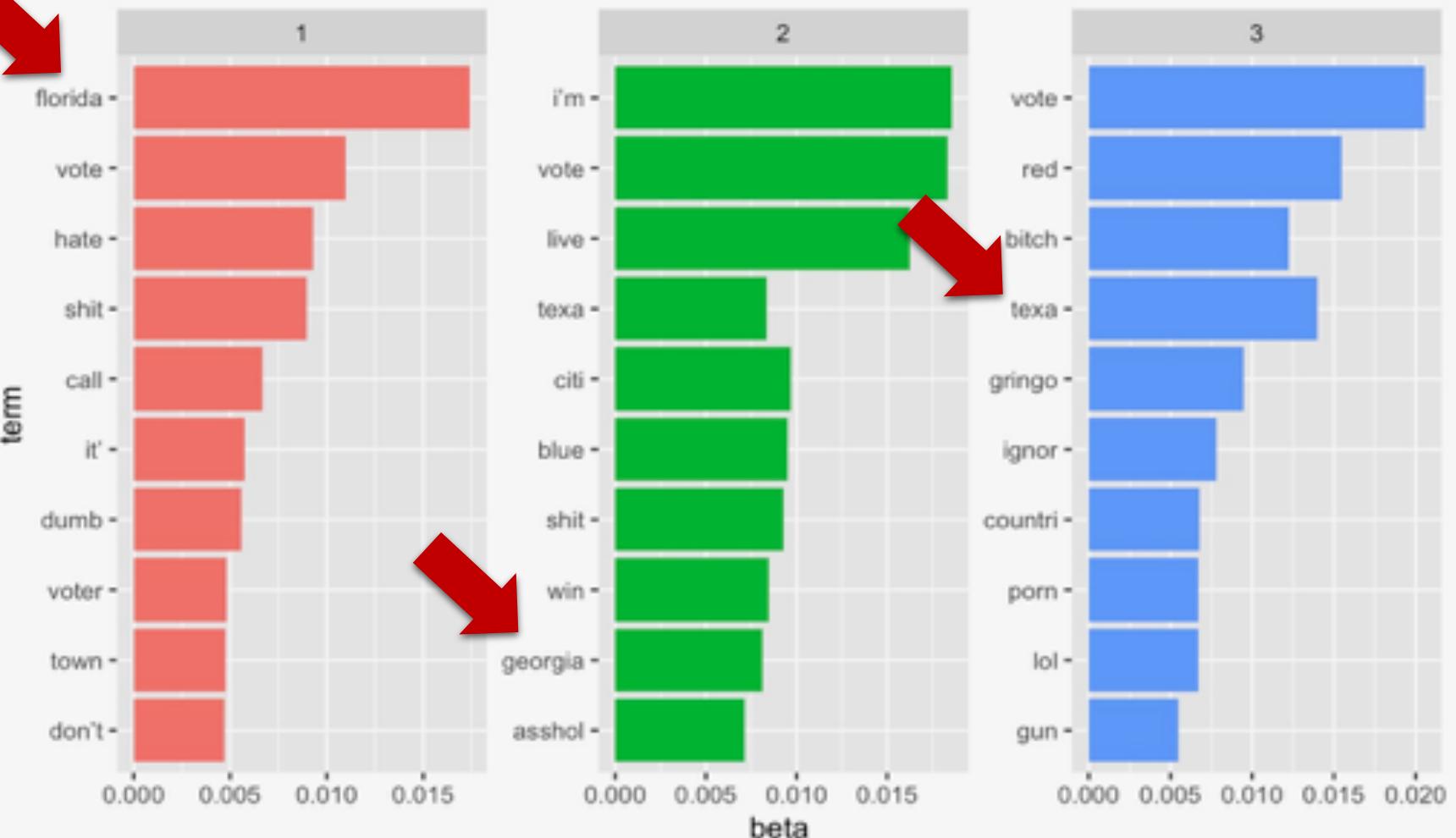
# Which race contributes to hate speech during peaks?

- After Sentiment Analysis, the frequencies align with our Time Series



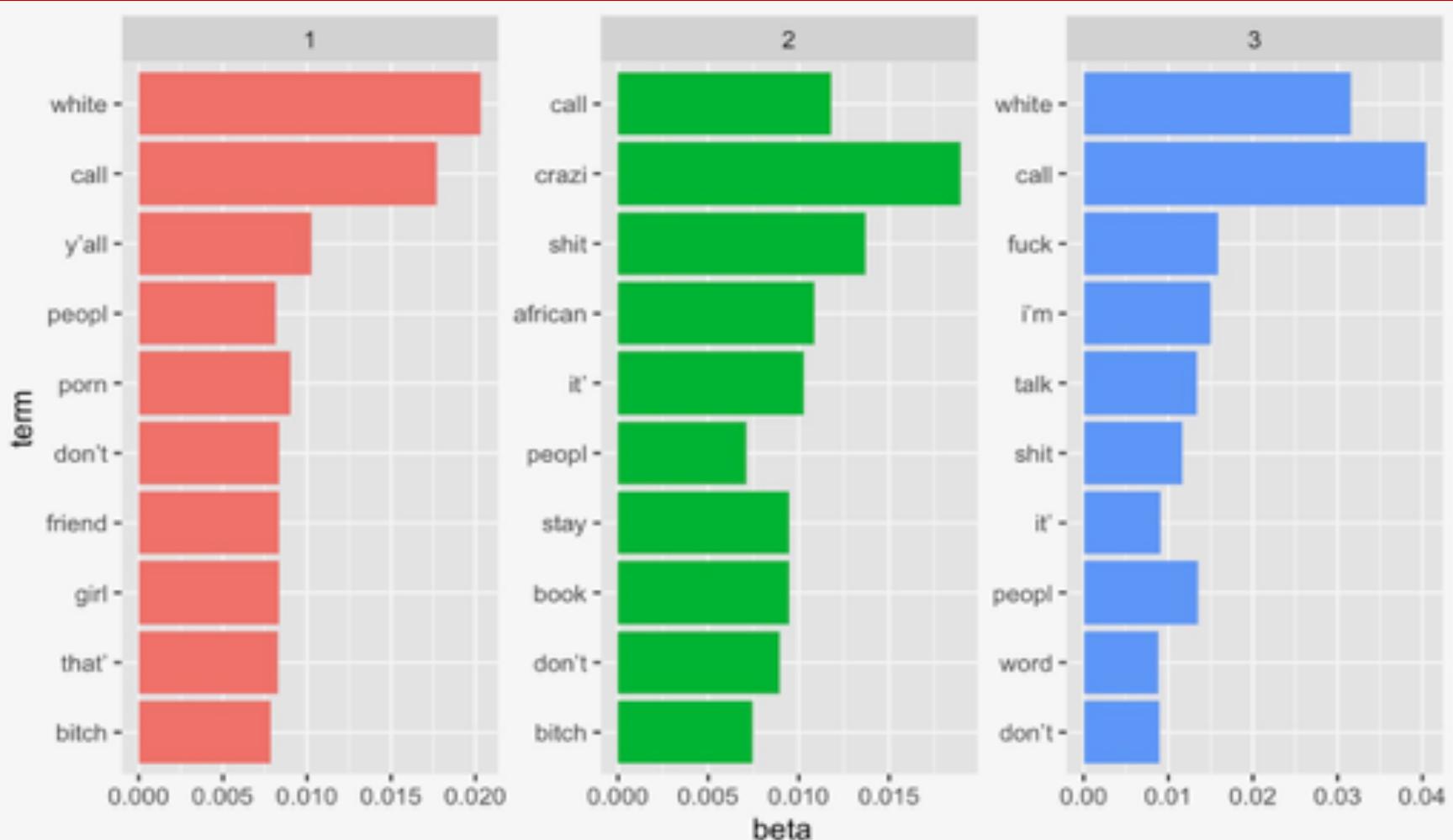
# Topics of tweets against white people on Nov 07-08

- With the peaks in sentiment analysis and TS we did topic modeling to find the cause
- Voting aligned with US Midterm Elections seem to be the cause of the increase



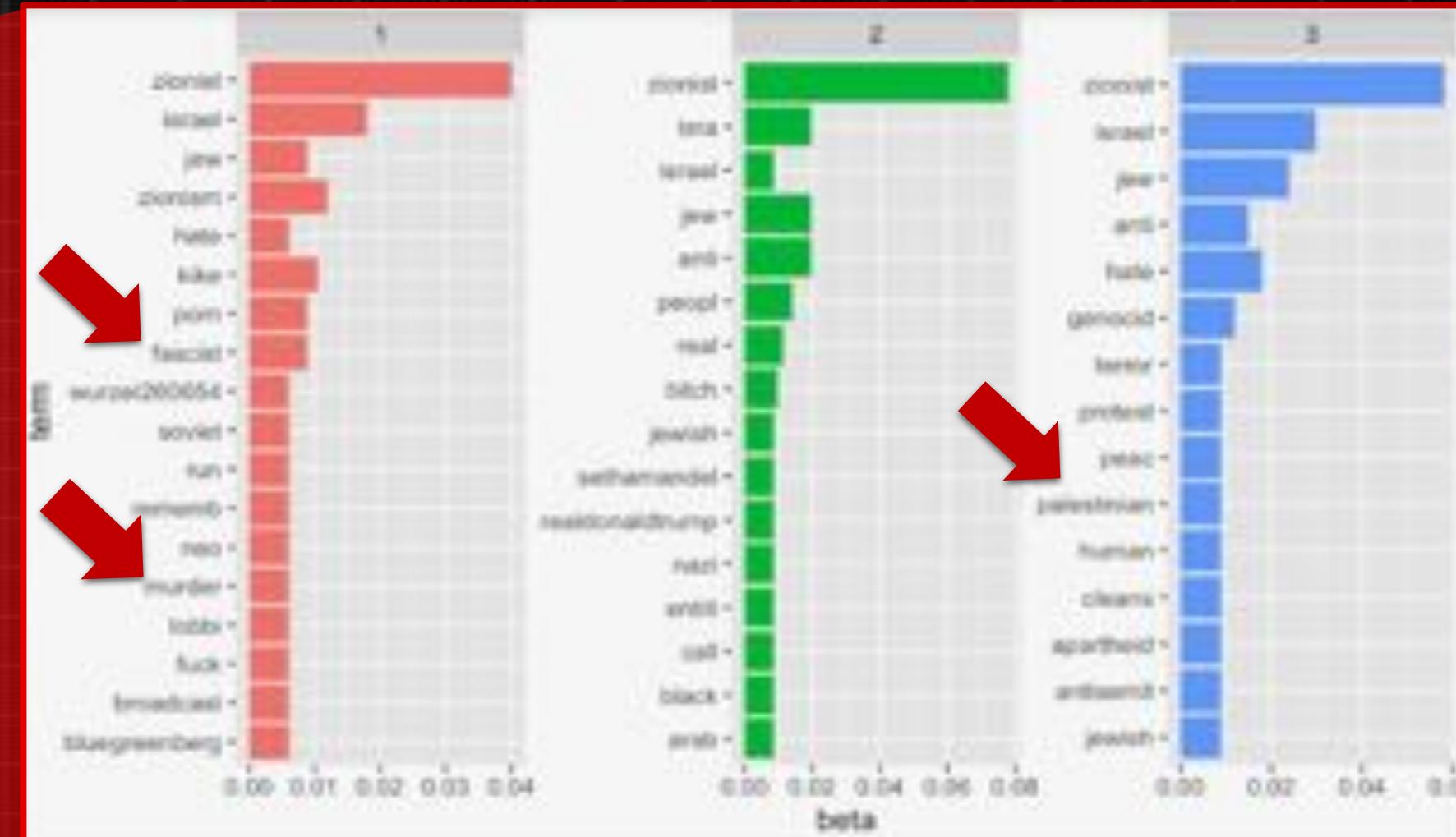
# Topics of tweets against black people on Nov 12-13

- With the spike for black, no discernable cause can be identified
- We can assume this is typical racism seen on twitter.



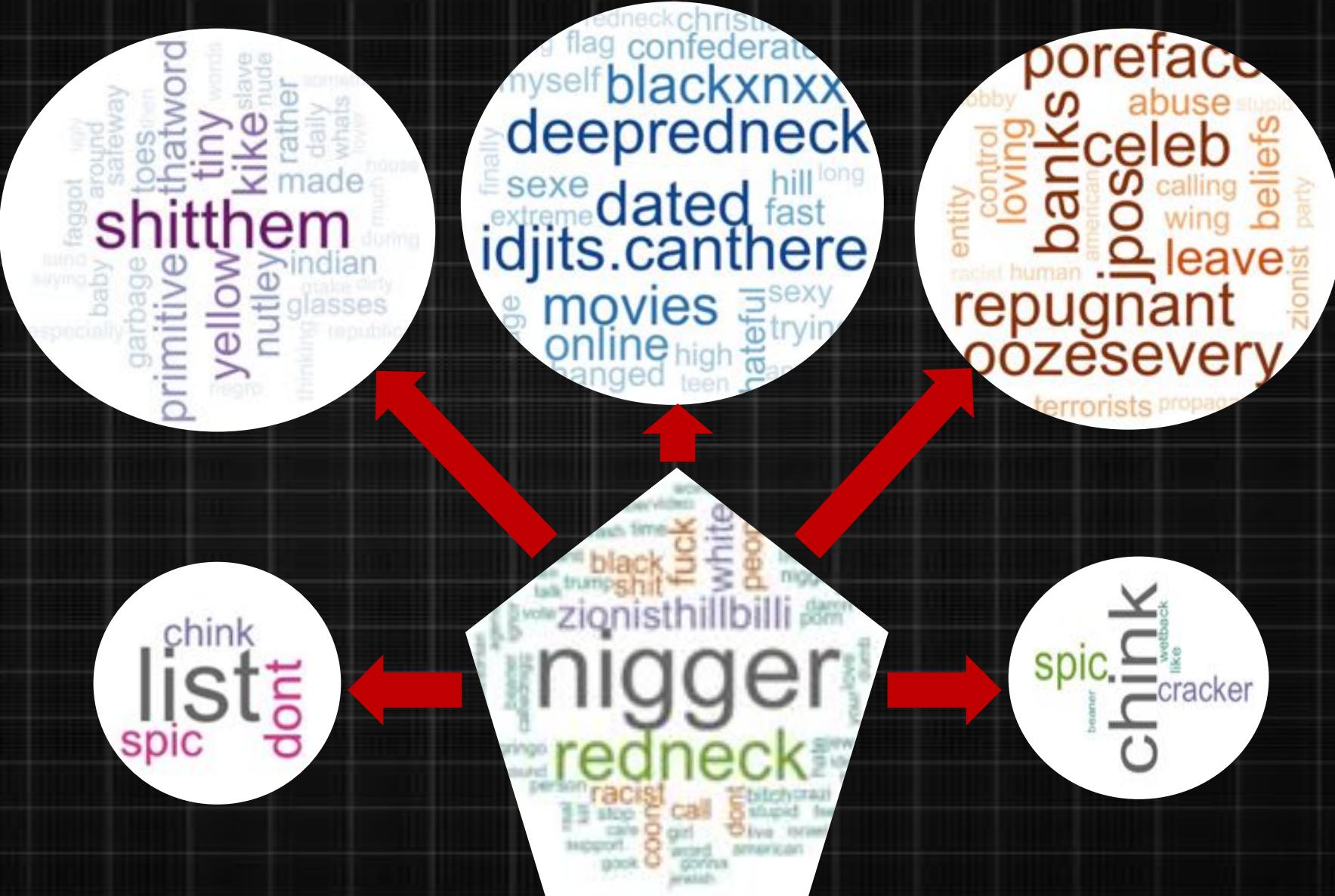
# Topics of tweets against jewish people on Nov 12-13

- We can see and increase in anti-Semitic posts concerning Israel – Palestinian Relations.
  - Also large scale conspiracy theory against Jews



# What are words that have the highest association with racial slurs?

- Despite cleaning text, our word clouds make little sense



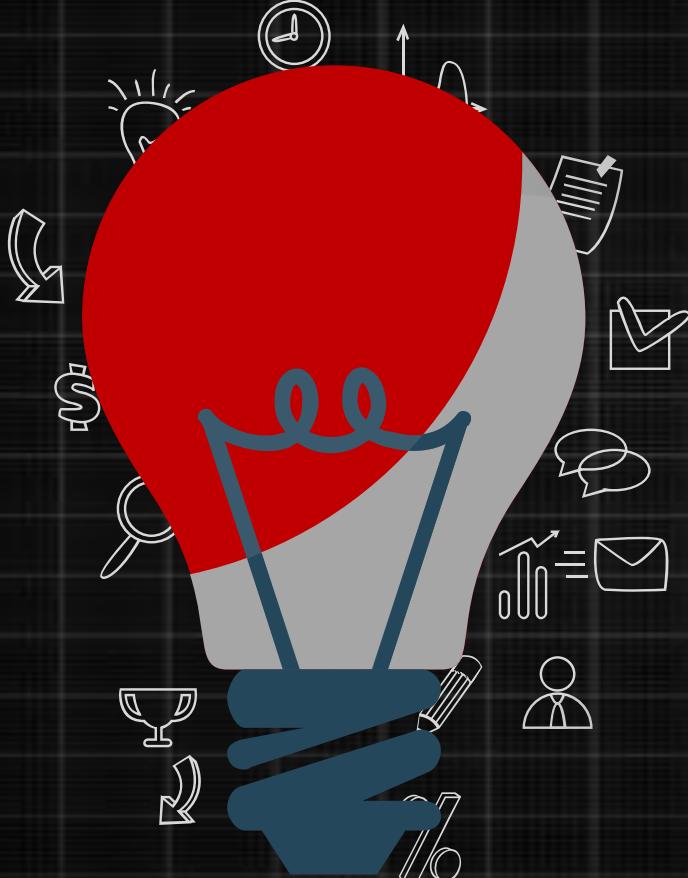


# 04



## Networks

# Questions that we would like to answer.....



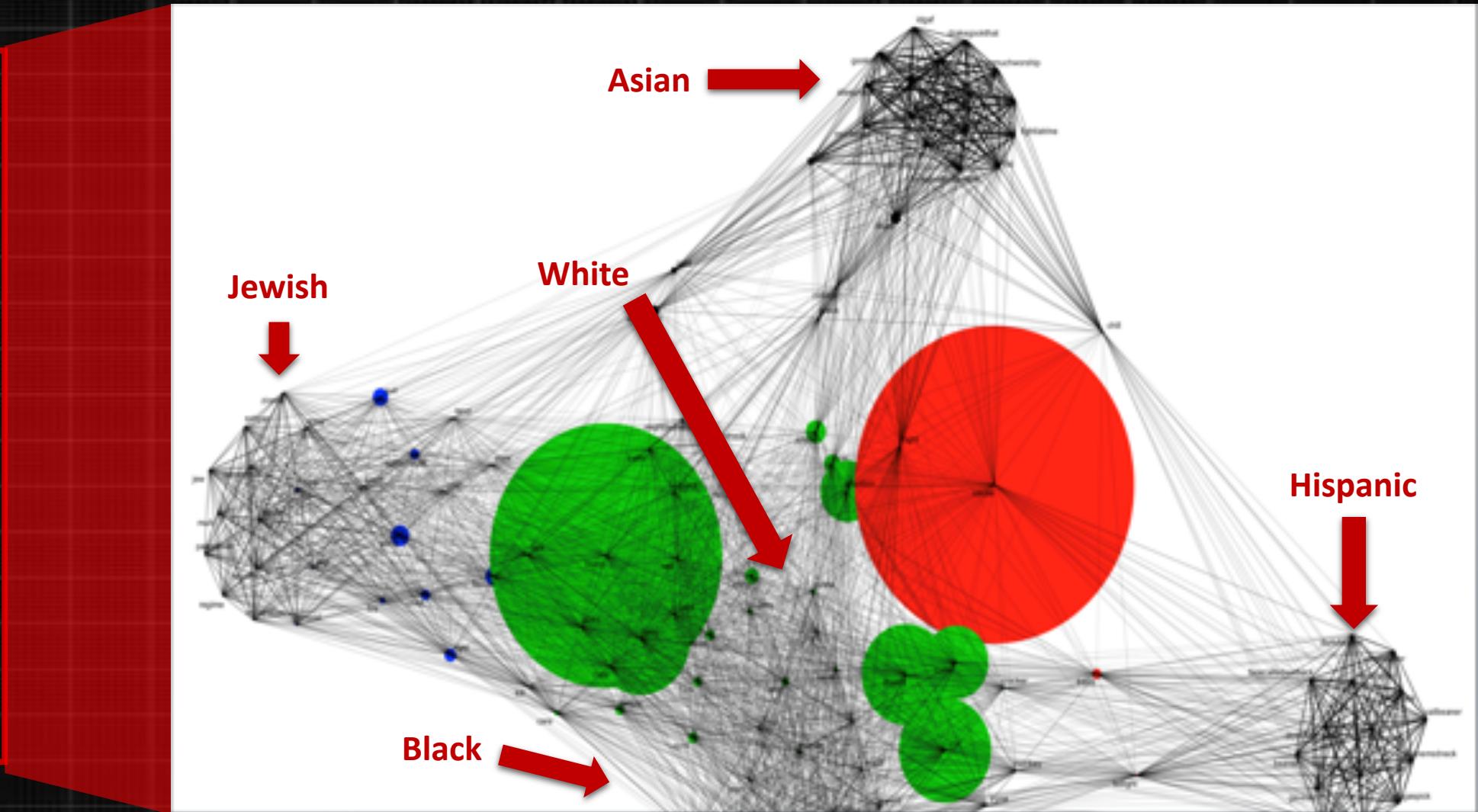
- Word Network: Are there associations among words used in Hate speech against different races?
- Social Network: What are associations among people who tweeted hate speech?

# Associations between most commonly used words for each racial group

Nodes - are individual words (500 total).  
Edges - connections between them.

Different colors represent different racial groups.

The most influential words: trump, cause, attention, today.

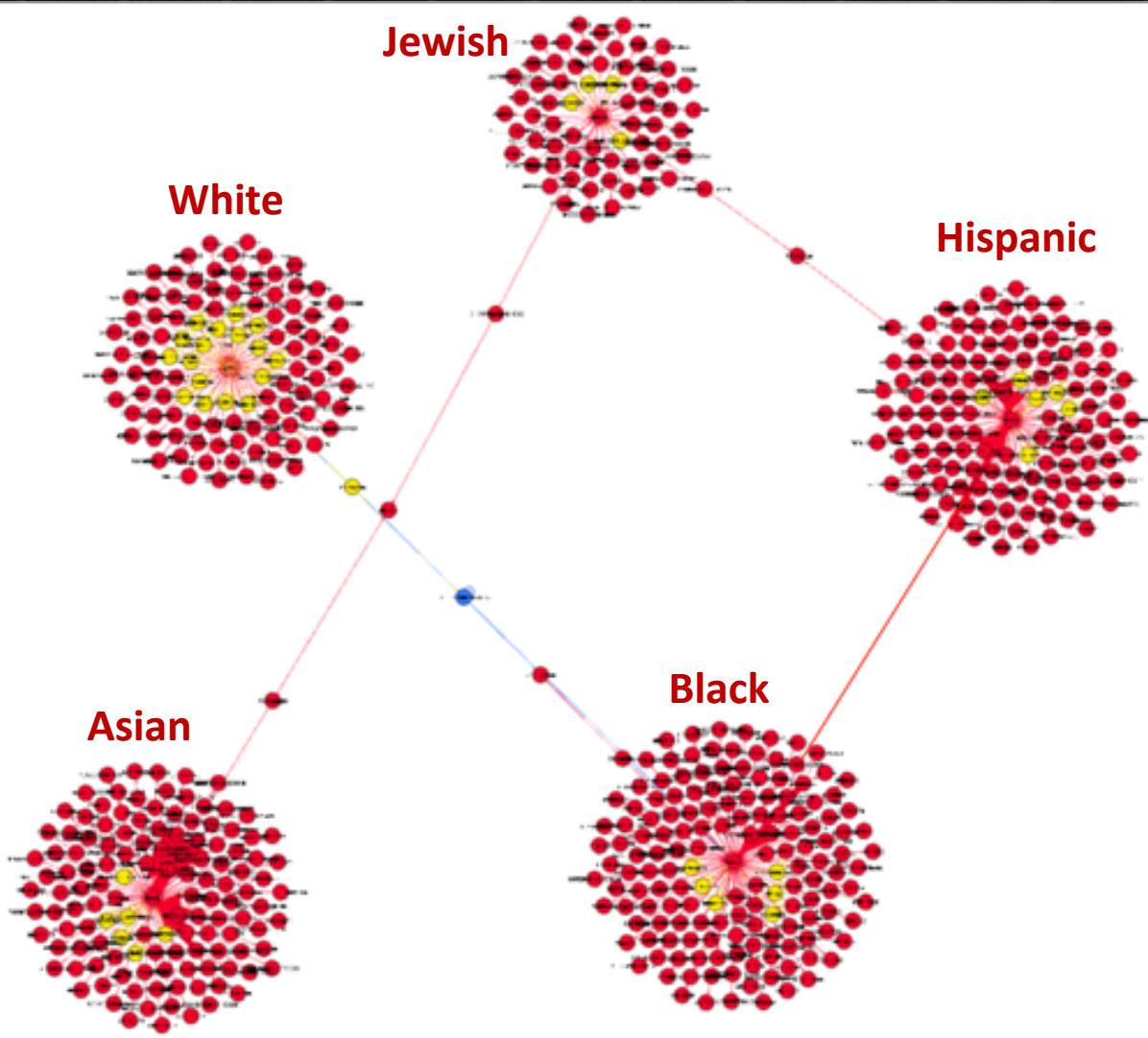


# Is there any key influential person in tweeting hate speech?

Use Gephi to create a Social Network of people retweeted racist posts.

Using a sample of first 18 000 tweets and then 1500 tweets, no patterns or influential users were detected.

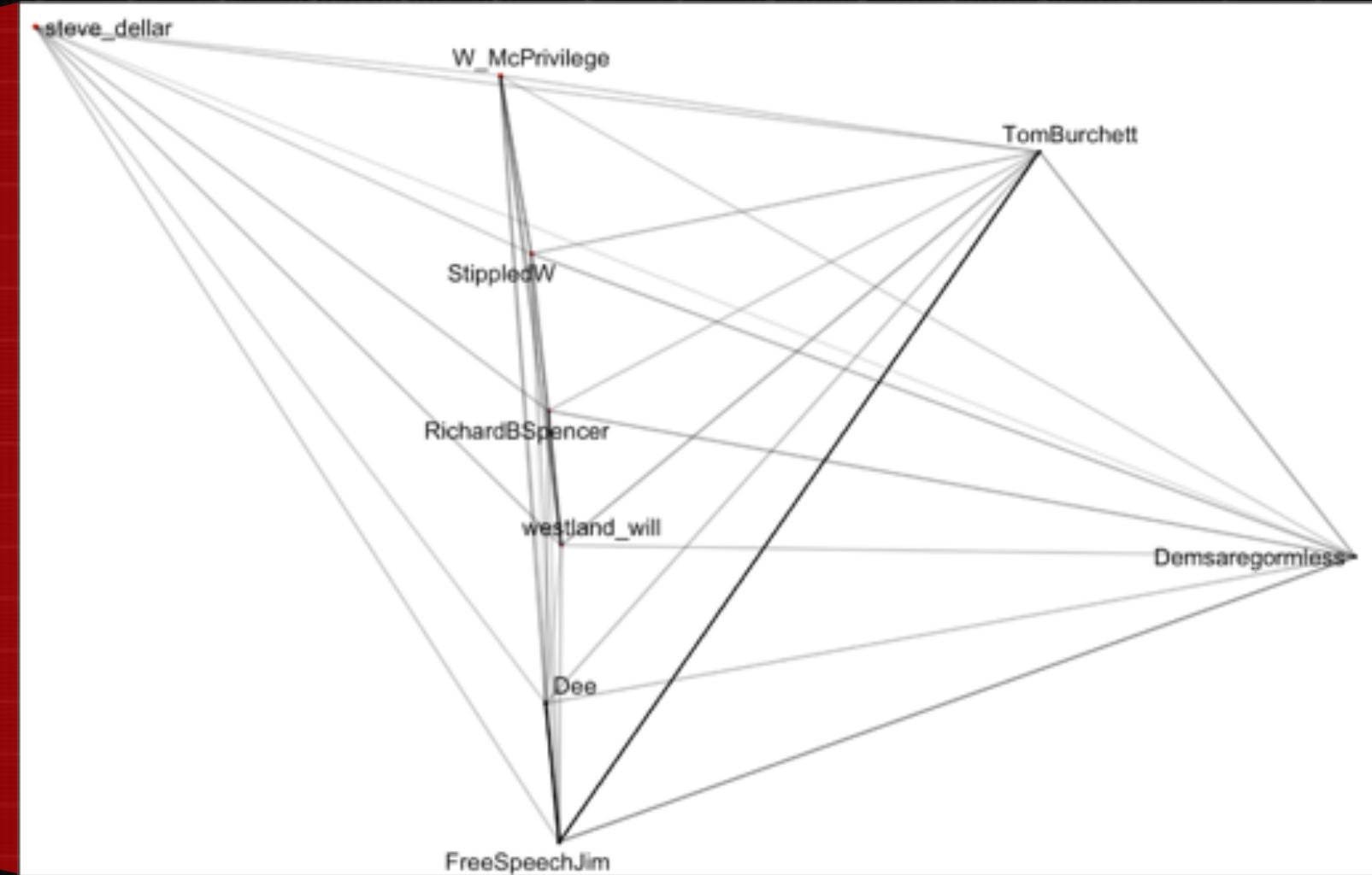
Reason: known supremacists do not use slur words in their tweets.



# What about the association among known white supremacists?

Nodes - are individual users (10 total).  
Edges - connections between users.

The strongest connections:  
Richard B. Spencer - Westland Will;  
FreeSpeechJim – TomBurchett

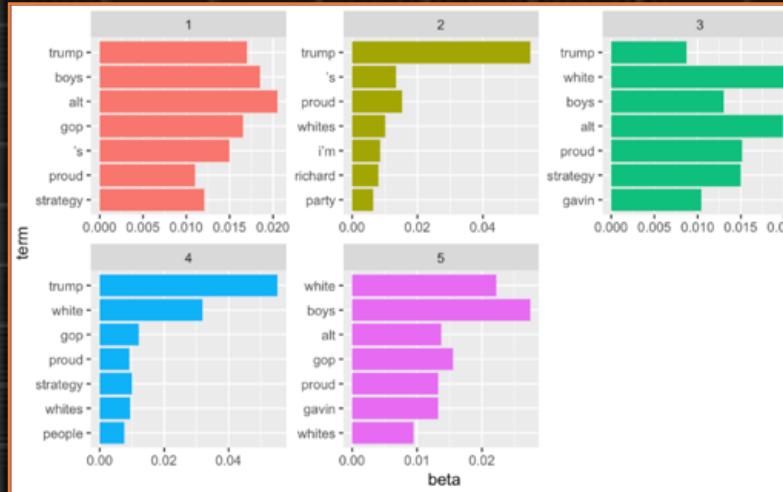


# Key topics of white supremacists' tweets

No slur words are identified.

Reason: a majority of organized hate groups do not use explicitly racist words.

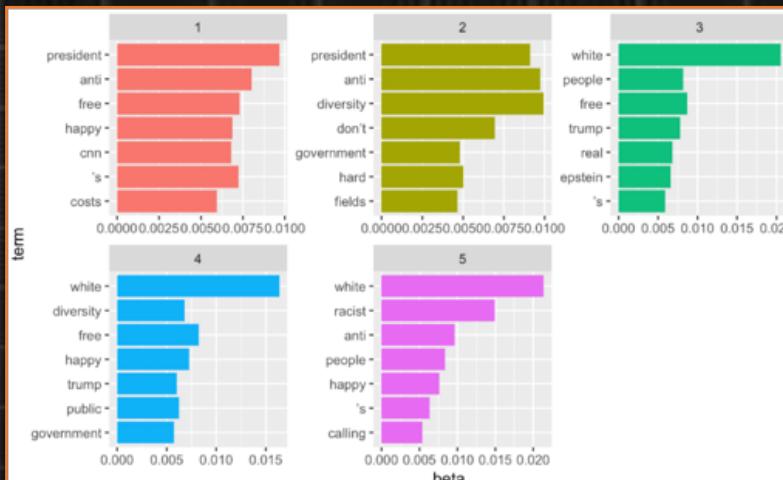
## Richard Spencer (76.5 k followers)



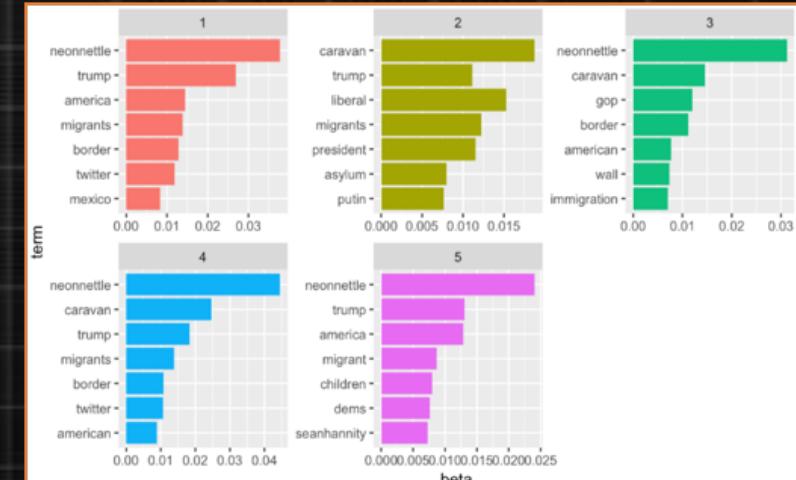
## Jim Maddox (14k followers)



## Will Westcott (14.5k followers)



## Tom Burchett (23k followers)



# 05

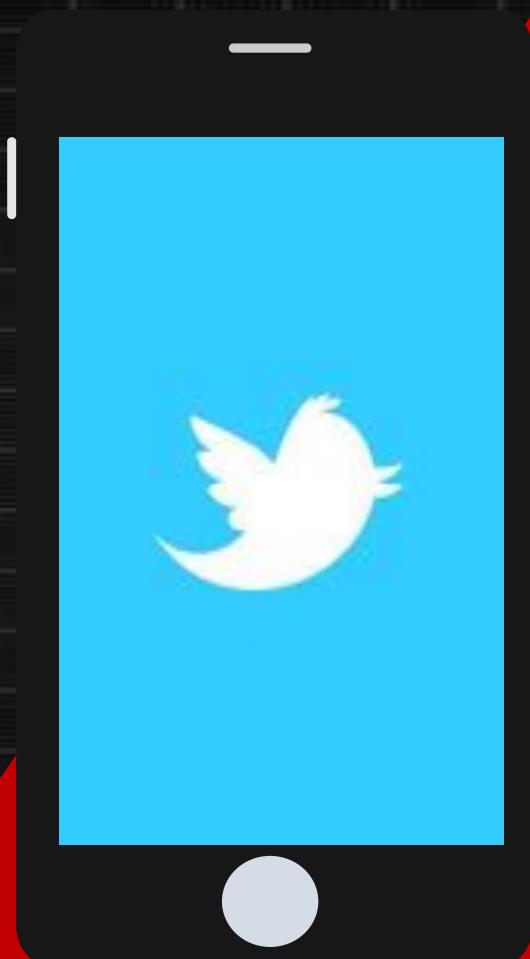


## Conclusions

# Questions that we have answered.....

## Content & Race:

- The use of the word “nigger” is by far the most commonly used for racially charged speech
- Blacks, far and away, has the most racism (and the most vitriolic at that) leveled at them on twitter
- Usage frequencies of explicit racial slurs may not reflect hostility against that race. Usage frequency and negativity of slurs not always go hand in hand



## Topics:

- Events do affect how people use twitter, and racially charged events can lead to hate speech online.

## Words and Networks:

- Generally if hate speech is being used, it is coupled with other insults and heavy use of expletive language

Thank you!  
Questions?



THE  
**A** - TEAM