

Understanding Racial Hate Speech on Twitter

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INTRODUCTION



RESEARCH FOCUS

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

WHITE

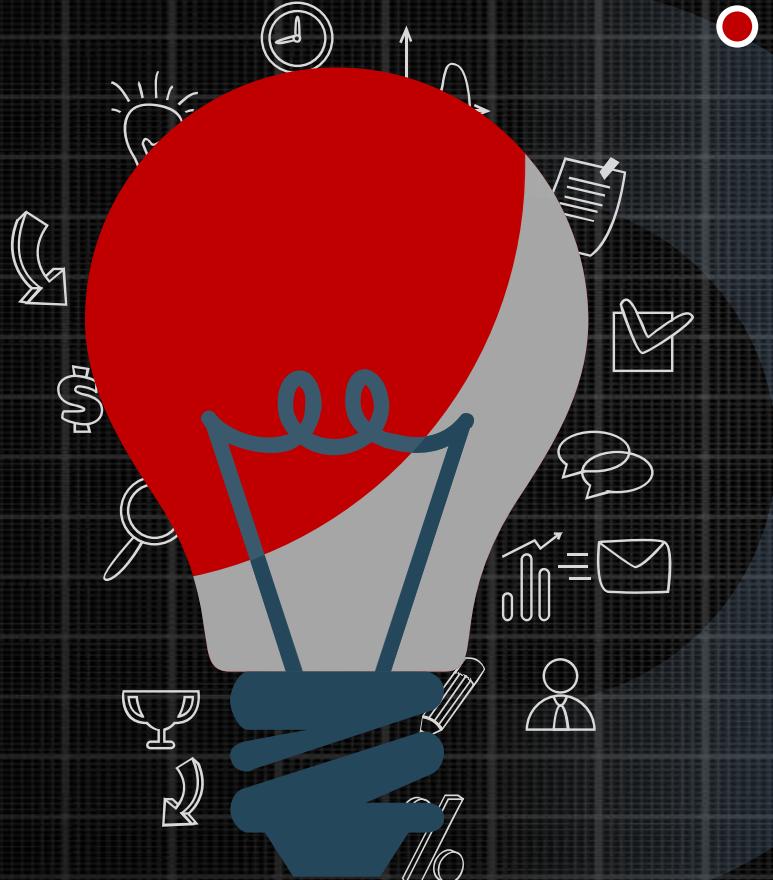
BLACK

ASIAN

JEWISH

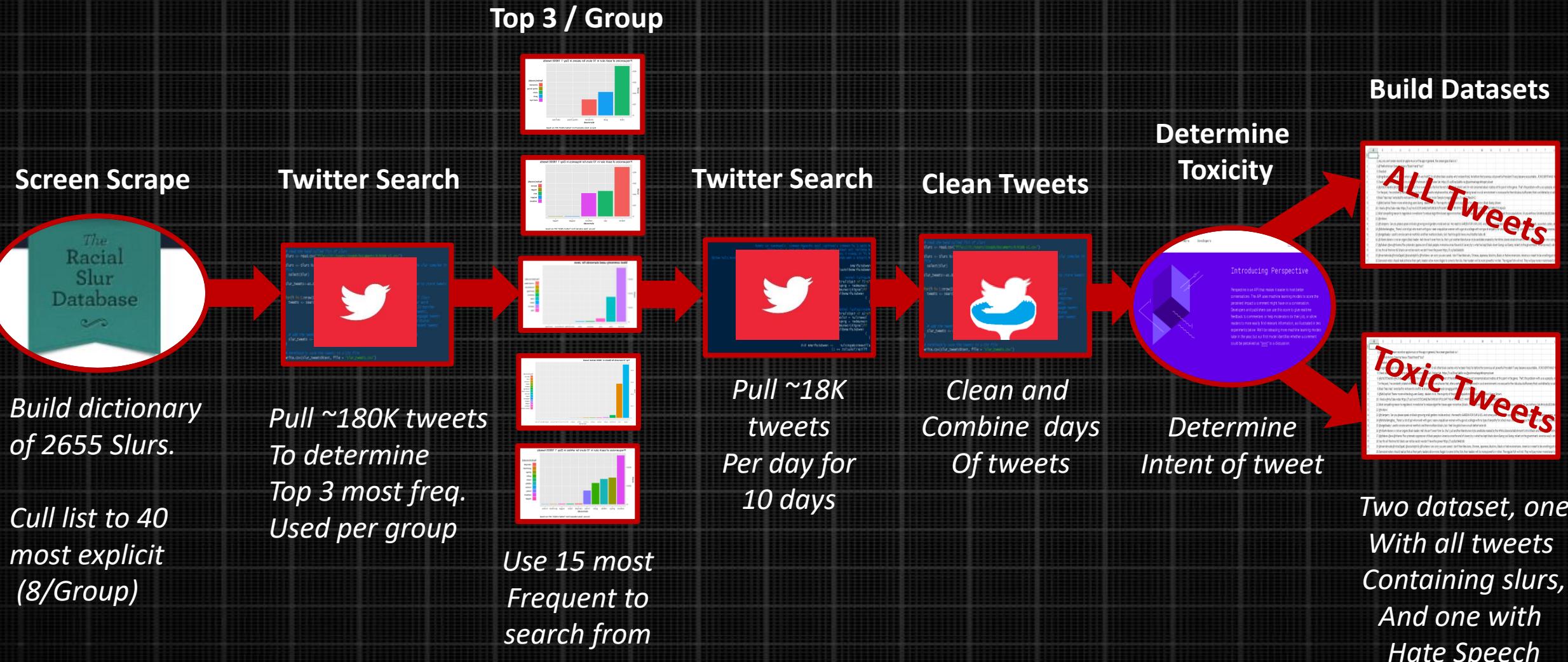
HISPANIC

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

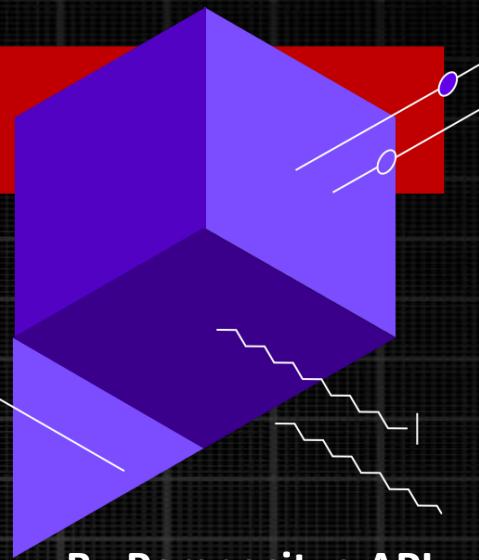


- **Content:** What's the most frequently used racial slur?
- **Race:** What's the most discriminated race?
- **Location:** Does location affect who is being discriminated against?
- **Topics:** How do events affect hate speech?
- **Words:** What are words that have the highest association with racial 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

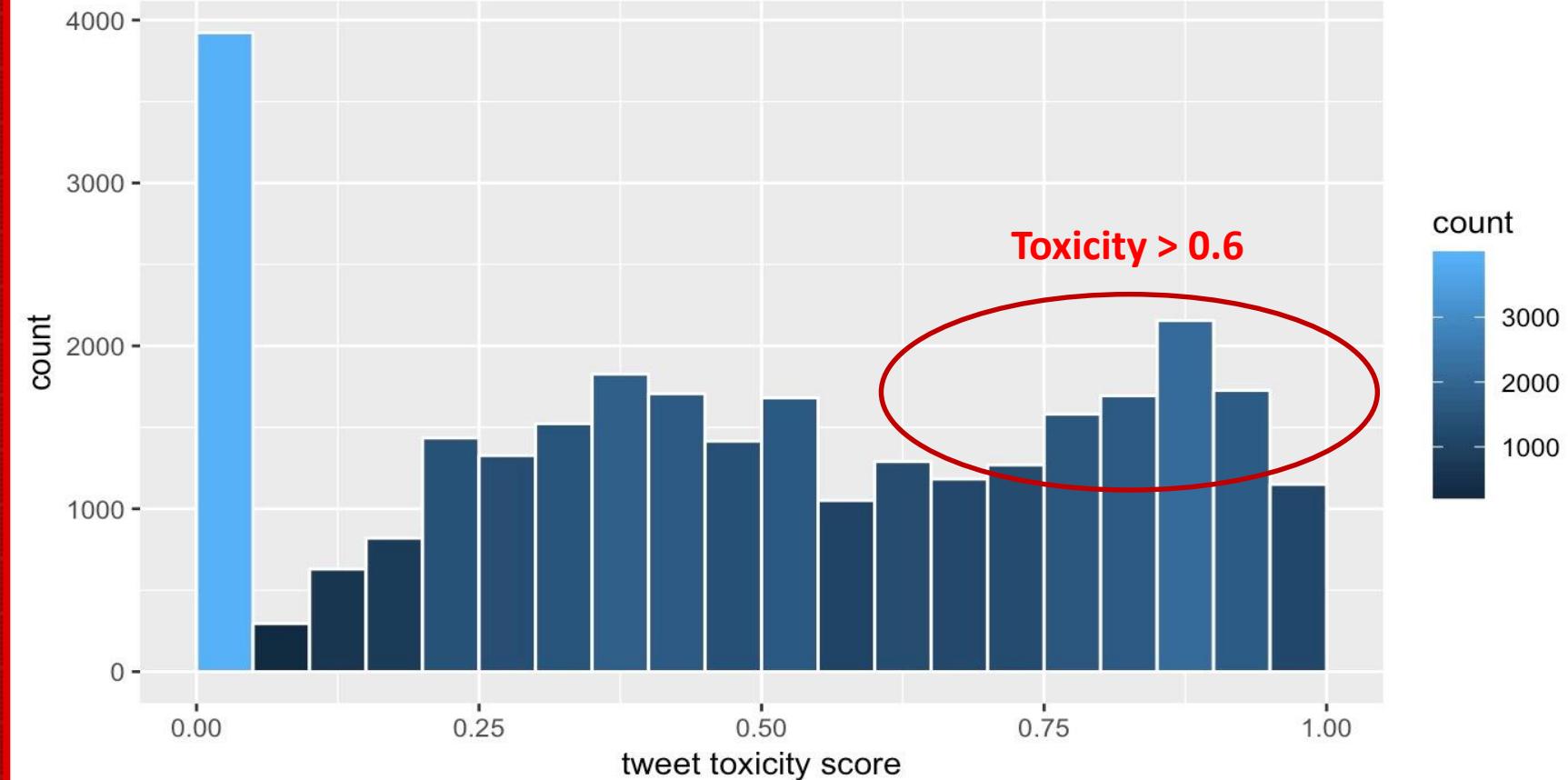
"All these white boys that
would call me a chink and
say that i'm yellow in
elementary/middle school
are now raving about pho
and Vietnamese coffee"

"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



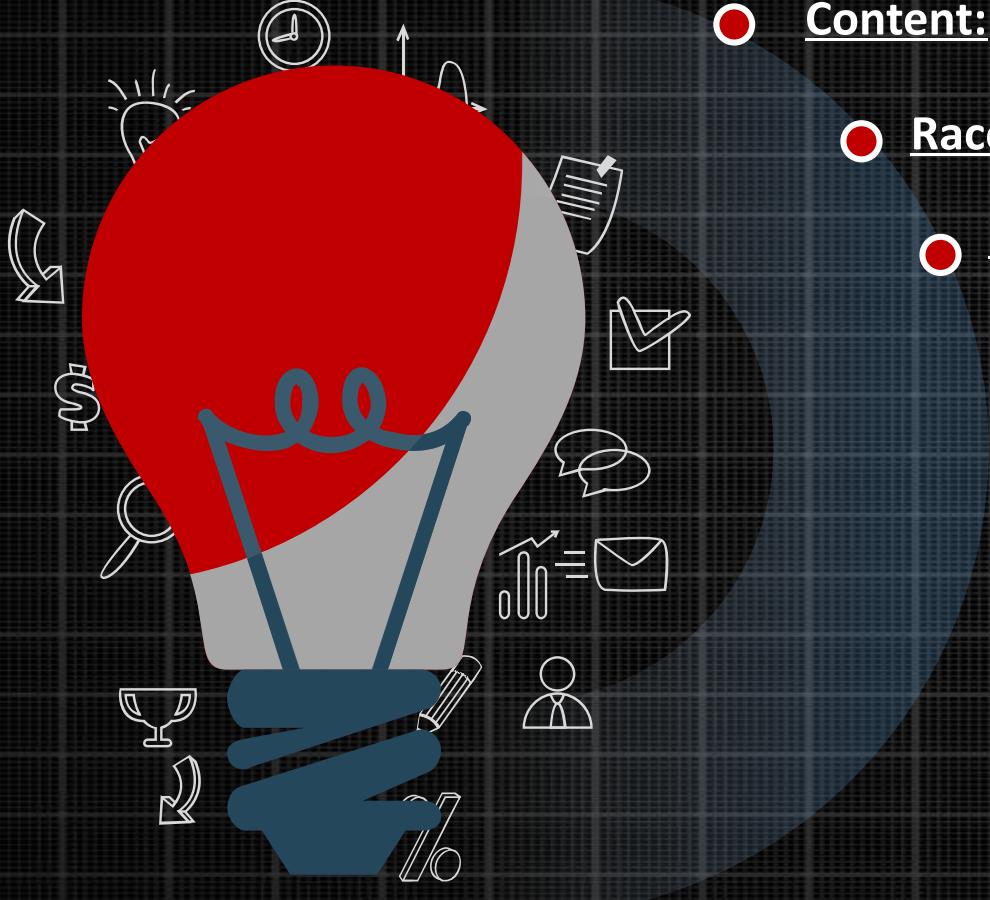
Source: Data collected from Twitter's REST API via rtweet

02



Content, Race & Location

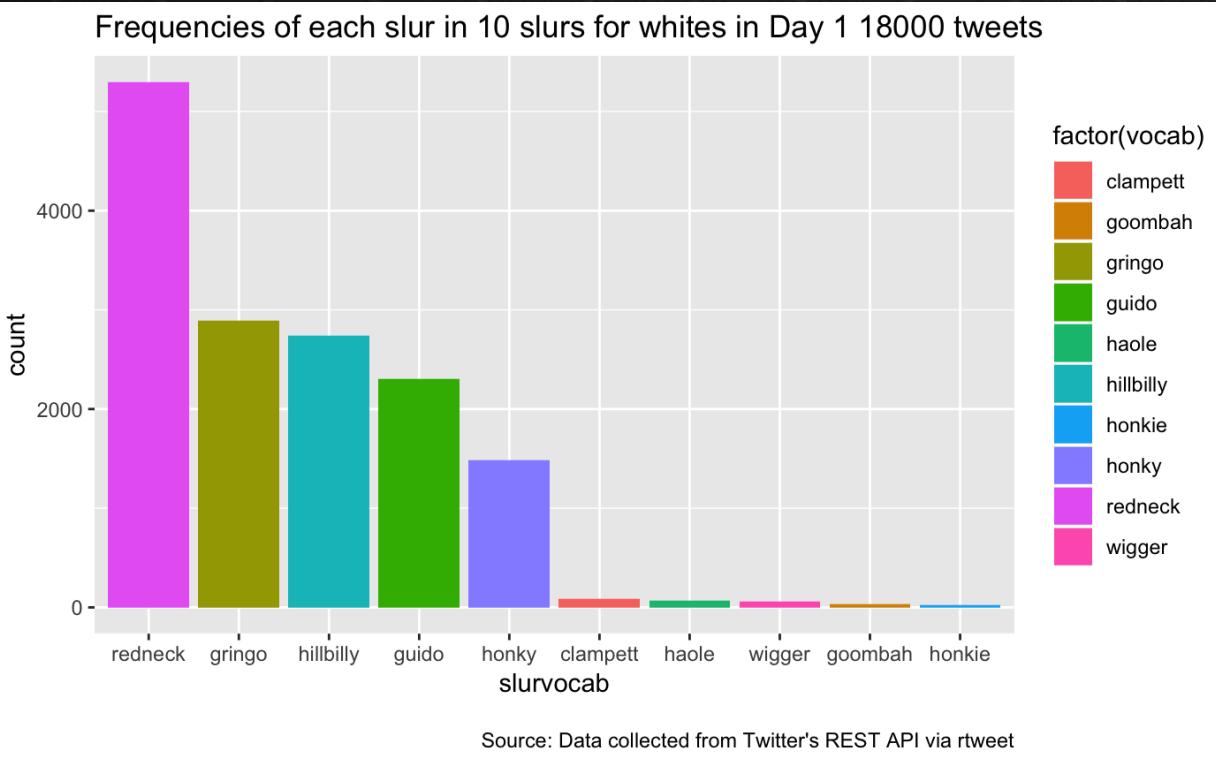
Questions that we would like to answer.....



- 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

Frequencies of each slur in 10 slurs for whites in Day 1 18000 tweets



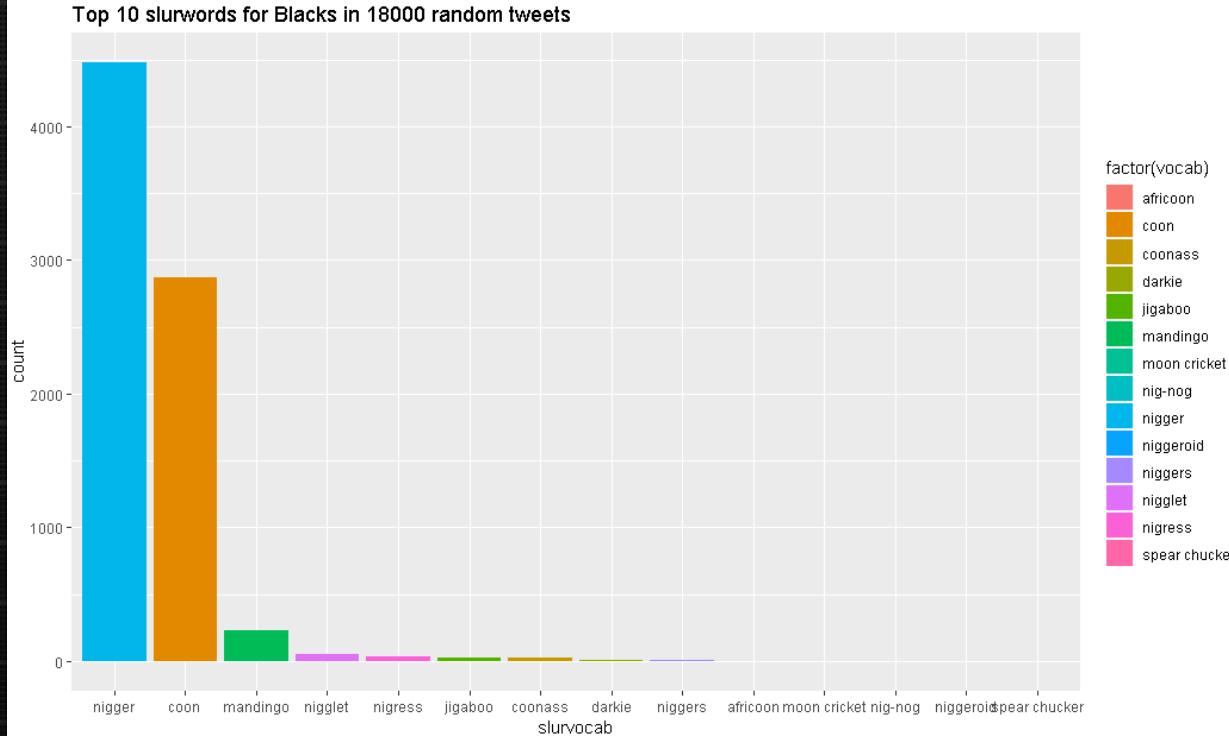
factor(vocab)

- clampett
- goombah
- gringo
- guido
- haole
- hillbilly
- honkie
- honky
- redneck
- wigger

BLACK

Nigger
Coon
Mandigo

Top 10 slurwords for Blacks in 18000 random tweets



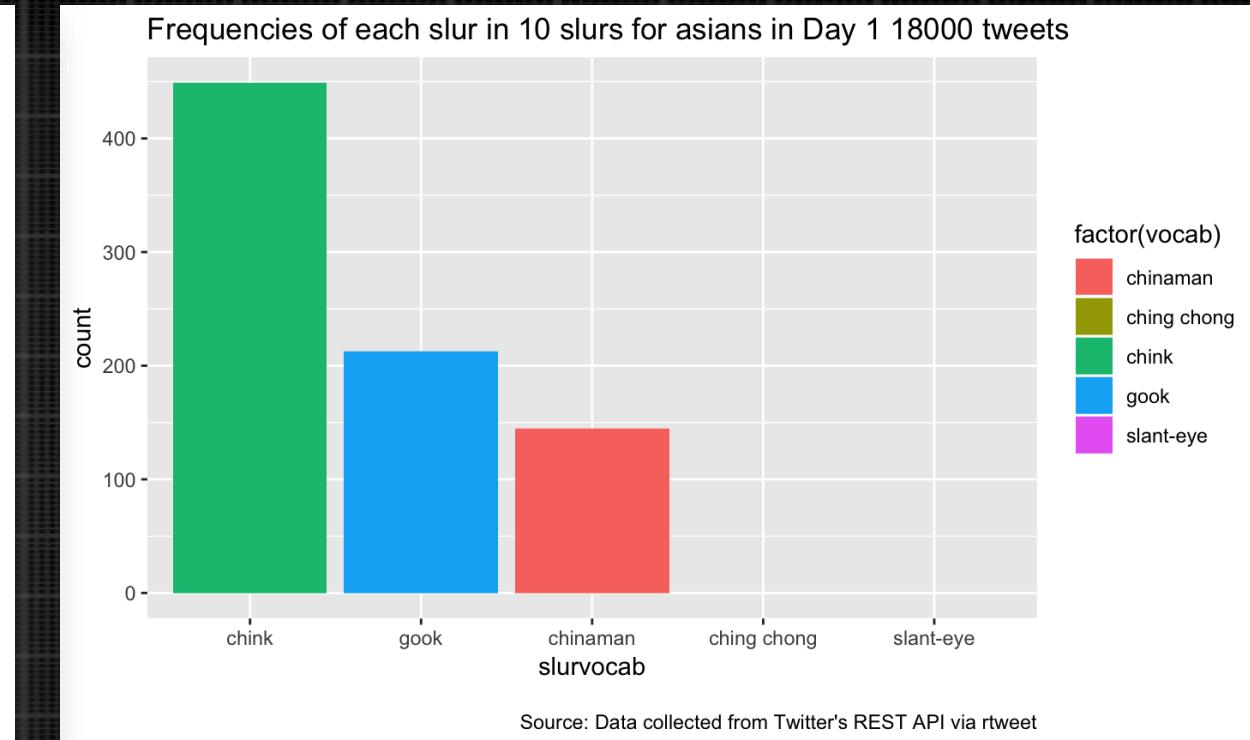
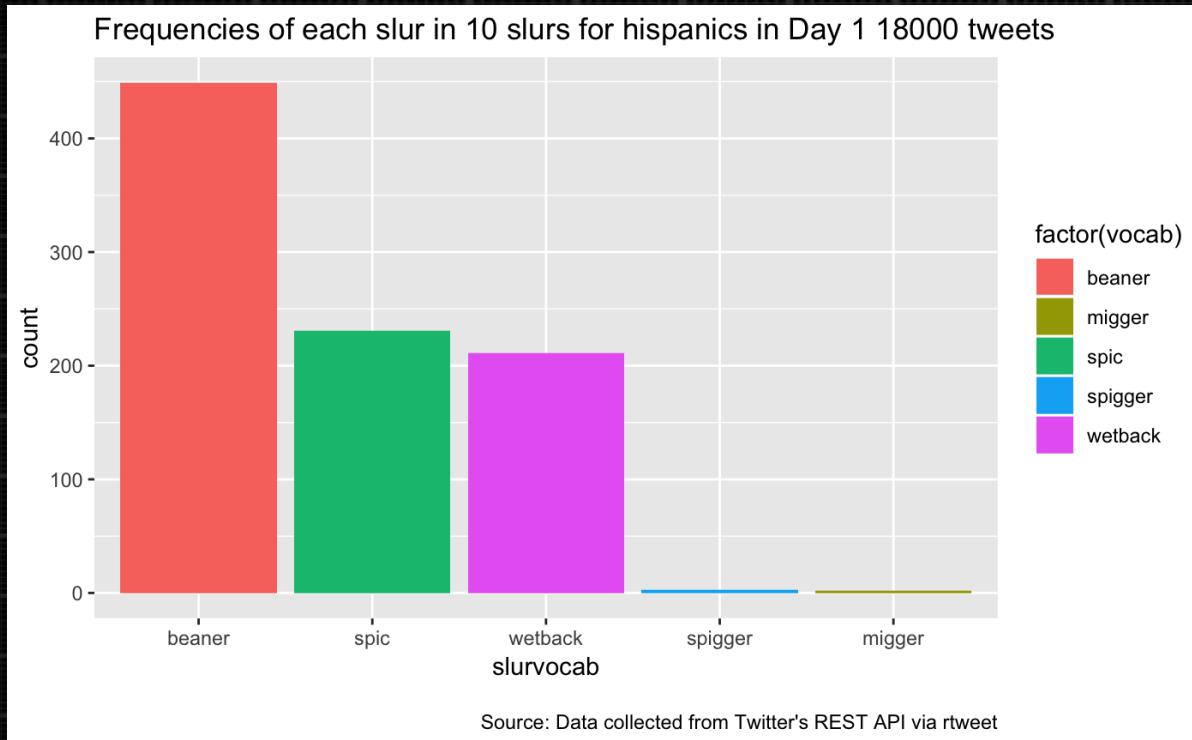
factor(vocab)

- africoon
- coon
- coonass
- darkie
- jigaboo
- mandoing
- moon cricket
- nig-nog
- nigger
- niggeroid
- niggers
- nigglet
- nigress
- spear chucker

WHITE

Redneck
Gringo
Hillbilly

Top 3 Racial Slurs for Each Race



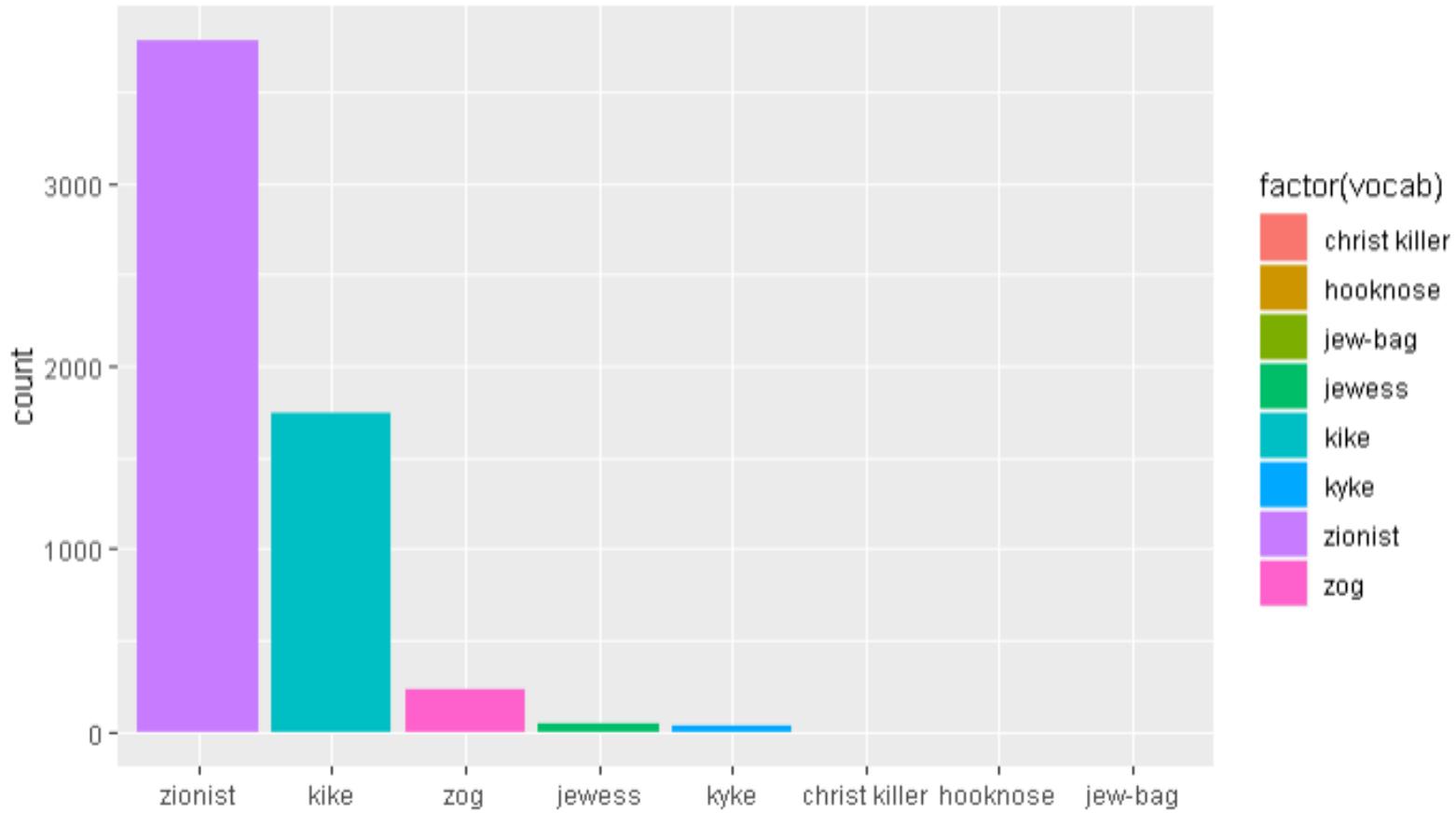
Beaner
Spic
Wetback



Chink
Gook
Chinaman

Top 3 Racial Slurs for Each Race

Most commonly used slurwords for Jews

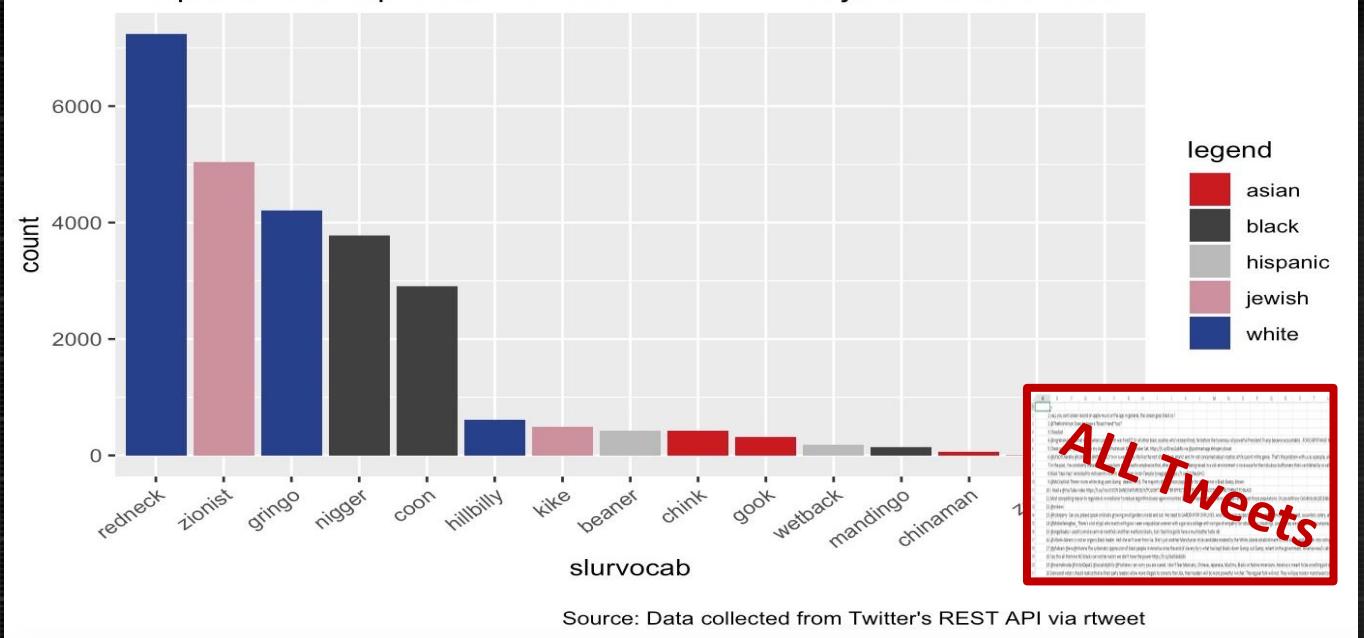


JEWISH

Zionist
Kike
Zog

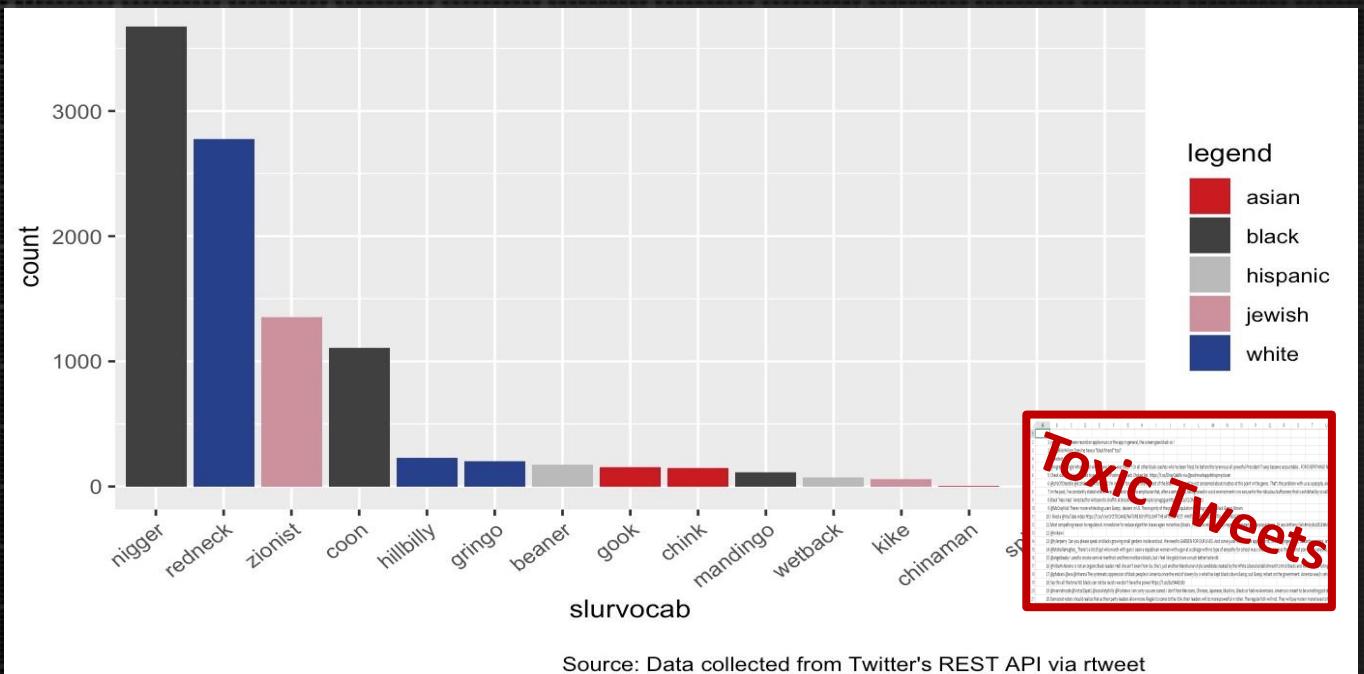
Rank of Racial Slurs of 5 Races

- 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



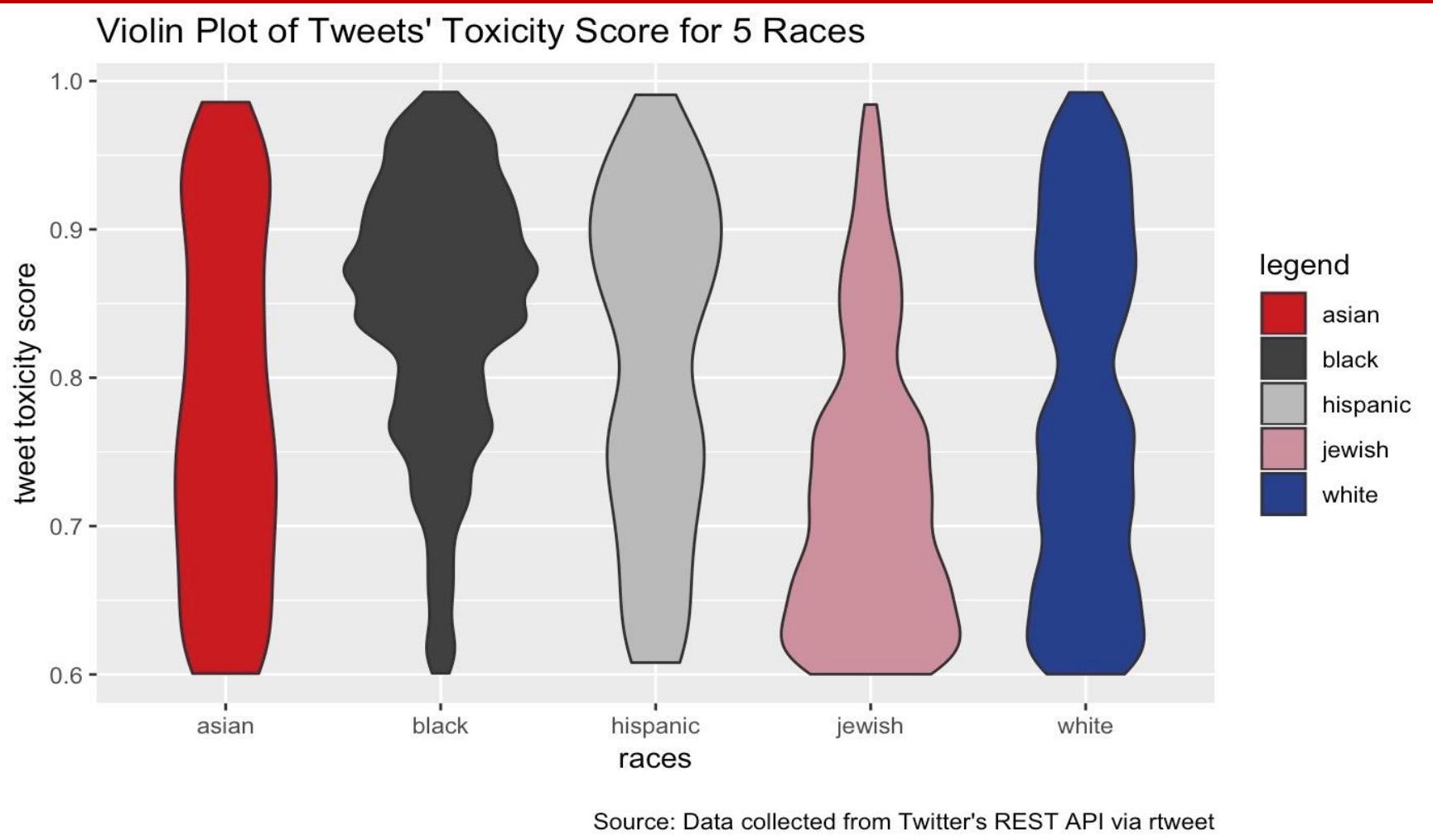
Insights

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



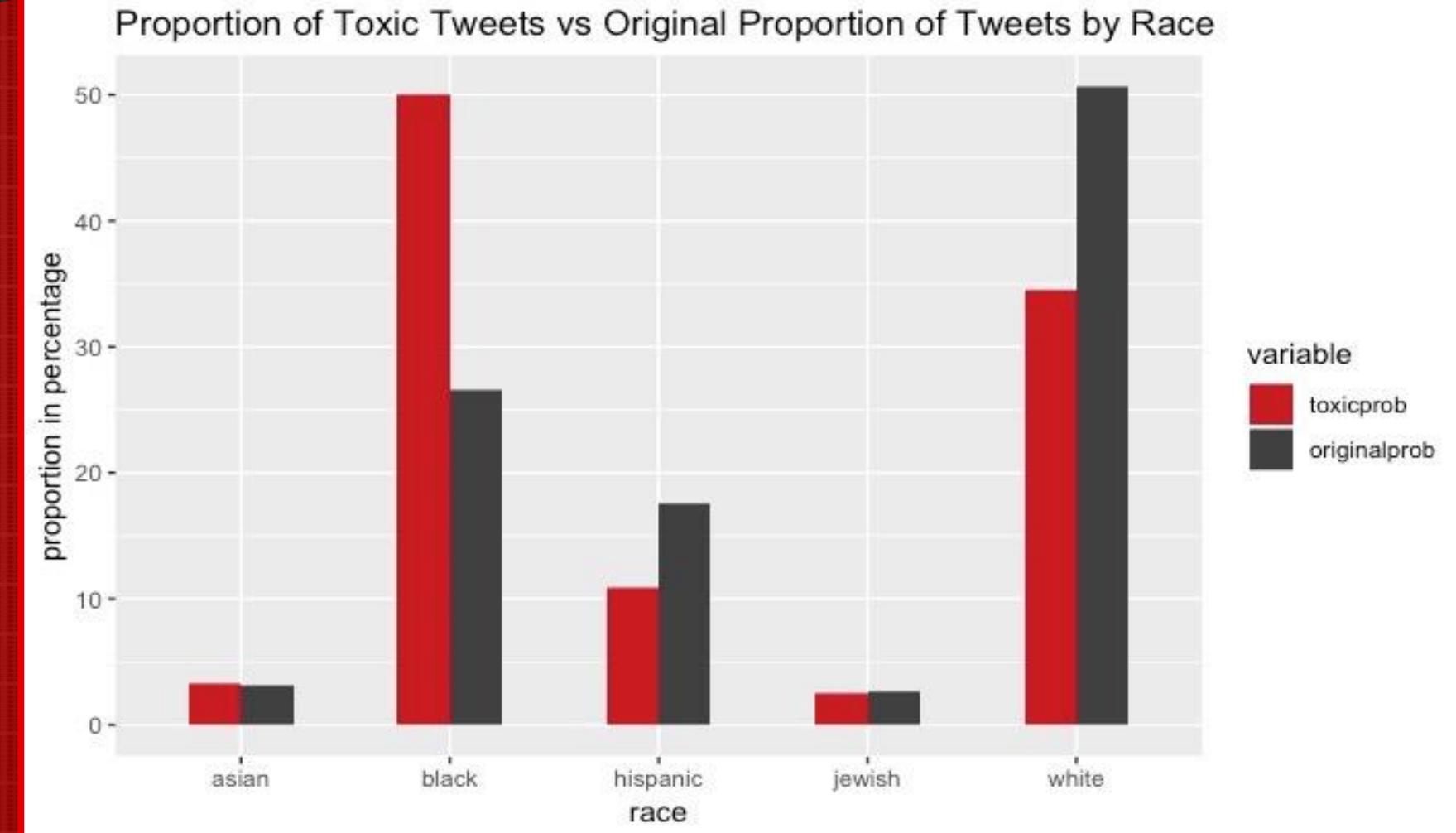
Which race is mostly discriminated against?

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



Which race is more discriminated against?

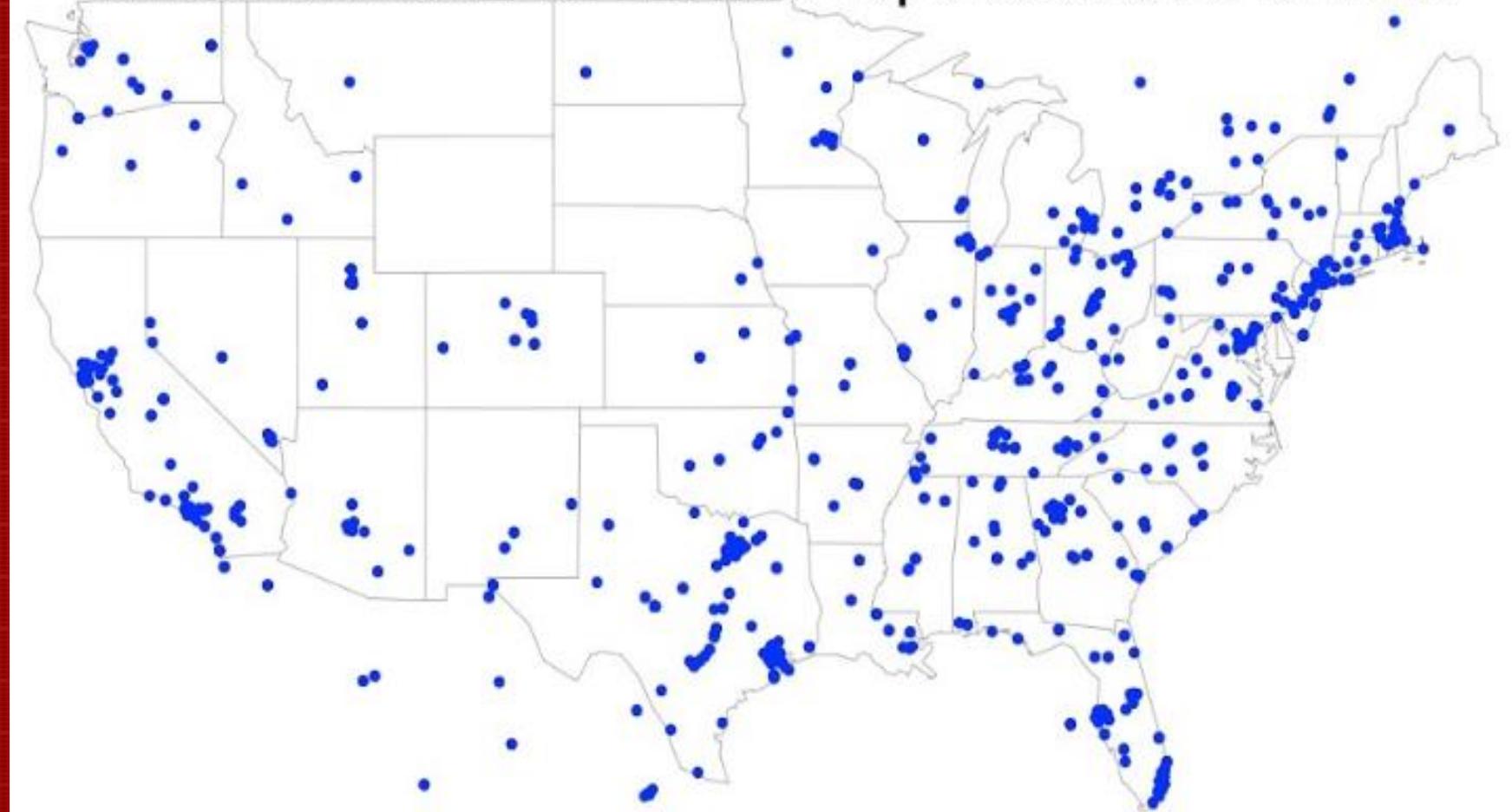
- Usage Frequency:
White slurs > Black slurs, Jewish slurs > Asian slurs
- Hate Speech Tendency: Black slurs > White slurs, Asian slurs > Jewish Slurs



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

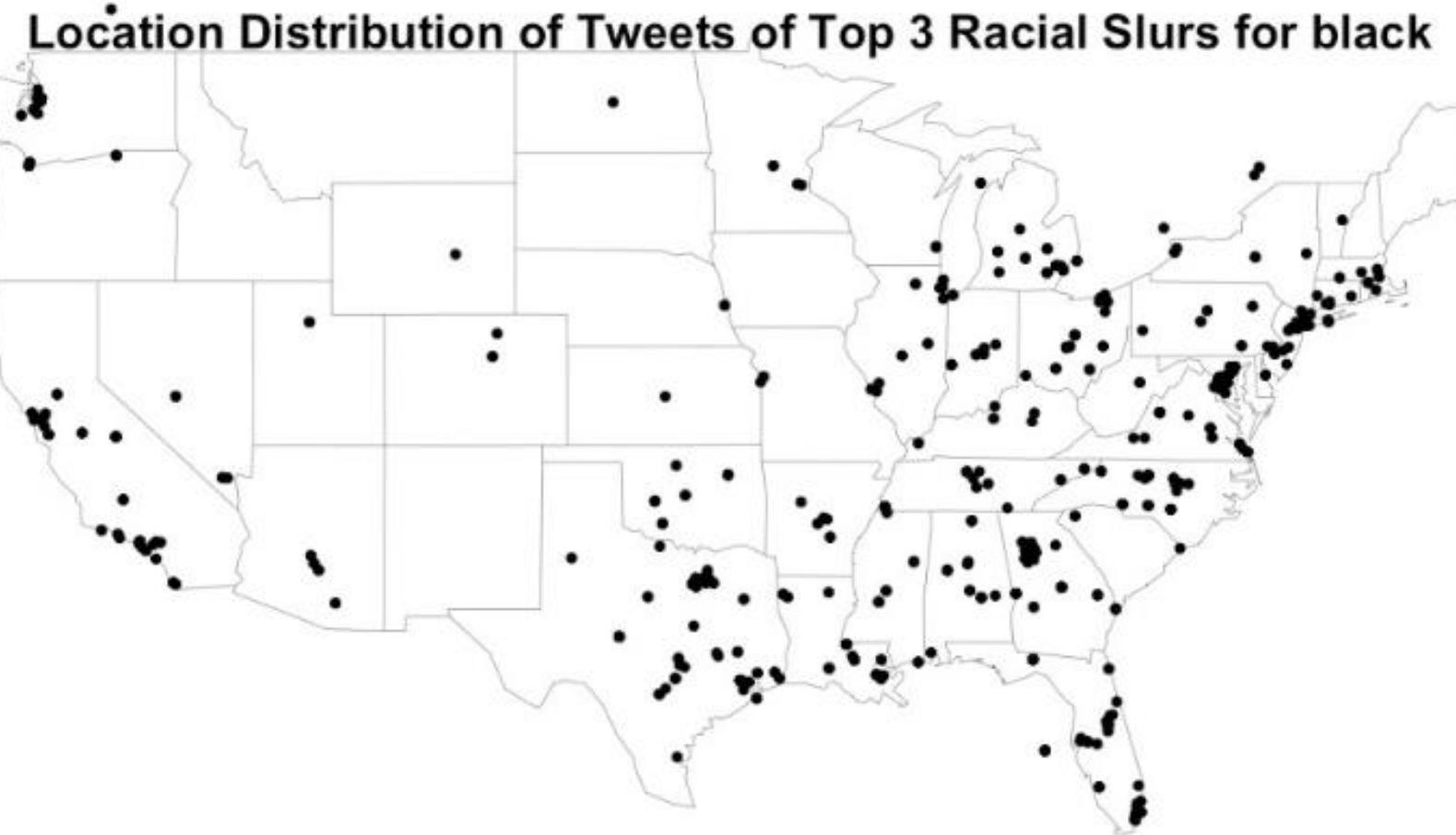
- The vast majority of Tweets were against whites.
- Interestingly the number of anti Asian tweets in Southern Florida given limited population.

Location Distribution of Tweets of Top 3 Racial Slurs for white



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

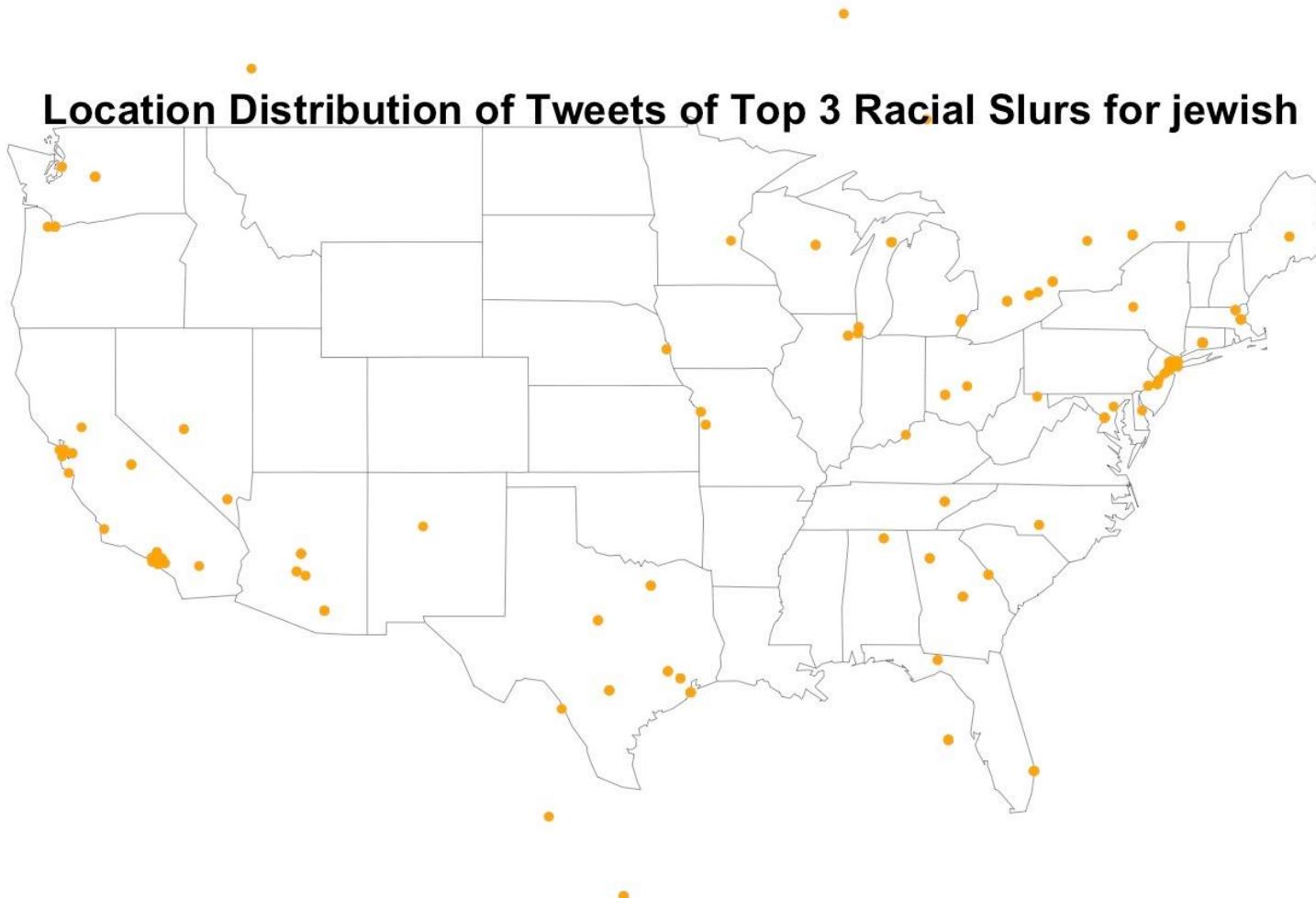
- Blacks saw the second most frequent amount of vitriol
- Most tweets didn't align with any particular topic that was identifiable



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

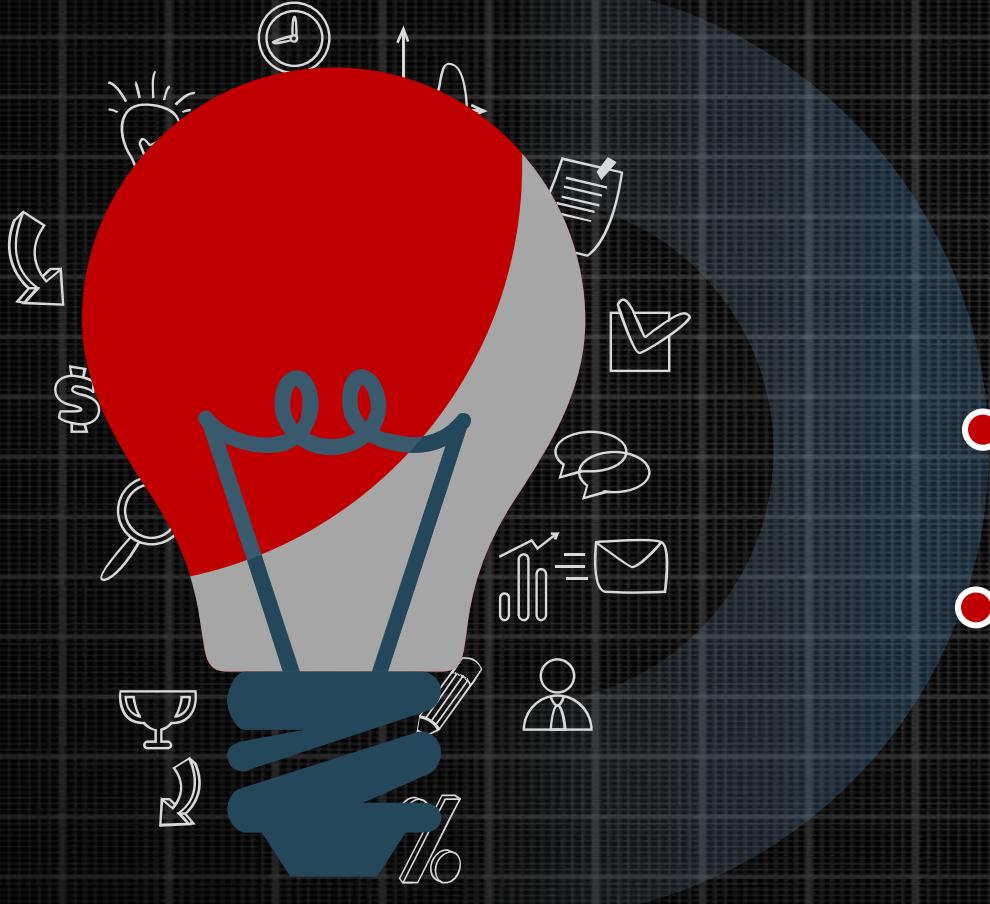


03

Topics & Words



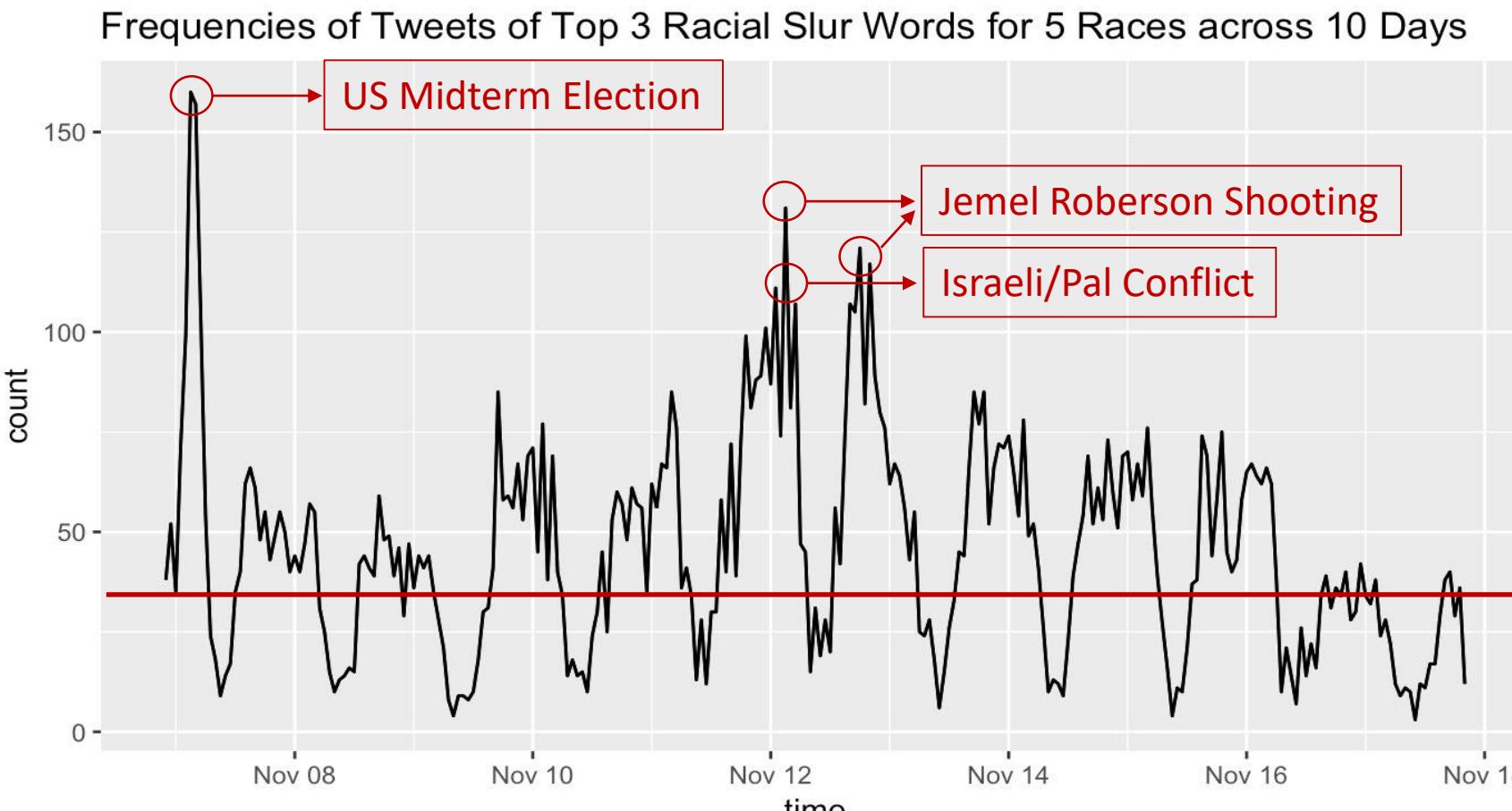
Questions that we would like to answer.....



- 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?

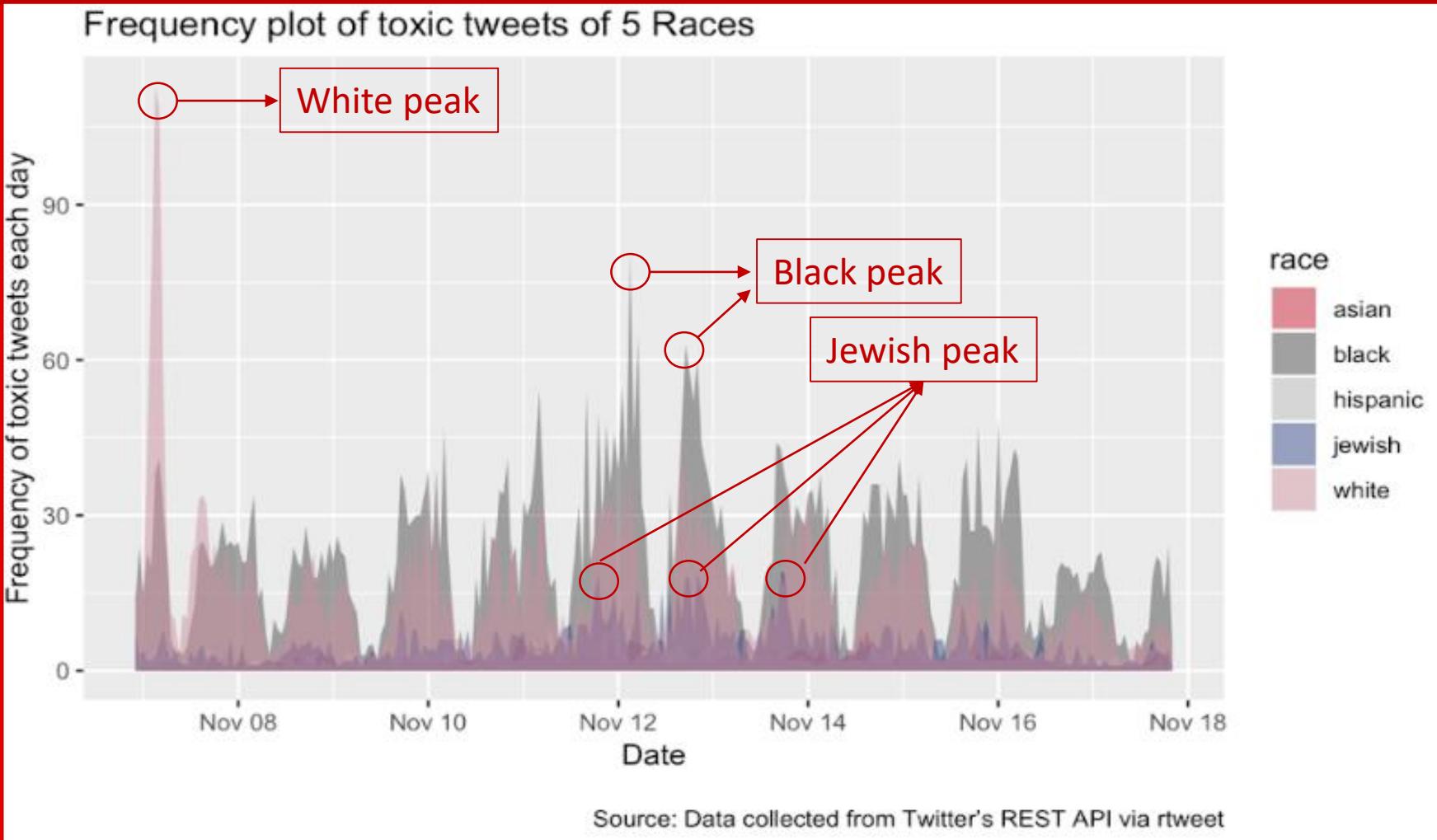
- US Midterm Elections were racially charged.
- Israel/Pal Conflict resulting in nearly 370 rockets being fired into Israel



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

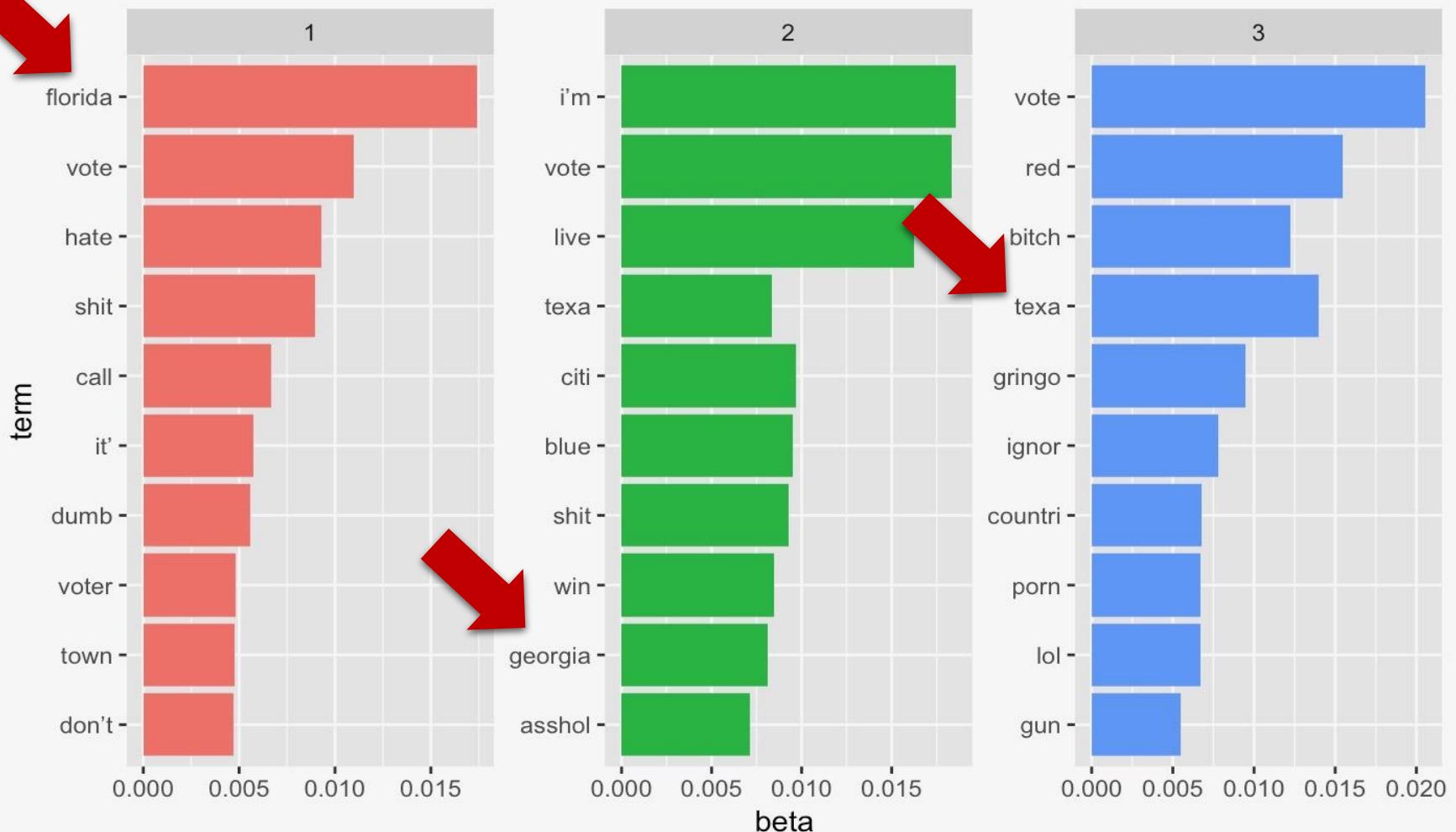
Which race contributes to hate speech during peaks?

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



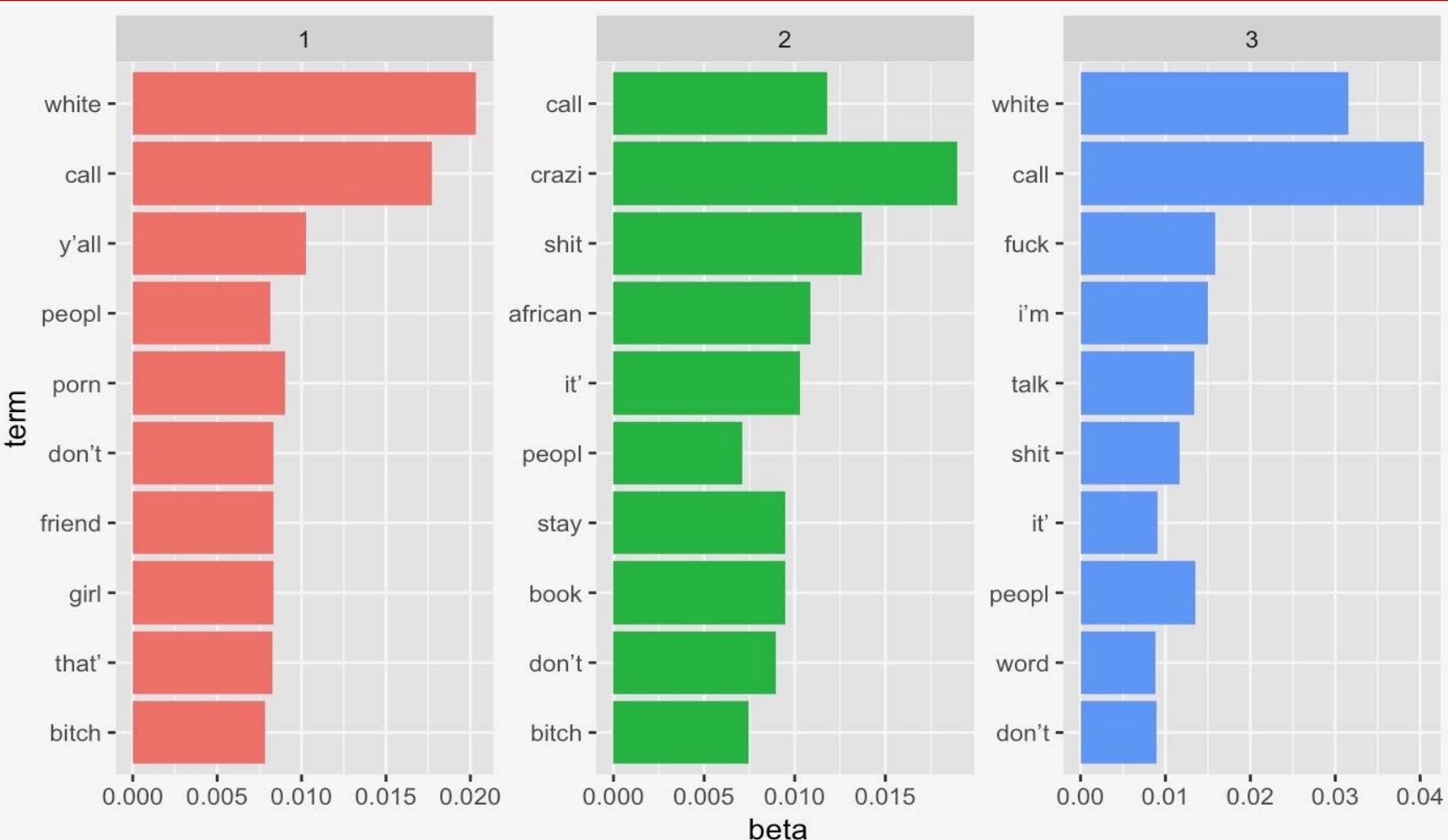
Topics of tweets against white people on Nov 07-08

- 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



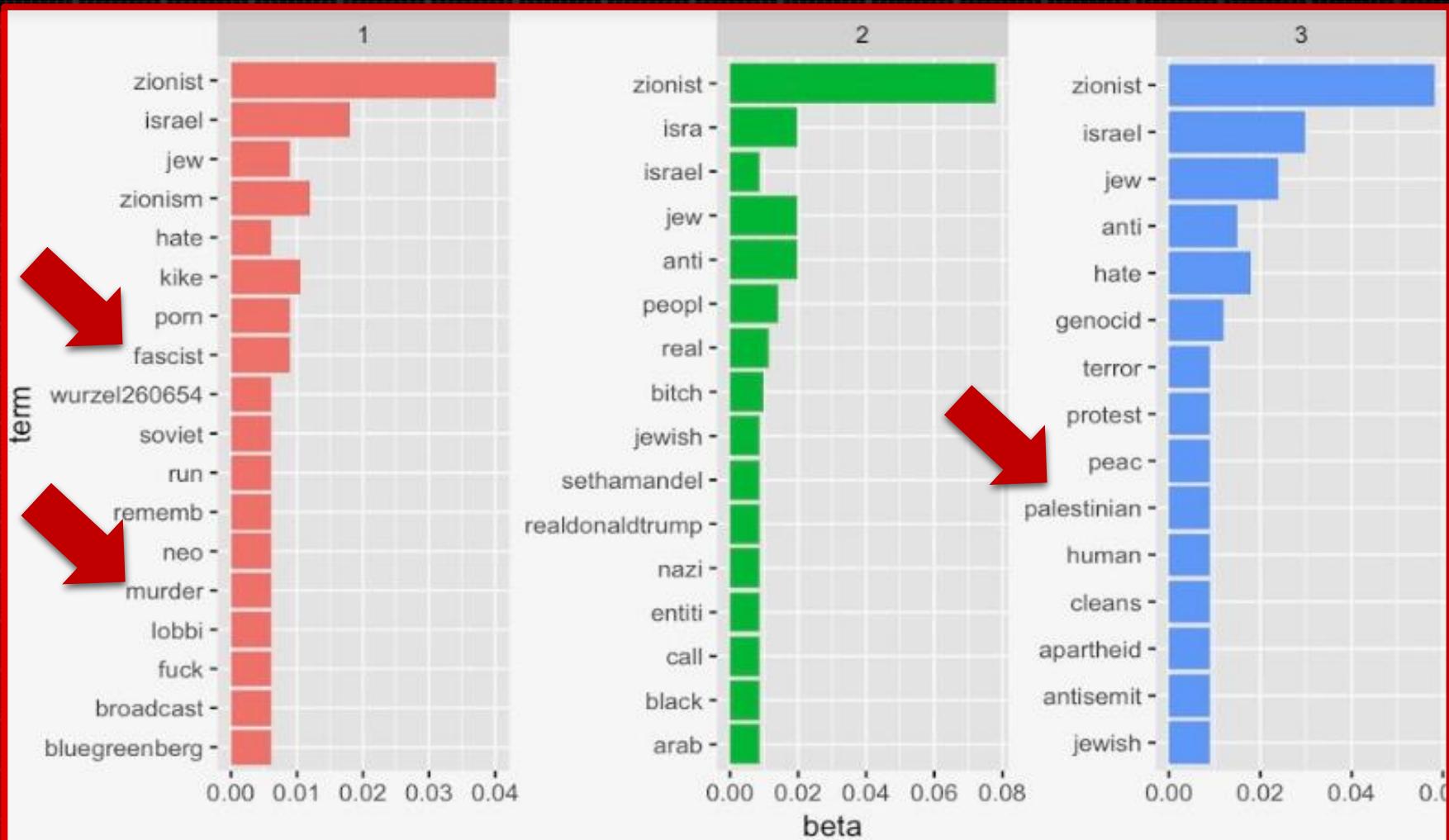
Topics of tweets against black people on Nov 12-13

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



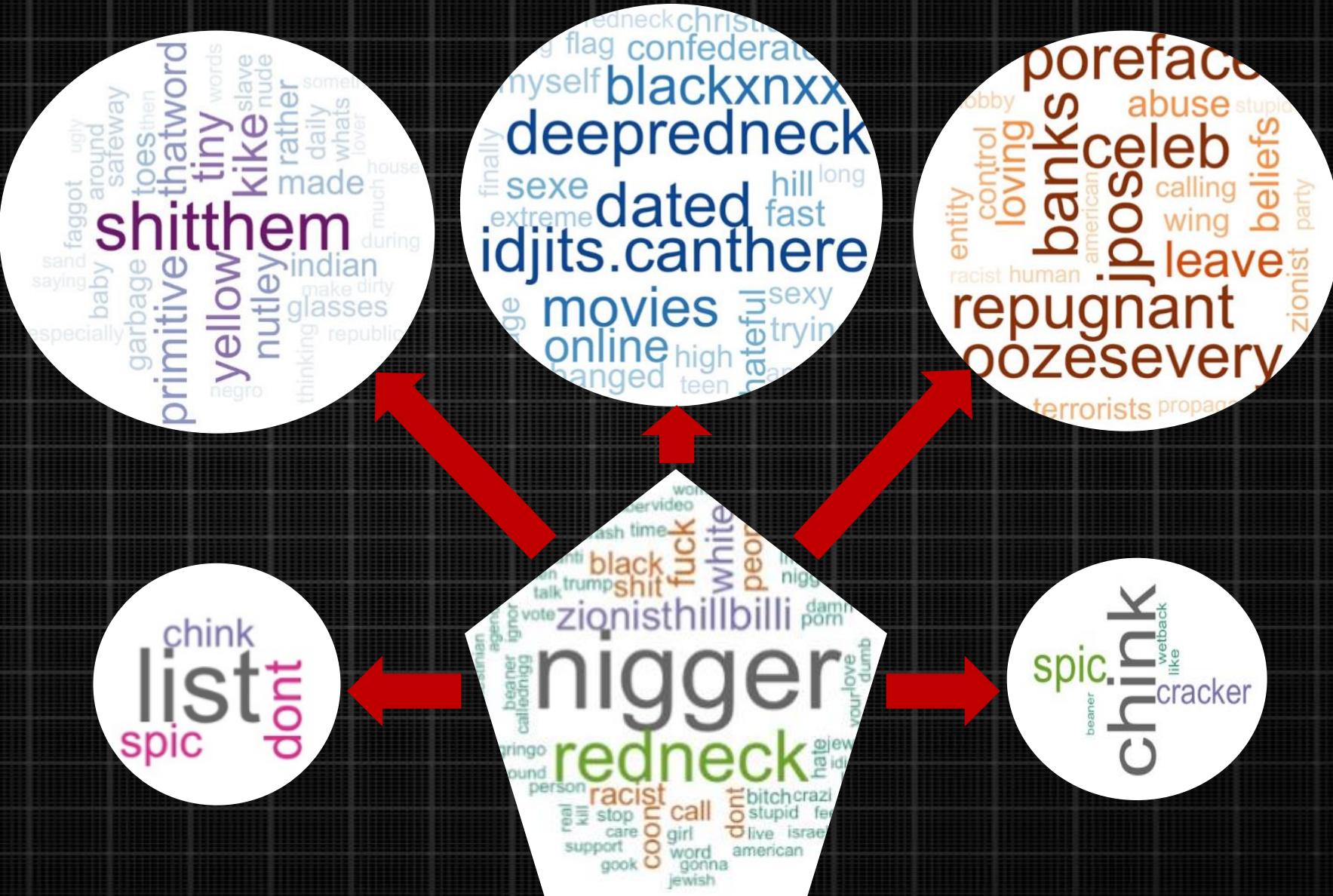
Topics of tweets against jewish people on Nov 12-13

- 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

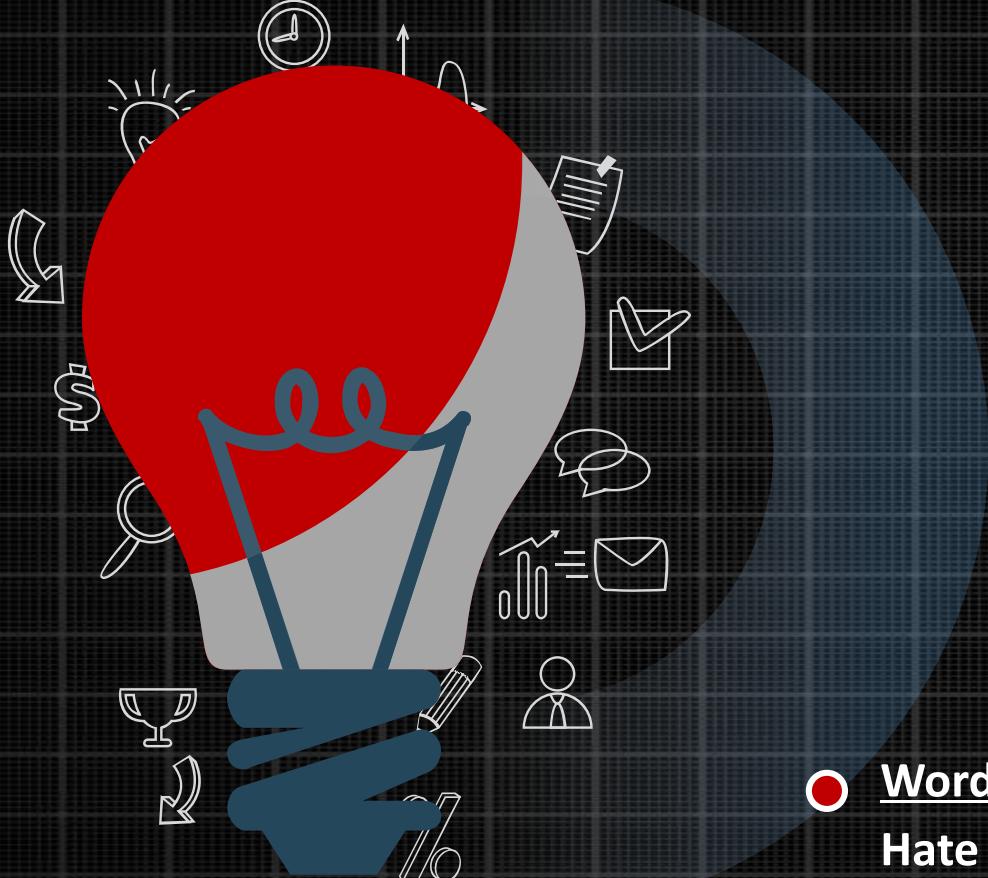




04

Networks

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



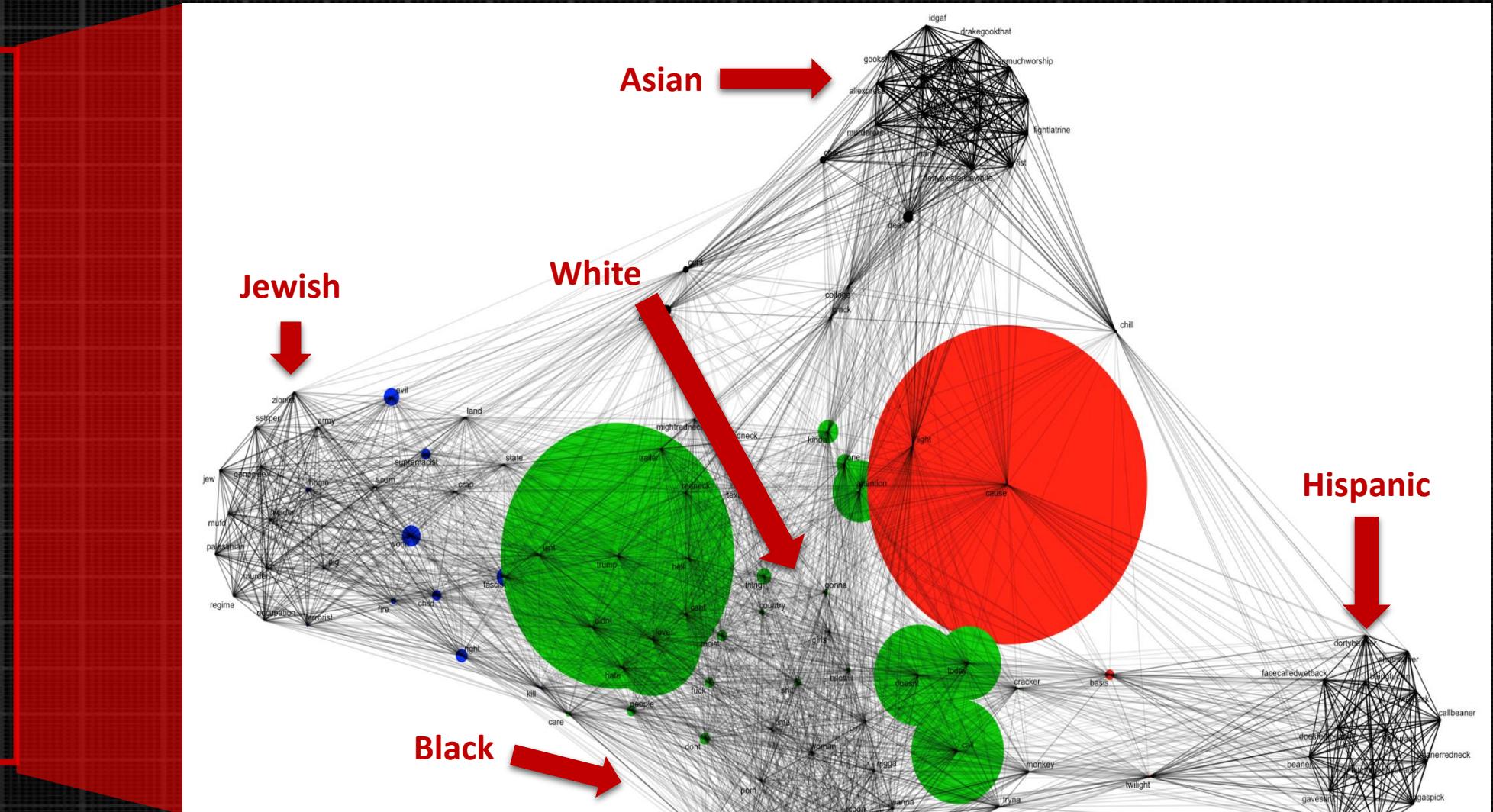
- **Word Network:** Are there associations among words used in Hate speech against different races?
- **Social Network:** What are associations among people who tweeted hate speech?

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.

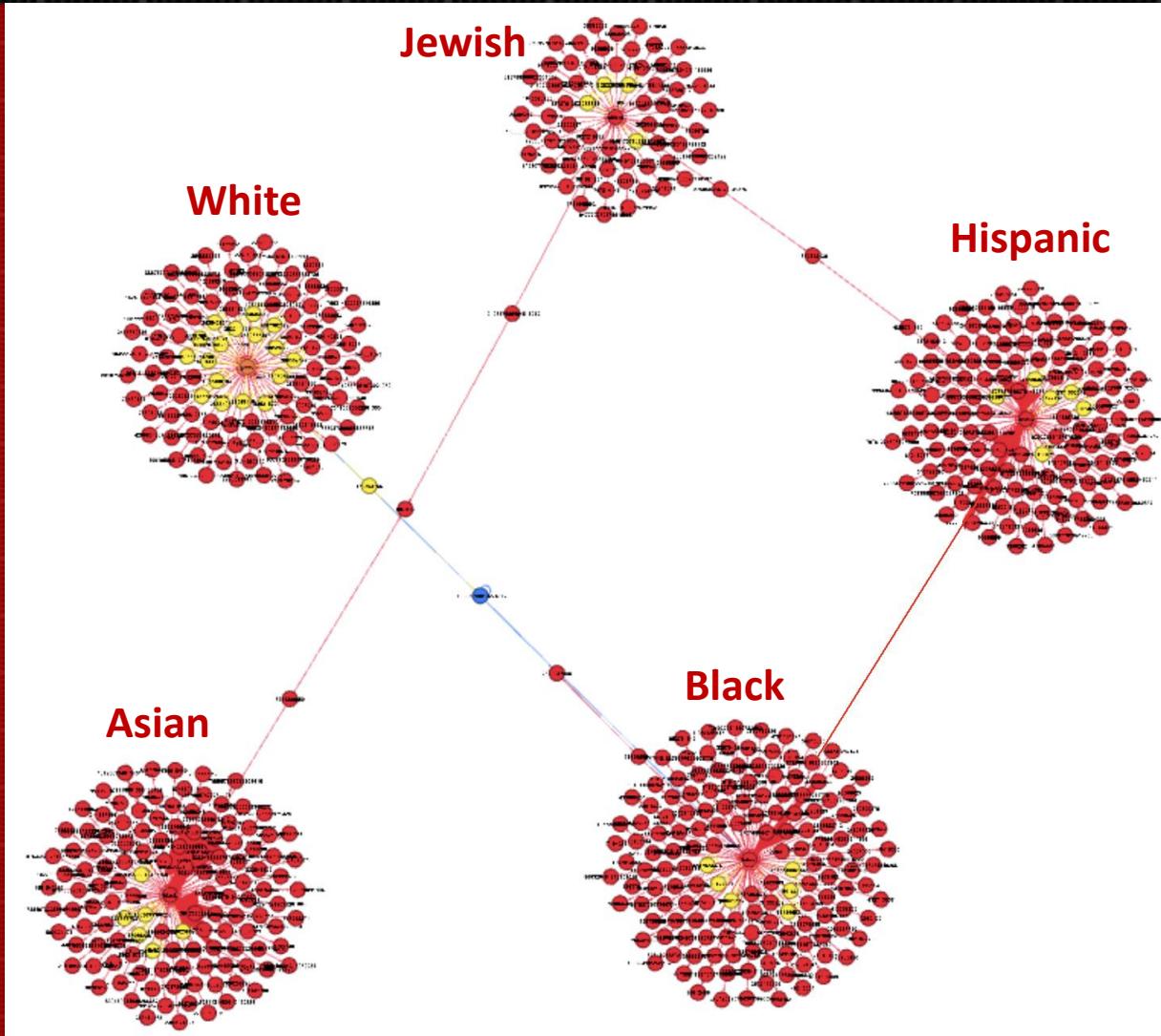


Is there any key influential person in tweeting hate speech?

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.

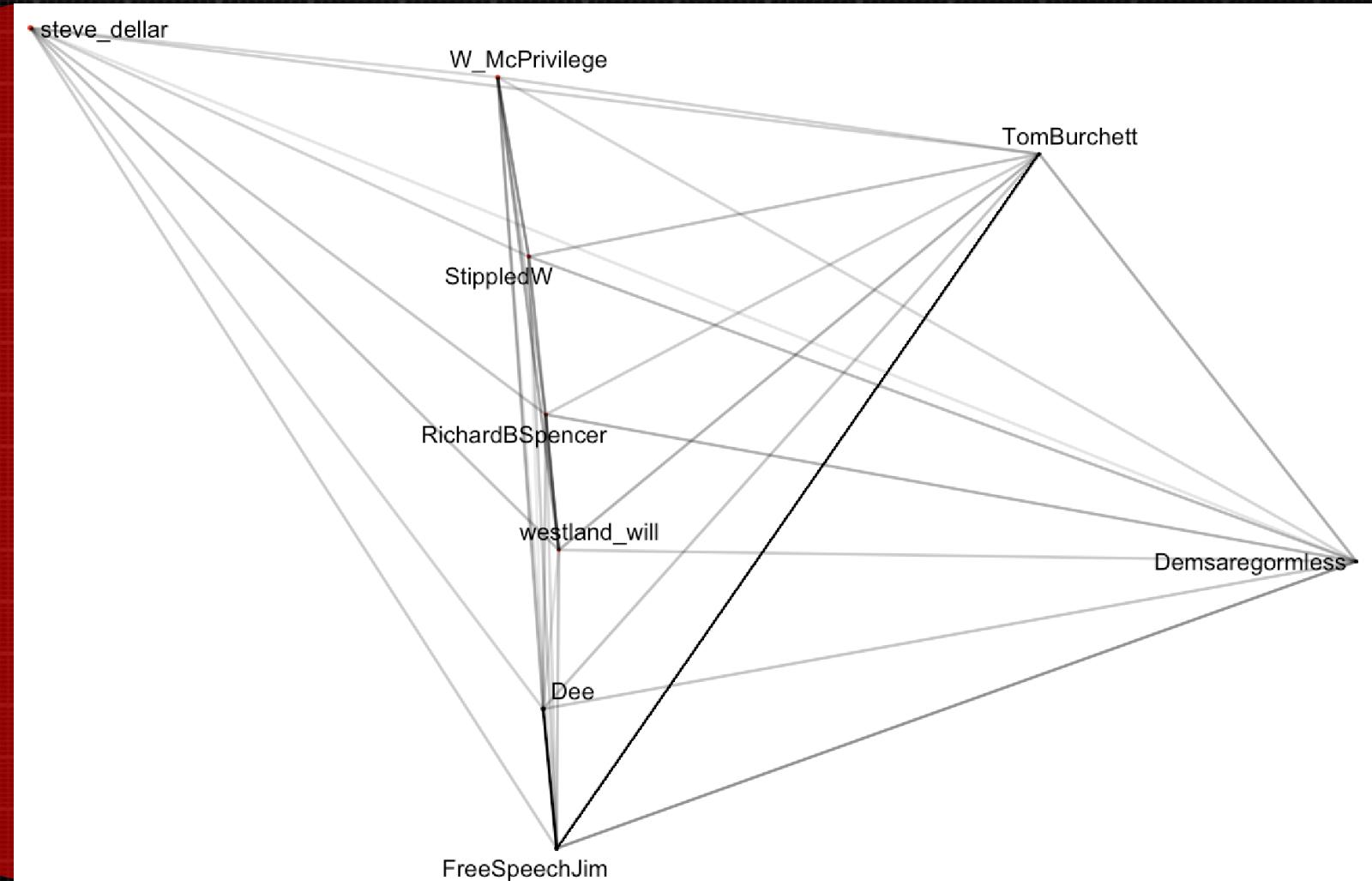
Reason: known supremacists do not use slur words in their tweets.



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

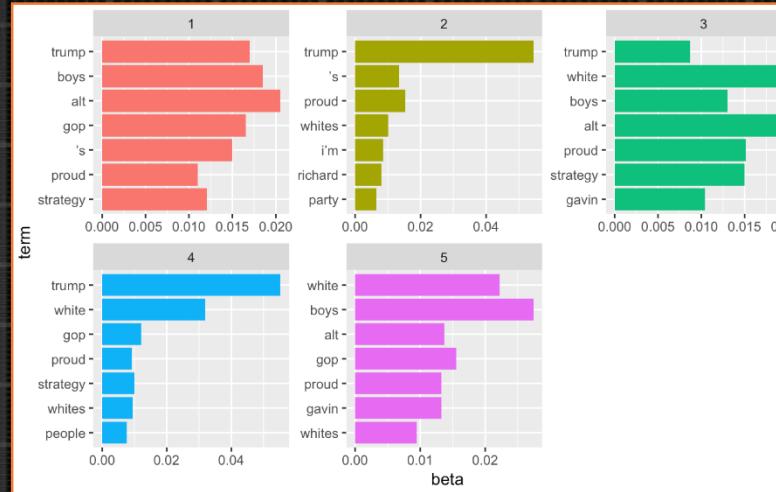


Key topics of white supremacists' tweets

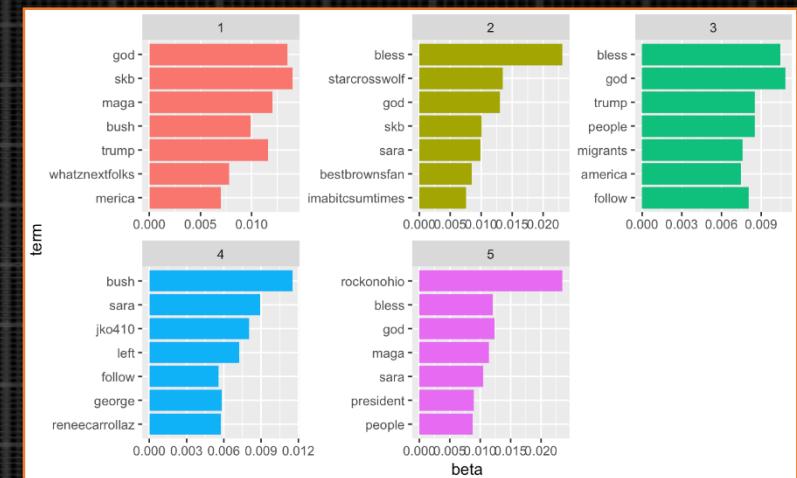
No slur words are identified.

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

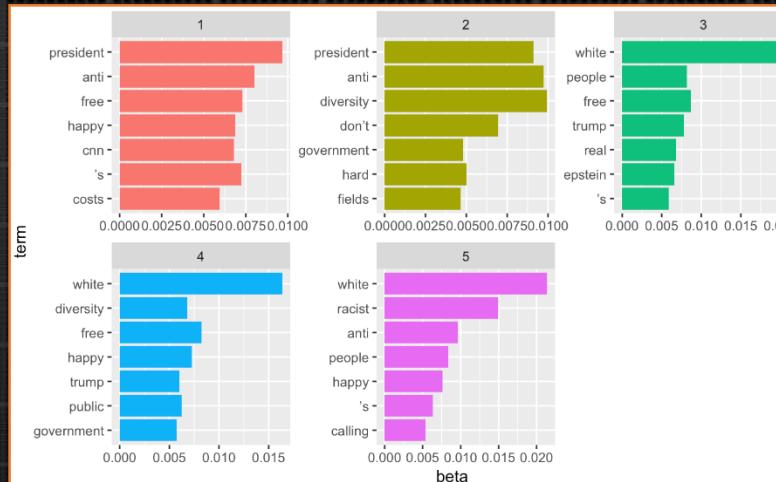
Richard Spencer (76.5 k followers)



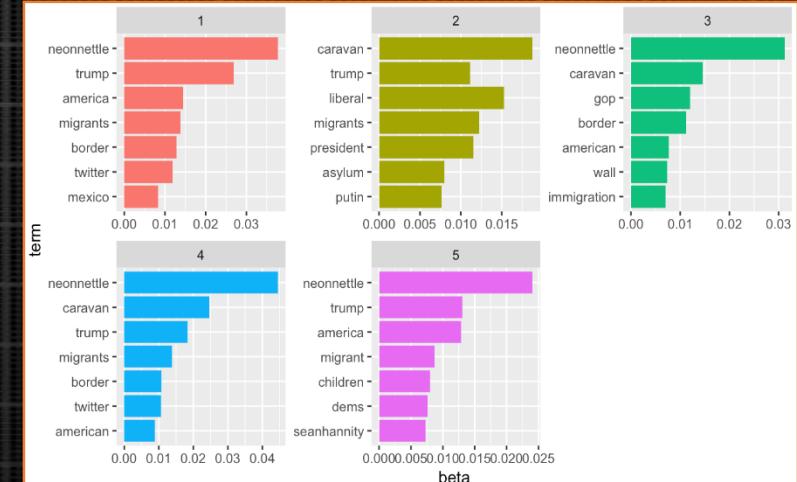
Jim Maddox (14k followers)



Will Westcott (14.5k followers)



Tom Burchett (23k followers)



05

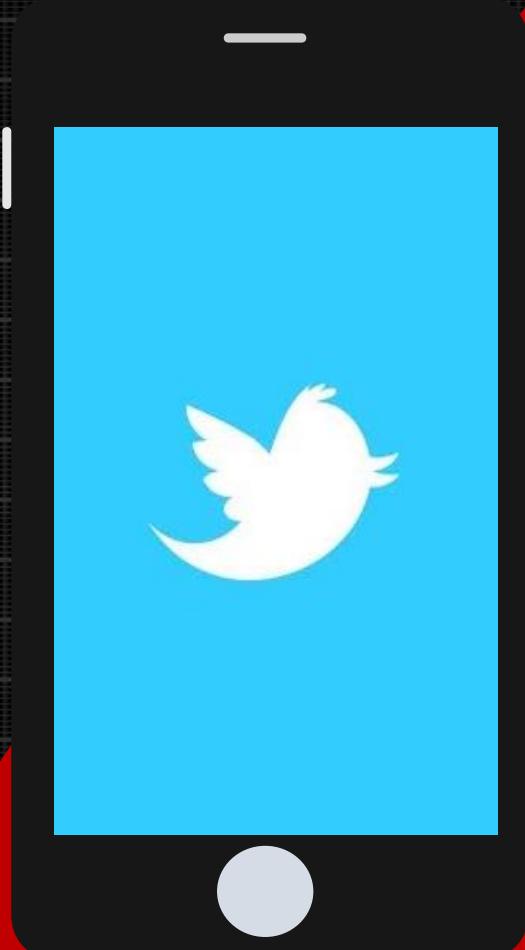


Conclusions

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