

BIAS
Against Asians, Black People,
Hispanics/Latinos, Jews, and Muslims
on Twitter

Research Report

Preliminary results from a collaborative research project with students at Indiana University of the course “Researching White Supremacism and Antisemitism on Social Media” by Dr. Gunther Jikeli, Elisha S. Breton, and Seth Moller

December 15, 2022

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Summary

Hate speech on social media has been identified as a social problem. However, it is difficult to quantify how widespread hate speech is. We looked at conversations on Twitter about Asians, Black people, Jews, Hispanic/Latino people,¹ and Muslims by manually annotating representative samples of tweets from 2020 and 2021 with the keywords “Asians, Blacks, Jews, Latinos, and Muslims.”

6,000 tweets were annotated. Each tweet was annotated by 4-6 students. With the agreement of the majority of the annotators, we found between 5 and 17 percent biased tweets, depending on the keyword and year. With the agreement of at least 75 percent of the annotators, we found between 3 and 11 percent biased tweets. This results in an estimated 9.3 million biased tweets during that period based on annotators’ majority agreement and 6.1 million biased tweets based on 75 percent of annotators classifying the same tweet as biased. However, there were even more tweets calling out bias against these minority groups, between 19 and 54 percent, depending on the keyword and year, resulting in an estimated 29.2 million tweets calling out bias against these groups from 2020 to 2021, 17.8 million based on 75 percent of annotators classifying the same tweet as calling out bias.

The forms of stereotypes vary greatly between the different categories of biases. While about a third of all biased tweets were classified as “hatred” against the respective minority, stereotypes in the tweets often matched commonly known stereotypes about the respective minorities. Asians were blamed for the pandemic. Black people were seen as inferior and associated with crime. Jews were seen as powerful, and they were held collectively responsible for the actions of the state of Israel. Some tweets denied the Holocaust. Hispanics/Latinos were portrayed as being illegal in the country and “invaders” in addition to stereotypical allegations of being lazy, stupid, or having too many children. Muslims on the other hand were often blamed collectively for terrorism and violence, however, often in conversations about Muslims in India.

¹ Latinx is a term that can be used to describe people of all genders who have Latin American roots. However, 2019 Pew research shows that, while one-in-four U.S. Hispanics have heard the term Latinx, only 23% of U.S. adults who self-identify as Hispanic or Latino have heard the term, and just 3% say they use it to describe themselves. Pew Research Center, “Latinx Used by Just 3% of U.S. Hispanics. About One-in-Four Have Heard of It,” August 2020, <https://www.pewresearch.org/hispanic/2020/08/11/about-one-in-four-u-s-hispanics-have-heard-of-latinx-but-just-3-use-it/>.

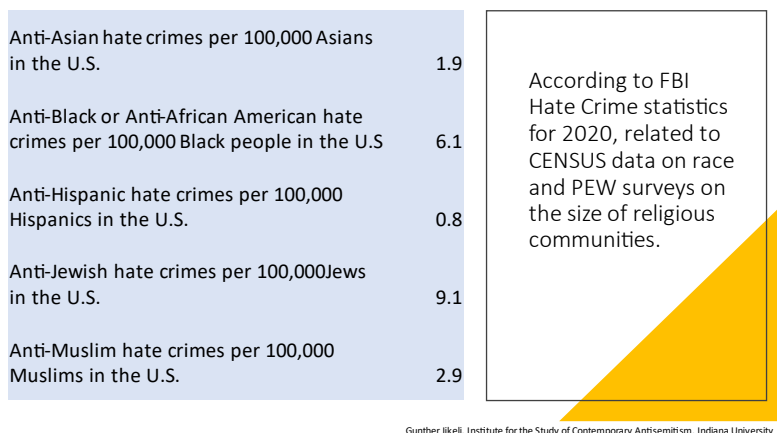
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Introduction

Online hate speech has increasingly been the focus of public debate and academic research.² Social media platforms have pledged to remove hate speech from their platforms. Since the “Unite the Right” rally in Charlottesville, Virginia, in August 2017 and the public outcry following the killing of one counterprotestor, major platforms, such as Facebook and Twitter, have suspended a portion of accounts violating their updated terms of service. More systematic suspensions and deletions of accounts came after the 2019 attack at two mosques in Christchurch, New Zealand where the terrorist killed 51 people and live-streamed the killings. Another push came after the violent riots on Capitol Hill in January 2021. These efforts to remove hateful content have been imperfect and it has become evident that better mechanisms, improved algorithms, and more transparency needs to be put in place to deal with harmful content on social media. Antisemitism is a core element of ideologies that are closely related to hate speech, such as white nationalism.³ However, different minority groups are targeted online and offline. The Federal Bureau of Investigation (FBI) issues annual reports on hate crimes. The latest report shows that in 2020, there were 5,227 registered hate crimes, thereof 2,871 Anti-Black or African American, 869 Anti-White, 279 Anti-Asian, 111 Anti-American Indian, Alaska Native, Pacific Islander, 71 Anti-Arab, 517 Anti-Hispanic or Latino, 683 Anti-Jewish, 73 Anti-Catholic, 30 Anti-Protestant, 110 Anti-Islamic, 11 Anti-Hindu, 89 Anti-Sikh hate crimes. 1,110 hate crimes targeted the victims’ sexual orientation, 75 the victims’ gender, and 130 hate crimes targeted people with disabilities. Image 1 relates these numbers to the size of some of the most targeted ethnic/racial and religious minority groups, that is Asians, Black people, Jews, Hispanics/Latinos, and Muslims.

Image 1: Hate crimes against Asians, Black people, Jews, Hispanics/Latinos, and Muslims per 100,000 in 2020



However, we were interested in mainstream conversations about these minority groups on social media. What are these conversations about? What is the percentage of biased messages in mainstream conversations about these groups and what kind of forms of bias and stereotypes does it take? And

² Sergio Andrés Castaño-Pulgarín et al., “Internet, Social Media and Online Hate Speech. Systematic Review,” *Aggression and Violent Behavior* 58 (May 2021): 101608, <https://doi.org/10.1016/j.avb.2021.101608>.

³ Eric Ward, “Skin in the Game. How Antisemitism Animates White Nationalism,” Political Research Associates, June 29, 2017, <http://www.politicalresearch.org/2017/06/29/skin-in-the-game-how-antisemitism-animates-white-nationalism>.

what is the percentage of messages that call out bias? We looked at conversations on Twitter about these groups.

Methods and Data

We scraped all tweets with the keywords “Asians, Blacks, Jews, Latinos, and Muslims” for the years 2020 and 2021, resulting in close to 78 million tweets, see Table 1. For each of the five keywords and for both years, we used a randomized sample of 600 tweets for manual annotation. 6,000 tweets were annotated manually.

Table1: Number scraped of tweets for five keywords in 2020 and 2021

keywords	# of tweets in 2020	# of tweets in 2021	# of tweets in 2020-2021
Asians	3,032,357	4,234,231	7,266,588
Blacks	8,639,673	4,537,662	13,177,335
Jews	7,041,893	7,842,921	14,884,814
Latinos	3,330,940	1,118,889	4,449,829
Muslims	22,943,873	15,002,243	37,946,116
SUM	44,988,736	32,735,946	77,724,682

The annotation process was facilitated by using the Annotation Portal provided by Indiana University’s Research Lab “Social Media & Hate” at the Institute for the Study of Contemporary Antisemitism, see <https://annotationportal.com>. The Annotation Portal shows live tweets in their natural context.

We used the definition of antisemitism by the International Holocaust Remembrance Alliance, “Antisemitism is a certain perception of Jews, which may be expressed as hatred toward Jews. Rhetorical and physical manifestations of antisemitism are directed toward Jewish or non-Jewish individuals and/or their property, toward Jewish community institutions and religious facilities,” including 11 examples. We modeled definitions of bias against Asians, Black people, Hispanics/Latinos, and Muslims respectively on this definition, using examples of commonly held stereotypes about these communities. However, in contrast to the definition of antisemitism, we added “other” as an additional example of bias against Asians, Black people, Hispanics/Latinos, and Muslims (see Annex 1) because we were unsure if we had covered all commonly held stereotypes of these communities.

Image 2: Annotation form for potentially anti-Black biased tweets

Viewing Tweet #1 of Blacks2021-4

Still exists: Is the tweet active?

Can read: Tweet is in the correct language?

Confident not anti-Black Anti-Black bias is a certain perception of black people or African Americans, which may be expressed as racial degradation or hatred toward Blacks or African Americans. Rhetorical and physical manifestations of anti-Black bias are directed toward black or perceived black individuals and/or their property or toward black community institutions. Contemporary examples of anti-Black bias in public life, the media, schools, the workplace, and in the religious sphere could, taking into account the overall context, include, but are not limited to the examples below.

If you think that this tweet is anti-Black, select from below:

Denies: Not biased according to the definition but denies that there is bias against Black people.

Content type: Main content type of tweet that indicates possible anti-Black bias

Sentiment rating: The sentiment toward Blacks/African Americans is

Calling out: This tweet is calling out (alleged) anti-Black bias

Sarcasm: This tweet is sarcastic

Additional comments:

View your annotated tweets :

1

Your annotated tweets count reached to : 1 / 105.

Users of the Portal find an annotation form below the tweet for easy classification, see Image 2. They can click on the tweet to look at it on the Twitter page so that they can view threads, responses, or other details that might help them understand the message of the tweet under review.

The random samples of 600 tweets were divided by 6, resulting in samples of 100 tweets. We manually added five biased tweets in each sample as a small control sample. Four to six students (six in most cases) annotated the same sample and each student annotated three samples from the same year and the same keyword.

Although we filtered for live tweets when we generated the random samples, some tweets, between one and four percent, had been suspended or deleted after sample generation. The first question was therefore if the tweet is still available. The second question was if the tweet is in English. However, almost all tweets were in English, given the English keywords.

Annotators had five options for the bias rating according to a detailed definition (see annex): “confident not biased; probably not biased; I don’t know; probably biased; and confident biased.” Annotators read the definition and explanation carefully and they were trained on some samples before they started the annotation process. If the annotators labeled the tweet as “probably biased” or “confident biased” according to the definition, they had to choose one of the paragraphs of the definition (see Annex 1) that informed this decision. The definitions for each form of bias were developed with students and refined after a test phase. However, annotators could add an additional reason in the annotation of the samples of conversations about “Asians, Blacks, Latinos, and Muslims” The definition of antisemitism is thus more restrictive than the definitions of bias against the other groups. Asking the annotators to choose between a “very negative, negative, neutral, positive, or very positive” sentiment for the tweet

about the respective minority group further helped the annotators apply the definition because they could express that the tweet had negative connotations even if they were not able to find a section of the definition that applied. Annotators also flagged if the tweet was calling out bias against the respective minority and if it was sarcastic. Lastly, they could leave comments on the tweet in an open textbox. The Annotation Portal registers the annotations automatically, including the time that it takes the annotators to label each tweet (not exceeding 10 minutes).

All annotations were exported from the Annotation Portal. We considered a tweet as biased if most annotators considered the tweet as biased, that is, four out of six in most cases. We applied the same method to tweets that were labeled as calling out biases.

Preliminary Results

The timelines for each keyword for the years 2020 and 2021 show several peaks that are related to online or offline events that triggered many users to talk about Asians, Black people, Jews, Hispanics/Latinos, and Muslims, see graphs 1-5 in annex II.

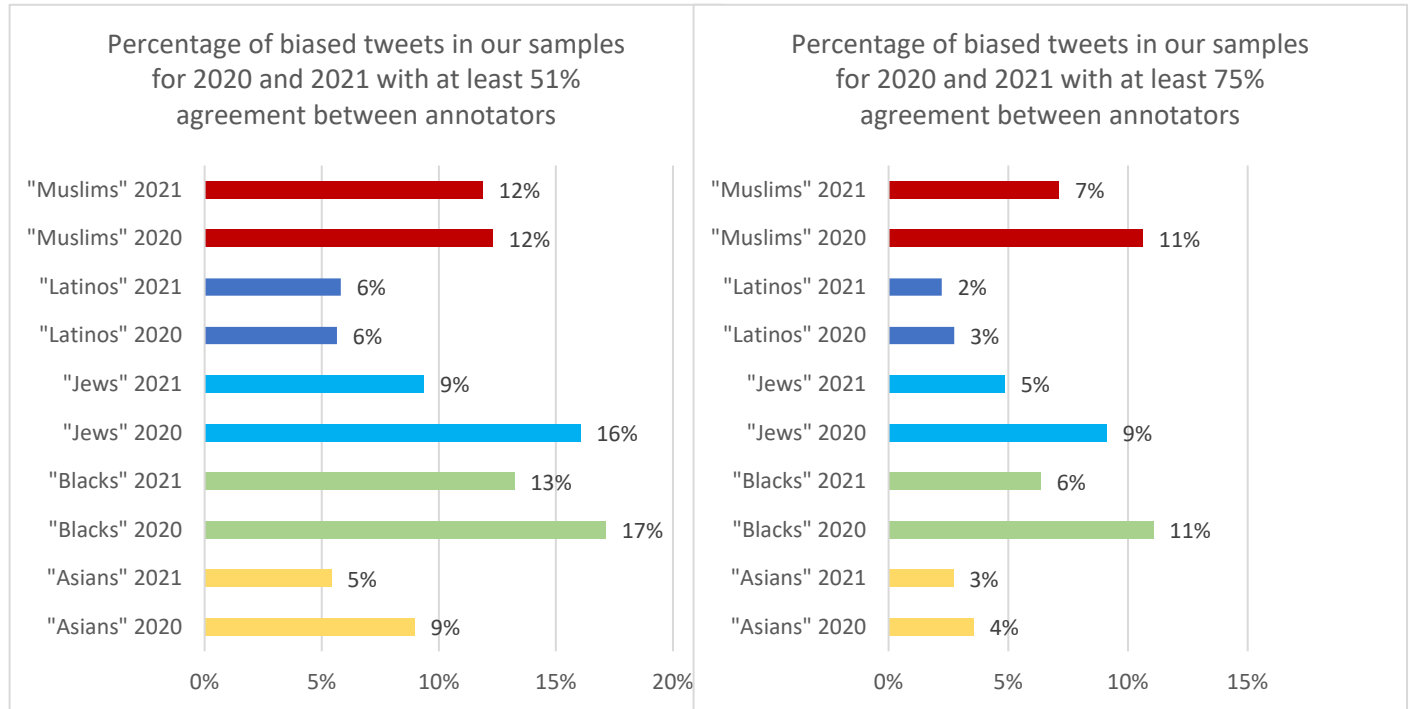
The average time it took annotators to label each tweet differed by keyword and year. This might be related to varying degrees of difficulties in labeling the tweets as biased or not biased. Conversations about Asians and Latinos took less time to annotate than conversations about Black people, Jews, and Muslims, see Table 2.

Table 2: Average time required to label one tweet

keyword	year	Average time required to label one tweet [sec.]
Asians	2020	52
Asians	2021	70
Blacks	2020	78
Blacks	2021	86
Jews	2020	83
Jews	2021	74
Latinos	2020	53
Latinos	2021	69
Muslims	2020	84
Muslims	2021	71

The percentages of biased tweets in the different representative samples were between 5 and 17 percent. Annotators saw the most biased tweets in conversations about Black people, Jews, and Muslims, followed by conversations about, Asians and Latinos, see Graph 1. However, the three terms “Blacks, Jews, and Muslims” are more colloquial than the terms “Latinos and Asians.” The former might be used more frequently than the latter by people who hold negative attitudes toward the respective minorities.

Graph 1: Percentage of biased tweets for 2020 and 2021 based on 50+ and 75+ agreement



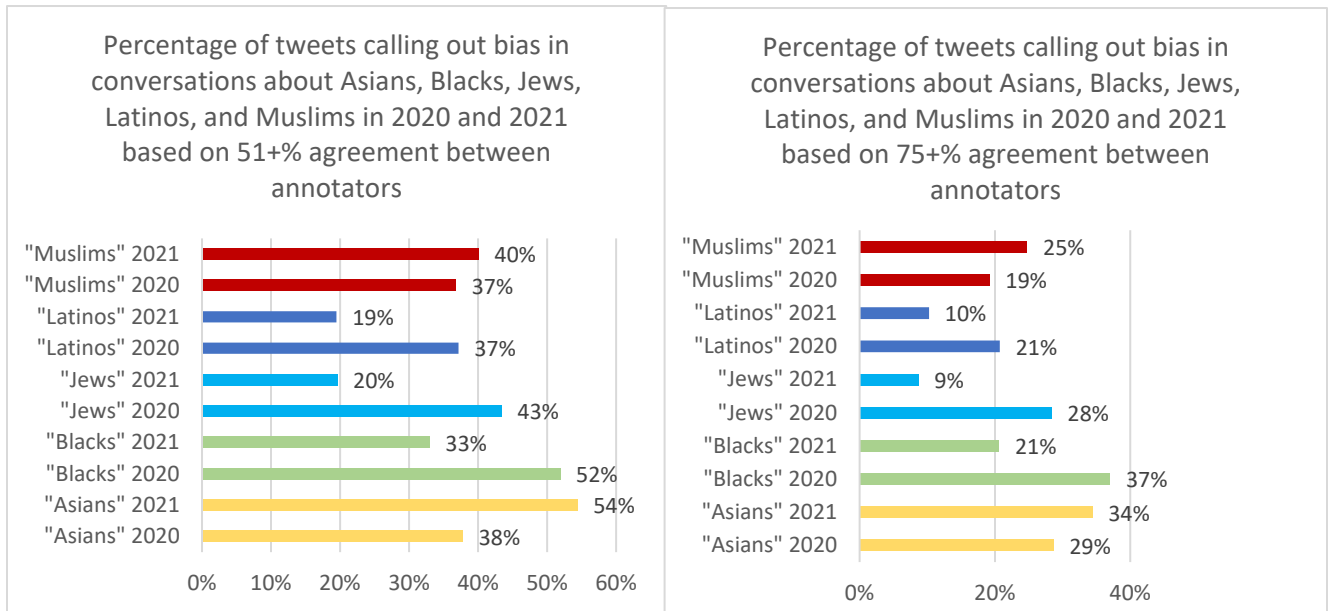
The percentages of tweets calling out bias were between 19 and 54 percent. Calling out bias against Black people was especially high in 2020 with more than half of the messages calling out bias. The same is true for conversations about Asians in 2021. In tweets about Muslims, the percentage of calling out bias stayed around 40 percent in both years.

In tweets about Jews, the percentage of calling out bias dropped from 43 percent to 20 percent in 2021, similar to conversations about Hispanics/Latinos where the percentage of tweets calling out bias dropped from 37 percent in 2020 to 19 percent in 2021, see Graph 2.

The margin of error for the percentage of biased tweets is between 2 and 3 percent (lower percentages have a lower margin of error) with a confidence level of 95 percent. The margin of error for the percentage of tweets calling out bias is between 3.1 and 4 percent.

However, annotators reported that they had difficulties in labeling discussions within minority groups, such as discussions among Latinos and Latinas about racism. Some annotators used the label “general hate” when they suspected bias but couldn't tell which biased argument would apply. A stricter definition of biases and a stricter application of the definitions might have reduced the percentage of biased tweets in all categories.

Graph 2: Percentage of tweets in 2020 and 2021 calling out bias against Asians, Black people, Jews, Hispanics/Latinos, and Muslims based on 50+ and 75+ agreement



When annotators identified a tweet as biased, they chose a section/paragraph that comes closest to the biased stereotype in the tweet as one of the examples in the respective definition, see annex I. Table 3 shows which sections were chosen most frequently. The three most frequently chosen sections are highlighted.

Table 3: Most frequently chosen sections of biased tweets

Anti-Asian tweets

bias section	1	2	3	4	5	6	7	8	9	10	11
2020	31%	3%	27%	5%	5%	3%	2%	4%	4%	0%	15%
2021	38%	9%	11%	7%	5%	2%	4%	8%	6%	2%	9%

Anti-Black tweets

bias section	1	2	3	4	5	6	7	8	9	10	11	12	13
2020	33%	10%	7%	13%	22%	3%	0%	3%	0%	0%	1%	0%	7%
2021	30%	11%	10%	14%	20%	1%	1%	4%	0%	0%	1%	0%	7%

Anti-Jewish tweets

bias section	1	2	3	4	5	6	7	8	9	10	11	12
2020	38%	9%	20%	4%	8%	2%	4%	3%	1%	5%	2%	4%
2021	41%	6%	15%	3%	3%	1%	2%	7%	4%	6%	3%	8%

Anti-Latino tweets

bias section	1	2	3	4	5	6	7	8	9

2020	17%	3%	14%	20%	0%	0%	0%	11%	33%
2021	30%	6%	17%	7%	0%	6%	0%	9%	25%

Anti-Muslim tweets

bias section	1	2	3	4	5	6	7	8	9
2020	41%	12%	15%	3%	14%	7%	3%	0%	6%
2021	34%	17%	15%	6%	11%	7%	2%	1%	7%

The three most frequently chosen sections in anti-Asian tweets were “Hatred against Asians (e.g., slurs),” “Blaming Asians in general or Chinese Americans for COVID,” and “Other anti-Asian stereotypes.”

The three most frequently chosen sections in anti-Black tweets were “Hatred against Black people (e.g., slur, promoting “White Power” or saying that Black people are evil),” “Stereotypical allegations about Black people (e.g., lazy, dirty, uneducated, stupid, criminal, drugs, drunkards, or violent),” and “Implying that black people are racially inferior or a threat to ‘the white race.’”

The most frequently chosen sections in anti-Jewish tweets were “Hatred towards Jews,” “Mendacious or stereotypical allegations about Jews + Jewish power,” and “Holding Jews collectively responsible for actions of the state of Israel,” almost equally with “Denying the fact, scope, mechanisms, or intentionality of the Holocaust.”

The most frequently chosen sections in anti-Latino tweets were “Other anti-Latinx/Hispanic/Mexican stereotypes” that did not fit any of the other sections, “Hatred against Latinx/Hispanic/Mexican (e.g., slur),” and “Xenophobic stereotypical allegations (e.g., illegal, “invaders,” don’t belong in the country, refuse to learn English, steal jobs),” closely followed by “Characterizing Latinx/Hispanics as criminal, lazy, uneducated, ungrateful, stupid, having too many children.”

The most frequently chosen sections in anti-Muslim tweets were “Hatred against Muslims (e.g., slur),” “Blaming all Muslims for terrorism and violence (e.g., blaming all Muslims for Islamist terror groups or associating all Muslim men with gang rape),” and “Justifying harming of Muslims (e.g., calling for the deportation of all Muslims),” closely followed by “Accusing the Muslims of aiming to destroy the West or non-Muslim societies (e.g. “Muslim invaders” for immigrants).”

Discussion and Conclusions

Our samples are representative of tweets that include the keywords “Asians, Blacks, Jews, Latinos, and Muslims.” However, they represent only a fraction of conversations about these minorities on Twitter because users also use other words to describe Asians, Black people, Jews, Hispanics/Latinos, and Muslims. However, in the conversations that include one of these terms, we find between five and 17 percent biased tweets. In 2020, there were an estimated 5.9 million tweets in such conversations that can be regarded as biased. In 2021 there were an estimated 3.4 million biased tweets. These estimations are based on live tweets only.

However, there were even more tweets that called out bias against these minorities in some form, according to our annotators. 18.4 million in 2020 and 10.9 million in 2021, see Table 4.

Table 4: Estimation of the number of biased tweets and the number of tweets calling out bias in conversations using one of 5 keywords (based on the majority of annotators agreeing on the same classification)

keywords	2020 all tweets	# biased	# calling out	2021 all tweets	# biased	# calling out	2020-2021 all tweets
Asians	3,032,357	272,398	1,146,128	4,234,231	229,653	1,600,396	7,266,588
Blacks	8,639,673	1,479,806	4,484,259	4,537,662	600,344	1,496,961	13,177,335
Jews	7,041,893	1,130,034	3,057,038	7,842,921	735,684	1,537,055	14,884,814
Latinos	3,330,940	188,221	1,237,695	1,118,889	65,029	218,040	4,449,829
Muslims	22,943,873	2,824,457	8,434,678	15,002,243	1,782,949	6,011,085	37,946,116
SUM	44,988,736	5,894,915	18,359,799	32,735,946	3,413,660	10,863,537	77,724,682

Table 5: Estimation of the number of biased tweets and the number of tweets calling out bias in conversations using one of 5 keywords (based on at least 75% of annotators agreeing on the same classification)

keywords	2020 all tweets	# biased	# calling out	2021 all tweets	# biased	# calling out	2020-2021 all tweets
Asians	3,032,357	107,931	868,590	4,234,231	114,827	1,212,856	7,266,588
Blacks	8,639,673	956,642	3,198,772	4,537,662	288,477	935,600	13,177,335
Jews	7,041,893	642,335	1,998,375	7,842,921	380,979	683,135	14,884,814
Latinos	3,330,940	91,259	690,143	1,118,889	24,864	114,758	4,449,829
Muslims	22,943,873	2,437,545	4,410,795	15,002,243	1,069,769	3,718,722	37,946,116
SUM	44,988,736	4,235,711	11,166,676	32,735,946	1,878,916	6,665,072	77,724,682

The percentage of biased tweets stayed at the same level in 2020 and 2021 for conversations about Muslims. It went down for conversations with all other keywords. The percentage of tweets calling out bias went down for some keywords and up for others. In 2021, a high percentage of tweets with the term “Asians” called out bias, perhaps because many users called out false accusations against Asians in the context of the Covid pandemic. In 2020, a high percentage of tweets with the term “Blacks” called out bias, perhaps as a result of the Black Lives Matter Movement.

The forms of stereotypes varied greatly between the different categories of biases. While about a third of all biased tweets were classified as “hatred” against the respective minority, Asians were blamed for the pandemic, Black people were associated with being lazy, dirty, uneducated, stupid, criminal, being drugs, drunkards, or violent, or it was implied that they were racially inferior or an alleged threat to ‘the white race.’ Jews were often associated with Jewish power and other stereotypical allegations about Jews and they were held collectively responsible for the actions of the state of Israel. Holocaust denial was also a frequent theme in antisemitic tweets. Between 25 and 33 percent of the anti-Latino tweets did not fit any of the proposed categories. However, Latinos were often seen as being illegal in the country, “invaders,” not belonging in the country, refusing to learn English, stealing jobs, or criminal,

lazy, uneducated, ungrateful, stupid, and having too many children. Muslims on the other hand were often blamed collectively for terrorism and violence, or for aiming to destroy the West. There were even justifications for harming Muslims, e.g., by calling for the deportation of all Muslims. However, many conversations about Muslims, including anti-Muslim content and tweets calling out bias against Muslims were related to India rather than the U.S.

Our definitions of bias against Asians, Black People, Hispanics/Latinos, and Muslims were relatively broad. They included examples of the most commonly held stereotypes about the respective communities and a category of “other stereotypes.” The definition of antisemitism did not provide this option. The percentages of biased tweets might have been smaller if we had used narrower definitions of biases.

Annex I: Definitions

Anti-Asian Bias

Anti-Asian bias is a certain perception of Asian people, which may be expressed as racial degradation or hatred toward Asians. Rhetorical and physical manifestations of anti-Asian bias are directed toward Asians or perceived Asian individuals and/or their property or toward Asian community institutions. Contemporary examples of anti-Asian bias in public life, the media, schools, the workplace, and in the religious sphere could, taking into account the overall context, include, but are not limited to the examples below.

This tweet is anti-Asian because one of these paragraphs applies (choose what fits best)

1. Hatred against Asians (e.g., slurs).
2. Justifying harming of Asians collectively (e.g., calling for deportation of all Asians)
3. Blaming Asians in general or Chinese Americans for COVID.
4. Claiming that Asian or Chinese people are a threat to "our" culture.
5. Using xenophobic language targeting Asians or Chinese ("flooding the country/institutions" or "go back to your country")
6. Characterizing all Asians/Chinese as cheaters, stupid, or bad drivers.
7. Associating all Asians with repulsive food culture (e.g., eating cats and dogs).
8. Making derogatory generalized claims based on physical attributes (e.g., skinny, "squinted eyes").
9. Stereotypical allegations about Asian women (e.g., "submissive," "promiscuous," exotic seductresses, predatory "gold diggers.")
10. Stereotypical allegations about Asian men (asexual, predators of white women).
11. "Positive" stereotyping (e.g., all Asians are intelligent or unduly privileged).
12. Other anti-Asian stereotypes (name in comments).

not biased according to the definition but denies that there is bias against Asians.



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Anti-Black Bias

Anti-Black bias is a certain perception of black people or African Americans, which may be expressed as racial degradation or hatred toward Blacks or African Americans. Rhetorical and physical manifestations of anti-Black bias are directed toward black or perceived black individuals and/or their property or toward black community institutions. Contemporary examples of anti-Black bias in public life, the media, schools, the workplace, and in the religious sphere could, taking into account the overall context, include, but are not limited to the examples below.

This tweet is anti-Black because one of these paragraphs applies (choose what fits best)

1. Hatred against Blacks (e.g., slur, promoting "White Power" or saying that Blacks are evil).
2. Justifying harming of black people collectively (e.g., "Blacks should go back to Africa").
3. Justifying racist policies in the past (e.g., segregation or slavery).
4. Implying that black people are racially inferior or a threat to "the white race."
5. Stereotypical allegations about Blacks (e.g., lazy, dirty, uneducated, stupid, criminal, drugs, drunkards, or violent).
6. Promoting myth of the "angry black woman" (aggressive, ill-tempered, illogical, overbearing, and hostile).
7. Promoting myth of black men as predators of white women.
8. Stereotypical physical images (e.g., big lips/butt/breasts, monkeys, savages).
9. Endorsing blackface.
10. Alleging that all Black people grow up without a father.
11. "Positive" stereotyping, such as all black people are good dancers, fast runners, or strong.
12. Claiming all black people share certain opinions/preferences, e.g., love watermelons or chicken.
13. Other anti-Black stereotypes (name in comments).

not biased according to the definition but denies that there is bias against Black people.



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Anti-Jewish Bias (Antisemitism)

Antisemitism is a certain perception of Jews, which may be expressed as hatred toward Jews. Rhetorical and physical manifestations of antisemitism are directed toward Jewish or non-Jewish individuals and/or their property, toward Jewish community institutions and religious facilities. (IHRA Working Definition of Antisemitism)

The tweet is antisemitic because one of these paragraphs applies (choose what fits best)

1. Hatred towards Jews.
2. Justifying harming of Jews in the name of a radical ideology.
3. Mendacious or stereotypical allegations about Jews + Jewish power.
4. Blaming Jews as a people for what a single person or group has done.
5. Denying the fact, scope, mechanisms, or intentionality of the Holocaust.
6. Accusing the Jews/Israel of inventing or exaggerating the Holocaust.
7. Accusing Jews of being more loyal to Israel or to "Jewish priorities."
8. Denying the Jewish people their right to self-determination, e.g., "Israel is racist per se."
9. Applying double standards to Israel (sth. that is not expected of other nations).
10. Classic antisemitism (e.g., blood libel) to characterize Israel or Israelis.
11. Drawing comparisons of contemporary Israeli policy to that of the Nazis.
12. Holding Jews collectively responsible for actions of the state of Israel.



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Anti-Latinx/Hispanic Bias

Anti-Latinx bias is a certain perception of Latinx or Hispanic people, which may be expressed as racial degradation, xenophobia, or hatred toward Latinx. Rhetorical and physical manifestations of anti-Latinx bias are directed toward Latinx/Hispanic or perceived Latinx/Hispanic individuals and/or their property or toward community institutions. Contemporary examples of anti-Latinx bias in public life, the media, schools, the workplace, and in the religious sphere could, taking into account the overall context, include, but are not limited to the examples below.

This tweet is anti-Latinx/Hispanic because one of these paragraphs applies (choose what fits best)

1. Hatred against Latinx/Hispanic/Mexican (e.g., slur)
2. Justifying harming of Latinx/Hispanics/Mexicans collectively (e.g., calling for deportation of all Latinx/Hispanics/Mexicans)
3. Xenophobic stereotypical allegations (e.g., illegal, "invaders," don't belong in the country, refuse to learn English, steal jobs)
4. Characterizing Latinx/Hispanics as criminal, lazy, uneducated, ungrateful, stupid, having too many children.
5. Characterizing Latinas as generally "virginal," "passive," or "dependent on men."
6. Characterizing Latinas as generally "hot-tempered," "tempestuous," "promiscuous," or exotic seductresses.
7. Promoting myth of Latinos as predators of white women.
8. Claiming that all Latinx/Hispanics are racist.
9. Other anti-Latinx/Hispanic/Mexican stereotypes (name in comments).

not biased according to the definition but denies that there is bias against Asians.



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Anti-Muslim Bias

Anti-Muslim bias is a certain perception of Muslim people, which may be expressed as hatred toward Muslims. Rhetorical and physical manifestations of anti-Muslim bias are directed toward Muslim or perceived Muslim individuals and/or their property or toward Muslim community institutions and religious facilities. Contemporary examples of anti-Muslim bias in public life, the media, schools, the workplace, and in the religious sphere could, taking into account the overall context, include, but are not limited to the examples below.

This tweet is anti-Muslim because one of these paragraphs applies (choose what fits best)

1. Hatred against Muslims (e.g., slur)
2. Justifying harming of Muslims (e.g., calling for deportation of all Muslims)
3. Blaming all Muslims for terrorism and violence (e.g., blaming all Muslims for Islamist terror groups or associating all Muslim men with gang rape).
4. Blaming Islam for Islamist/Jihadist terrorism and violence.
5. Accusing the Muslims of aiming to destroy the West or non-Muslim societies (e.g. "Muslim invaders" for immigrants)
6. Stereotypical allegations about Muslims (e.g., dirty, too many children).
7. Accusing all Muslims to oppress women.
8. Accusing Muslim men to have sex with animals, such as camels or goats.
9. Other anti-Muslim stereotypes (name in comments).

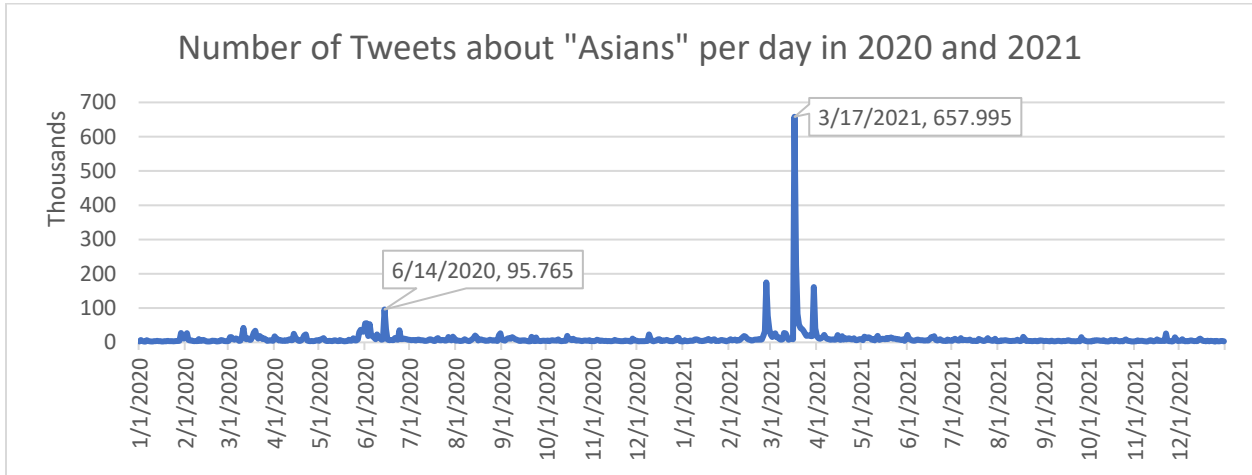
not biased according to the definition but denies that there is bias against Muslims.



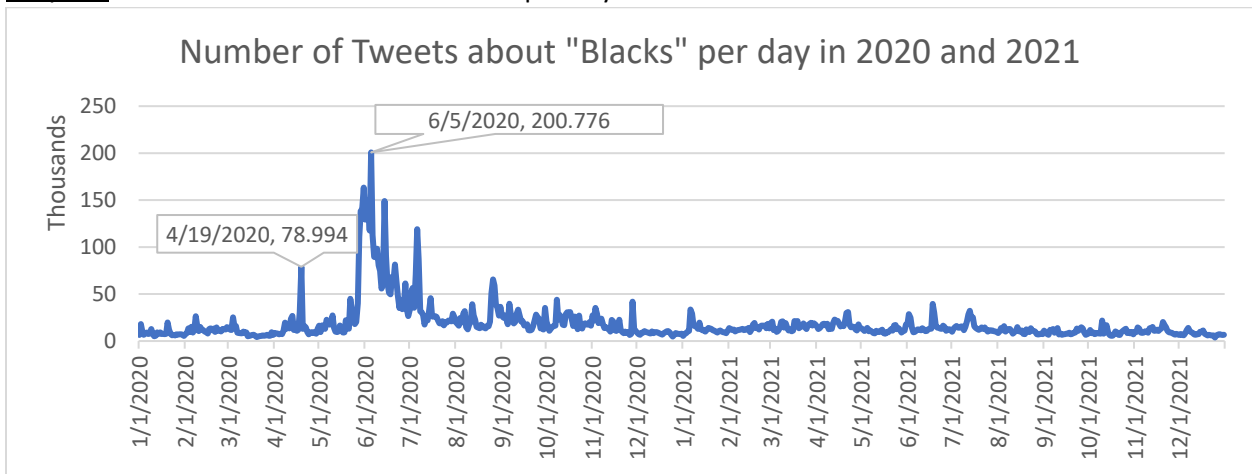
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Annex II: Timelines. Number of tweets per day for each keyword

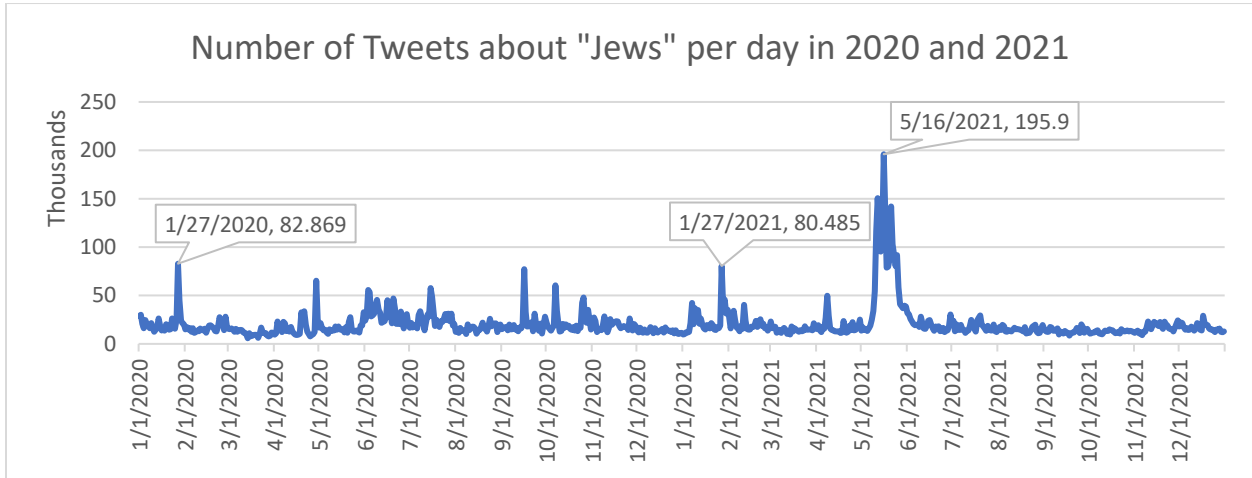
Graph 3: Number of Tweets about "Asians" per day in 2020 and 2021



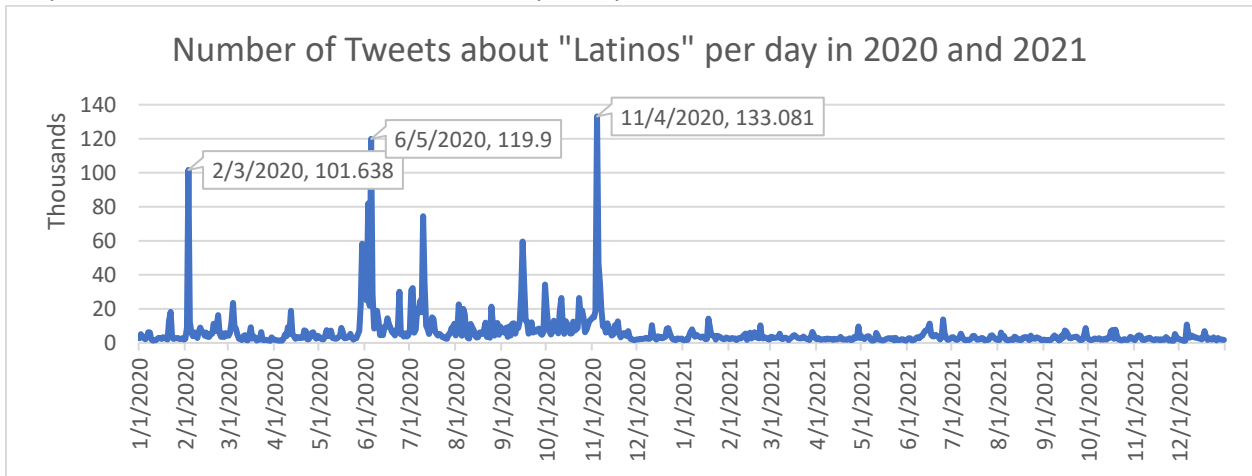
Graph 4: Number of Tweets about "Blacks" per day in 2020 and 2021



Graph 5: Number of Tweets about "Jews" per day in 2020 and 2021



Graph 6: Number of Tweets about "Latinos" per day in 2020 and 2021



Graph 7: Number of Tweets about "Muslims" per day in 2020 and 2021

