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National Politics on Twitter: Small Share of U.S. Adults Produce Majority of Tweets

Those who strongly disapprove of Trump produce majority of tweets from U.S. adults that mention national politics

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National Politics on Twitter: Small Share of U.S. Adults Produce Majority of Tweets

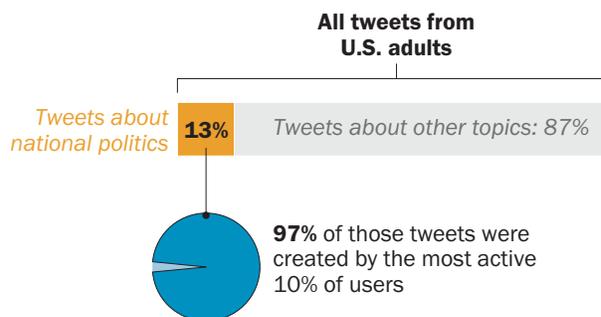
Those who strongly disapprove of Trump produce majority of tweets from U.S. adults that mention national politics

The social media platform Twitter plays a prominent role in how politicians, media outlets and advocacy organizations promote their agendas and engage with political issues. Although these entities represent a highly visible portion of the political Twitter ecosystem, less is known about the political tweeting habits of the [22% of the American public](#) that uses Twitter. A new Pew Research Center analysis sheds light on this question by collecting and analyzing the tweets of a random sample of U.S. adults with public Twitter accounts¹ over a period of one year surrounding the 2018 midterm elections (from June 10, 2018, through June 9, 2019).

The findings of this analysis paint a nuanced picture of just how prevalent political speech is among U.S. adults on Twitter. On one hand, 39% of users with public accounts tweeted at least once about national politics – which includes mentions of national politicians, institutions or groups, as well as civic behaviors such as voting – over the study period. On the other hand, national politics is a relatively small element of the total Twitter conversation among U.S. adults. Content explicitly related to these issues made up just 13% of all tweets analyzed over the year studied.

And [as our previous research found to be true](#) of Twitter content more broadly, this analysis finds that a small share of users produce the vast majority of content related to national politics: 97% of tweets from U.S. adults that mentioned national politics over the study period came from just 10% of users.

A small share of U.S. adults on Twitter produce most public tweets about national politics



Note: Tweets about national politics include those that reference national politicians, political groups or institutions, or political behaviors such as voting.
 Source: Survey of 2,427 U.S. adult Twitter users with public accounts conducted Nov. 21-Dec. 17, 2018. Tweets collected via Twitter API, June 10, 2018-June 9, 2019.
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¹ Because tweets from users with private accounts are only visible to their followers, they are not included in this analysis. For more detail on private accounts, see [this post](#).

Understanding the activity of U.S. Twitter users is challenging because the platform itself is global in scope and is used not just by individuals but also institutions, corporations and a variety of other entities. To address this challenge, the current project began with a large, nationally representative survey of American adults, asking each whether they used Twitter and would be willing to have researchers follow their activity on the platform.

A total of 2,427 respondents with public Twitter accounts participated in the survey; collectively, they produced more than 1.1 million tweets over the course of the study period (June 10, 2018-June 9, 2019). The Center used a guided machine learning model to classify each of these 1.1 million tweets as related to national politics or not (see [sidebar](#) and [methodology](#) for more details on this process and the types of content that are included in our definition of political tweets).

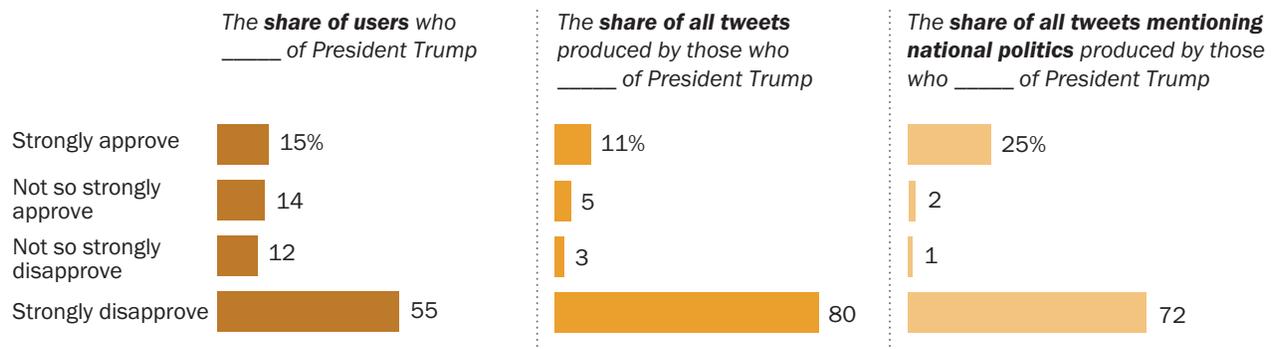
The study design helps to illustrate which types of users are most drawn to tweet about national politics in the first place. Most notably, those with intense views of President Donald Trump are among the most prolific political tweeters.

Tweets from users who strongly disapprove of Trump are especially prominent: This group generates 80% of all tweets from U.S. adults and 72% of tweets mentioning national politics. Those who strongly approve of Trump (who produce 11% of all tweets from U.S. adults) create 25% of tweets mentioning national politics. Taken together, strong disapprovers and strong approvers of Trump generate 97% of all tweets mentioning national politics from U.S. adults on Twitter. In interpreting these results, it is important to note that it was beyond the scope of this study to classify the share of tweets that explicitly mentioned the president, or that expressed particular views about his administration's policies. And as noted above, the definition of political tweets used in this analysis includes a wide range of phrases and hashtags not related to Trump.

The prevalence of tweets mentioning national politics from U.S. adults who strongly disapprove of Trump is tied to two factors. First, this group makes up a larger share of Twitter users than of the general public. The share of U.S. adults on Twitter who strongly disapprove of Trump (55%) is 7 percentage points higher than the [share of the general public](#) that holds this view (48%). Second, this group is more likely to tweet about national politics than others on Twitter. Strong disapprovers of Trump make up 55% of all U.S. adults on Twitter, but their frequency of tweeting about national politics results in them generating 72% of all the tweets about this topic from U.S. adults.

Those who strongly approve or disapprove of Donald Trump generate majority of public tweets from U.S. adults that mention national politics

Among U.S. adults with public Twitter accounts ...



Note: Tweets about national politics include those that reference national politicians, political groups or institutions, or political behaviors such as voting.

Source: Survey of 2,427 U.S. adult Twitter users with public accounts conducted Nov. 21-Dec. 17, 2018. Tweets collected via Twitter API, June 10, 2018-June 9, 2019.

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By contrast, U.S. adults who strongly approve of Trump are underrepresented on Twitter relative to their presence in the population as a whole: 15% of Twitter users strongly approve of Trump, compared with 29% of the general public. However, those who strongly approve of Trump are similar to those who strongly disapprove of him in that they also are more likely than other groups to tweet about national politics. Twitter users who strongly approve of Trump generate 25% of the political tweets that come from U.S. adults – larger than the share of all Twitter users they represent (15%).

Those who tweet about politics differ from those who avoid the topic or tweet infrequently

Pairing a survey with an examination of the Twitter behaviors of U.S. adults also allows for a comparison of the attitudes and characteristics of political tweeters with those of other Twitter users. Political tweeters – defined as those who tweeted at least five times in total, and at least twice about national politics, over the year of the study period – are almost twice as likely as other Twitter users to say the

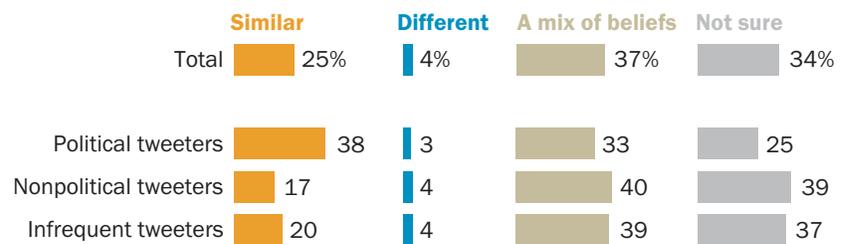
people they follow on Twitter have political beliefs similar to their own (38% of political tweeters say this, compared with around one-in-five among nonpolitical tweeters). By contrast, nonpolitical tweeters are more likely to say they aren't sure about the political beliefs of the people they follow or that they follow people with a mix of political views.

And greater engagement with national politics on Twitter is tied to political behaviors that extend beyond the social media platform. Those who tweet about politics are more likely than other users to report engaging in a variety of political activities, such as attending rallies and contacting elected officials.

Prior research by the Center has found that politically engaged Republicans and Democrats in the general public are more likely than less-engaged partisans to hold a [range of negative attitudes about the opposing party](#). And this new analysis indicates that partisans who tweet about national political issues tend to have colder views of the opposing political party relative to other users who are less politically active on the site. This difference is especially pronounced among Republicans: 51% of Republicans and those who lean toward the Republican Party who tweet about national politics give a very cold rating to Democrats, compared with about a third of Republicans on Twitter who don't tweet about politics.

U.S. adults who tweet about national politics more likely to say that most of the people they follow share their political views

% of U.S. adults with public Twitter accounts who say most of the people they follow on Twitter have ___ political beliefs



Note: Tweets about national politics include those that reference national politicians, political groups or institutions, or political behaviors such as voting. Political tweeters posted at least two such tweets (and at least five tweets total) during the study period.

Source: Survey of 2,427 U.S. adult Twitter users with public accounts conducted Nov. 21-Dec. 17, 2018. Tweets collected via Twitter API, June 10, 2018-June 9, 2019.

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Measuring whether or not tweets talk about ‘national politics’

A central challenge of identifying and analyzing political content (on Twitter or elsewhere) is that many types of speech or online activity might be deemed “political” in some form or fashion. The general concept of politics might encompass numerous actors at the federal, state or local levels, as well as issue-specific concepts ranging from abortion to immigration to taxes. In an effort to create a broadly reasonable and functional definition of what tweets are considered “political” for the purposes of this analysis, we chose to focus on tweets that **specifically mention or engage with national politics**.

For the purposes of this analysis, a tweet is considered to discuss national politics if it mentions or expresses support or opposition toward national politicians or elected officials, political parties, ideological groups or political institutions, or specific political behaviors like voting. This definition of political content **excludes** tweets that are solely about state or local politics. It also does not include general discussions of issues (even if those issues may be of national interest) unless they also include a mention of a national politician, party, institution or organized political behavior.

Researchers identified tweets about national politics using a two-step process. First, they used a custom text classification model to classify political tweets based on the language used in the tweet. As an example, tweets encouraging Americans to vote in a national election or using common political hashtags would be classified as political during this step. Second, researchers searched for mentions of the Twitter usernames of members of Congress and other notable national politicians. All tweets mentioning these usernames were classified as political. As a result, tweets that engage with national politicians on Twitter are classified as political even if the content of the tweet is otherwise not obviously political. For instance, a brief reply to a member of Congress saying “happy birthday” would be classified as being related to national politics.

It is important to note that this method may fail to correctly classify tweets that use irony, sarcasm, memes or images to convey feelings or ideas about national politics. In other words, this analysis captures only the specific subset of the larger political conversation on Twitter that involves overt or explicit discussion of, or engagement with, U.S. national politics.

Despite the bounded nature of this definition, the estimates produced by this model largely align with the self-reported tweeting behavior of participants in the survey. For those who say they never tweet about politics or have, but not recently, the model estimates that just 2% of their tweets mention national politics. But among those who say they have tweeted about politics within the previous 30 days, an estimated 26% of their tweets mentioned national politics.

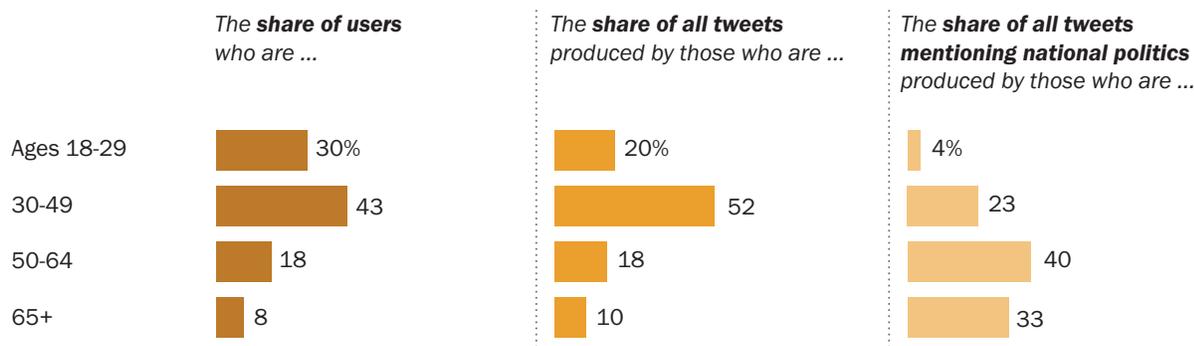
Older Americans produce sizable share of tweets by U.S. adults mentioning national politics

Reflecting the modest share of all Twitter users they represent, older adults on Twitter don't produce a great deal of the total content. But this group is much more inclined to talk about national politics in their tweets than younger users. Those ages 65 and older produce just 10% of all tweets from U.S. adults, but these older Twitter users contribute 33% of tweets related to national politics. More broadly, those 50 and older produce 29% of all tweets but contribute 73% of tweets mentioning national politics. By contrast, 18- to 29-year-olds produce 20% of all public tweets from U.S. adults, but just 4% of political tweets.

In addition to these age-related differences, Republicans who describe themselves as conservative

Americans 65 and older generate one-third of public tweets from U.S. adults that mention national politics

Among U.S. adults with public Twitter accounts ...



Note: Tweets about national politics include those that reference national politicians, political groups or institutions, or political behaviors such as voting.

Source: Survey of 2,427 U.S. adult Twitter users with public accounts conducted Nov. 21-Dec. 17, 2018. Tweets collected via Twitter API, June 10, 2018-June 9, 2019.

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and Democrats who indicate that they are liberal are more likely to tweet about national politics than others in their parties. Researchers used an [11-point scale](#) ranging from 0 ("very conservative") to 10 ("very liberal") to measure how individuals self-identified ideologically. Among Republicans and Republican leaners who identify as conservative (0-4) on the scale, 25% of tweets mention national politics. But just 9% of tweets from Republicans at the midpoint or liberal end of the scale (5-10) do the same.

Among Democrats and Democratic leaners, there is a similar pattern: 17% of tweets from Democrats who identify as liberal (6-10) on the scale mention national politics, compared with 5% among those who do not identify in this way (0-5).

The different types of Twitter users examined in this report

To compare the attitudes and behaviors of different types of Twitter users, researchers classified respondents to the survey into one of three categories based on how often they tweet in general, as well as whether they tweet about national politics.

Political tweeters are defined as those who tweeted at least five times over the study period, with a minimum of two of those tweets discussing national politics. About three-in-ten (31%) U.S. adults are in this group. Political tweeters are particularly likely to be Democrats: 67% of political tweeters identify as Democrats or lean toward the Democratic Party; 28% identify as Republicans or lean toward the GOP. The model used in this report estimates that 13% of all tweets produced by this group are political. Among those who say in the accompanying survey that they have tweeted about politics in the last 30 days, 78% meet our definition of a political tweeter based on their Twitter behavior. This group also contains some of the most active tweeters in the sample in terms of overall tweet volume.

Nonpolitical tweeters are defined as those who tweeted at least five times over the study period, but had no more than one tweet in that time that mentioned national politics. This group makes up 26% of U.S. adults on Twitter. Overall, 63% of nonpolitical tweeters identify as Democrats or lean toward the Democratic Party; 33% identify as Republicans or lean toward the GOP. Less than 1% of all tweets from this group are political in nature.

Infrequent tweeters are defined as those who tweeted fewer than five times in total over the year and includes those who did not tweet at all. Infrequent tweeters make up 43% of all U.S. adults on Twitter. Overall, 54% of infrequent tweeters identify as Democrats or lean toward the Democratic Party; 42% identify as Republicans or lean toward the GOP. This group accounts for fewer than 1% of all tweets produced by U.S. adults; 6% of their tweets are classified as political.

Political tweeters report visiting the site with great regularity: 73% of this group says they use the site at least once a day. The other two groups contain a smaller share of regular visitors to the site: 48% of nonpolitical tweeters and 33% of infrequent tweeters say that they use the site on a daily basis.

Political tweeters are more likely to follow other people who share their political views

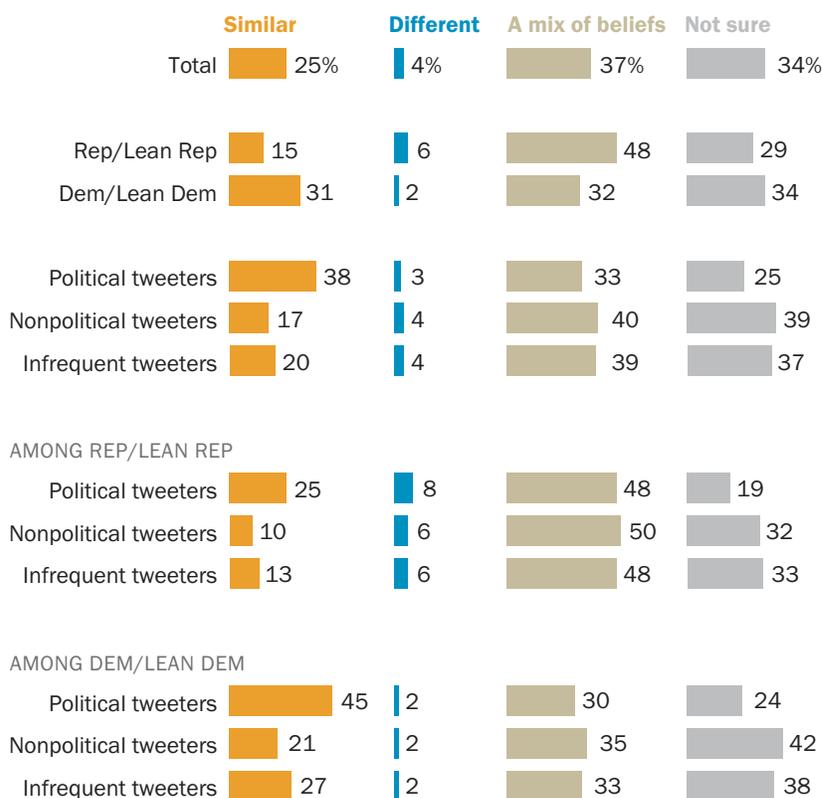
Most U.S. adults on Twitter report that they follow people with a mix of political views (37%) or that they don't know the political views of the people they follow (34%). A quarter (25%) say most of the people they follow on Twitter hold similar political views to their own, while just 4% say that most of the people they follow have political views that are different from theirs.

The above relationship – in which a majority of users follow either a mix of people with different beliefs or say they aren't sure of the political views of the people they follow – holds for the three types of Twitter users identified in this analysis (political tweeters, nonpolitical tweeters and infrequent tweeters). Still, the

share of Twitter users who say they follow people with political views similar to their own is much higher among those who tweet about national politics (38%) than it is among nonpolitical tweeters (17%) and those who tweet infrequently (20%). In part, this dynamic is driven by the fact that nonpolitical tweeters (39%) and those who tweet infrequently (37%) are more likely than political tweeters (25%) to say they don't know the political views of the people they follow.

U.S. adults who tweet about national politics are more likely than other users to say they follow people with similar political beliefs to their own

% of U.S. adults with public Twitter accounts who say most of the people they follow on Twitter have ___ political beliefs



Note: Tweets about national politics include those that reference national politicians, political groups or institutions, or political behaviors such as voting. Political tweeters posted at least two such tweets (and at least five tweets total) during the study period.

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Democrats and Democratic leaners on Twitter are about twice as likely as Republican and Republican-leaning users to say that most of the people they follow hold similar political views to theirs (31% vs. 15%). A previous [Pew Research Center report](#) found that Democrats make up a larger share of all Twitter users than of the general public overall.

Both Republicans and Democrats who tweet about national politics are more likely to say they follow people with similar political views than those who don't tweet about politics. However, reflecting differences between partisans among all Twitter users generally, a larger share of Democrats (45%) than Republicans (25%) who tweet about national politics say they mostly follow people with political views that are similar to their own.

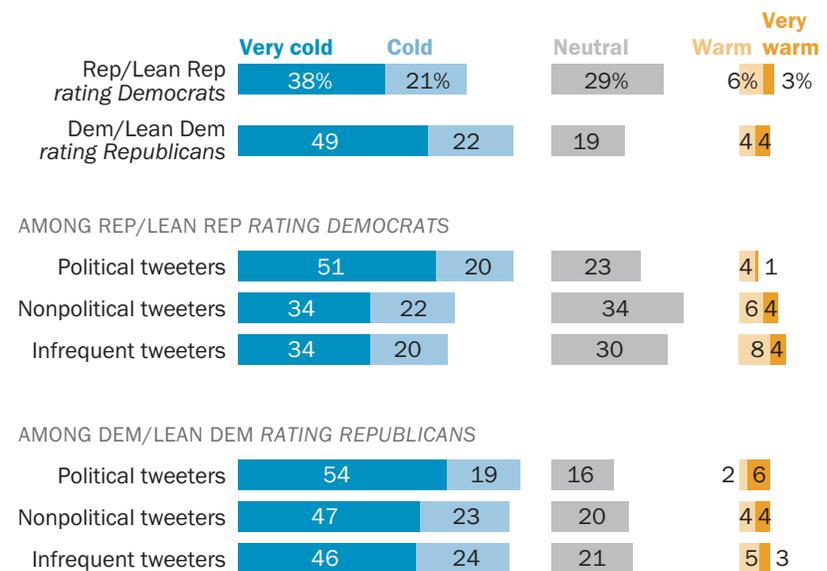
Political tweeters have 'colder' views of members of the other party

Partisans who tweet about national politics are more likely than those who do not to give members of the other party a "very cold" rating (a rating of less than 25 degrees on a 0-100 "feeling thermometer" scale).

This phenomenon is particularly prominent among Republicans: 51% of Republicans and Republican leaners who tweet about national politics give a very cold rating to Democrats – significantly higher than the shares of Republicans who don't tweet about politics.

Political tweeters are colder toward the other party than those who do not tweet about national politics

% of U.S. adults with public Twitter accounts who rate the *other party* as ...



Note: Tweets about national politics include those that reference national politicians, political groups or institutions, or political behaviors such as voting. Political tweeters posted at least two such tweets (and at least five tweets total) during the study period. Source: Survey of 2,427 U.S. adult Twitter users with public accounts conducted Nov. 21-Dec. 17, 2018. Tweets collected via Twitter API, June 10, 2018-June 9, 2019. "National Politics on Twitter: Small Share of U.S. Adults Produce Majority of Tweets"

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Among Democrats and Democratic leaners who tweet about national politics, 54% give a very cold rating to Republicans. Somewhat smaller shares of Democrats who don't tweet about national politics give an equally cold rating for members of the other party.

Greater levels of political activity and engagement among those who tweet about national politics

Those who tweet about national politics are more likely than those who do not to report engaging in a range of behaviors related to political activity and engagement.

For example, 35% of national political tweeters say they have contacted an elected official within the last year, compared with 14% of nonpolitical tweeters and 21% of infrequent tweeters. Political tweeters are also more likely than the other two groups to say they have attended a political rally or protest or contributed money to a candidate running for office in the last year.

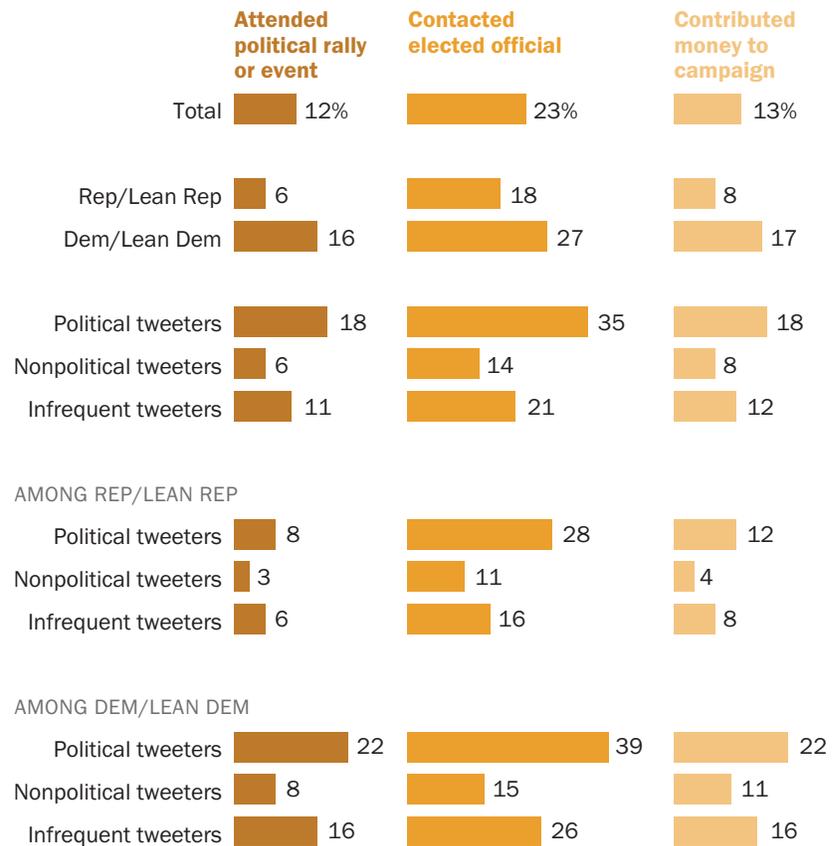
Within both political parties, national political tweeters are more likely to report engaging in political activity than nonpolitical tweeters.

Larger shares of Democratic political tweeters than Republican political tweeters

say they participated in each of the three types of political behavior measured in the survey. This pattern is consistent with [surveys of the general public conducted during the 2018 midterm election campaign](#), which found higher levels of political engagement among Democrats than Republicans.

Among U.S. adults on Twitter, tweeting about national politics is tied to higher levels of political activity

% of U.S. adults with public Twitter accounts who have ___ in the last year



Note: Tweets about national politics include those that reference national politicians, political groups or institutions, or political behaviors such as voting. Political tweeters posted at least two such tweets (and at least five tweets total) during the study period.

Source: Survey of 2,427 U.S. adult Twitter users with public accounts conducted Nov. 21-Dec. 17, 2018. Tweets collected via Twitter API, June 10, 2018-June 9, 2019.

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National political tweeters also are somewhat more likely than other Twitter users to say they regularly follow the news. About two-thirds of national political tweeters (65%) say they follow the news closely whether or not something important is happening, slightly larger than the shares of infrequent tweeters (59%) and nonpolitical tweeters (53%) who say the same.

U.S. adults on Twitter skeptical about the accuracy of news from social media sites

Most Twitter users (57%) say they expect the news they see on social media sites to be largely *inaccurate*; 41% expect the news they see on social media to be largely accurate.

However, political tweeters are more evenly divided: 48% expect the news they see on social media to be largely accurate, while a comparable share (51%) expects it to be largely inaccurate. Other Twitter users with public accounts are more skeptical: 64% of nonpolitical tweeters and 58% of infrequent tweeters say they approach news stories from social media sites with the expectation that they will be largely inaccurate.

Differences on this question are driven largely by views among Democrats.

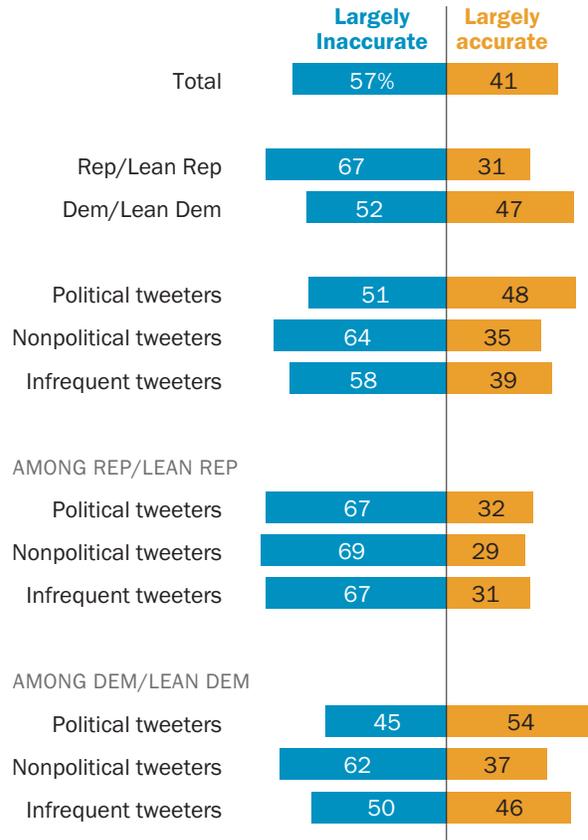
Democrats and Democratic leaners who tweet about politics are more likely than Democrats who don't tweet about politics and Democrats who are infrequent tweeters to say they expect news stories from social media sites to be largely accurate (54% compared with 37% and 46%, respectively).

However, there is no comparable relationship among Republicans and Republican leaners.

About two-thirds of Republicans across all three groups of Twitter users say they expect news stories from social media sites to be largely inaccurate.

Democrats who tweet about national politics less skeptical of social media news than other users

% of U.S. adults with public Twitter accounts who say they expect news stories from social media sites to be ...



Note: Tweets about national politics include those that reference national politicians, political groups or institutions, or political behaviors such as voting. Political tweeters posted at least two such tweets (and at least five tweets total) during the study period. Source: Survey of 2,427 U.S. adult Twitter users with public accounts conducted Nov. 21-Dec. 17, 2018. Tweets collected via Twitter API, June 10, 2018-June 9, 2019. "National Politics on Twitter: Small Share of U.S. Adults Produce Majority of Tweets"

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Among the general public, Republicans are far more likely than Democrats to express distrust in news organizations and rate the impact of the [national news media on the country negatively](#).

The most prolific political tweeters have behaviors and attitudes distinct from other U.S. adults on Twitter

As a group, political tweeters differ in numerous ways from those who tweet about nonpolitical topics and from those who rarely tweet at all. It's also the case that there are meaningful differences *within* the group of users who tweet about national politics. The most prolific political tweeters (defined as those who tweeted at least 10 times and mentioned national politics in at least 25% of those tweets) stand out even from other political tweeters (whose political tweets make up a smaller share of their total output). Prolific political tweeters make up just 6% of all Twitter users but generate 20% of all tweets and 73% of tweets mentioning national politics.

Compared with other political tweeters, even larger shares of these highly prolific users say they largely follow others on Twitter who share their political views (51%) and that they follow the news closely whether or not something important is happening (92%). And this group is highly active in more traditional forms of political activity: 57% have contacted an elected official in the last year, while 38% have made a political donation and 34% have attended a rally.

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Methodology

The analysis of Twitter users in this report is based on a nationally representative survey conducted from Nov. 21 to Dec. 17, 2018, among a sample of 2,791 U.S. adults ages 18 years and older who have a Twitter account and agreed to allow researchers to follow and report on that account. This study examines only the subset of respondents (N=2,427) who had public-facing accounts; [private accounts](#) are excluded. The margin of error for the full sample is plus or minus 3.3 percentage points.

The survey was conducted by Ipsos in English using KnowledgePanel, its nationally representative online research panel. KnowledgePanel members are recruited through probability sampling methods and include those with internet access and those who did not have internet access at the time of their recruitment (KnowledgePanel provides internet access for those who do not have it, and if needed, a device to access the internet when they join the panel). A combination of random-digit dialing (RDD) and address-based sampling (ABS) methodologies have been used to recruit panel members (in 2009 KnowledgePanel switched its sampling methodology for recruiting members from RDD to ABS). KnowledgePanel continually recruits new panel members throughout the year to offset panel attrition.

All active members of the Ipsos panel with an active Twitter account were eligible for inclusion in this study. In all, 4,829 panelists responded to the survey. Of that group, 3,649 (76%) confirmed that they used Twitter. Among confirmed Twitter users, 3,293 (90%) agreed to provide their Twitter username and complete the survey. Next, researchers reviewed each account and removed any that were nonexistent or belonged to institutions, products or international entities. Among the remaining 2,791 respondents who both completed the survey and provided a valid username (76% of confirmed Twitter users), 87% had public accounts. Of that set, 73% tweeted at least once during the time period of interest, a total of 1,760 individuals.

The complete sample of 2,791 adults was weighted using an iterative technique that matches gender, age, race, Hispanic origin, education, region, party identification, volunteerism, voter registration, and metropolitan area to the parameters of the [American Trends Panel](#) November 2018 survey of Twitter users. This weight is multiplied by an initial sampling, or base weight, that corrects for differences in the probability of selection of

Twitter survey sample characteristics

	Number of respondents
Invited to participate	4,829
Confirmed Twitter users	3,649
Provided handle	3,293
Provided valid handle	2,791
Public account	2,427
Tweeted at least once	1,760

Source: Survey of U.S. adult Twitter users conducted Nov. 21-Dec. 17, 2018. Tweets collected via Twitter API, June 10, 2018-June 9, 2019.

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various segments of Ipsos’s sample as well as by a panel weight that adjusts for any biases due to nonresponse and noncoverage at the panel recruitment stage using all of the attributes described above.

Sampling errors and statistical tests of significance take into account the effect of weighting at each of these stages. In addition to sampling error, question wording and practical difficulties in conducting surveys can introduce error or bias into the findings of opinion polls.

Determining whether tweets mention national politics

Researchers started by choosing to collect tweets for one year surrounding the 2018 U.S. midterm elections (Nov. 6, 2018) and the dates of survey administration (Nov. 21-Dec. 17, 2018). All tweets posted by respondents with public accounts between 12 a.m. on June 10, 2018, and 11:59 p.m. on June 9, 2019, were included in the analysis, for a total of 1,147,969 individual tweets.

Next, researchers developed a definition of the concept of interest: national politics. Through an iterative process, researchers arrived at the following classification instructions: Political tweets are “defined as tweets that mention, or express support or opposition toward: national politicians, political parties, ideological groups, or political institutions, as well as mentioning formal political behavior.”

Researchers used a custom support vector machine text classification model – similar to the one used to classify news articles as mentioning different topics in [this report](#) – to label tweets as political or not. The model began with a set of keywords, hashtags and word stems related to national politics. That list included: realdonaldtrump, barackobama, mcconnell, obama, trump, president, republican, gop, democrat, congress, senat, politi, government, campaign, elect, vote, voting, bluewave, bluetsunami, #maga, #resist, resistance, conservative, liberal, conservative, and bipartisan. Researchers used *regular expressions* (a method of text searching) to avoid keyword false positives (such as catching words like “#magazine” when searching the term “#maga”).

Researchers also developed a list of keywords that were likely to occur in false positives (tweets that might appear to be about national politics, but that did not actually mention the topic). These terms included words like celeb, entertainment, food, gossip, leisure, movie and music, among others.

When training the classification model, researchers removed all tweets that contained both matches to the list of political keywords *and* matches to the list of false positive keywords. Researchers applied sampling weights to correct for changes in the sample’s representativeness

that occurred as a result of this decision. Tweets that included words from the false positive list were included in the sample when making predictions and when evaluating the accuracy of the model.

Researchers estimated the model for an initial set of likely positive cases. Next, they applied a rule to override the model's predictions based on the Twitter usernames (official, personal or campaign) of members of Congress, automated account usernames (which individuals can use to tag members of Congress), as well as the usernames belonging to President Donald Trump and former President Barack Obama. Any tweet that mentioned the username of a member of Congress, Trump or Obama met the definition of the concept described above and was automatically classified as a positive case.

Finally, four researchers coded the same set of 1,000 tweets such that each tweet was coded twice by different individuals. Researchers calculated the Cohen's Kappa for agreement between the human coders. The Cohen's Kappa for inter-rater reliability ranged from 0.82 to 0.88 across the pairwise comparisons. Researchers also calculated inter-rater reliability with respect to the model predictions. The Cohen's Kappa for these pairwise comparisons ranged from 0.80 to 0.83.

Next, researchers combined the human codes in order to generate a list of 1,000 tweets that had been classified by two separate human coders (though not always the same two). In comparisons with the model's predictions, the first set of human codes had a Kappa of 0.81 and the second had a Kappa of 0.82.

The model avoided false negatives and consistently identified true positives. Using the first set of human codes, the model's precision was 0.89 and recall was 0.81. Using the second set of codes, precision was 0.87 and recall was 0.84.

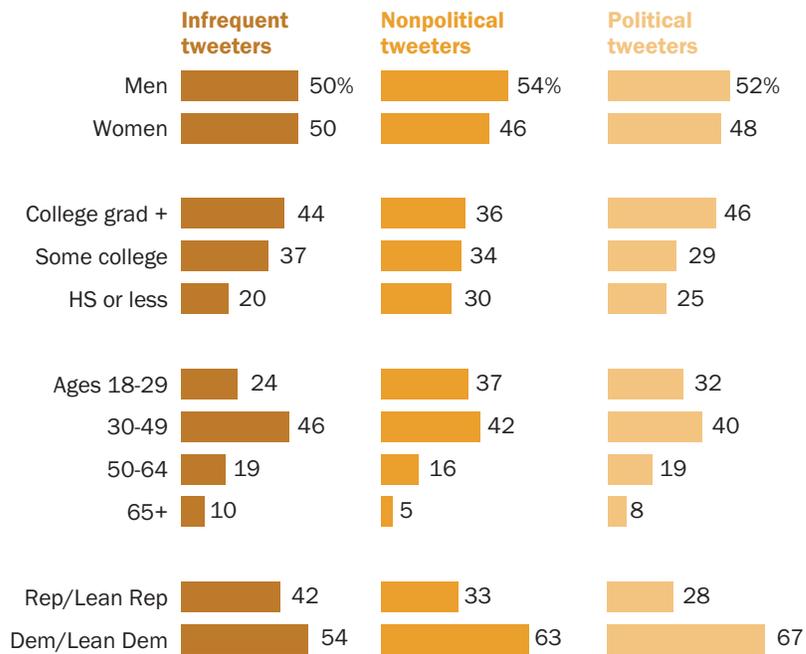
Twitter data collection and prolific tweeters

The Twitter API limits how many tweets researchers can collect from individual accounts. Across the sample of users included in this study, the research team could not collect a complete timeline of tweets created between June 10, 2018, and June 9, 2019, for 2% of the sample (a total of 44 accounts). Even when excluding these accounts from the analysis, the results remain consistent.

Appendix: Demographic profiles of Twitter user types

Demographic composition of national political tweeters and other users

% of U.S. adults with public Twitter accounts in each group who are ...



Note: Tweets about national politics include those that reference national politicians, political groups or institutions, or political behaviors such as voting. Political tweeters posted at least two such tweets (and at least five tweets total) during the study period.

“National Politics on Twitter: Small Share of U.S. Adults Produce Majority of Tweets”

Source: Survey of U.S. adult Twitter users with public accounts conducted Nov. 21-Dec. 17, 2018. Tweets collected via Twitter API, June 10, 2018-June 9, 2019.

PEW RESEARCH CENTER

Topline questionnaire

**PEW RESEARCH CENTER
SURVEY OF TWITTER USERS
TOPLINE FOR USERS WITH PUBLIC ACCOUNTS
NOVEMBER 21 – DECEMBER 17, 2018
TOTAL N=2,427**

ASK ALL:

TWITTER_USE About how often do you use or visit Twitter?

Nov 21- Dec 17 <u>2018</u>	
35	Several times a day
14	Once a day
21	A few times a week
6	Once a week
13	A few times a month
11	Once a month or less
*	Refused

ASK ALL:

POL1DT Do you approve or disapprove of the way Donald Trump is handling his job as President?

ASK IF ANSWERED POL1DT (POL1DT=1,2):

POL1DTSTR Do you [IF POL1DT=1: approve; IF POL1DT=2: disapprove] of the way Donald Trump is handling his job as President...

Nov 21- Dec 17 <u>2018</u>	
30	NET Approve
15	Very strongly
14	Not so strongly
*	Refused
68	NET Disapprove
55	Very strongly
12	Not so strongly
*	Refused
3	Refused

ASK ALL:

NEWSIMPT Which of the following best describes you? I follow the news closely...

Nov 21- Dec 17 <u>2018</u>	
40	Only when something important is happening
59	Most of the time, whether or not something important is happening
1	Refused

ASK ALL:
SNSSKEP

Which of the following best describes how you approach news stories from social media sites, even if neither is exactly right? I expect the news I see on social media will...

[RANDOMIZE RESPONSE LIST; CAPTURE RANDOMIZATION]

Nov 21-
Dec 17
2018

41	Largely be accurate
57	Largely be inaccurate
2	Refused

ASK ALL:
QBELIEF3

Now thinking about your friends or people you follow on Twitter:

Do most of the people you follow on Twitter have...

[RANDOMIZE ORDER OF RESPONSE OPTIONS 1 AND 2; CAPTURE RANDOMIZATION]

Nov 21-
Dec 17
2018

25	Similar POLITICAL beliefs to you
4	Different POLITICAL beliefs from you
37	A mix of POLITICAL beliefs
34	I'm not sure about their POLITICAL beliefs
1	Refused

ASK ALL:
THERMO

We'd like to get your feelings toward a number of groups in the U.S. on a "feeling thermometer." A rating of zero degrees means you feel as cold and negative as possible. A rating of 100 degrees means you feel as warm and positive as possible. You would rate the group at 50 degrees if you don't feel particularly positive or negative toward the group.

Please enter the "degree" or number between 0 and 100 that reflects your feelings in the box.

[Enter the number in the box between 0 and 100 that reflects your feelings]

[RANDOMIZE ORDER OF RESPONSE OPTIONS, KEEPING A AND B TOGETHER AND F, G, H TOGETHER; CAPTURE RANDOMIZATION]

	Rating of <u>0 to 24</u>	Rating of <u>25 to 49</u>	Rating of <u>50</u>	Rating of <u>51 to 75</u>	Rating of <u>76 to 100</u>	No <u>Answer</u>	Mean <u>rating</u>
a. Republicans							
Nov 21-Dec 17, 2018	33	16	22	13	13	2	40
b. Democrats							
Nov 21-Dec 17, 2018	19	11	24	19	25	2	53

ASK ALL:

PARTY In politics today, do you consider yourself a:

Nov 21- Dec 17 <u>2018</u>	
20	Republican
36	Democrat
29	Independent
12	Something else
2	No Answer

ASK IF PARTY=3,4 OR DID NOT RESPOND TO PARTY [N=863]:

PARTYLN As of today do you lean more to...

Nov 21- Dec 17 <u>2018</u>	
35	The Republican Party
55	The Democratic Party
10	No Answer

ASK ALL:

CIVIC_ENG_ACTYR

Here's a list of activities some people do and others do not. Please indicate if you have done each of the following activities in the past year.

[RANDOMIZE ITEMS AND RECORD ORDER]

	<u>Yes, in the past year</u>	<u>No, not in the past year</u>	<u>No Answer</u>
a. Attended a political rally, protest or campaign event			
Nov 21-Dec 17, 2018	12	87	1

b. Contacted any elected official				
Nov 21-Dec 17, 2018	23	76	1	
c. Contributed money to a candidate running for public office or to a group working to elect a candidate				
Nov 21-Dec 17, 2018	13	86	1	

PROGRAMMING NOTE: RANDOMLY ASSIGN HALF OF RESPONDENTS 'VERY LIBERAL' AT THE TOP AND 'VERY CONSERVATIVE' AT THE BOTTOM, OTHER HALF SEES THE REVERSE, ALWAYS KEEPING 10 AT THE TOP AND 0 AT THE BOTTOM EACH TIME.

ASK ALL:
IDEOSELF

Please click where you would place YOURSELF on the scale below. **[RANDOM HALF VERY LIBERAL AT THE TOP AND VERY CONSERVATIVE AT THE BOTTOM, OTHER HALF SEES THE REVERSE, ALWAYS KEEPING 10 AT THE TOP AND 0 AT THE BOTTOM EACH TIME. KEEP THE SCALE THE SAME FOR IDEODEM, IDEOREP, AND IDEOSELF.]**

Nov 21-	
Dec 17	
<u>2018</u>	
7	10 – Very liberal
5	9
8	8
13	7
10	6
26	5
9	4
7	3
5	2
3	1
5	0 – Very conservative
2	No Answer

ASK ALL:

POLTWEET Have you ever tweeted or retweeted about politics?

Nov 21-	
Dec 17	
<u>2018</u>	
58	No
26	Yes, but not in the last 30 days
15	Yes, in the last 30 days
1	No Answer