

# Fake news, Facebook ads, and misperceptions<sup>†</sup>

## Assessing information quality in the 2018 U.S. midterm election campaign

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### **Executive summary**

Concern has grown since the 2016 presidential election about the prevalence of misinformation in American politics and the ways social media has potentially exacerbated its reach and influence. In this report, we assess the quality and quantity of information flows during the 2018 midterm election campaign, focusing specifically on two new forms of media — “fake news” and political ads on Facebook. First, we examine visits to fake news websites. We find a substantial decline in the proportion of Americans who visited at least one fake news website in 2018 relative to 2016. However, evidence is mixed on changes in the average share of people’s information diets that comes from fake news websites. Our data also reveal that exposure to political ads on Facebook was limited relative to other types of advertising and concentrated among a subset of targeted users who frequently use Facebook. Finally, we provide new evidence of how frequently Americans believe fake and hyperpartisan news as well as misperceptions promoted by elites that circulated on social media during the campaign.

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## **Assessing new forms of political (mis)information in 2018**

Donald Trump's surprising victory in the 2016 U.S. presidential campaign has sparked an ongoing national debate about the quality of the political news and information that Americans consume and the sources from which they receive it. Many people are concerned about the ways in which social media and "fake news" websites help to spread misinformation and bypass the journalistic scrutiny provided by the mainstream press. Others fear the influence of new forms of political communication that receive less scrutiny and disclosure such as targeted advertising on Facebook and other social media platforms. This report represents a first assessment of the quality of the information that Americans received and the accuracy of the beliefs they expressed during the 2018 midterm election campaign. We focus on three areas of concern: visits to fake news websites; exposure to a new, unregulated form of targeted political advertising on Facebook; and belief in prominent misperceptions that were promoted by political elites and widely circulated on social media during the campaign.

First, widespread concern exists about the reach of factually dubious and highly partisan fake news websites, which circulated widely in the last few months of the 2016 election, reaching millions of people via Facebook sharing alone (Silverman 2016). Ultimately, Guess, Nyhan, and Reifler (2018) found that over a quarter of Americans (27.4%) visited at least one fake news website in the weeks prior to the 2016 election and that Facebook was instrumental in their dissemination. Fears about dubious online content have also been reinforced since November 2016 as the scope of Russian influence operations on social media continues to be revealed. The effects of this form of content are not known with certainty. In particular, scholars have reached conflicting conclusions about the likelihood that fake news and/or Russian interference altered the outcome of the 2016 election (Jamieson 2018; Sides, Tesler, and Vavreck 2018; Guess, Nyhan, and Reifler 2018). Regardless, concern is widespread among both citizens and scholars that fake news and other forms of for-profit and state-sponsored misinformation mislead people about the state of the world, distort the content of political debate, and inflame negative feelings toward opposing partisans.

Many observers are also worried about influence and potential misuse of online advertising, another novel form of political content. Collectively, political campaigns spend billions of dollars on advertising per election cycle. While most of this money goes into television ads, campaigns also pay for radio, direct mail, and other forms of advertising. In particular, data from the 2016 election suggests that a significant amount of political advertising spending now goes to Facebook and other forms of digital media, including 9% for the Clinton

campaign and 43% for the Trump campaign (Williams and Gulati 2018). These ads can be targeted to users based on their demographic characteristics in a way that is unlike traditional advertising in mainstream media outlets. They also are not publicly visible in the same way as those forms of advertising. Because these ads are unregulated and can be placed online, they are also vulnerable to abuse, including by Russia, though spending by the 2016 presidential campaigns on Facebook dwarfed the Russians' (Constine 2017).

Finally, the 2016 campaign reinforced fears about how widespread misinformation has become in our politics, how frequently misperceptions are promoted and exploited by elites, and how these can be amplified by new digital platforms and tools like fake news websites and social media. In a survey taken just after the 2016 election, for instance, the survey firm YouGov found that 46% of Trump voters endorsed the "Pizzagate" conspiracy theory that emerged from Reddit and 62% backed Trump's false claim that millions of illegal votes were cast in the election (Frankovic 2016). Similarly, 50% of Clinton voters endorsed the unproven conspiracy theory that Russia tampered with vote tallies to help Trump. Numerous steps have been taken since the 2016 presidential election to try to address these problems. Facebook, for instance, has entered into a partnership with third-party fact-checkers and has launched initiatives to limit the flow of fake news and misinformation on the platform (Lyons 2018). It has also placed new verification restrictions and disclosure requirements on political advertising (Perez 2018). Were efforts like these successful?

Building on our research into the 2016 election (Guess, Nyhan, and Reifler 2018), we assess these concerns in the context of the 2018 midterm campaign using unique data combining a national survey of Americans with behavioral web traffic data from participants' laptop and desktop computers. We also observe Facebook political advertising exposure among a subset of respondents. Though we cannot observe behavior on Facebook or mobile devices, these data still provide an unusually comprehensive portrait of Americans' information diets. Our results indicate that the proportion of Americans who visited at least one fake news website has declined since the 2016 campaign and that Facebook use is no longer closely linked to fake news exposure, though evidence is mixed on total consumption. Similarly, our data suggests that political ads make up a relatively small share of the advertisements seen by our respondents on Facebook. Finally, we report new polling results showing that Americans do, on average, distinguish between fake and hyperpartisan news and mainstream media coverage. However, a substantial fraction of Americans still endorse dubious and false claims, especially when those claims are politically aligned with their own ideological leanings.

## Results

### Fake news consumption

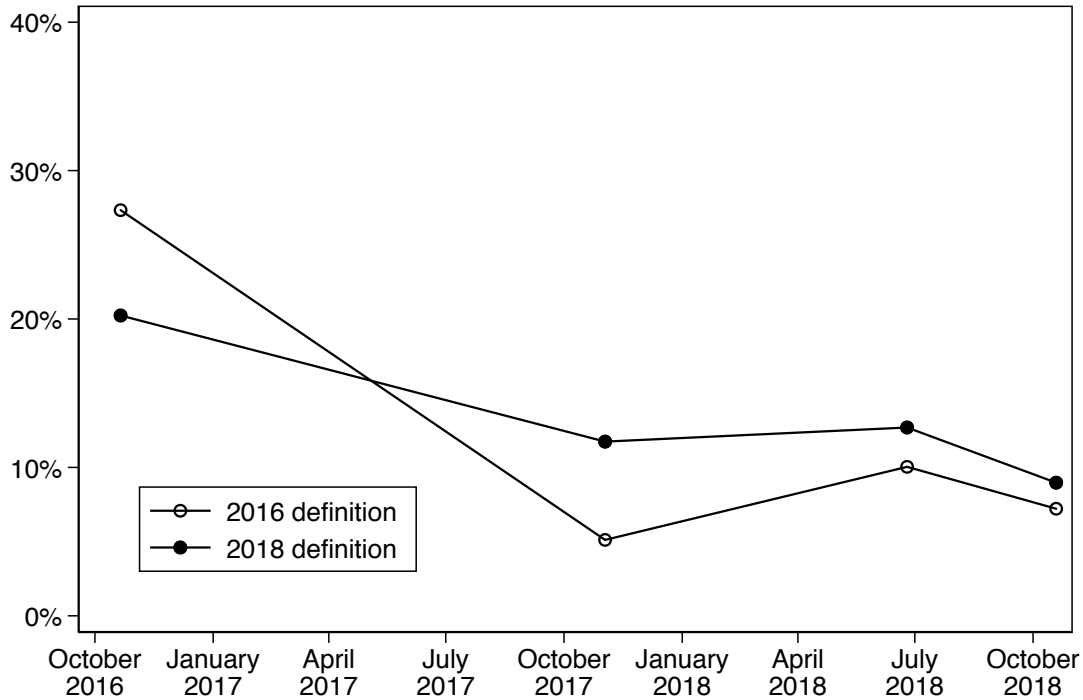
We first consider the prevalence of fake news consumption, which we assess using two measures — a binary measure of whether someone has visited any fake news domain (exposure) and a continuous measure of the percentage of people’s news diet that consists of fake news websites (consumption).

Behavioral data from the YouGov Pulse panel indicates that fake news exposure fell dramatically from 2016 to 2018.<sup>1</sup> These trends are shown in Figures 1 and 2, which present data that was collected during the following four periods: October 7–November 14, 2016 (“fall 2016”), October 25–November 21, 2017 (“fall 2017”), June 11–July 31, 2018 (“summer 2018”), and October 5–November 6, 2018 (“fall 2018”).<sup>2</sup> In fall 2016, 27% of Americans read an article from a fake news site on their laptop or desktop computer. The mean number of articles read was 5.5, which made up 1.9% of pages that Americans visited from websites focusing on hard news topics. In fall 2018, however, only 7% of the public read an article from a fake news site. On average, people read only 0.7 articles from these sites, which accounted for just 0.7% of the public’s news diet. In other words, the proportion of Americans consuming fake news and their total consumption of articles from fake news websites declined by approximately 75% between the 2016 and 2018 campaigns.<sup>3</sup>

The statistics described above rely on the definition of fake news websites that we used in our research on the 2016 election (we refer to this as the “2016 definition”; see Guess, Nyhan, and Reifler 2018). However, one possible explanation for the dramatic decline in fake news consumption we observe is that this list has gone out of date. Fake news entrepreneurs can enter or exit the market over time. Some may also shut down sites that have come under scrutiny and open new ones with a clean reputation. We therefore replicated our analysis with an updated set of websites (what we call the “2018 definition”).<sup>4</sup> We find consistent evidence that the proportion of Americans visiting fake news websites declined from 2016–2018 using both definitions. However, the trend over time as a proportion of people’s news diet is flat when we use the 2018 definition, suggesting that greater caution is necessary in interpreting changes in total fake news consumption.

Facebook played an outsize role in the spread of fake news in fall 2016. Guess, Nyhan, and Reifler (2018) found that more than one in five visits to fake news sites were immediately preceded by a visit to Facebook’s website (i.e., among the last three websites visited in the prior thirty seconds) — a pattern not observed for other platforms or for other types of infor-

Figure 1: Fake news visit rate over time (binary exposure)

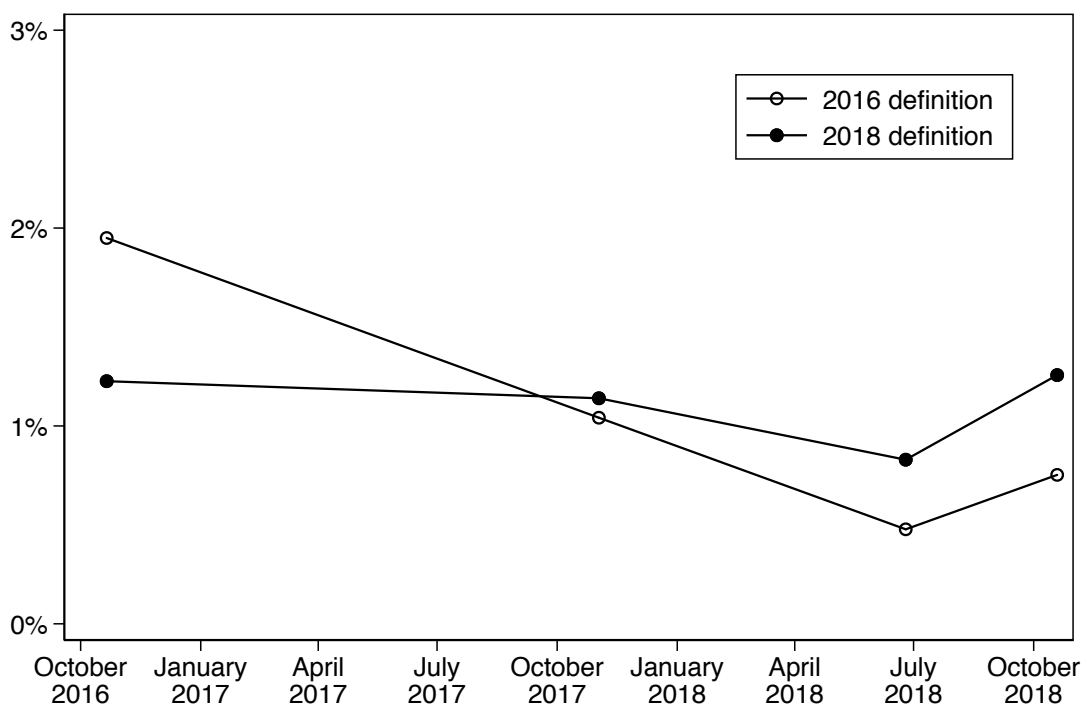


Online traffic statistics among YouGov Pulse panel members with survey weights applied. Fake news consumption is measured as visiting domains that were coded as pro-Trump or pro-Clinton from those identified in Allcott and Gentzkow 2017 (2016 definition) or pro-Democrat or pro-Republican from among those identified by Allcott, Gentzkow and Yu 2018 (2018 definition).

mation. While Facebook remains an important mechanism of fake news dissemination, its role has been dramatically reduced. As Figure 3 indicates, we no longer observe this pattern in summer or fall 2018 — Facebook is not differentially likely to appear in prior website visits for fake news during these periods compared to other types of content or other platforms.<sup>5</sup>

Visits to fake news sites were not evenly distributed across the population, however. As in fall 2016, we find that fake news consumption in fall 2018 was disproportionately concentrated among the 10% of Americans with the most conservative news diets, which we measure by taking the average estimated ideological slant of the webpages people visited.<sup>6</sup> Fake news sites that were pro-Trump in 2016 were consumed much more frequently overall than those that supported Hillary Clinton, but as Figure 4 demonstrates, this differential is concentrated among the decile of news consumers with the most conservative news diets. Among this group, 42% visited at least one pro-Trump fake news site in fall 2018 (compared to 0.8–6.5% for the other nine deciles). Pages from these sites made up 3.2% of the information diets for

Figure 2: Fake news visits as proportion of news diet over time

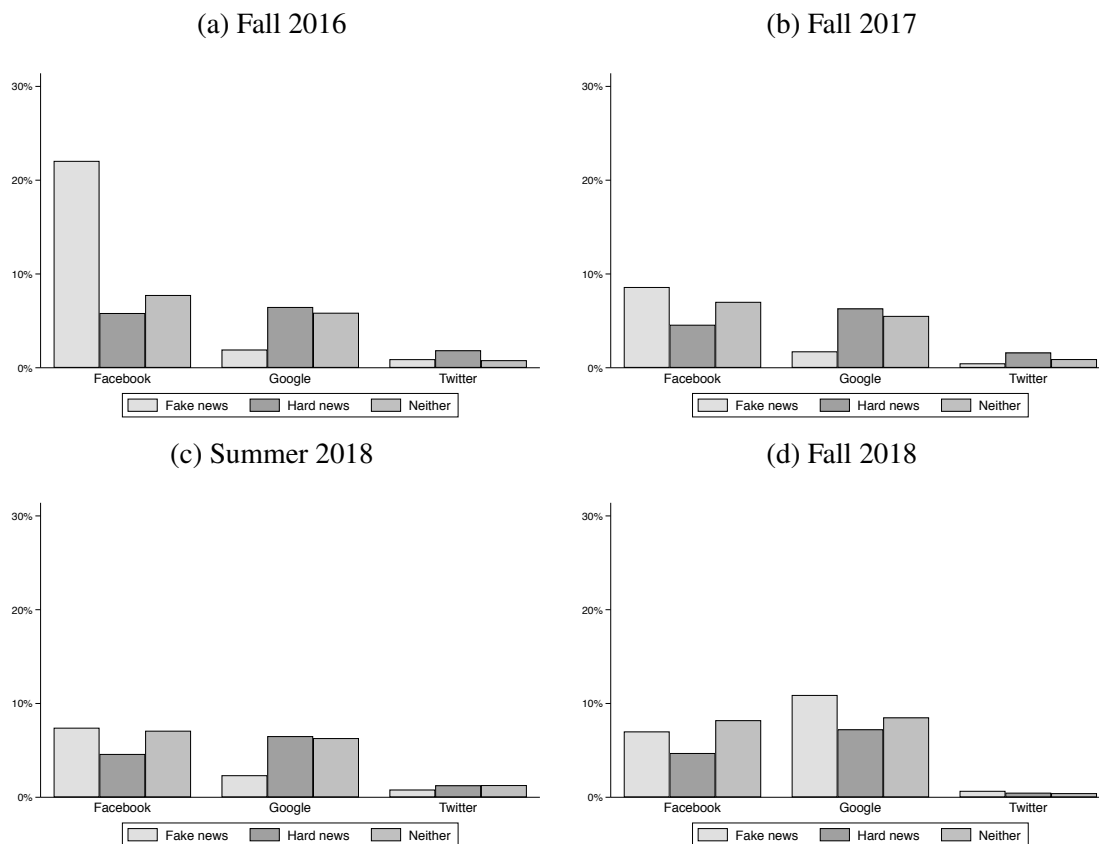


Online traffic statistics among YouGov Pulse panel members with survey weights applied. Fake news consumption is measured as visiting domains that were coded as pro-Trump or pro-Clinton from those identified in Allcott and Gentzkow 2017 (2016 definition) or pro-Democrat or pro-Republican from among those identified by Allcott, Gentzkow and Yu 2018 (2018 definition).

people in the most conservative decile of information consumption (versus 0.1%–1.2% for the other deciles).<sup>7</sup> As a result, this group dominates fake news consumption, accounting for about six of every ten visits to fake news sites overall in fall 2018, which is unchanged in relative terms from fall 2016.<sup>8</sup>

In Table 1, we show the top 10 fake news domains overall and by party for both fall 2016 and 2018. The lists reveal that some fake news domains were among the most visited for both Democrats and Republicans. In 2016, *ijr.com* was the fake news domain that received the most visits overall, ranking first among Republicans and second among Democrats (*bipartisanreport.com* received the most traffic by far among Democrats). In 2018, *dailywire.com* received the most visits overall and was the most visited site among both Democrats and Republicans. Across both years, Democrats accounted for far fewer page visits to fake news domains than Republicans.

Figure 3: Referrer estimates by source and content type (2016 definition)



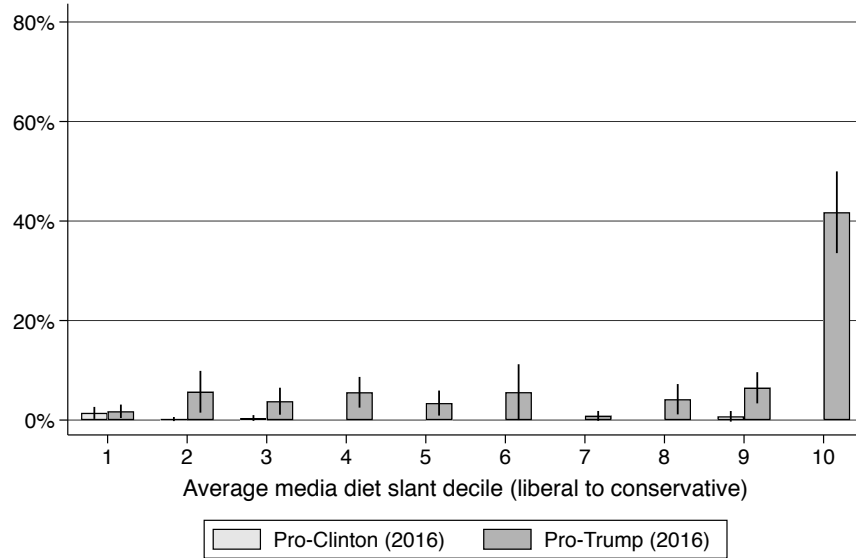
Online traffic statistics among YouGov Pulse panel members with survey weights applied. Hard news consumption is defined as a visit to a site whose topical focus was classified as hard news by Bakshy, Messing, and Adamic 2015 (after excluding Amazon.com, Twitter, and YouTube). Fake news consumption is measured as visiting domains that were coded as pro-Trump or pro-Clinton from those identified in Allcott and Gentzkow 2017. Facebook, Google, or Twitter were identified as a referrer if they appeared within the last three URLs visited by the user in the thirty seconds prior to visiting the article.

## Political ads on Facebook

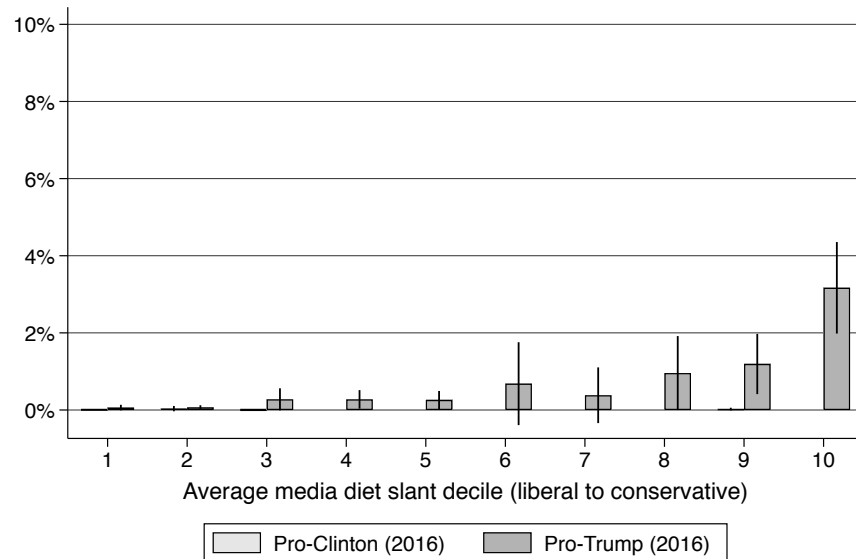
Another new source of political (mis)information is paid advertising on social media. In particular, there was a substantial amount of paid political advertising on Facebook in 2016 even though the ads received little scrutiny from the company. Kim et al. (2018) estimate that users were receiving approximately twelve political ads *per day* on Facebook (data from about 10,000 participants over a six-week period identified over 5,000,000 political ad impressions). Overall, the company reports that approximately \$400 million was spent on political

Figure 4: Visits to fake news websites by selective exposure tendencies

(a) Fake news visit (binary)



(b) Fake news visits as proportion of news diet



Online traffic statistics for the October 2018 period among YouGov Pulse panel members with survey weights applied (includes 95% confidence intervals). Fake news consumption is measured as visiting domains that were coded as pro-Trump or pro-Clinton from those identified in Allcott and Gentzkow 2017 (2016 definition). Average media diet slant decile constructed using the measure from Guess 2018 with survey weights applied.



Table 1: Top fake news domains: Comparing fall 2016 to fall 2018

All (2016)		Democrats (2016)		Republicans (2016)	
Domain	Total visits	Domain	Total visits	Domain	Total visits
1 ijr.com	4361	bipartisanreport.com	1896	ijr.com	3130
2 bipartisanreport.com	2131	ijr.com	201	angrypatriotmovement.com	1202
3 angrypatriotmovement.com	1480	endingthefed.com	162	redstatewatcher.com	992
4 redstatewatcher.com	1135	greenvillegazette.com	76	endingthefed.com	792
5 endingthefed.com	1109	redstatewatcher.com	50	usherald.com	538
6 conservativepost.com	597	embols.com	39	conservativepost.com	529
7 usherald.com	573	truthfeed.com	38	chicksontheright.com	428
8 chicksontheright.com	542	dailywire.com	37	tmn.today	323
9 dailywire.com	475	worldpolitical.com	36	libertywritersnews.com	309
10 truthfeed.com	430	usanewsflash.com	21	dailywire.com	307

All (2018)		Democrats (2018)		Republicans (2018)	
Domain	Total visits	Domain	Total visits	Domain	Total visits
1 dailywire.com	1322	dailywire.com	67	dailywire.com	1111
2 ilovemyfreedom.org	179	bipartisanreport.com	28	ilovemyfreedom.org	171
3 conservativepost.com	165	dailyoccupation.com	4	conservativepost.com	126
4 tmn.today	42	tmn.today	2	tmn.today	39
5 bipartisanreport.com	33	awarenessact.com	1	ijr.com	19
6 ijr.com	20	ilovemyfreedom.org	1	ipatriot.com	10
7 ipatriot.com	10			truthfeed.com	4
8 awarenessact.com	5			conservativefiringline.com	2
9 conservativefiringline.com	4			awarenessact.com	1
10 dailyoccupation.com	4			bipartisanreport.com	1

Online traffic statistics among YouGov Pulse panel members. Fake news consumption is measured as visiting domains that were coded as pro-Trump or pro-Clinton from among those identified by Allcott and Gentzkow 2017 (2016 definition).

advertising on its platform in the United States during the campaign (Facebook 2018).<sup>9</sup> Subsequent revelations about misleading Facebook ads, including Russian influence operations, have reinforced broader concerns about the lack of transparency in advertising on the site. In response, the company recently put new rules in place to try to better regulate political advertising (Lyons 2018).

In the second wave of our fall 2018 survey, which was fielded from October 30–November 5, 2018, we asked respondents to report on their experience with Facebook ads and how they felt about them. In total, 38% of Americans recalled seeing one or more Facebook ads about politics or the campaign in the three days prior to taking the survey. Specifically, 9% recalled seeing 1–2 ads, 12% recalled seeing 3–5 ads, and 16% recalled seeing six or more. These volumes were relatively low by comparison to other media according to our respondents, however — 78% said they saw many or somewhat more ads on television. When respondents were asked about the Facebook ad they remembered best, 60% reported seeing it on a laptop or desktop computer. Finally, respondents had mixed but relatively positive feelings about how much political advertising they saw on Facebook during the campaign — a plurality of 46% said it was the right amount, though 41% said it was too much.

To better understand the role of Facebook advertising in the 2018 election campaign, we partnered with the non-profit investigative news organization ProPublica, which has developed an extension for the Chrome and Firefox web browsers that captures all advertisements that users see on Facebook along with associated metadata.<sup>10</sup> Facebook users in our fall 2018 survey who use Chrome or Firefox were given the opportunity to voluntarily install this software in exchange for additional compensation, allowing us to capture political ads for respondents from October 19 through Election Day. These data allow us to provide an objective measure of the frequency and types of Facebook ads that many Americans were exposed to in the period immediately before the midterm election.<sup>11</sup> We face inherent limitations in our ability to generalize how many political ads were in people’s Facebook feeds by just analyzing data from those using laptop and desktop computers and specific browsers. Moreover, any comparisons to 2016 must be considered as merely suggestive because our data collection procedures differ from the ones used by Kim et al. (2018) in important ways. Still, these results do provide some important insights.

Before discussing our findings using ad tracker data, we define two key terms: impressions and ads. An impression is a viewing of an advertisement; an ad (typically) refers to a distinct campaign communication purchased by a sponsor. If a respondent sees the same ad twice, we treat that as two impressions of one ad. When we report impressions, we are referring to

the total number of times that a respondent sees paid political content (i.e., one or more ads). When we report ads, we are instead referring to the number of different unique pieces of paid political content that people have seen regardless of the number of impressions.

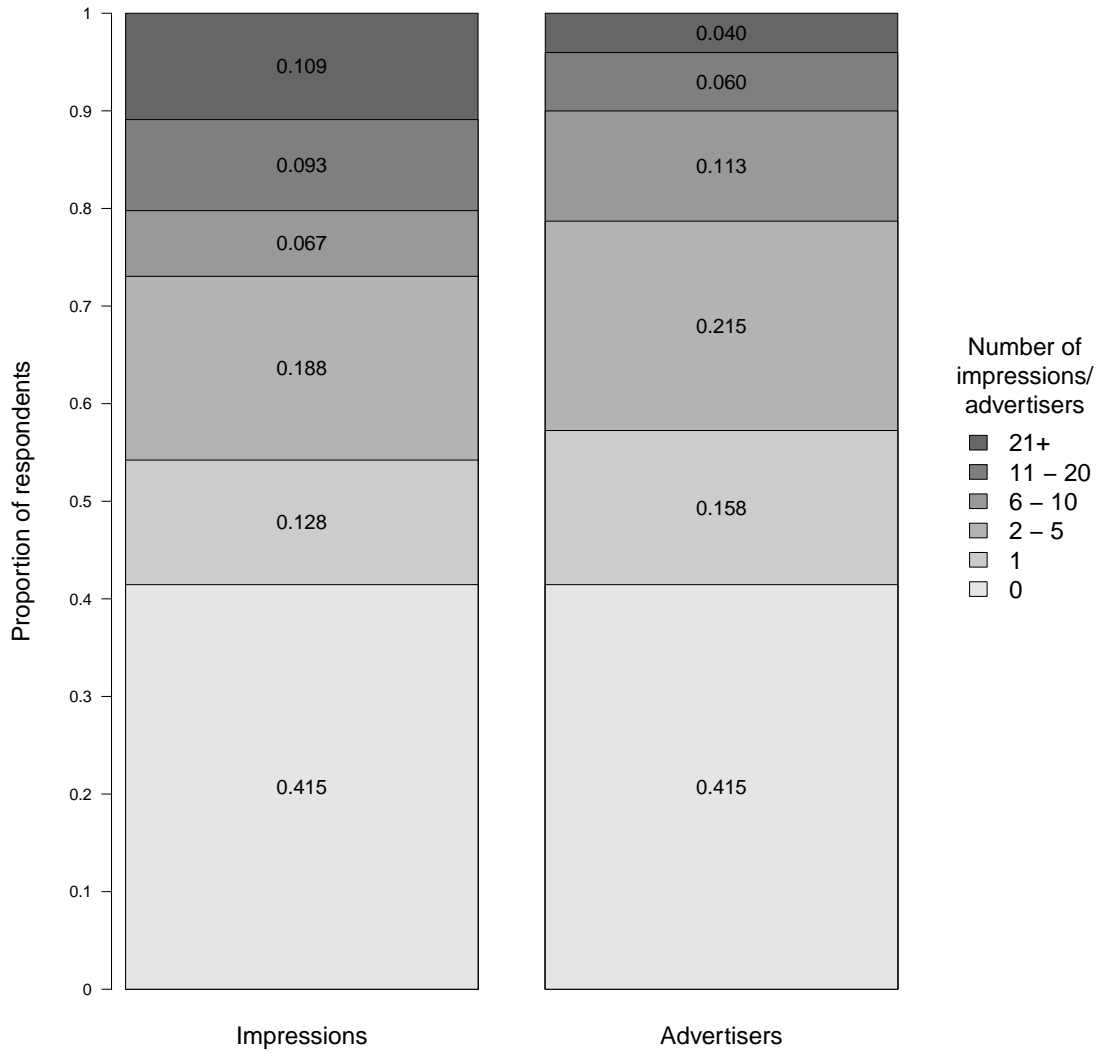
Overall, we have advertisement tracking data for 685 panelists (26% of the survey respondents for whom web traffic data is available). At the aggregate level, these 685 respondents had a total of 5,159 political ad impressions, an average of only about 7.3 impressions per person over the entire time period of twenty days.<sup>12</sup> In other words, our respondents only saw 0.38 political ads per day on average on Facebook in their browsers in the period just before the 2018 election. This finding suggests that the amount of political advertising users saw on Facebook declined from 2018 to 2016, although it is difficult to be certain given the data limitations and comparability concerns noted above. However, it is notable that 41.5% of those for whom we have ad traffic data had zero impressions of political ads (that is, they saw no political advertisements). An additional 13% had just one impression of a political ad. (See Figure 5 for impressions and advertisers by respondent.)

However, many respondents simply did not see very many ads of any kind on Facebook, presumably because they rarely visit the site or do so on their phones or in other browsers. Figure 6 therefore instead displays the proportion of ads seen by respondents that were political, broken down by how many ads (including non-political ads) users saw in this period. The left side of the figure shows people who saw very few ads overall; most of the ads these respondents saw were non-political. The right side shows that political advertising was more common among more frequent Facebook users who were exposed to more ads overall. Among the roughly 30% of respondents who saw at least 50 ads, 39% had advertising feeds that consisted of at least 10% political ads.<sup>13</sup>

Our panelists saw 4,215 unique ads, and the average person saw 6.9 unique ads. It is interesting that the number of unique ads is so close to the total number of impressions. This finding suggests that our panelists likely did not accumulate many impressions on any single ad, which in part reflects the fact that many unique ads from the same advertiser have tiny differences in actual text and content. In addition, most respondents saw a large variety of ads from numerous sponsors whose messages were often shown only a few times to our sample. Specifically, there were 1,175 total advertisers; on average, our panelists saw ads from 3.7 different advertisers.

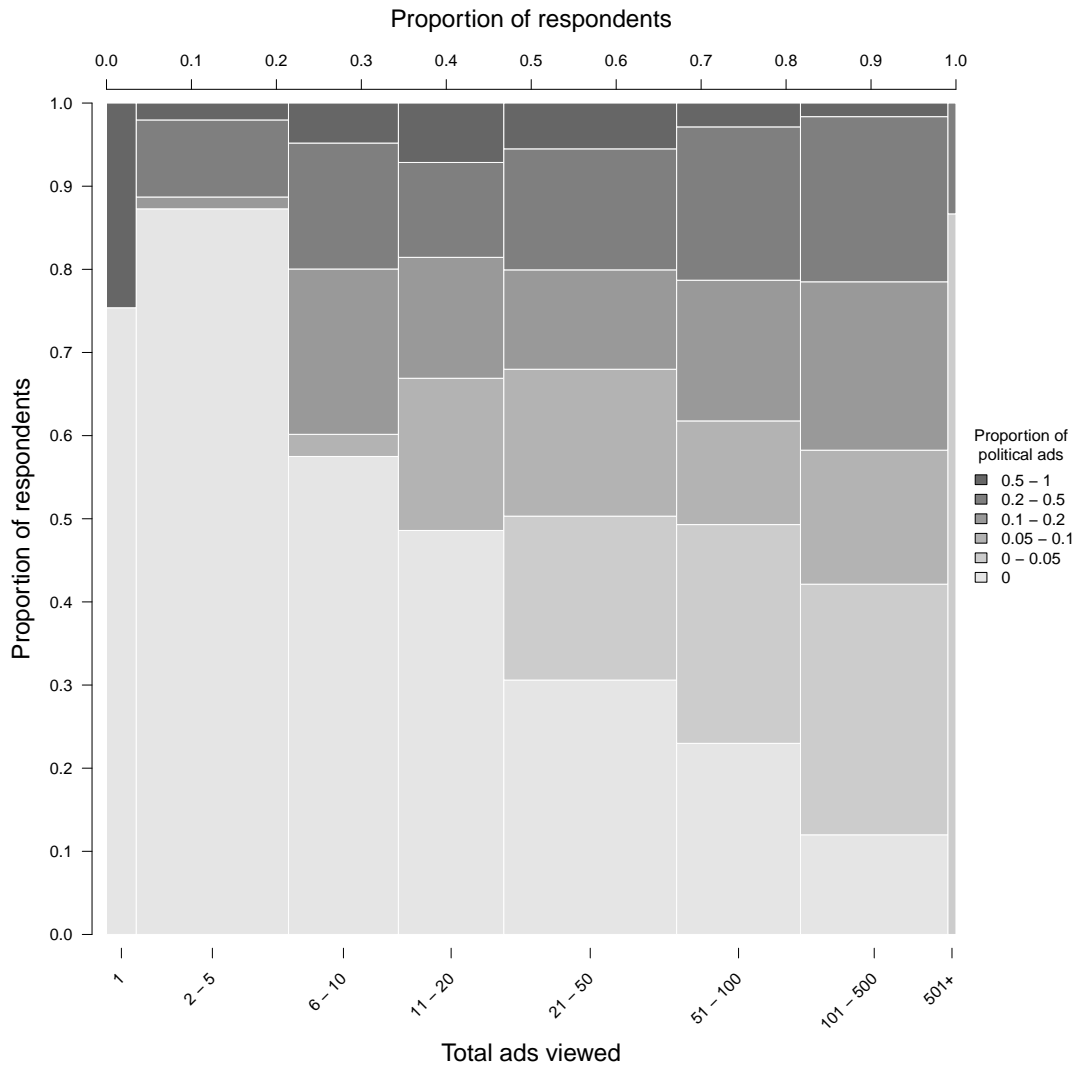
In Figure 7, we summarize the top advertisers in our sample. Overall, liberal sponsors dominated total impressions for our panelists. Eight of the top ten overall sponsors were classified as liberal, with only one, President Trump, classified as conservative. The top liberal

Figure 5: Political Facebook ad impressions/advertisers per respondent



Statistics for Oct. 19–Nov. 6, 2018 among YouGov Pulse panel Facebook users who use Chrome or Firefox and installed ad tracking software.

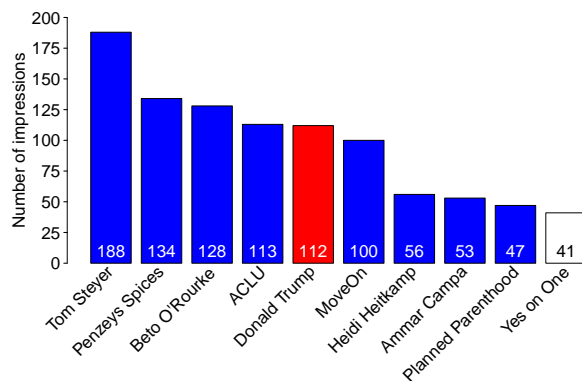
Figure 6: Proportion of political Facebook ads by total ad views



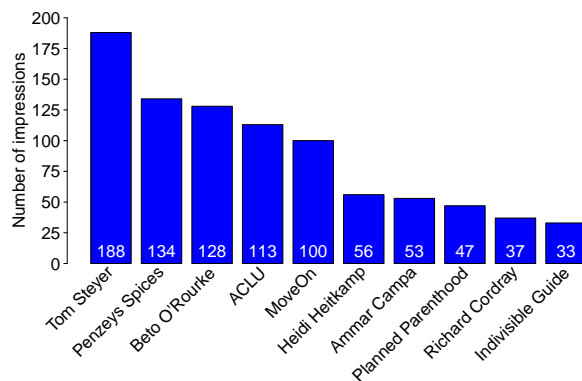
Statistics for Oct. 19–Nov. 6, 2018 among YouGov Pulse panel Facebook users who use Chrome or Firefox and installed ad tracking software.

Figure 7: Top political Facebook ad sponsors by impressions

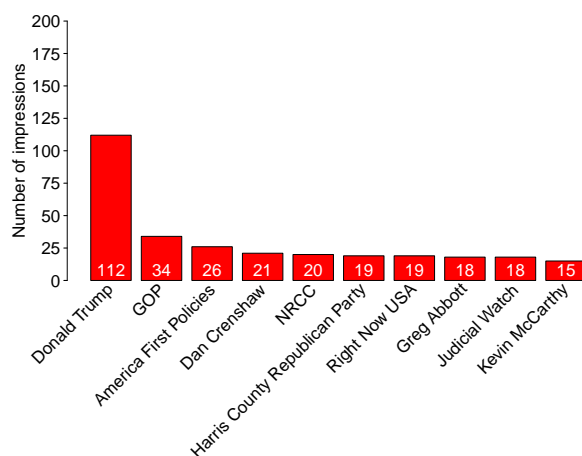
(a) All sponsors



(b) Liberal sponsors

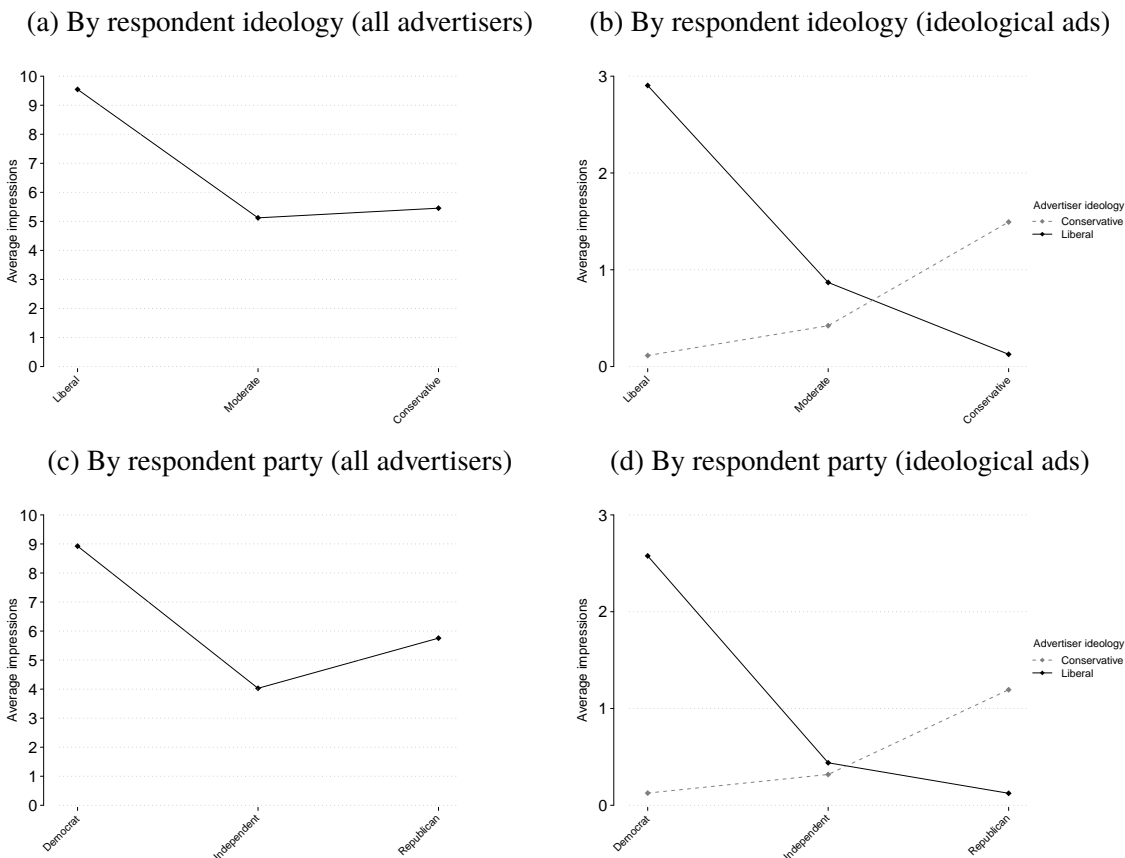


(c) Conservative sponsors



Statistics for Oct. 19–Nov. 6, 2018 among YouGov Pulse panel Facebook users who use Chrome or Firefox and installed ad tracking software.

Figure 8: Facebook ad targeting by ideology and party identification

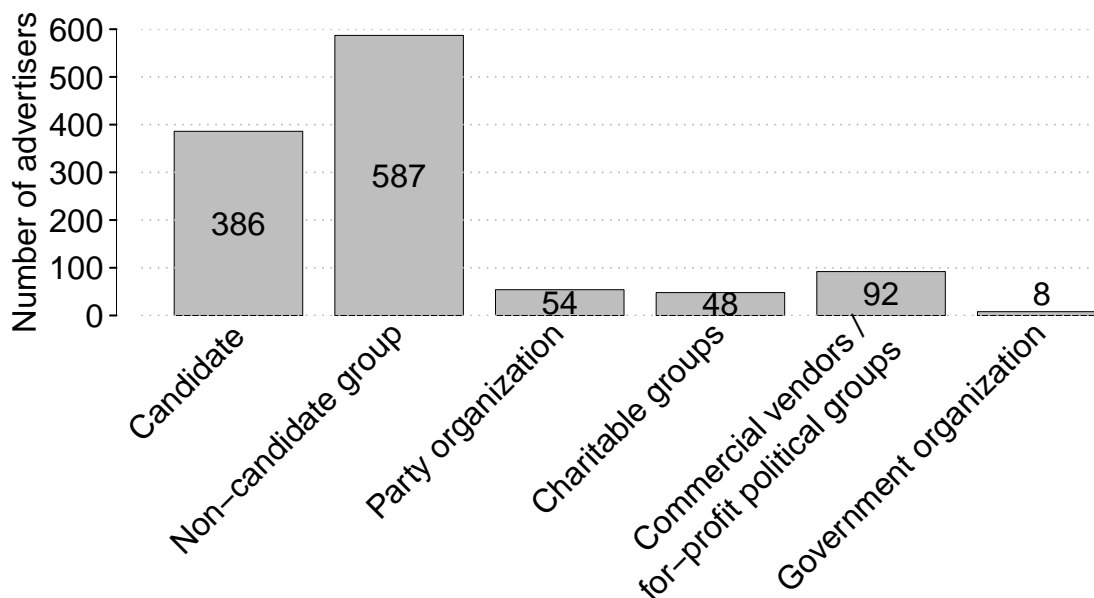


Statistics for Oct. 19–Nov. 6, 2018 among YouGov Pulse panel Facebook users who use Chrome or Firefox and installed ad tracking software. “Liberal” and “Conservative” include all respondents who identify as left or right of center, respectively. “Democrat” and “Republican” include leaners.

sponsors by impressions were the political donor/activist Tom Steyer (188); the firm Penzeys Spices (134), which became famous for its CEO’s opposition to Trump (Rosner 2018); and Texas U.S. Senate candidate Beto O’Rourke (128). The top conservative sponsors by impressions were Trump (112), the GOP (34), and America First Policies, a nonprofit that promotes Trump’s policies (26).

Our data show significant targeting of ads by respondents’ political views. As shown in Figure 8, liberal and conservative respondents saw more ads than moderates (Figure 8a); a similar pattern holds based on partisanship (Figure 8c). In addition, ads from the top liberal and conservative sponsors were most likely to be seen by liberal (Democrats) and conservative (Republican) respondents, respectively (see Figures 8b and 8d).

Figure 9: Facebook political advertisers by type



Statistics for Oct. 19–Nov. 6, 2018 among YouGov Pulse panel Facebook users who use Chrome or Firefox and installed ad tracking software.

Candidates accounted for 386 of the 1,175 political ad sponsors we observed on Facebook during this period. Non-candidate groups accounted for another 582 (50%), while commercial vendors and for-profit political groups accounted for 92. Finally, 54 of the ad sponsors were party organizations, 48 were charitable groups, and 8 were government organizations. The full breakdown of ad sponsors by type can be seen in Figure 9.<sup>14</sup>

## Survey results

Given concerns about the reach and circulation of fake news as well as other forms of misinformation on social media, we assessed how accurate the public believes fake news to be. Survey respondents were shown a variety of news headlines in a Facebook preview format. These headlines came from mainstream news articles, articles from hyper-partisan sites that blend opinion and fact, and fake news articles that have been fact-checked and found to be



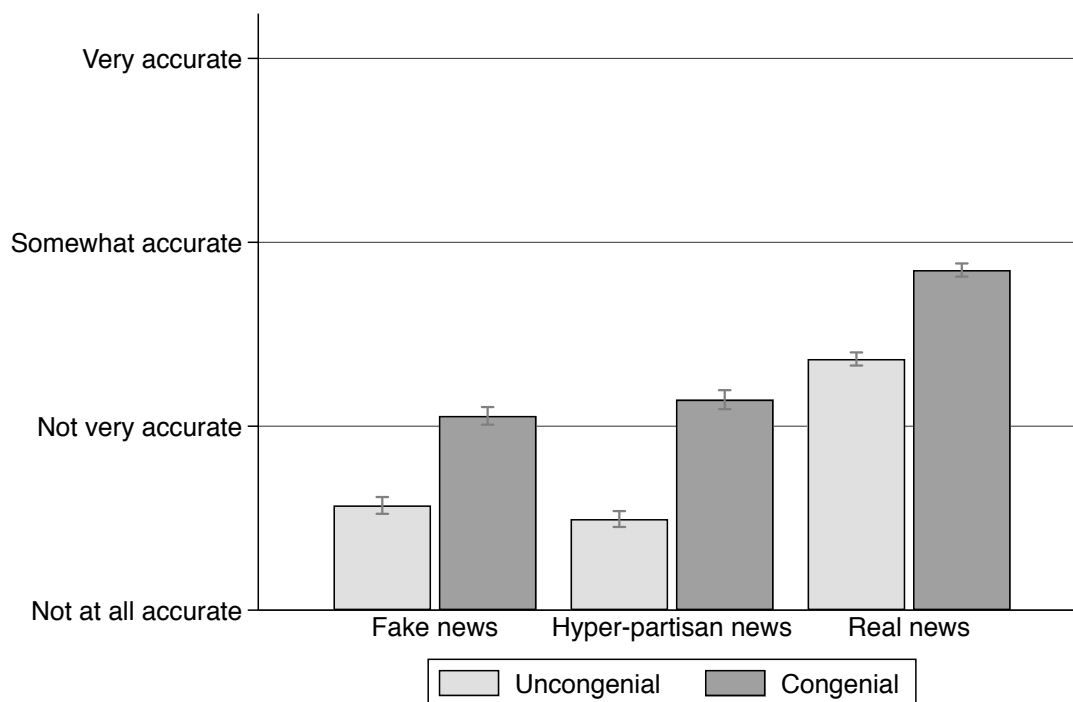
misleading or false (the full set of headlines can be found in the appendix).

Overall, the public rated fake and hyperpartisan news as less accurate than mainstream news headlines regardless of its political slant — on average, both types of headlines were rated as “not very accurate” on a four-point scale ranging from “not at all accurate” to “very accurate,” while mainstream headlines were rated as closer to “somewhat accurate.”<sup>15</sup> However, a substantial minority of Americans endorsed fake news headlines. Depending on the headline that was shown, between 15 and 32% of the public rated fake news headlines as “somewhat” or “very accurate.” Moreover, as Figure 10 indicates, these ratings varied substantially by whether the fake news headline was congenial to the respondent’s partisan leanings. When the headline was consistent with a respondent’s partisanship, between 17 and 48% of the public rated fake news headlines as “somewhat” or “very accurate,” compared to only 10 to 22% for headlines that were uncongenial. We observe the same pattern of greater belief in congenial headlines for hyper-partisan and mainstream news sources as well (the magnitude of this effect is similar across news types).

The low degree of perceived accuracy for all forms of news that we observe may be a result of distrust in the media. When we assessed media trust in our survey, we found that only 13% of the public say they have a “great deal” of trust and confidence in the media. An additional 40% have a “fair amount,” while 34% of the public report having “not very much” trust and confidence and 14% say they have “none at all.” The public has even less trust and confidence in information seen on Facebook (the article headlines they saw were formatted as they appear in the Facebook News Feed). Just 18% of the public said they have a “great deal” or “fair amount” of trust and confidence in the information they see on Facebook, while 55% of the public report having “not very much” trust and confidence and 27% say they have “none at all.”

Finally, we examined belief in a number of misperceptions that were relevant during the midterm election campaign. We begin by considering two unsupported claims that were endorsed by elites and/or circulated widely in social media and fake news sites. Specifically, we examined belief that “international financier and philanthropist George Soros has helped to support the caravan of more than 7,000 Central American migrants that is currently moving through Mexico toward the U.S. border,” which was endorsed by Republican elites as well as fake news and hyperpartisan websites. We also measured belief that “the Trump administration helped Saudi Arabia to target Jamal Khashoggi, the writer for *The Washington Post* who was recently killed by Saudi agents,” an anti-Trump conspiracy theory promoted by the website Veterans Today. As expected, we find partisanship is associated with the perceived

Figure 10: Perceived accuracy of fake news (fall 2018)



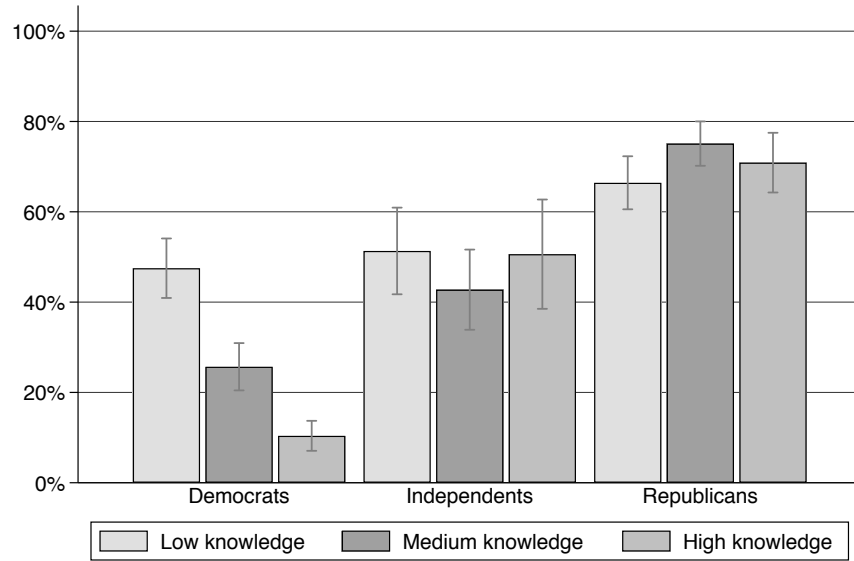
Respondents rated a total of 4 fake, 4 hyper-partisan, and 8 mainstream news headlines. Independents excluded to show congeniality effects. Error bars are 95% confidence intervals.

accuracy of both false statements — Republicans were more likely to endorse the former (71% said it was “somewhat” or “very accurate” versus 29% for Democrats) and Democrats instead expressed greater belief in the latter (31% versus 10% for Republicans). However, we also find that political knowledge (as measured by an objective factual scale administered during our survey) plays an important role in whether partisans express belief in these statements. Low-knowledge Democrats were far more likely than high-knowledge Democrats to believe that Soros helped support the migrant caravan. This relationship between knowledge and belief was not observed among independents or Republicans. Conversely, more knowledgeable respondents across parties – Democrats, independents, and Republicans alike – were less likely to believe the Trump administration helped target Khashoggi. These results are shown in Figure 11.

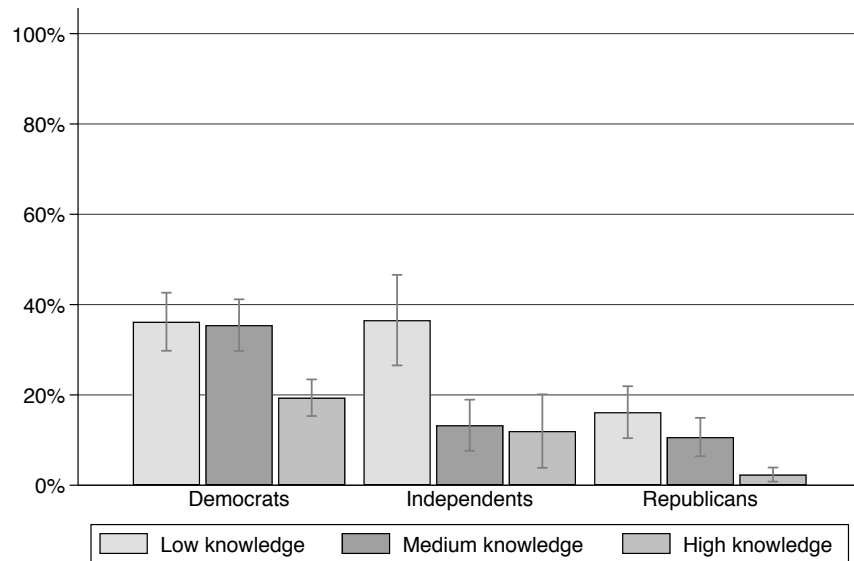
Further, we examined a number of beliefs relating to the allegations of sexual assault made by Christine Blasey Ford against Brett Kavanaugh, President Trump’s nominee to the

Figure 11: Belief in campaign misperceptions by party and political knowledge

(a) Soros supported migrant caravan



(b) Trump administration helped target Khashoggi



Figures show the percent of respondents in each group rating the statement as “somewhat” or “very accurate” (binary). Error bars are 95% confidence intervals.

Supreme Court, in a Senate hearing. Specifically, we asked about the accuracy of two true statements (that the audience at a public rally laughed when Trump mocked gaps in Ford’s testimony and that Kavanaugh was questioned by police after a bar fight in college) and two false statements (that Ford’s allegations were refuted by the people she says were present during the assault and that Ford’s high school classmates recall hearing the story about the alleged assault at the time). As shown in Figure 12, we find notable partisan differences in belief in each statement that reflect how congenial they are to the party’s positions on Kavanaugh. Democrats were somewhat more likely to believe correctly that the audience laughed when Trump mocked Ford and that Kavanaugh was questioned by police after a fight in college. Partisan opinion was split on the false statements — Republicans were significantly less likely to believe that Ford’s high school classmates recall hearing the story about the alleged assault at the time, but more likely to believe that Ford’s allegations were refuted by the people she says were present during the assault. Finally, though politically knowledgeable respondents were more likely to believe the true statements, we also find that political knowledge polarized belief in false statements. Across parties, more knowledgeable partisans were more likely to endorse a congenial false statement and reject an uncongenial false statement.

## **Discussion**

The 2016 U.S. presidential election gave rise to widespread fears about how social media helps to spread fake news and enables the misuse of targeted political advertising. We assess the state of these problems using comprehensive new survey and behavioral data from the peak of the 2018 midterm campaign.

How has fake news consumption changed since 2016? Encouragingly, we find a sizable drop in the proportion of Americans who were exposed to fake news websites, though the trend for total fake news consumption as a share of people’s information diets is less clear. Our data also indicate that consumption of these sites continues to be concentrated among a small subset of Americans with strong preferences for ideological media, especially those with the most conservative media diets. In addition, Facebook now appears to be a less prominent source of fake news traffic than it was in 2016. Our results also suggest that Americans saw relatively little political advertising on Facebook during the midterm campaign. Participants in our study were only exposed to about seven political ad impressions per person; more than four in ten saw no political ads at all. Americans who use Facebook more regularly were exposed to more ads, however. Likewise, very conservative and very liberal panelists were

Figure 12: Kavanaugh beliefs by party and political knowledge

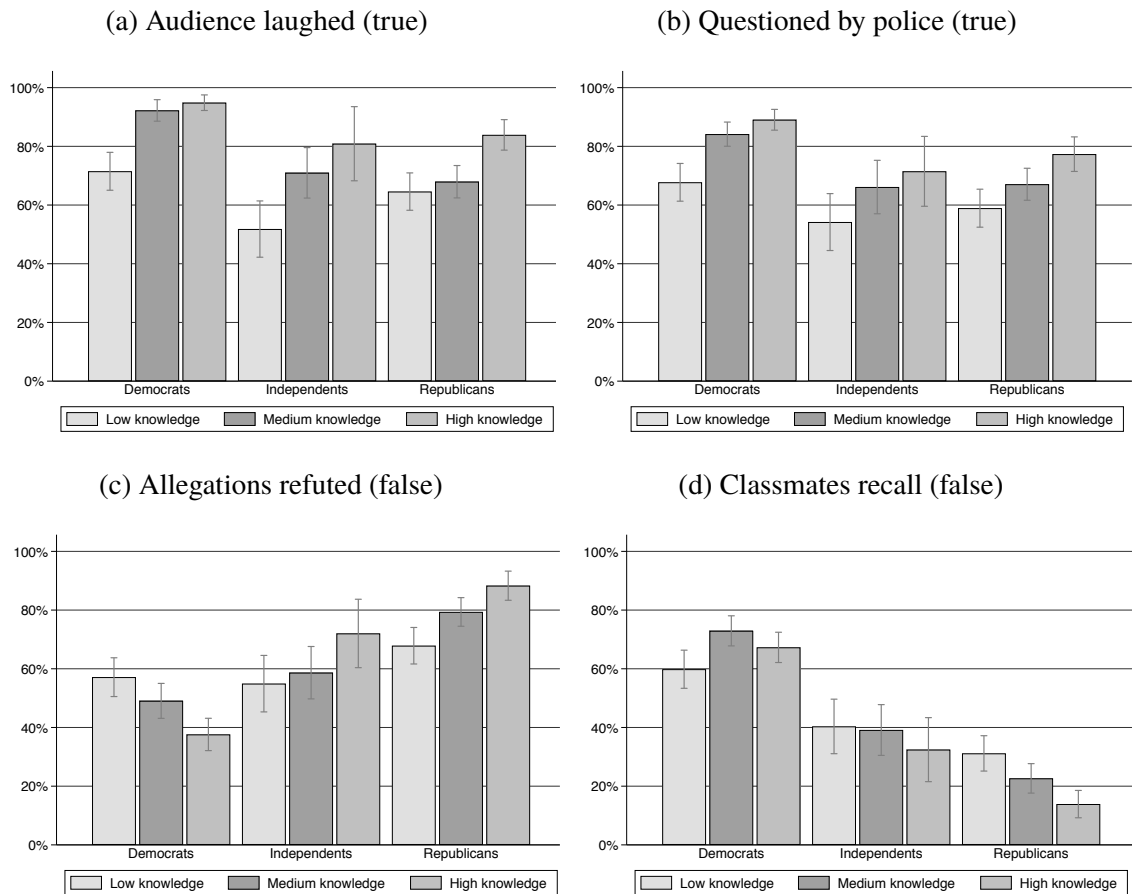


Figure shows the percent of respondents in each group rating the statement as “somewhat” or “very accurate” (binary). Statements were a) “the audience at a public rally laughed when Trump mocked gaps in Ford’s testimony,” b) “Kavanaugh was questioned by police after a bar fight in college,” c) “Ford’s allegations were refuted by the people she says were present during the assault,” and d) “Ford’s high school classmates recall hearing the story about the alleged assault at the time.” Error bars are 95% confidence intervals.

more likely to see political ads, which were highly targeted to match their political leanings.

Finally, we assess the extent to which the public believes fake news and is able to distinguish it from mainstream news sources. We find that the public rates fake news as less accurate than legitimate news overall. However, people put more credence in headlines that are congenial to their partisan leanings, increasing their vulnerability to fake and hyperpartisan news. Similarly, survey measures of beliefs about specific rumors circulating on social media during the time of our survey show that significant portions of Americans believe them, especially partisans for whom the false statements are politically congenial.

We view these results as relatively encouraging. The prevalence of fake news and political advertising on Facebook seem to be overstated, which suggests they are unlikely to cause massive changes in public opinion that many commentators have feared. It is especially important to consider these information flows in the context of all the other sources of news and (mis)information to which people are exposed. During the same fall 2018 period in which fewer than 1 in 10 Americans went to a fake news website and which more than half of Facebook users we studied saw fewer than two political ads, the average person read over 100 articles from websites focusing on hard news topics. Likewise, President Trump — the individual who surely receives more media coverage than anyone else in the world — made 1,434 false claims during the fall 2018 study period (*Washington Post Fact Checker* 2019). Though we cannot verify this conjecture, it is very likely that respondents were exposed to vastly more misinformation from the President and other high-profile political figures than from fake news or political ads on Facebook.

However, some caution is warranted. As noted, exposure to fake news and political advertising on Facebook are especially high among engaged partisans — precisely the group that is likely to be especially vulnerable to misinformation. Despite their relatively small numbers, these individuals also play an important role in party coalitions and in public debate about politics, in part by sharing news and information (whether fake or genuine) within their online and offline networks. Finally, the vast scale of Facebook and other social media platforms means that these new forms of information could reach a much wider audience in the future, especially in 2020, when both the political stakes and the public's demand for misinformation may be even higher.

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## Notes

<sup>1</sup>YouGov Pulse panelists provide informed consent to allow anonymous tracking of their online web traffic. Users provide consent before installing the software and can turn it off or uninstall it at any time. Identifying information is not collected. These respondents are matched and weighted by YouGov to approximate a nationally representative sample. See Guess, Nyhan, and Reifler (2018) for more details.

<sup>2</sup>We gratefully acknowledge funding from Craig Newmark Philanthropies and the Poynter Institute for the fall 2017 study and the Nelson A. Rockefeller Center at Dartmouth College, the Weidenbaum Center on the Economy, Government, and Public Policy at Washington University in St. Louis, and the European Research Council (ERC) under the European Union's Horizon 2020 research and innovation programme (grant agreement No. 682758).

<sup>3</sup>In fall 2017, we find that 5% of Americans visited a fake news website and that these sites made up 1.0% of people's news diets. In summer 2018, we find that 10% of Americans visited one of these sites and that they made up 0.5% of people's news diets.

<sup>4</sup>The 2016 definition consists of sites that published two or more articles that had been identified as false or misleading by fact-checkers and journalists in Allcott and Gentzkow (2017) for which 80% or more of the fake news articles identified from the site were coded as pro-Trump or pro-Clinton. Websites that had previously been identified as prominent sources of information about hard news topics in Bakshy, Messing, and Adamic (2015) were excluded, resulting in a final list of 92 websites. The 2018 definition draws from the expanded list of websites publishing false or misleading websites in Allcott, Gentzkow, and Yu (2018). We again exclude sites from their list that were classified as focusing on hard news topics in Bakshy, Messing, and Adamic (2015). In addition, we exclude sites that predominantly feature user-generated content (e.g., online bulletin boards), print publications, and political interest groups. Finally, we define sites as pro-Democrat or pro-Republican if 60% or more of pageviews to the site in our fall 2018 data came from people who identify with or lean toward the party in question (sites with no pageviews in the fall 2018 data are excluded). The resulting list includes 42 websites.

<sup>5</sup>Figure 3 shows estimates of referral sources using the 2016 definition of fake news websites. Results are similar using the 2018 definition — see Figure A1 in the Appendix.

<sup>6</sup>Our average media diet slant measure comes from Guess 2018 and uses data from Bakshy, Messing, and Adamic (2015) that scales websites based on differential sharing by self-identified liberals versus conservatives on Facebook.

<sup>7</sup>These statistics and Figure 4 use the 2016 definition of fake news. Results using the 2018 definition are provided in Figure A2 in the Appendix.

<sup>8</sup>The exact figures are 59% of visits in 2016 came from the most conservative decile of news consumers and 63% in 2018. Results are similar using the 2018 definition (62% in 2016 and 2018).

<sup>9</sup>Given the available data, it is extremely difficult to make direct comparisons between the number of impressions generated by campaign advertising on broadcast television versus Facebook.

<sup>10</sup>A recent change on Facebook has disabled this extension's functionality (Merrill and Tobin 2019), threatening the ability of ProPublica and other watchdog groups to monitor the use of advertising on the site.

<sup>11</sup>The ProPublica browser tool records all advertisements. Our analyses in this report rely on a ProPublica machine learning algorithm to distinguish between political and non-political ads. We specifically focus on ads that are estimated to have at least a 70% chance of being political.

<sup>12</sup>This statistic and all summary statistics we report outside of raw counts are weighted to represent the set of panelists who qualified for this portion of the study based on their usage of Facebook and the Chrome or Firefox browsers.

<sup>13</sup>These types of users may have been overrepresented in previous studies that were forced to rely on convenience sampling, increasing estimated exposure levels beyond what we observe in a more representative sample.

<sup>14</sup>The relative prevalence of non-candidate ads is characteristic of the post-*Citizens United* era. In 2016, for instance, 28 percent of ads in federal campaigns were aired by outside groups (Fowler, Ridout, and Franz 2016). In these data, the proportion is 53 percent, suggesting the role of political advertising from outside groups on Facebook may be even higher.

<sup>15</sup>Americans also express more trust in mainstream news sites than fake news or hyperpartisan sites across party lines (Pennycook and Rand 2019).

# Appendix

## Study methodology

Our data come from a two-wave panel study (wave 1 N = 3378; wave 2 N = 2948) fielded October 19–26 and October 30–November 6, 2018. This study was conducted among a representative sample of the U.S. population by the survey company YouGov, which recruits a large panel of opt-in respondents and then uses a weighting and matching algorithm to construct a final sample that mirrors the demographic composition of the U.S. population. Our participants closely resemble the U.S. population in both demographics and political attitudes and affiliations. For fall 2018, our respondents are 57% female, 80% white, median age 55, 37% hold a four-year college degree or higher, 40% identify as Democrats, 25% identify as Republicans, and 41% approve of Donald Trump’s job performance.<sup>16</sup>

## Question wording

(The wording of all questions described in this report are provided below. The full survey instrument and results of this survey will be reported in a subsequent academic paper.)

## Political knowledge

For how many years is a United States Senator elected - that is, how many years are there in one full term of office for a U.S. Senator?

- Two years
- Four years
- Six years (1)
- Eight years
- None of these
- Don’t know

How many times can an individual be elected President of the United States under current laws?

- Once
- Twice (1)
- Four times
- Unlimited number of terms

-Don't know

How many U.S. Senators are there from each state?

-One

-Two (1)

-Four

-Depends on which state

-Don't know

Who is currently the Prime Minister of the United Kingdom?

-Richard Branson

-Nick Clegg

-David Cameron

-Theresa May (1)

-Margaret Thatcher

-Don't know

For how many years is a member of the United States House of Representatives elected – that is, how many years are there in one full term of office for a U.S. House member?

-Two years (1)

-Four years

-Six years

-Eight years

-For life

-Don't know

### **Media trust**

In general, how much trust and confidence do you have in the mass media – such as newspapers, TV and radio – when it comes to reporting the news fully, accurately and fairly?

-None at all (1)

-Not very much (2)

-A fair amount (3)

-A great deal (4)

In general, how much trust and confidence do you have in the information you see on Facebook when it comes to reporting the news fully, accurately, and fairly?

- None at all (1)
- Not very much (2)
- A fair amount (3)
- A great deal (4)

### **News evaluations**

To the best of your knowledge, how accurate is the claim in the above headline?

- Not at all accurate (1)
- Not very accurate (2)
- Somewhat accurate (3)
- Very accurate (4)

How likely would you be to “like” or “share” this article in your Facebook News Feed?

- Not at all likely (1)
- Not very likely (2)
- Somewhat likely (3)
- Very likely (4)

### **Topical misperceptions**

The international financier and philanthropist George Soros has helped to support the caravan of more than 7,000 Central American migrants that is currently moving through Mexico toward the U.S. border.

- Not at all accurate (1)
- Not very accurate (2)
- Somewhat accurate (3)
- Very accurate (4)

The Trump administration helped Saudi Arabia to target Jamal Khashoggi, the writer for The Washington Post who was recently killed by Saudi agents.

- Not at all accurate (1)
- Not very accurate (2)

-Somewhat accurate (3)

-Very accurate (4)

### **Kavanaugh beliefs**

To the best of your knowledge, how accurate are the following statements? Each one concerns the allegations of sexual assault made by Christine Blasey Ford against Brett Kavanaugh, President Trump's nominee to the Supreme Court, in a Senate hearing.

The audience at a public rally laughed when Trump mocked gaps in Ford's testimony.

-Not at all accurate (1)

-Not very accurate (2)

-Somewhat accurate (3)

-Very accurate (4)

Ford's allegations were refuted by the people she says were present during the assault.

-Not at all accurate (1)

-Not very accurate (2)

-Somewhat accurate (3)

-Very accurate (4)

Ford's high school classmates recall hearing the story about the alleged assault at the time.

-Not at all accurate (1)

-Not very accurate (2)

-Somewhat accurate (3)

-Very accurate (4)

Kavanaugh was questioned by police after a bar fight in college.

-Not at all accurate (1)

-Not very accurate (2)

-Somewhat accurate (3)

-Very accurate (4)

## **News headline stimuli**

Respondents evaluated 16 total articles: 4 mainstream news articles that were congenial to Democrats (2 from low-prominence sources and 2 from high-prominence sources), 4 mainstream news articles that were congenial to Republicans (2 from low-prominence sources and 2 from high-prominence sources), 2 pro-Democrat fake news articles, 2 pro-Republican fake news articles, 2 pro-Democrat hyperpartisan sources, and 2 pro-Republican hyperpartisan sources.

### **Pro-Democrat hyperpartisan news**

Donald Trump caught privately wishing he'd sided more thoroughly with white supremacists.

<https://www.palmerreport.com/analysis/white-supremacists-trump-siding/12478/>

Franklin Graham: Attempted rape not a crime. Kavanaugh 'respected' his victim by not finishing. <https://www.dailykos.com/stories/2018/9/19/1797143/-Graham-Attempted-rape-not-a-crime-Kavanaugh-respected-his-victim-by-not-finishing>

### **Pro-Democrat fake news**

VP Mike Pence Busted Stealing Campaign Funds To Pay His Mortgage Like A Thief. <http://bipartisanreport.com/2018/09/03/vp-mike-pence-busted-stealing-campaign-funds-to-pay-his-mortgage-like-a-thief/>

Vice President Pence now being investigated for campaign fraud his ties to Russia and Manafort. [dctribune.org/2018/08/23/vice-president-pence-now-being-investigated-for-campaign-fraud-his-ties-to-russia-and-manafort/](http://dctribune.org/2018/08/23/vice-president-pence-now-being-investigated-for-campaign-fraud-his-ties-to-russia-and-manafort/)

### **Pro-Republican hyperpartisan news**

Soros Money Behind 'Black Political Power' Outfit Supporting Andrew Gillum in Florida.

<https://www.breitbart.com/big-government/2018/09/20/soros-money-behind-black-political-power-outfit-supporting-andrew-gillum-in-florida/>

Kavanaugh Accuser Christine Blasey Exposed For Ties To Big Pharma Abortion Pill Maker... Effort To Derail Kavanaugh Is Plot To Protect Abortion Industry Profits. <https://www.>



infowars.com/kavanaugh-accuser-christine-blasey-exposed-for-ties-to-big-pharma-abortion-pill-maker-effort-to-derail-kavanaugh-is-plot-to-protect-abortion-industry-profits/

### **Pro-Republican fake news**

Special Agent David Raynor was due to testify against Hillary Clinton when he died. <http://www.neonnettle.com/features/1398-fbi-agent-who-exposed-hillary-clinton-s-cover-up-found-dead>

Lisa Page Squeals: DNC Server Was Not Hacked By Russia. <https://yournewswire.com/lisa-page-squeals-dnc-server-not-hacked-russia/>

### **Mainstream news that is congenial to Democrats (low-prominence source)**

A Series Of Suspicious Money Transfers Followed The Trump Tower Meeting. <https://www.buzzfeednews.com/article/anthonycormier/trump-tower-meeting-suspicious-transactions-agalarov>

A Border Patrol Agent Has Been Called a ‘Serial Killer’ by Police After Murdering 4 Women. <https://www.teenvogue.com/story/border-patrol-agent-arrested-murder-4-women-serial-killer>

### **Mainstream news that is congenial to Democrats (high-prominence source)**

Detention of Migrant Children Has Skyrocketed to Highest Levels Ever. <https://www.nytimes.com/2018/09/12/us/migrant-children-detention.html>

‘And now it’s the tallest’: Trump, in otherwise sombre 9/11 interview, couldn’t help touting one of his buildings. <https://www.washingtonpost.com/gdpr-consent/?destination=%2fnews%2fmorning-mix%2fwp%2f2018%2f09%2f11%2fand-now-its-the-tallest-trump-in-otherwise-somber-9-11-interview-couldnt-help-touting-one-of-his-buildings%2f%3f>

### **Mainstream news that is congenial to Republicans (low-prominence source)**

Google Workers Discussed Tweaking Search Function to Counter Travel Ban. <http://uk.businessinsider.com/google-employees-search-protest-travel-ban-2018-9>

Feds said alleged Russian spy Maria Butina used sex for influence. Now, they're walking that back. [https://news.vice.com/en\\_us/article/wjyqe4/feds-said-alleged-russian-spy-maria-butina-used-sex-for-influence-now-theyre-walking-that-back](https://news.vice.com/en_us/article/wjyqe4/feds-said-alleged-russian-spy-maria-butina-used-sex-for-influence-now-theyre-walking-that-back)

**Mainstream news that is congenial to Republicans (high-prominence source)**

Small business optimism surges to highest level ever, topping previous record under Reagan.

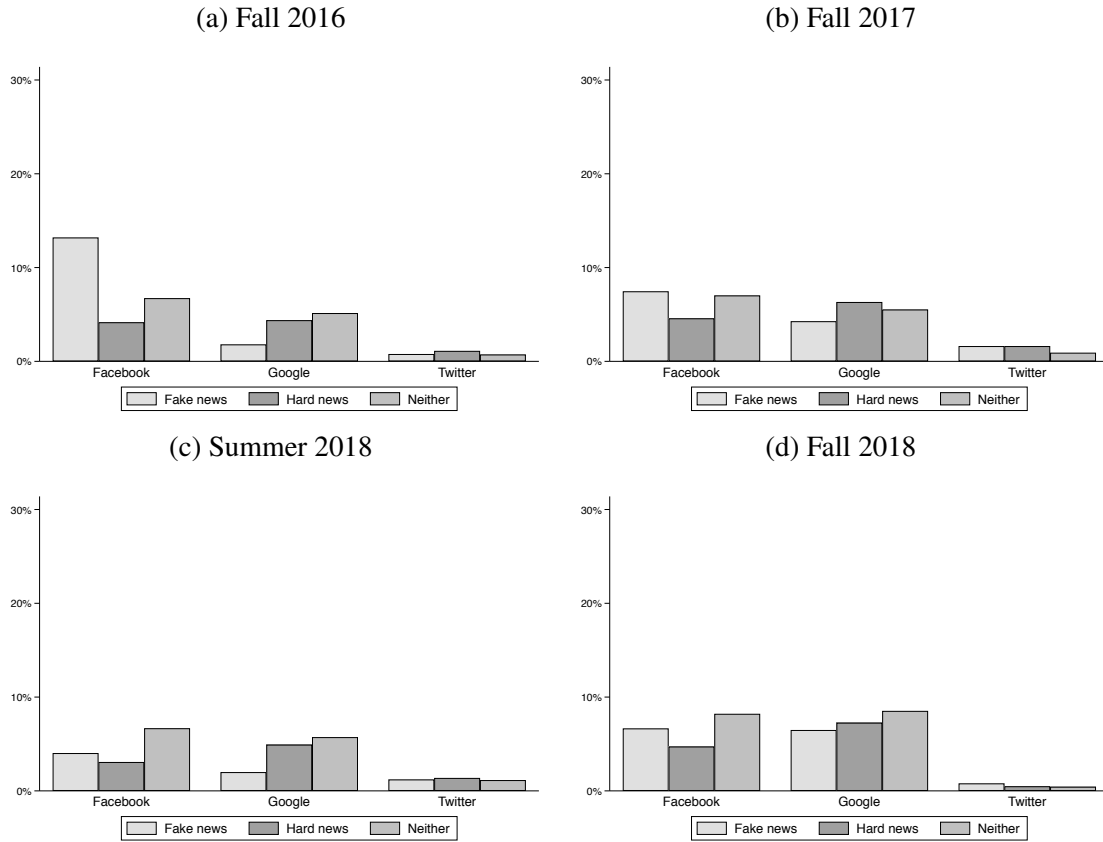
<https://www.cnbc.com/2018/09/11/small-business-optimism-surges-to-highest-ever.html>

Economy adds more jobs than expected in August, and wage growth hits post-recession high.

<https://www.cnbc.com/2018/09/07/us-nonfarm-payrolls-aug-2018.html>

## Additional results

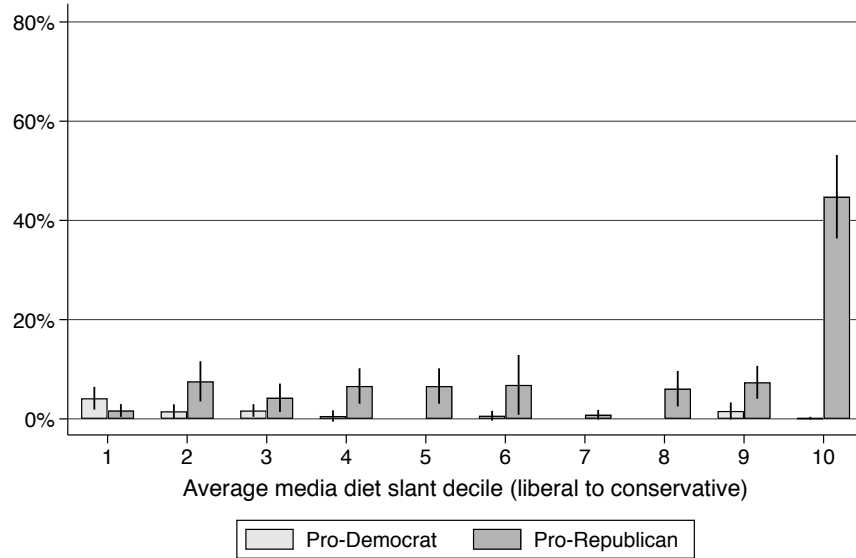
Figure A1: Referrer estimates by source and content type (2018 definition)



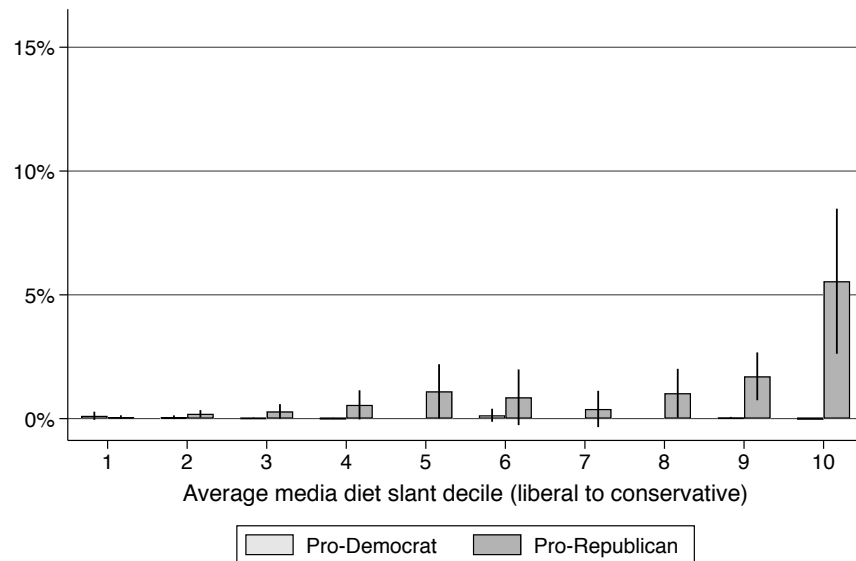
Online traffic statistics among YouGov Pulse panel members with survey weights applied. Hard news consumption is defined as a visit to a site whose topical focus was classified as hard news by Bakshy, Messing, and Adamic 2015 (after excluding Amazon.com, Twitter, and YouTube). Fake news consumption is measured as visiting domains that were coded as pro-Republican or pro-Democrat from the set of sites identified in Allcott, Gentzkow, and Yu 2018 whose topical focus was classified as hard news in Bakshy, Messing, and Adamic 2015. Facebook, Google, or Twitter were identified as a referrer if they appeared within the last three URLs visited by the user in the thirty seconds prior to visiting the article.

Figure A2: Visits to fake news websites by selective exposure tendencies

(a) Fake news visit (binary)



(b) Fake news visits as proportion of news diet



Online traffic statistics for the October 2018 period among YouGov Pulse panel members with survey weights applied (includes 95% confidence intervals). Fake news consumption is measured as visiting domains that were coded as pro-Democrat or pro-Republican from among those identified by Allcott, Gentzkow and Yu 2018 (2018 definition). Average media diet slant decile constructed using the measure from Guess 2018 with survey weights applied.