

# Estimating Fact-checking's Effects<sup>†</sup>

## Evidence from a long-term experiment during campaign 2014

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### Executive summary

What do Americans think about fact-checking and what effect does exposure to this new kind of news coverage have on people's political knowledge and attitudes? Despite the rapid spread of the format in journalism and its growing public audience, little is known about how voters view fact-checking or whether its practitioners fulfill their stated purpose of helping citizens become better informed. In particular, while survey data suggests that visitors to fact-checking sites are better informed than people with similar observable characteristics, this relationship may reflect a self-selection process in which politically informed and engaged citizens are more likely to choose to visit these sites rather than a learning effect.

This study reports the first experimental estimates of the longitudinal effects of exposure to fact-checking. We also conduct a comprehensive panel study of attitudes toward fact-checking and how they change during a campaign.

Our results are generally encouraging. The public has very positive views of fact-checking and, when randomly exposed to it, comes to view the format even more favorably. Moreover, randomized exposure to fact-checks helps people become better informed, substantially increasing knowledge of the issues under discussion.

We also document several important challenges facing fact-checkers, however. Most notably, interest in the format is skewed towards more educated and informed members of the public. Republicans also have less favorable views of the practice than Democrats. Continued growth of the medium will depend on broadening its appeal to these groups.

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## **The effects of fact-checking: What is known — and what isn't**

One of the most significant innovations in American journalism over the past decade has been the growth of fact-checking as a new approach to political coverage. Three dedicated national fact-checkers — PolitiFact, FactCheck.org, and the Washington Post Fact Checker — have been joined by an array of state and local fact-checking ventures, including a number of state PolitiFact affiliates. Their efforts appears to be popular with news consumers. Websites like PolitiFact and FactCheck.org report heavy traffic, especially during campaign season. Moreover, the conclusions that fact-checkers reach are frequently cited by other journalists. As Graves, Nyhan, and Reifler (2015) document in a companion report, coverage of fact-checking in the press increased substantially during the 2008 presidential election and rose even more in 2012. This coverage should in turn expose even more people to the information about the accuracy of statements by political figures that fact-checking provides.<sup>1</sup>

Little is known, however, about the effects of exposure to fact-checking, especially over the course of a campaign season or among people who don't typically read fact-checks or follow political news. The hope, of course, is that reading or viewing fact-checks will make citizens better informed, but the results could be more complex. Fact-checks might, for instance, make political junkies more knowledgeable while alienating or confusing people who are less informed about or interested in politics.

To date, initial appraisals of the effects of fact-checking have mostly been positive. For instance, one study found that people who visit fact-checking websites are better at answering factual questions about current events even after we account for how they differ from the rest of the population on a series of observable characteristics (Gottfried et al. 2013). This result is encouraging, but the correlation between current events knowledge and visiting fact-checking websites is not necessarily causal. The problem, in short, is that people select which media they consume. As a result, while it is plausible that fact-checking websites are effective at providing people factual information about current events, observational survey data cannot rule out the possibility that people who know more about current events (conditional on their observable characteristics) are more likely to visit fact-checking websites in the first place.

In addition, the literature on misperceptions in psychology and political science suggests that the approach fact-checkers take may not always be effective at reducing false beliefs (Lewandowsky et al. 2012; Nyhan and Reifler 2012). First, motivated reasoning can undermine the effects of fact-checking, which often deals with controversial issues and politicians. Previous experimental studies of high-profile misperceptions have found that factual information does not necessarily reduce belief in these myths and can sometimes backfire for certain groups (e.g. Nyhan and Reifler 2010, Nyhan, Reifler, and Ubel 2013). Moreover, exposing people to false claims in an effort to debunk them threatens to produce an “illusion of truth”

effect in which a false claim becomes more familiar and over time is more likely to be seen as true (Schwarz et al. 2007).

This report presents both the most in-depth examination of public attitudes towards fact-checking to date and the first long-term experimental estimates of its effects on people’s factual knowledge and opinions. The core element of our study is a longitudinal public opinion survey conducted in five waves over the course of the fall 2014 election campaign. In the initial survey wave of our study, which was conducted in September 2014, we asked a nationally representative sample of respondents a number of questions about their perceptions of and attitudes toward fact-checking. Learning what Americans think about this new form of accountability journalism will not only help us understand how the public reacts to specific fact-checking content but may also assist media organizations in deciding whether they should devote scarce resources to the format. We then conducted three “mini-waves” during the fall 2014 general election campaign in which approximately half of these participants were randomly assigned to receive fact-checking content while the other half were given non-political placebo information from press releases. Finally, we measured the attitudes and knowledge of the same set of respondents in a post-election survey wave conducted in November 2014. By comparing post-election responses between the treatment and placebo groups, we can provide the first over-time estimates of the causal effects of fact-checking exposure.

## **Study design**

Our experiment was carried out as a multi-wave Internet panel study with a representative sample of the U.S. population. It was administered by the Internet survey firm YouGov, which maintains a large panel of opt-in respondents who take surveys online in exchange for points which can be redeemed for rewards. YouGov maintains an extensive demographic profile on its panel. After a survey is conducted, YouGov using a weighting and matching algorithm to create a final sample that closely resembles the demographic profile of the U.S. population (mirroring what would have been achieved using a random-digit-dial telephone survey).

In the first wave of our study, which was conducted September 21–27, 2014, we asked a series of questions intended to measure the political and demographic characteristics of our participants (including political knowledge, attitudes towards public figures, interest in politics, etc.). We also asked several specific questions about fact-checking, including people’s familiarity with and favorability toward the practice, their views of whether there should be more or less of it, and whether or not they think fact-checkers are biased.

To ensure that assignment to treatment and placebo conditions was balanced across a broad array of attitudes towards fact-checking, we block randomized respondents using data from two questions on the first wave gauging familiarity with and favorability towards fact-checking.

We then administered treatment and placebo content via three short survey “mini-waves” that were administered between October 3 and November 3. (The timing of these waves is provided in Table 1.) In each wave, respondents were asked to read either three recent PolitFact fact-checks or three recent press-releases taken from PR Newswire.<sup>2</sup> To measure and encourage

Table 1: Survey dates

Wave	First survey started	Final survey completed
Wave 1	September 21	September 27
Mini-wave 1	October 3	October 12
Mini-wave 2	October 14	November 3
Mini-wave 3	October 25	November 3
Wave 2	November 6	November 18

The median number of days between waves at the respondent level is 12 for wave 1 to mini-wave 1, 11 for mini-wave 1 to mini-wave 2, 11 for mini-wave 2 to mini-wave 3, and 13 days for mini-wave 3 to wave 2.

receipt of the content in our treatment and placebo conditions, each of three fact-checks or press releases was followed by a simple question about the content of what respondents had just read. Respondents who answered correctly were advanced to the next fact-check or press release (depending on condition) while those who answered incorrectly were asked to read the treatment again. This process repeated up to two more times; respondents were given up to three opportunities to answer the recall question correctly. If respondents answered the question incorrectly three times, they were automatically advanced to the next stimulus item or survey question as appropriate.

The stimuli used were actual PolitiFact fact-checks and press releases from PR Newswire. Figure 1 provides an example of the treatment content as well as a sample placebo press release. Many of the PolitiFact articles were too long to show to respondents in their entirety given budgetary and technical constraints. In these cases, we retained the introductory text and the final conclusion, which includes PolitiFact’s Truth-o-Meter rating, and omitted the middle sections. An auxiliary study found no evidence that the positive results reported below are dependent on the reformatting we performed.<sup>3</sup>

After these three mini-waves, we conducted a final post-election survey wave among the same set of respondents, which was administered from November 6–18. This additional wave repeated many questions from the first wave such as attitudes towards fact-checking. Most importantly, this wave included our primary outcome variables — factual questions about a subset of the issues covered by the fact-checks displayed in the treatment condition. Respondents answered each question on a five-point accuracy scale that was converted to a binary outcome variable. Responses were coded as correct if respondents indicated that a true statement

Figure 1: Sample stimulus materials

(a) Treatment



**Says Sen. Kay Hagan 'has missed half of the (Senate Armed Services) Committee's hearings in 2014.'**  
— Thom Tillis on Tuesday, September 30th, 2014 in a campaign ad

## Thom Tillis claims Kay Hagan didn't attend half the Armed Services Committee hearings this year

By Steve Cantorno on Thursday, October 2nd, 2014 at 5:11 p.m.

The rise of the terrorist group known variously as ISIS, ISIL or the Islamic State has increased the role of national security in the political conversation just a month before the midterm elections.

In North Carolina, state House speaker and Republican U.S. Senate candidate Thom Tillis released an ad that blames his Democratic opponent Sen. Kay Hagan for being missing in action as the ISIS threat grew.

"In January, President Obama refers to the Islamic State as a 'JV team,' " the narrator says. "Days later the Armed Services Committee holds a hearing on new global threats. Sen. Kay Hagan? Absent. In fact, Hagan's missed half the Armed Services Committee hearings this year."

We've already checked whether Obama referred to the Islamic State as a JV team ([he did](#)). Here, we'll review Tillis' characterization of Hagan's attendance record on the Senate Armed Services Committee.

We went through all the committee's meeting transcripts for 2014 to see which lawmakers were in attendance for each hearing.

In compiling the information, we ran into an obstacle.

Because the Senate Armed Services Committee often reviews confidential national-security information, it sometimes meets behind closed doors. Minutes for those meetings are not released to the public. Therefore, we're not able to determine attendance for those meetings.

In 2014, it appears there have been 11 closed hearings by the full committee. However, the committee has also held 22 open meetings this year, so we limited our calculations to those.

**Our ruling**

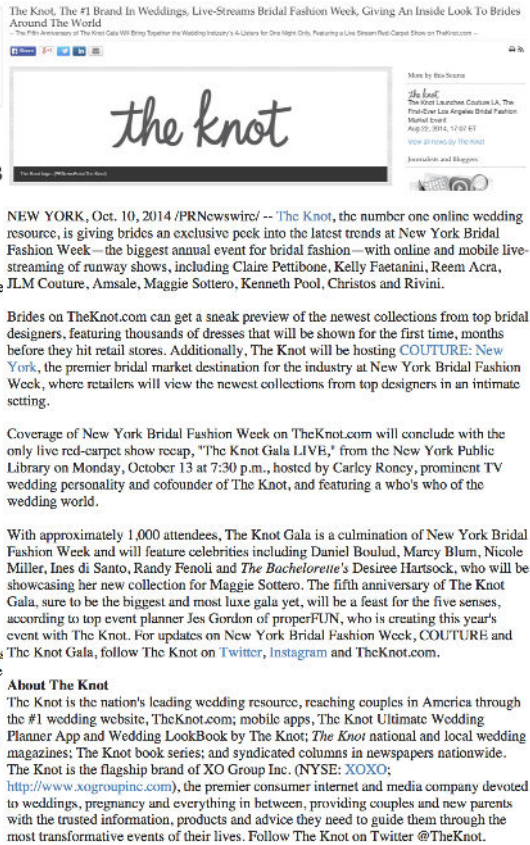
Tillis said that Hagan "has missed half of the (Senate Armed Services) Committee's hearings in 2014."

We don't know the number of closed meetings she attended, so it's more accurate to say that Hagan missed half of the committee's *public* hearings.

Still, Tillis has a point — in 2014, Hagan attended nine of the 22 open hearings, which is not only below half but which also ranked near the bottom among committee members.

The comment is accurate but needs clarification or additional information, so we rate it **Mostly True**.

(b) Placebo



## The Knot, The #1 Brand In Weddings, Live-Streams Bridal Fashion Week, Giving An Inside Look To Brides Around The World

The 15th Anniversary of The Knot Gala Will Bring Together the Wedding Industry's A-Listers for One Night Only, Featuring a Live Stream Red-Carpet Show on TheKnot.com

NEW YORK, Oct. 10, 2014 /PRNewswire/ -- The Knot, the number one online wedding resource, is giving brides an exclusive peek into the latest trends at New York Bridal Fashion Week — the biggest annual event for bridal fashion — with online and mobile live-streaming of runway shows, including Claire Pettibone, Kelly Faetanini, Reem Acra, JLM Couture, Amsale, Maggie Sottero, Kenneth Pool, Christos and Rivini.

Brides on TheKnot.com can get a sneak preview of the newest collections from top bridal designers, featuring thousands of dresses that will be shown for the first time, months before they hit retail stores. Additionally, The Knot will be hosting **COUTURE: New York**, the premier bridal market destination for the industry at New York Bridal Fashion Week, where retailers will view the newest collections from top designers in an intimate setting.

Coverage of New York Bridal Fashion Week on TheKnot.com will conclude with the only live red-carpet show recap, "The Knot Gala LIVE," from the New York Public Library on Monday, October 13 at 7:30 p.m., hosted by Carley Roney, prominent TV wedding personality and cofounder of The Knot, and featuring a who's who of the wedding world.

With approximately 1,000 attendees, The Knot Gala is a culmination of New York Bridal Fashion Week and will feature celebrities including Daniel Boulud, Marcy Blum, Nicole Miller, Ines di Santo, Randy Fenoli and *The Bachelorette*'s Desiree Hartsock, who will be showcasing her new collection for Maggie Sottero. The fifth anniversary of The Knot Gala, sure to be the biggest and most luxe gala yet, will be a feast for the five senses, according to top event planner Jes Gordon of properFUN, who is creating this year's event with The Knot. For updates on New York Bridal Fashion Week, COUTURE and The Knot Gala, follow The Knot on [Twitter](#), [Instagram](#) and [TheKnot.com](#).

**About The Knot**

The Knot is the nation's leading wedding resource, reaching couples in America through the #1 wedding website, TheKnot.com; mobile apps, The Knot Ultimate Wedding Planner App and Wedding LookBook by The Knot; *The Knot* national and local wedding magazines; The Knot book series; and syndicated columns in newspapers nationwide. The Knot is the flagship brand of XO Group Inc. (NYSE: **XOXO**; <http://www.xogroupinc.com>), the premier consumer internet and media company devoted to weddings, pregnancy and everything in between, providing couples and new parents with the trusted information, products and advice they need to guide them through the most transformative events of their lives. Follow The Knot on Twitter @TheKnot.

was “Very accurate” or “Somewhat accurate” or that false statements were “Very inaccurate” or “Somewhat inaccurate.” In the analyses that follow, we examine whether experimental assignment to fact-checking exposure improves accuracy on these factual questions.

### Protocol for selecting fact-checks

Prior to fielding the study, we designed a protocol for how to select appropriate fact-checks for our treatment condition. In order to maximize the relevance of our treatments, respondents in states with a PolitiFact affiliate (Florida, Georgia, New Hampshire, Oregon, Rhode Island, Texas, Virginia, and Wisconsin) were given some state-specific content. The specific procedures (adapted from our study instructions) are as follows:

1. Each respondent in the treatment condition received three fact-checks per mini-wave.
2. The selected fact-checks had to be of a claim by or about a U.S. Senate or gubernatorial candidates in the 2014 election or a current elected official who is a national political figure. This rule means that we excluded fact-checks about or by pundits, companies, chain emails, state legislators or candidates, etc. Evaluations of campaign pledges or flip-flops were also excluded.
3. The first fact-check selected was the article that had the most retweets in the PolitiFact Twitter feed (or the sum of all retweets if tweeted more than once) in the period between the fielding of the previous wave and sending the questionnaire to YouGov for programming (about 48 hours before the new wave launched). Tweets had to be from PolitiFact, not retweets of tweets by affiliates or others, though PolitiFact tweets about fact-checks written by PolitiFact affiliates were eligible.
4. The second fact-check we selected was the most retweeted fact-check of a political figure in the relevant content period that was (a) not the one selected above and (b) not of the same party and valence as above. (For instance, if the first fact-check selected was a critique by Democrats that is false, we would pick a false Republican critique or a true Democratic critique. Half-true statements were considered neutral and could only be paired with another half true only.)
5. In states with a PolitiFact affiliate, we chose the third fact-check by selecting the most recent fact-check from that affiliate if more than one was available regardless of party (excluding any that were selected under the above criteria). If no new fact-check was produced during the content period, we selected the most recent qualifying fact-check. In states without a PolitiFact affiliate, the most recent tweet of a qualifying fact-check from national PolitiFact was instead selected as the third article.

## **Hypotheses and research questions**

Our study is designed to evaluate the following hypotheses and research questions, which include both descriptive inferences about how the general public feels toward fact-checking and causal inferences about the effect of exposure to the adjudication of factual disputes on people's political beliefs and attitudes. (A preregistration was filed documenting our hypotheses and analysis plan on EGAP on November 23, 2014. We summarize our conclusions here; a full report of our findings that is consistent with that document will be made available in a forthcoming academic manuscript.)

## Non-experimental hypotheses

Our first hypothesis is that the fact-checking audience overrepresents people who are more interested in politics, more confident about their ability to engage meaningfully in the process, and generally more sophisticated and informed than the general public. Thus, our first hypothesis is simply that interest in and self-reported consumption of fact-checking will be positively associated with political interest, political efficacy, political knowledge, and education.

*H1: Interest in (and consumption of) fact-checking will be associated with political interest, political efficacy, political knowledge, and education.*

As fact-checking has become more prominent in recent years, it has attracted criticism from politicians, operatives, and other political elites. While this resistance has been observed across the political spectrum, the hostility from conservatives has arguably been more intense and sustained. Perhaps the most famous embodiment of this sentiment comes from Neil Newhouse, Mitt Romney's chief pollster, who said in 2012 that "we're not going to let our campaign be dictated by fact-checkers" (Smith 2012). These sentiments are likely to strike a chord. Republicans and conservatives tend to have less favorable opinions of the news media and are more likely to believe in (liberal) media bias (Pew Research Center for the People and the Press 2013). While fact-checking is a relatively new form of journalism, we suspect that these more negative attitudes towards the news media will also affect Republicans' and conservatives' views of fact-checking. We therefore expect that Republicans and conservatives will have less favorable views towards fact-checking. Moreover, we expect that more politically attentive respondents will be more likely to have heard of and been influenced by resistance to fact-checkers from Republican insiders like Newhouse. As such, we expect that the difference in views of fact-checking between Republicans and others will be larger among respondents with more political knowledge than among those who are less politically knowledgeable.

*H2a: Republicans will have more negative views of fact-checking.*

*H2b: The difference between Republicans and other groups will be greater among the politically knowledgeable than among those who are less knowledgeable.*

## Experimental hypotheses

Exposure to fact-checking has the potential to change people's beliefs and attitudes in a number of ways. First, it may increase the accuracy of people's beliefs about specific claims and statements made by or about politicians. Of course, our hope is that exposure to fact-checking will lead people to perform better when answering questions about the specific issues covered by fact-checks. However, we did not expect exposure to fact-checking to have a uniform effect across the population. Rather, we expected that fact-checking will have a larger effect on

people who are more politically knowledgeable because they will be more likely to understand complex new information and to successfully incorporate it into their beliefs.

*H3: We expect exposure to fact-checking content will increase belief accuracy among more sophisticated people (those with greater political knowledge) more than among less sophisticated people (those with less political knowledge).*

In addition, motivated reasoning may cause people to be more likely to accept certain facts and reject others. Based on prior research on political knowledge (Jerit and Barabas 2012) and reactions to corrective information (Nyhan and Reifler 2010; Nyhan, Reifler, and Ubel 2013), we believe that it will be easier for people to accept and later correctly recall belief consistent facts than belief-inconsistent facts. Per H3, these effects may be especially pronounced among people who are more knowledgeable and thus better able to accept or reject political information based on its consistency with their prior beliefs.

*H4: We expect partisans to be more likely to recall belief-consistent facts from fact-checks they were shown, especially those with high political knowledge.*

## **Research questions**

In addition to our formal hypotheses, we will consider several questions that we believe are worth investigating even though our expectations are less clear.

First, will people react to fact-checking exposure by becoming more polarized in their views of the practice? While there is some evidence that people like fact-checking in the abstract, their feelings are not universal. For those who initially have negative feelings towards fact-checking, exposure may reinforce or strengthen this sentiment. At the other end of the spectrum, those who initially hold favorable attitudes towards fact-checking may find that exposure makes them even more favorable. As a result, the possibility exists that exposure to fact-checking may polarize attitudes towards fact-checking. Alternatively, sustained exposure to the studiously neutral tone and approach that characterizes most fact-checking may alleviate concerns among people with negative views of the practice.

*Research question 1: Will exposure to fact-checking polarize people's views of the practice?*

Fact-checking may also affect people's attitudes toward politicians. Exposure to fact-checking could lead, for instance, to more negative views towards politicians, who are sometimes shown to have made inaccurate or misleading claims. These effects could be especially severe with people who are already distrustful of politicians. However, the opposite is also



possible — given that people generally have extremely low opinions of politicians, exposure to fact-checks with a mix of accuracy ratings might instead improve perceptions of politicians by showing them to be less dishonest than people might otherwise expect.

*Research question 2: Does fact-checking affect levels of trust in politicians? Will these effects be strongest among people who are already highly distrustful?*

Finally, it is possible that exposure to fact-checking could affect people's sense of political efficacy. One possibility is that receiving this sort of detailed information could help people feel that they know more about politics and can participate effectively in the process. Alternatively, trying to parse the complex information in fact-checks could make people as if they do not know enough to participate in politics.

These effects could also vary depending on how much people know about politics. Fact-checking could help people with lower levels of political knowledge make sense of politics and thus disproportionately increase their sense of efficacy. It is also possible, though, that people with higher knowledge better understand fact-checks and are therefore especially likely to feel a greater sense of political efficacy after reading them.

*Research question 3: How does fact-checking affect political efficacy? Do these effects vary by prior political knowledge?*

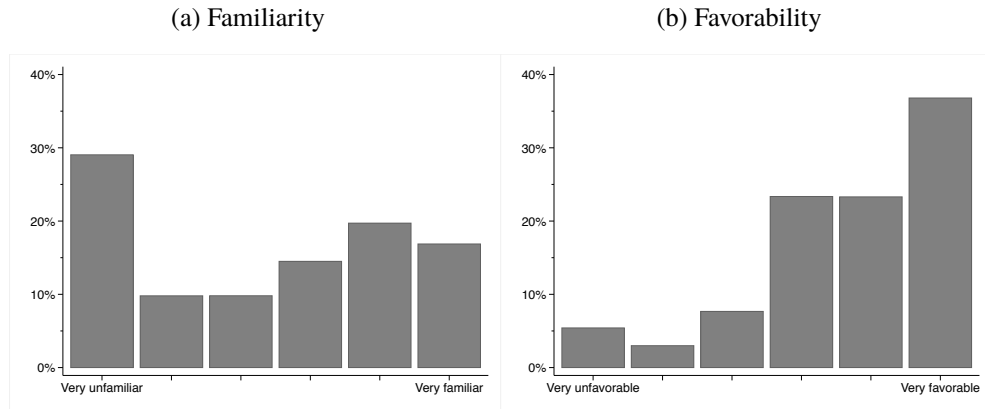
## **Results**

### **Descriptive hypotheses**

Before we evaluate our first hypothesis, we summarize the American public's familiarity with and favorability toward fact-checking.<sup>4</sup> As Figure 2(a) demonstrates, approximately half of the public is still unfamiliar with fact-checking, including 29% who report being “very unfamiliar” (29%). While familiarity may be low, Figure 2(b) shows that favorability towards the “fact-checking movement” is quite high. More than eight in ten Americans (84%) say they have a favorable view of fact-checking, including 37% who say they have a “very favorable” view. Finally, awareness and favorability appear to be at least somewhat related—respondents who report being familiar with fact-checking are significantly more likely to have favorable attitudes towards fact-checking (94%) than those who are unfamiliar (73%,  $p < .01$ ).

Our first hypothesis was that people who are higher in education and political knowledge, interest, and efficacy would be more interested in and more likely to consume fact-checks than individuals who were less interested in or sophisticated about politics. Conditional on a series of demographic control variables, each of these factors is significantly associated

Figure 2: Fact-checking awareness and attitudes (Sept. 2014)



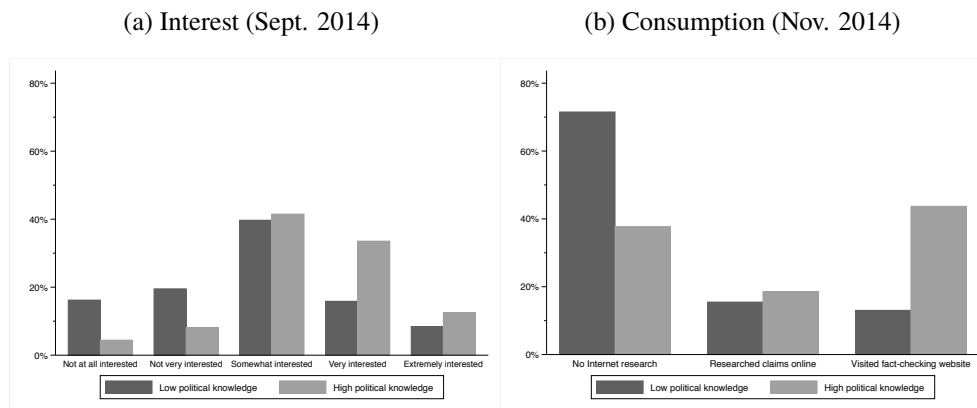
YouGov survey conducted September 21–27, 2014. Panel (a) presents responses to the question “How familiar or unfamiliar are you with the fact-checking movement in journalism, which includes websites such as PolitiFact and Factcheck.org?” on a six-point scale from “Very familiar” to “Very unfamiliar.” Panel (b) presents responses to the question “In general, how favorable or unfavorable is your overall opinion of the fact-checking movement in journalism?” on a six-point scale from “Very favorable” to “Very unfavorable.” Response probabilities were calculated using survey weights from YouGov.

( $p < .05$  or less) with a composite score combining respondent’s propensity to choose a fact-check article as the article they’d most like to read from a list of headlines (wave 1), their self-reported interest in that article (wave 1), and whether they researched claims online during the campaign, including visiting fact-checking websites (wave 2).

The relationship between political sophistication and interest in/exposure to fact-checking is illustrated in Figure 3, which compares the behavior of people who scored higher than the median on a political knowledge battery with those who scored at or below the median. Almost twice as many Americans with high political knowledge reported being “Extremely interested” or “Very interested” in reading the sample fact-check article (46%) than those with low political knowledge (24%). Likewise, more than three times as many high-knowledge respondents reported visiting fact-checking websites during the fall campaign (44%) as low-knowledge-ones (13%). (These two variables were, not surprisingly, closely related — only 17% of respondents who said they were “Somewhat interested” or less reported visiting fact-checking websites compared with 45% of those saying they were “Very interested” or more.)

Our second hypothesis is that Republicans will have less favorable views of fact-checkers than Democrats and that this difference will be greater among respondents with high levels of political knowledge. We find support for both parts of the hypothesis. First, the expected partisan difference holds for a composite measure of fact-checking favorability composed of questions from waves 1 and 2 about favorable attitudes, fairness, accuracy, and whether people think there should be more fact-checking ( $p < .01$ ). Second, this partisan difference is even greater among high-knowledge respondents. Figure 4 illustrates this finding using the propor-

Figure 3: Differences in fact-checking interest/exposure by knowledge



YouGov surveys conducted September 21–27 and November 6–18, 2014, respectively. Panel (a) presents responses to the question “How interested would you be in reading this article [PolitiFact: Top 5 fact-checks and reports for August] compared with other news you could choose to read online?” on a five-point scale from “Extremely interested” to “Not at all interested.” Panel (b) shows answers to whether respondents “Use[d] the Internet to research or fact-check claims made during the campaign in the months leading up to the election” and, if yes, whether they specifically “[v]isited a fact-checking website such as PolitiFact.com, FactCheck.org, or the Washington Post Fact Checker.” Responses to both questions were disaggregated by a median split on the number of correct answers that respondents provided to an eight-question political knowledge battery. Response probabilities were calculated using survey weights from YouGov.

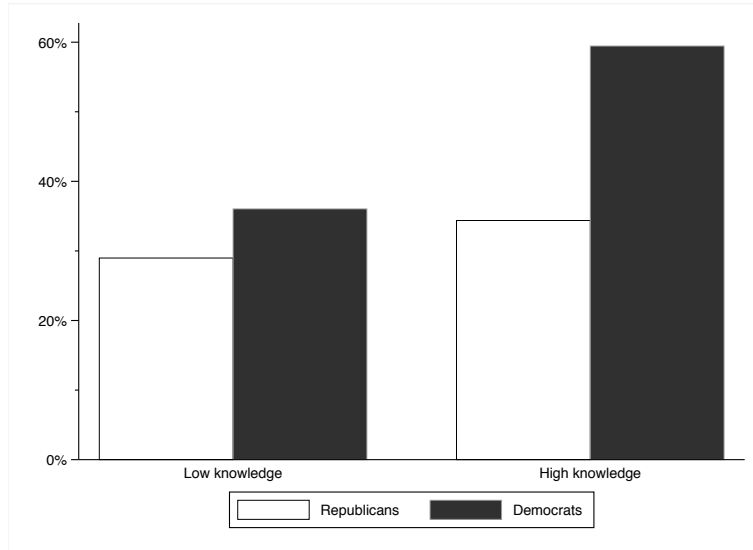
tion of respondents with very favorable attitudes toward the fact-checking movement during wave 2. No significant difference is observed among low-knowledge respondents between Republicans (29%) and Democrats (36%). For people with high levels of political knowledge, however, the differences have become stark by the end of the campaign. Just 34% of Republicans with high knowledge have very favorable views of fact-checkers compared with 59% of high-knowledge Democrats.

## Experimental results

We turn now to evaluating the effect of our experimental treatment, which randomly exposed some participants to fact-checks rather than placebo content. We expected that fact-checks would be more effective in increasing factual knowledge among people who already had high levels of political knowledge (as measured by a pre-treatment battery) than those who did not. First, however, it is important to note that — though we did not formally predict this outcome — the experiment raised knowledge rates by nine percentage points overall ( $p < .01$ ), increasing the proportion of correct answers from 16% to 25% in a series of knowledge questions administered after the election in wave 2. Considering the difficulty of the questions we administered and the delay between viewing the fact-checks and being asked questions about them, these findings are strikingly large.

As predicted, we found that these knowledge-increasing effects of fact-checks were some-

Figure 4: Fact-checking favorability by party and political knowledge (Nov. 2014)



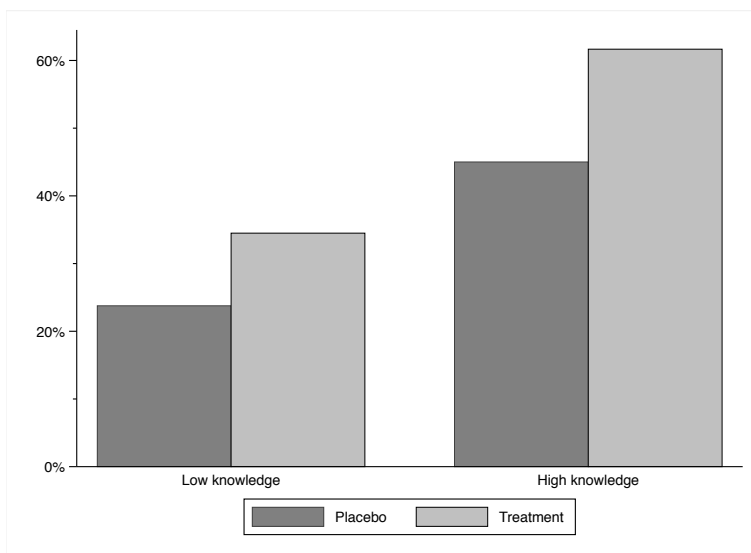
YouGov survey conducted November 6–18, 2014. The figure presents answers to the question “In general, how favorable or unfavorable is your overall opinion of the fact-checking movement in journalism?” that were provided on a six-point scale from “Very favorable” to “Very unfavorable.” Responses were disaggregated by a median split on the number of correct answers that respondents provided to an eight-question political knowledge battery. Response probabilities were calculated using survey weights from YouGov.

what greater among high knowledge respondents ( $p < .10$ ). Figure 5 shows the proportion of correct answers from low- and high-knowledge respondents, respectively, depending on their experimental condition. The rate of correct answers increased from 12% to 19% among people with low political knowledge (a seven percentage point increase) but went from 21.7% to 32.4% among people with high political knowledge (an eleven percentage point increase).

Finally, our fourth hypothesis predicted that respondents would be more likely to learn belief-consistent facts than those that contradicted their partisan biases. We coded each outcome variable for whether it was consistent or inconsistent with each party’s viewpoint, discarding those that might be liked or disliked by both sides or were unclear. We find no evidence of a differential learning effect overall, however. Figure 6 shows that correct answers increased somewhat *more* for belief-inconsistent facts (from 15% to 26%) than for belief-consistent facts (from 11% to 17%) across knowledge groups, though the difference was not statistically significant.

However, though we did not expect such an outcome, a post hoc analysis finds that this difference was not symmetric between parties. Republican knowledge of belief-inconsistent facts increased by 11 percentage points and by 18 percentage points for belief-consistent ones. The pattern for Democrats is the opposite, however — knowledge increased by 28 percentage points for belief-inconsistent facts compared compared with 15 percentage points for belief-

Figure 5: Experimental effects on knowledge of fact-check content (Nov. 2014)



YouGov survey conducted November 6–18, 2014. The figure presents the proportion of correct answers (“Very accurate”/“Somewhat accurate” for true statements, “Very inaccurate”/“Somewhat inaccurate” for false ones) to a series of factual questions about the content of fact-checks published by PolitiFact and its affiliates during the 2014 campaign. Responses were disaggregated by whether participants were assigned to a treatment condition in which they read these and other fact-checks during three sessions between September 21 and November 3 or a placebo condition. Response probabilities were calculated using survey weights from YouGov.

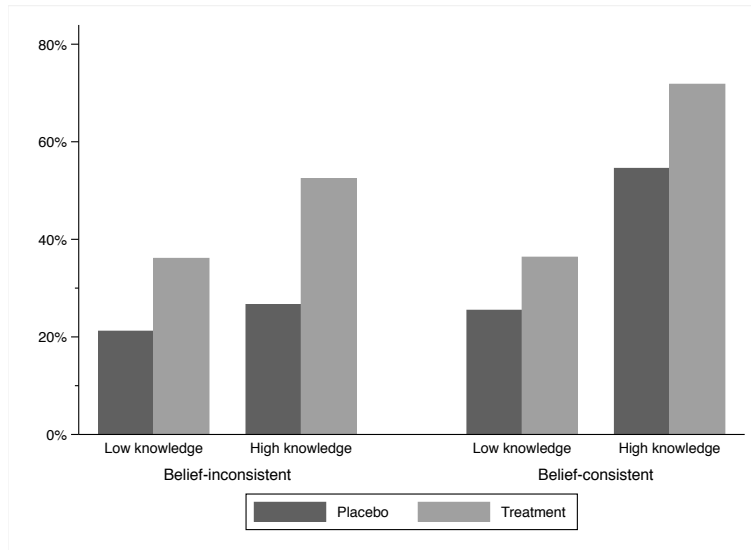
consistent facts. This pattern could reflect differences in how memorable the different types of facts were between parties or, possibly, differences in partisan responses to counter-attitudinal information from fact-checkers (per Hypothesis 2). Understanding the differences in how partisans respond to counter-attitudinal fact-checks is an important topic for future research.<sup>5</sup>

## Research questions

Finally, we consider our research questions. The first research question of interest is whether exposure to fact-checking would polarize views of the practice or would improve attitudes. We find that respondents’ composite attitudes toward fact-checking during wave 2 were significantly more favorable among those who were randomly exposed to fact-checking ( $p < .10$ ). Figure 7 shows two example findings. Relative to those in the placebo condition, participants who received the fact-checking treatment were significantly more likely to rate fact-checkers as fair (55% versus 46%) and to say there should be more fact-checking (78% versus 72%) during the post-election survey wave. These effects do not vary significantly by our composite measure of fact-checking attitudes during wave 1, suggesting that exposure did not polarize respondents based on their prior views of the practice.

By contrast, we find no significant effects of experimental exposure to fact-checking on

Figure 6: Fact-checking effects on knowledge by belief consistency (Nov. 2014)



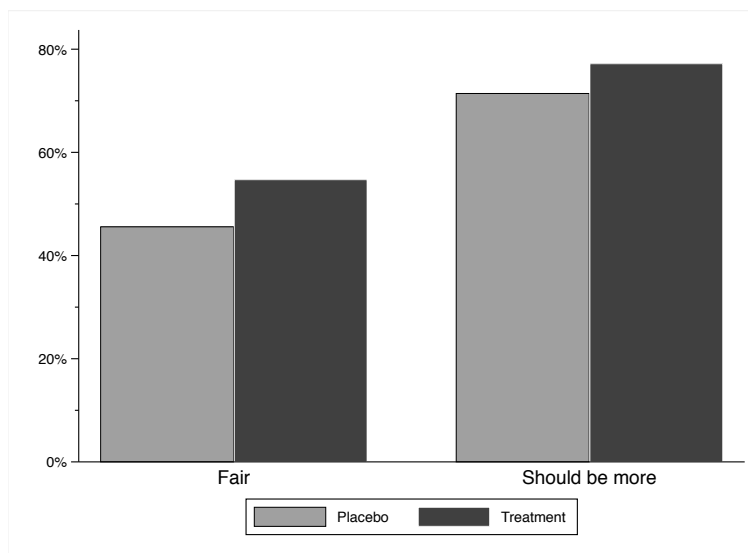
YouGov survey conducted November 6–18, 2014. Results above are from self-identified Republicans and Democrats (including leaners) only. Figure (a) presents the proportion of correct answers (“Very accurate”/“Somewhat accurate” for true statements, “Very inaccurate”/“Somewhat inaccurate” for false ones) to a series of belief-consistent factual questions about the content of fact-checks published by PolitiFact and its affiliates during the 2014 campaign. Figure (b) presents the corresponding proportion of correct answers to belief-inconsistent questions. Responses were disaggregated by whether participants were assigned to a treatment condition in which they read these and other fact-checks during three sessions between September 21 and November 3 and by a median split on correct answers to an eight-question political knowledge battery. Response probabilities were calculated using survey weights from YouGov.

trust in politicians (research question 2) or perceived political efficacy (research question 3). For instance, 45% of respondents in the placebo condition said that politicians are usually not telling the truth compared with 46% of respondents who received fact-checking content. Similarly, fact-checking exposure made participants only marginally more likely to report that they believe they can find the truth about political issues (48% versus 42%) and have a “pretty good understanding of the important political issues facing our country” (70% versus 66%). These effects do not appear to vary significantly by respondents’ prior levels of self-reported trust in politicians or political efficacy, respectively.

## Discussion

The results we present in this report are quite encouraging. Though many Americans are not familiar with the practice, the public generally holds very favorable attitudes toward fact-checking. Moreover, when people are randomly exposed to fact-checking, they not only come to view the practice even more favorably but they learned real information about politics. Participants who were shown fact-checks were more likely to correctly answer factual questions

Figure 7: Perceptions of fact-checking by experimental exposure (Nov. 2014)



YouGov survey conducted November 6–18, 2014. Response probabilities to the questions “In general, do you think fact-checkers get the facts straight, or do you think that their stories and reports are often inaccurate?” and to the question “In presenting the news dealing with political and social issues, do you think that fact-checkers deal fairly with all sides or do they tend to favor one side?” were calculated using survey weights from YouGov.

about that content days or weeks later compared with those who were instead shown placebo information. In short, people like fact-checking and it appears to help them become better informed.

However, these results also highlight several important challenges for the fact-checking movement. First, people who are less informed, educated, and politically knowledgeable have less positive views of the format. The learning effects we observed in our study as a result of exposure to fact-checking content were also somewhat less among participants with lower political knowledge. Fact-checking is also viewed more favorably by Democrats than Republicans, particularly among those with high political knowledge at the conclusion of a political campaign. Fact-checkers need to determine how to better attract interest from less knowledgeable and informed voters and to effectively communicate with them. Likewise, it is important to minimize the partisan divide on the merits of fact-checking, which could undermine the perceived neutrality of the format and the credibility of its practitioners’ conclusions.

Second, our experiment randomly assigned a subset of respondents to read fact-checks. This approach has the virtue of allowing us to provide the first causal estimate of the long-term effects of fact-check exposure on learning, but it circumvents the difficulty that fact-checkers face in trying to attract a wider audience. Our evidence does suggest the potential for a positive feedback loop if people come into contact with the format — participants who were randomly exposed to fact-checking during the study were more likely to report having

visited a fact-checking website during the 2014 campaign (31% versus 21% in the placebo condition,  $p < .05$ ). Most people probably still won't choose to read fact-checking when given a choice of content options, though. Future research should investigate how much people learn from fact-checks when they have more choice over the information they consume.

Another challenge is that the format of our study imposed some partisan balance in the fact-checks that respondents were shown and often showed them fact-checks about unfamiliar political figures (e.g., a governor in another state). In a more realistic context, people may be selective about which fact-checks they choose to read or may encounter a unrepresentative set of fact-checks via other sources (television news, online links and citations, social media, etc.). As a result, the fact-checks people see under normal circumstances may be more polarizing or controversial than the ones participants saw in our study (which did not produce a differential response based on how consistent their conclusions were with people's partisan views). In particular, fact-checks are often more prominent and widely circulated during presidential general election campaigns, which are likely to generate especially heated reactions compared to the midterm election context in which our study was conducted. Similarly, the set of fact-checks people encounter in everyday life may be potentially skewed toward either belief consistency (if people are more likely to be exposed to fact-checks that confirm their point of view) or inconsistency (if people instead are more likely to hear about fact-checks that generate outrage from fellow partisans). The public's views of the format and willingness to accept the information that fact-checkers provide may differ under such circumstances — another topic for future research.

Finally, our study does not directly compare the effects of fact-checking to other forms of news reporting. We therefore cannot definitively conclude that conventional approaches to journalism would not prove as popular as fact-checking and/or would not provide knowledge gains that are at least as large as those we document here. Our expectation, though, is that the clarity of the fact-checking format, which frequently uses (relatively) unambiguous ratings and seeks to reach defined conclusions, can help people make sense of complex factual debates more effectively than traditional reporting presented in an inverted pyramid style — at least when it comes to fact-checks that do not concern highly controversial issues and figures.

Though we still have much to learn, the results presented here suggest that fact-checking is a promising new journalistic approach that fulfills its promise to help voters understand politics. Americans have very favorable views of the practice and learn a surprising amount from exposure to it. As the practice expands, it may not only reshape journalism (Graves, Nyhan, and Reifler 2015) and more effectively hold politicians accountable (Nyhan and Reifler 2015) but help make citizens become better informed — a key step toward strengthening American democracy.



## Notes

<sup>1</sup>Previous research by Nyhan and Reifler (2015) shows that the reputational threat posed by fact-checking can also have a direct effect on the accuracy of politicians' statements, but we do not consider that issue here.

<sup>2</sup>The closest analogue to this study is Cappella and Jamieson (1994), which randomized exposure to television ad watch segments — a predecessor format that is related to fact-checks — in videotaped material participants watched in their homes over the course of a three to six day period in 1992.

<sup>3</sup>To examine whether shortening PolitiFact articles affected our results, we performed a companion experimental study on Qualtrics using participants recruited from Mechanical Turk that directly compared three truncated and full-length PolitiFact articles. We found that exposure to full-length fact-checks slightly increased favorability toward PolitiFact on a 0–100 feelings thermometer (+4 points;  $p < .10$ ) — the opposite of what we might expect if the shorter fact-checks we used were inflating the generally positive results reported in the main text. The full-length fact-checks also had no significant effect on feelings toward the articles themselves, though respondents were more likely to indicate that they had too much detail ( $p < .01$ ). (Further details will be reported in a subsequent academic manuscript.)

<sup>4</sup>For simplicity, all results provided in this report are calculated using survey weights provided by YouGov. The use of survey weights (combined with YouGov's matching algorithm) is what allows the opt-in panel to reflect a representative sample of the US public. An alternative weighting procedure is necessary to precisely estimate the treatment effects of interest because of the block randomized design. Importantly, however, our substantive conclusions are virtually identical with the two different weighting procedures so we use survey weights here for consistency. The companion academic manuscript to this report will present results with the alternative weighting procedure instead.

<sup>5</sup>Note: The results for belief-consistent and belief-inconsistent factual knowledge items in the original 2015 version of this report contained a coding error that has been corrected in this version. Our substantive conclusions have not changed.

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