Driving a Wedge Between Evidence and Beliefs: How Online Ideological News Exposure Promotes Political Misperceptions

Abstract

This article has 2 goals: to provide additional evidence that exposure to ideological online news media contributes to political misperceptions, and to test 3 forms this media-effect might take. Analyses are based on representative survey data collected during the 2012 U.S. presidential election (N = 1,004). Panel data offer persuasive evidence that biased news site use promotes inaccurate beliefs, while cross-sectional data provide insight into the nature of these effects. There is no evidence that exposure to ideological media reduces awareness of politically unfavorable evidence, though in some circumstances biased media do promote misunderstandings of it. The strongest and most consistent influence of ideological media exposure is to encourage inaccurate beliefs regardless of what consumers know of the evidence.

Keywords: misperceptions, media effects, online news, belief gap, information deficit

Driving a Wedge Between Evidence and Beliefs: How Online Ideological News Exposure Promotes Political Misperceptions

The emergence of the Internet as a primary source of political information has transformed many Americans' experience of the news, giving voice to previously marginalized political factions and creating outlets for explicitly ideological reporting (Stroud, 2011; C. Sunstein, 2001). This transformation has been accompanied by numerous high-profile misperceptions, such as erroneous beliefs about weapons of mass destruction in Iraq and about the birthplace of President Obama (World Public Opinion, 2006; YouGov Staff, 2014). The possibility that these phenomena are related is troubling, but evidence for the relationship is limited and the processes by which it might occur are not well understood. This article further substantiates the idea that ideologically slanted online news use promotes misperceptions. It also offers a theoretical argument, and preliminary evidence, suggesting that this does not occur because partisan outlets shield news consumers from more accurate (but less politically favorable) information; instead, a key way in which exposure to biased news shapes people's beliefs is unrelated to their knowledge about relevant evidence. This has important implications for the accuracy of political knowledge in the online news environment.

Misperceptions pose a fundamental challenge to democracy. A democratic state cannot ensure well-informed decision making when citizens are unable to agree about the political realities to which they must respond (Delli Carpini & Keeter, 1996). This problem is especially pressing today, as disputes over the facts are often most acute across party lines, resulting in

partisan belief gaps (Hindman, 2009). There are some indications that the accuracy of Americans' beliefs about the political world vary by their use of partisan news media (Meirick, 2013; PublicMind Poll, 2012), though evidence of a causal relationship is modest (but, see Feldman, Myers, Hmielowski, & Leiserowitz, 2014). The specific effects of exposure to *online* ideological outlets on misperceptions merit more careful scrutiny.

Contemporary explanations for the Internet's role in promoting misperceptions tend to fall into two camps. Some scholars suggest that online news facilitates politically biased news consumption, leaving partisan audiences with knowledge deficits that promote inaccurate beliefs (e.g., C. R. Sunstein, 2009). On this view, misperceptions reflect individual-level information deficits stemming from insular online news habits. This explanation implies that factual disputes might vanish if citizens were only more aware of evidence for their political opponents' beliefs.

Such predictions are grounded in inaccurate assumptions about how individuals use the Internet to get information. The presumption is that given the vast range of viewpoints available, online news users will almost invariably be insulated from perspectives that differ from their own, either by virtue of their decision to avoid sources that present other viewpoints (C. Sunstein, 2001) or the automatic exclusion of attitude discrepant sources by search engines and recommender systems (Pariser, 2011). Empirical evidence, however, shows that most online consumption is far more diverse than these arguments would predict. For instance, U.S. Internet use scores a 7.5 on a 101-point isolation index, where 100 corresponds to perfect segregation and 0 means no segregation (Gentzkow & Shapiro, 2011). Nor has social media-based filtering eliminated diversity: Between 20% and 30% of the news stories that Facebook users select come

from sources that do not share their political ideology (Bakshy, Messing, & Adamic, 2015).

Other scholars argue that misperceptions are the result of the psychological processes through which information is interpreted, and perceptions formed. This perspective is more compatible with what we know about contemporary online news practices, as it does not presume that individuals must be insulated from other viewpoints in order to hold misperceptions. This explanation is sometimes offered as a complement to knowledge deficit-based explanations (e.g., Nyhan & Reifler, 2010, p. 307), while at other times it is offered as an alternative (Kahan, Jenkins-Smith, & Braman, 2011, p. 166). We argue that exposure to ideological news websites promote misperceptions by altering both what users know about relevant evidence *and* whether their personal beliefs are consistent with that knowledge. We are, however, skeptical of the claim that biased news use will leave citizens unaware of the evidence.

Empirically, this study uses a unique set of survey data collected during the 2012 U.S. presidential election to test a series of relationships between exposure to ideological online news media and political misperceptions. Three-wave panel data provide compelling evidence that ideological media do stimulate misperceptions among their audience, while cross-sectional analyses suggest that use of ideologically oriented website is increasing belief in outlet-favored misperceptions even after accounting for the accuracy of individuals' knowledge of the evidence. Biased online media's ability to undermine the beneficial effect of evidentiary knowledge may help to explain the prevalence of misperceptions today, and it raises important questions about the prospect of a more accurately informed electorate. The next section provides the theoretical background for these claims, setting the stage for the empirical work that follows.

Promoting misperceptions online

We begin with a few definitions. For our purposes, political misperceptions are beliefs about politics that are inconsistent with the best available evidence (Kuklinski, Quirk, Jerit, Schwieder, & Rich, 2000). This definition allows us to distinguish between accurate and inaccurate claims in the face of incomplete evidence. Claims that are compatible with publicly held information, such as relevant evidence and conclusions of experts, are considered correct; all other claims are incorrect.[1] Importantly, this conceptualization allows us to discriminate between whether an individual has an accurate *understanding of evidence* relevant to a contentious claim and whether the individual's *beliefs* about that claim are accurate. We will return to this distinction shortly.

Ideologically oriented news sites are those that offer coverage consistently favoring one political perspective over others. The most obvious examples include websites that explicitly embrace their political leaning. For example, the *Cybercast News Service*'s (http://www.cnsnews.com/) tagline promises to deliver "The Right news. Right now." while the *DailyKos* (http://www.dailykos.com/) proclaims itself to be a "Democratic blog, a partisan blog." Often the political leaning of a news outlet is more subtle. Bias can be evident in the topics covered, as when an outlet provides disproportionate coverage of news unfavorable to an opposed party (Baum & Groeling, 2008); or it can show up in the sources of information that journalists rely on, more often turning to individuals affiliated with one ideology than another (Groseclose & Milyo, 2005).[2] As should be clear from these examples, news sites that fall under the biased-outlet umbrella do not form a monolithic whole; the extent of bias and how it is expressed varies greatly. Nevertheless, there is value in examining whether use of this high-

profile type of online news is contributing to the current political environment.

The focus here is not on consumers' exclusive reliance on outlets that affirm their beliefs—as so often presumed in discussions of online echo chambers (C. Sunstein, 2001) or filter bubbles (Pariser, 2011)—because most Americans use a wide range of online outlets (Gentzkow & Shapiro, 2011). Instead, the emphasis is on the influence of exposure to biased outlets, regardless of what other information sources are consumed. Many online news users do use sources biased in favor of their ideological predispositions, even if they do not avoid other perspectives (Garrett, Carnahan, & Lynch, 2013). Thanks in large part to the ease with which individuals can create online content (Bruns, 2008), one can find support for almost any belief on the web, from antivaccination activism to 9/11 conspiracy theories (Silverman, 2015). Although inaccurate information may be most visible on low-credibility websites, in some instances well established news organizations have promoted misperceptions through their coverage (e.g., Feldman, Maibach, Roser-Renouf, & Leiserowitz, 2012).

The first question is whether the mere presence of more politically skewed online outlets in a consumer's news diet can help to explain people's misperceptions about the political world. Extant literature suggests that the answer is yes. Scholars argue that biased news media may promote *outlet-favored misperceptions*, misperceptions that benefit an outlet-allied party, candidate, or issue or that harm the opposition (e.g., Jamieson & Cappella, 2008; C. R. Sunstein, 2009), and there is growing evidence that exposure to these distortions shapes consumers' beliefs (Feldman, et al., 2014; Hindman, 2009; Meirick, 2013). Thus we begin by proposing two confirmatory hypotheses: *use of ideologically oriented websites will increase outlet-favored*

misperceptions (H1a) and reduce outlet-opposed misperceptions (H1b).

The central question here, though, is *how* consuming news from these outlets influences beliefs. To answer this question, we return to the distinction between beliefs about an issue and knowledge of the evidence related to that issue. An example helps to illustrate the difference. Consider Americans' acceptance of the heliocentric model. Perhaps surprisingly, only three in four (74.6%) Americans believe that the Earth orbits the sun.[3] The rest, by our definition, hold a misperception. Most of these individuals are simply unaware of the evidence: More than one in three (36.8%) say they are not sure where science stands on the issue. Many more who endorse this inaccurate belief misunderstand the evidence: About a quarter (25.1%) believe that scientists think the sun revolves around the earth, and another one in eight (12.1%) say that scientists' views are evenly divided. Factual misperceptions, however, can persist among those who hold information consistent with a more accurate conclusion. In this case, fully a quarter (25.9%) of those endorsing an incorrect view (that the sun revolves around the earth) correctly identified scientists' conclusions (that the earth revolves around the sun). Our point is simple: Misperceptions are not due solely to ignorance or misunderstandings of the evidence; individuals sometimes hold beliefs that contradict their own knowledge of the evidence.

With this distinction in mind, we next consider three different ways that using ideological online news outlets could contribute to misperceptions: (1) by reducing awareness of relevant evidence, by (2) misrepresenting that evidence, and (3) by encouraging users to adopt outlet-favored views regardless of the evidence. We examine the theoretical bases for each of these possible outcomes in more detail before turning to the empirical tests.

Lack of familiarity with evidence

Scholars have speculated that reliance on ideological news might leave individuals less aware of unpalatable evidence (e.g., Hindman, 2009; C. R. Sunstein, 2009). This has not been tested, and it is in our view unconvincing. Use of ideological news sites is unlikely to promote ignorance about political issues. Despite indications that news outlets' topic coverage varies by their political orientation (Baum & Groeling, 2008), lies of omission are unlikely in a competitive news environment. The risk of detection, and the reputation cost this would entail for the outlet, are both high (Gentzkow & Shapiro, 2006). Even if an individual's use of a biased source yielded little knowledge of evidence related to outlet-favored misperceptions, use of other, less biased outlets would likely fill in the gaps. Given the contradictory views on this subject, though, we propose a research question: *Does use of ideologically oriented websites reduce familiarity with evidence about outlet-favored misperceptions (RQ1)?*

Misunderstanding the evidence

It is more plausible that ideological news site use promotes misunderstandings of evidence. Factual distortion, like omission, is a risky strategy for a news organization because biased coverage can exact a high price if detected (Gentzkow & Shapiro, 2006). Nevertheless, there is considerable evidence that it occurs (Feldman, et al., 2012; Jamieson & Cappella, 2008; Sobieraj & Berry, 2011). This could be a product of the fierce competition for attention among online news sources. Sensational, if misleading, headlines can drive site traffic and promote reader engagement (Silverman, 2015). Furthermore, in the face of declining budgets, journalists and bloggers may disavow responsibility for the claims they circulate, using hedging words

("purported," "believed to be," etc.) and linking to other sources rather than engaging in independent verification (Silverman, 2015). Superficial attention to online information only exacerbates this problem: One web-tracking company found that one in three users visiting an online news article spent less than 15 seconds looking at it (Haile, 2014). It could also be because ideological news outlets often distinguish between hard news programming and editorial or entertainment content, holding the latter categories to a lower accuracy standard (Patterson, 2000). This distinction affords news organizations plausible deniability, allowing them to claim impartiality in their news coverage while simultaneously endorsing politically expedient falsehoods via other content. This could be very effective, as opinion-laden reporting is often as persuasive as straight news (Feldman, 2011).

Whatever the source, consumers exposed to deceptive content are more likely to misunderstand pertinent evidence. The debate over climate change provides a vivid example: networks differ with regard to how they present scientific agreement on the issue, and this influences audience members' perceptions of the issue (Feldman, et al., 2012). Ideologically oriented outlets can also reinforce audience members' attachment to their political identity (Levendusky, 2013), which itself influences perceptions of evidence (Jerit & Barabas, 2012; Kahan, et al., 2011). To be clear, misunderstanding evidence is quite different than lacking awareness of it: individuals in the former category use inaccurate information to inform their decision making, while those in the latter category acknowledge that they lack information. This culminates in our hypothesis that *use of ideologically oriented websites will promote misunderstandings of evidence related to outlet-favored misperceptions (H2).*

The inverse approach—using more extensive and thorough fact checking to expand coverage of misperceptions that hurt an allied party, candidate, or issue—is even more probable. Whereas self-interested omissions are likely to generate criticism, neither news consumers nor media critics are likely to fault news organizations for providing accurate information, even if the corrections serve the outlet's political interests. Presenting corrective information tends to yield modest improvements in belief accuracy (Lewandowsky, Ecker, Seifert, Schwarz, & Cook, 2012). We therefore anticipate that *use of ideologically oriented websites will increase familiarity with evidence about outlet-opposed misperceptions (H3),* and *will increase understanding of this evidence (H4).*

Misperceptions despite knowing the evidence

The distinction between what an individual knows of the evidence about a politically charged issue and what that individual believes is subtle, but critically important. Knowing what has been reported by the media is not the same as believing it; individuals frequently reject claims to which they are exposed (Kahan, 2013; Nyhan & Reifler, 2010). We aim to demonstrate that ideological online news sites play an important role in this process, promoting outlet-favored beliefs regardless of the evidence with which the consumer is familiar.

Ideologically oriented news sites engage in a variety of practices that could contribute to their audiences adopting evidence-inconsistent beliefs. First, politically slanted outlets often try to cast doubt on the trustworthiness of the opposition and the legitimacy of their conclusions (Jamieson & Cappella, 2008; Sobieraj & Berry, 2011). This is consistent with the observation that consuming conservative news has been shown to reduce trust in climate scientists, which is

in turn associated with doubts about climate change (Hmielowski, Feldman, Myers, Leiserowitz, & Maibach, 2014). Second, ideologically oriented outlets could help citizens identify party elites' positions, which has been shown to shape their beliefs. For example, between 2002 and 2010 Congressional Republicans' opposition to environmental bills did more to drive down public concern about the threat posed by global climate change than media reports describing relevant scientific evidence did to drive concern up (Brulle, Carmichael, & Jenkins, 2012). This is not simply a product of heightened issue awareness; instead, it is common for individuals to alter their stated beliefs to better align with their preferred party's positions (Lenz, 2009). These partisan shifts are not limited to policy preferences and issue stances, but extend to factual beliefs as well. Indeed, citizens will often reject assessment by experts in favor of the claims made by likeminded partisans (Darmofal, 2005). All of this is consistent with Kahan's (2013) argument that statements of belief serve an important identity-expressive function: Embracing a party-favored belief conflicting with well established fact may be a form of identity self-defense (408).

This list of strategies is not exhaustive; rather, we argue that these well documented tactics are a sufficient basis on which to offer our prediction that using ideological outlets will promote outlet-favored beliefs independent of what consumers know about the evidence. In other words, *even after accounting for accuracy of knowledge about relevant evidence, use of ideologically oriented websites will increase outlet-favored misperceptions (H5a), and reduce outlet-opposed misperceptions (H5b).*

Methods

The data we use to test our predictions come from a three-wave panel study conducted during the

2012 U.S. Presidential election by the survey company GfK. The sample includes adult Americans drawn from the KnowledgePanel, a probability-based panel with dual-frame composition designed to be representative of the U.S. population. (For more information about GfK's sampling procedures, see the Supporting Information). Data for the first wave were collected between 13 July and 6 August 2012 and included 1,004 respondents. 783 participants completed Wave 2 (77.8% retention rate), which was collected between 31 August 2012 and 3 October 2012. Wave 3 data were gathered between 2 and 19 November 2012 and included 652 completed surveys—a 64.9% retention rate between the first and third waves and an 83.4% retention rate from Wave 2. The mean age for the sample at Wave 1 was 49.7 (SD = 16.4) and 47.7% of the sample was male. 74.7% of respondents were White, 8.5% were Black, and 10.6% were Hispanic. There is no indication that panel attrition was dependent on demographics: primary characteristics of the sample displayed no significant differences across waves. Importantly, there were no differences in attrition between Republicans, Democrats, and Independents across waves, $x^2(4) = 1.06$, $p = .90$. In addition, mean levels of liberal or conservative online media use did not differ across waves (Fs < .7).

Measures

Over the past decade there have been several prominent misperceptions on a range of contentious political topics. In this study we choose to focus on four, two reflecting more favorably on Republican positions and two with positive implications for Democrats. Selecting this diverse set of misperceptions helps to ensure that the effects detected are not bound to a particular topic or the wording of a specific item. The well-documented falsehoods that favor Republicans were the

claims that President Obama was not born in the United States, and that there were weapons of mass destruction (WMDs) in Iraq. The Democrat-favored misperceptions parallel these. One claim was critical of the 2012 Republican presidential candidate, suggesting that Mitt Romney actively managed Bain Capital when the firm started investing in companies that outsourced work abroad. The other claim concerned an assertion supporting a widely held Democratic policy position, namely that there was an immediate drop in marine life diversity in the Gulf of Mexico following the BP oil spill. (More information about the selection of these issues can be found in the Supporting Information.) Comparable results across these four issues provide good evidence of the robustness of the effects. Differing results, when they occur, are more difficult to interpret. We consider the comparability of these items at greater length in the discussion section.

Familiarity with evidence. Familiarity with evidence about these four disputed claims was assessed by asking participants to indicate what the purportedly knowledgeable individuals featured in the news media—journalists, members of the U.S.-led fact-finding mission in Iraq, fact checkers, and scientists, respectively—had concluded at the time of the study. Questions about Obama's birthplace were asked in all three waves, questions about WMDs were asked in the first wave, and questions about Romney and the BP oil spill were included in the third wave.

These measures were embedded within a larger political-knowledge battery. There were four standard political knowledge questions, followed by the four evidence-related items in random order. For each claim, respondents indicated what they believed the media had reported about the topic by choosing among four response options. Options included both accurate (e.g. most journalists believe President Obama was born in the US) and inaccurate responses (e.g.

most journalists believe President Obama was not born in the US; journalists are evenly divided about where the President was born; and "unsure"). (See Supporting Information for introductory text and exact statement wording.)

To assess whether individuals are *unfamiliar with evidence* about the claims, we constructed four dichotomous variables, one for each issue, coding respondents who indicated that they were "unsure" about the evidence high, and collapsing the other three response options (e.g. Obama born in the US; Obama not born in US; and journalists evenly divided) into the low code (Obama: $M = 0.15$, $SD = 0.36$; WMD: $M = 0.24$, $SD = 0.43$; Romney: $M = 0.43$, $SD = 0.50$; BP: $M = 0.27$, $SD = 0.45$).

Accurate knowledge about evidence. The evidence-related items were also used to create a series of dichotomous variables to assess whether individuals had an *accurate understanding of the evidence*. Individuals answering the questions correctly were coded high, and all others—including those unfamiliar with the evidence—were coded low (Obama: M=0.56, SD=0.70; WMD: M=0.48, SD=0.50; Romney: M=0.16, SD=0.37; BP claim: M=0.12, SD=0.33).[4]

Belief accuracy. After answering the knowledge questions, respondents were asked what they themselves believe about each of the four topics. These items were presented as 5-point semantic differentials, with contrasting statements serving as the anchors. (See Supporting Information for exact statement wording.) Respondents placed a mark closer to the statement that best described *their* beliefs, locating it in the exact middle if they were unsure of the truth. All questions were coded so that higher values were more accurate. Mean scores suggest a range in accuracy of personal beliefs across the issues (Obama: $M = 3.7$, $SD = 1.5$; WMDs: $M = 3.4$, $SD =$

1.4; Romney: *M* = 2.7, *SD* = 1.2; BP: *M* = 2.4, *SD* = 1.2). Placing these items after the knowledge battery does make it more likely that respondents would state beliefs consistent with the evidence, but this only makes confirming our hypotheses more difficult.

Liberal and conservative online media use. The survey also measured the extent to which respondents used both liberal and conservative online media. Each question described below measured partisan online media use on a 5-point scale with response options anchored by "Never" and "Every day or almost every day." Items were coded so that higher values correspond to greater use. The measures were intended to capture outlets both large and small at both ends of the ideological spectrum. Liberal online media use (Wave 1: *M* = 1.5, *SD* = 0.9; Wave 3: *M* = 1.6, *SD* = 0.9) was assessed by combining responses to two questions that asked how often respondents used "the website of a major national news organization that is frequently characterized as favoring liberal positions or Democratic candidates, such as *The New York Times* or *MSNBC*" and "the website of a politically liberal online news organization or blog, such as *The Huffington Post, ThinkProgress* or the *Daily Kos*." Conservative online media (Wave 1: *M* = 1.5, *SD* = 0.8; Wave 3: *M* = 1.5, *SD* = 0.9) combined use of "the website of a major national news organization that is frequently characterized as favoring conservative positions or Republican candidates, such as *The Wall Street Journal* or *FOX News*" and "the website of a politically conservative online news organization or blog, such as *Drudge Report, TownHall* or the *Cybercast News Service (CNS News)*." Biased news site usage is generally low: Just over half the sample report no use of partisan sites, and another one in five use them only infrequently. Detailed usage frequencies are presented in the online Supporting Information (Table S1).[5]

Political party affiliation. Party affiliation was measured on a 7-point scale ranging from Strong Democrat to Strong Republican. Dummy variables were created by combining respondents who identified as either Republican or Republican-leaning (33.5%), or as Democrat or Democrat-leaning (44.8%), with pure Independents serving as the reference category (15.6%).

Control variables. Several control variables were included in all models, including the use of nonpartisan websites, political interest, education, and political knowledge. Wording and descriptives for these items are available in the online Supporting Information.

Results

Our first hypotheses, *H1a* and *H1b*, concern the causal link between ideologically oriented website use and political misperceptions. Our multiwave panel provides a stronger test of causality then is afforded by cross-sectional design because it allows us to identify the effect of changes in news consumption on beliefs, holding the individual fixed. Cross-sectional designs, in contrast, compare across individuals, which means that observed relationships may be due to unobserved individual differences.

In our first test of this relationship, we use a cross-lagged regression model to show that media use predicts individuals' inaccurate beliefs, not the other way around. The model is autoregressive, premised on the idea that past behavior is the best predictor of present behavior, and it attempts to use other variables to explain any remaining variance. Specifically, the model tests the relationships between ideologically oriented outlet exposure and accurate beliefs about President Obama's birthplace. That is, does website use predict belief accuracy? Or does accuracy predict website use? If media consumption is a causal force, as we hypothesize, then it

should have significant predictive power after controlling for beliefs in prior waves. Furthermore, this effect should be greater than the alternative relationship, in which changing misperceptions lead to greater ideological media exposure. (Note that this approach is premised on a strong assumption, which we address after describing the model results).

[Figure 1 about here]

The results provide modest support for the anticipated influence of ideologically oriented news use on misperceptions, though they suggest a more nuanced relationship than initially hypothesized. The cross-lagged model coefficients, which were estimated using Mplus, are shown in Figure 1. First, we note that the fit of the model is good, easily exceeding the thresholds commonly recommended when constructing structural equation models: $Ç^2$ is nonsignificant ($Ç^2 = 9.99$, $p = .44$); the TLI is high (TLI = 1.0); and both RMSEA and SRMR are near zero (RMSEA 90% CI [0.00 – 0.04]; SRMR = .01) (Geiser, 2012). As expected, both liberal and conservative news use predicts outlet-congruent changes in beliefs over time, albeit intermittently. Specifically, conservative outlet use in the second wave predicts a subsequent reduction in belief accuracy about Obama's birthplace, a misperception favored among conservatives, in the third wave. Liberal websites have the opposite effect: Liberal outlets use in the first wave promotes accuracy on this issue in the second wave.

Unanticipated by our theorizing, however, is the fact that the direction of the causal arrow varies over time, with belief accuracy predicting partisan media use in alternate waves. It would be more apt to describe the pattern observed in the cross-lagged model as a feedback loop or reinforcing spiral (Slater, 2007). Conservative ideological news use promotes misperception,

while liberal news use constrains it, but the resulting (mis)perceptions subsequently promote use of outlets expected to favor these beliefs. This bidirectional pattern is consistent with recent work demonstrating the reciprocal influence of conservative media and climate change beliefs (Feldman, et al., 2014). Theoretically, reversals of the causal arrow could result from selective exposure: Individuals are often attracted to sources that affirm their beliefs (Stroud, 2011).

A significant limitation of this cross-lagged approach, however, is its assumption that changes in news consumption are "as-if" randomly assigned. Exposure is rarely random. To verify the robustness of these results, we constructed a mixed-effect model, with observations nested within respondent, predicting belief accuracy in the current wave by ideologically oriented website use in the prior wave, and controlling for demographics (see Table S2 in the Supporting Information). Results affirm the cross-lagged regression results: Both liberal and conservative website use promotes ideologically consistent beliefs. Nevertheless, *H1a* and *H1b* are only partially supported.

No evidence that ideological media reduce awareness of evidence

Next, we consider the means by which ideologically oriented news outlets might promote misperceptions, relying on cross-sectional analyses to test three different mechanisms. We begin by assessing whether using these outlets makes audience members less aware of expert conclusions about website-favored misperceptions (*RQ1*). Although this mechanism is intuitively appealing, it remains untested and we have identified several reasons to think that it might be wrong. We find no evidence in these data that using biased outlets promotes politically beneficial naiveté; instead, there is modest evidence that the opposite sometimes occurs. To test the

relationship, we estimated a series of logistic regression models predicting whether individuals claim ignorance of what experts say about each the four false claims (for a complete list of coefficients for all four models, see Table S3 in the Supporting Information). According to these models, ideological media had no discernable influence on users' awareness of expert conclusions. This is indicated by nonsignificant coefficients on conservative outlet use for claims about Obama's birthplace and WMDs in Iraq, and on liberal outlet use for claims about the BP oil spill and about Romney's role at Bain Capital when the company outsourced work abroad. Instead, the only significant relationship indicates that heavy users of liberal news were more likely than lighter users to claim familiarity with*, not ignorance of,* fact checkers' conclusions about Romney's role at Bain Capital (OR = 0.70, $p < .05$).[6] This inaccurate claim would have benefitted the Democratic Presidential candidate if it had been true, yet a typical citizen who did not use liberal sites had a 47% probability of being "unsure" of what fact-checkers had concluded, while a comparable heavy user of liberal sites had only an 18% chance. Thus, the answer to our first research question (*RQ1*) is no: We find no evidence that ideological media promote ignorance of inopportune evidence.

We also predicted that ideological news exposure would make users more aware of expert conclusions that undermine outlet-opposed false claims (*H3*; we consider *H2* alongside *H4,* in the next section). Although we expected this effect to be small, we were nonetheless surprised to see no evidence of the predicted relationship. Reviewing the previously described logistic model, we find that all relevant model coefficients are nonsignificant. Conservative media was not associated with a significant increase in exposure to the facts surrounding liberal-

favored misperceptions, or vice versa. We conclude that *H3* is unsupported.

Ideological media promote misunderstanding of some evidence

Although we cannot infer that ideologically oriented websites make people less aware of factual evidence surrounding these issues, they could still undermine accurate knowledge by giving their audience false impressions of that evidence. Here we consider whether using biased news websites influences the *accuracy* of users' knowledge about the conclusions reported in the news media (*H2* and *H4)*. For example, does use of right-leaning outlets promote errors in assessing what knowledgeable individuals featured in the media say about misperceptions favored by conservatives and/or reduce errors about misperceptions favored by liberals? The evidence for this pair of hypothesis is mixed. We start by looking at some suggestive descriptive statistics (computed using sample weights): 15.1% of Republicans wrongly believe that most journalists think President Obama was born outside the US, while only 2.8% of Democrats make this error. Provocative as this is, it is a poor test of the hypothesis because it does not directly assess the influence of news media use—falsely equating party affiliation with news outlet exposure—and because it fails to control for several likely confounds.

A more rigorous test of the hypotheses estimates logistic regression models predicting whether individuals hold accurate knowledge about expert conclusions based on their use of these news sites (see Supporting Information Table S4 for full models).[7] These models complement those predicting a lack of knowledge, reported in the previous section. Our goal here is to distinguish between factors that reduce awareness of the evidence (the subject of the previous analyses) from factors that promote an inaccurate understanding of the evidence. For

this reason, we excluded respondents who said they were "unsure" of the evidence from these analyses. We find that ideological outlet use does influence the accuracy of users' knowledge about evidence in the expected directions for the two liberal-favorable misperceptions. Liberal website use is associated with a reduction in accuracy about what scientists said regarding the BP oil spill (OR = 0.61, $p < .05$) and what fact checkers said about Romney's role in Bain Capital's outsourcing efforts (OR = 0.55, $p < .01$). To put these results in context, those who do not use liberal news sites had an 18% chance of knowing what scientists said about the BP oil spill, and a 35% chance of knowing what fact checkers said about Romney. Heavy liberal website users' performance was considerably worse: They had only a 3% and a 5% chance, respectively, of correctly describing the evidence. Conservative website use, in contrast, is associated with correct identification of fact checkers' conclusions about Romney (OR = 1.25, $p < .05$).[8] The results for misperceptions favored by liberals are consistent with *H2* and *H4*. There was, however, no corresponding effect for misperceptions more prevalent among conservatives: Partisan news site use was not associated with significant changes in accuracy when describing evidence about the President's birthplace or the presence of WMDs in Iraq. Overall support for the two hypotheses is therefore mixed. We consider these differences, which we believe may reflect the issues selected, in the discussion.[9]

Rejecting evidence

Summarizing the results so far, data are consistent with the assertion that ideologically oriented websites do shape users' understanding of evidence surrounding some contested political facts, but the effect is modest in magnitude and limited in scope. That leaves one last effect of biased

outlet exposure that could promote ideologically favorable misperceptions. Recall our prediction that ideologically oriented websites would influence users' beliefs above and beyond their knowledge of the evidence (*H5a* and *H5b*). Here again descriptive data are compelling: 90.3% of Democrats who know what journalists believe about President Obama's birthplace have reached this conclusion themselves, while only 66.7% of Republicans who accurately perceive journalists' positions do the same. A more careful test, however, models beliefs as a product of media use *after accounting for whether the individual holds accurate knowledge of the evidence*. We do this using two types of analysis, one compatible with mediation testing within the framework of linear structural equation modeling, and the other using the counterfactual framework. In the first, we include the mediating factor as a predictor so that we can see how much of the outlets' effect on personal beliefs is *not* mediated by its effect on an accurate understanding the evidence (Hayes, 2013). The second analysis uses the approach described by (Imai, Keele, & Tingley, 2010) to decompose the total effect of media use into average direct and indirect effects.

[Table 1 about here]

The results of the first approach are unambiguous: Use of ideological media is consistently associated with holding misperceptions after accounting for the accuracy of audience members' issue-relevant knowledge. That is, use of these news sites is associated with holding outlet-favored beliefs *even if users know that their beliefs are inconsistent with claims made by journalists, fact checkers, scientists, etc*. This test takes the form of an ordered logistic regression model predicting how accurate an individual's beliefs are after statistically controlling

for accurate knowledge about the conclusions reported in the news media (see Table 1). The residual variance after including this factor corresponds to the media's influence on beliefs holding the individual's familiarity with the evidence constant. Holding constant what users know about the topics, we find that conservative outlet use is associated with greater accuracy about the BP oil spill and Romney's role at Bain, and with less accuracy about Obama's birthplace and WMDs in Iraq. In contrast, liberal outlets are linked to more accuracy about Obama and Iraq, and less accuracy about the oil spill in the Gulf and about Romney's responsibility for outsourcing U.S. jobs overseas. These results are consistent with *H5a* and *H5b*.

To illustrate the magnitude of these effects we use results of the regression model reported above to estimate the predicted probability of holding a party-favored inaccurate belief with high confidence despite knowing what the evidence suggests as a product of ideological site use (see Supporting Information Table S6). The differences are striking. A Republican who knows the facts but does not visit conservative news sites has only a 3% chance of incorrectly answering questions about Obama's birthplace or WMDs. An otherwise identical *heavy* conservative site user, however, has an almost one-in-three (31% and 33%, respectively) chance of holding a misperception. Similarly, a Democrat familiar with fact checkers' conclusions about Romney who does not visit liberal sites is almost certain to answer the question correctly (3% answer incorrectly); however, about one in ten (10%) Democrats who frequently use liberal sites are expected to answer incorrectly, contrary to their knowledge of the evidence.

A more conservative approach to estimating the influence of website use on beliefs unmediated by individuals' evidentiary knowledge is based on the counterfactual framework, a

formal framework for assessing causal inferences (Imai, et al., 2010 and see Acharya, Blackwell, & Sen, 2015). This approach uses Monte Carlo simulation to estimate model parameters for both outcome and mediator variables, and then computes confidence interval for the average direct effect (ADE) and average causal mediation effect (ACME) based on the simulated data (for a more detailed description of this approach, see Imai, et al., 2010). To conduct these analyses, we rely on a Stata implementation of the algorithm (Hicks & Tingley, 2011). One thousand simulations sufficiently produce reliable estimates of these simple models. One notable requirement of this approach is that the predictor of interest be expressed as a dichotomous variable indicating whether the case corresponds to a "control" or "treatment" condition. For these estimates, we consider respondents with little or no use of ideological sites (scores less than or equal to two, "rarely" use) to be the control; all others are classified as being in the treatment condition.

Results using the counterfactual approach are generally comparable to those derived from the SEM framework, reported above, although two tests in this more conservative approach fall short of significance (see Supporting Information Table S7). Conservative media use significantly influences beliefs about all four issues after accounting for its influence via accurate knowledge. As with the first test, it is associated with lower accuracy about conservative-favored misperceptions, and higher accuracy about those favored by liberals. Liberal media use, however, is only significantly associated with lower accuracy about liberal-favored misperceptions. Taken as a whole, this pattern of results offers strong support for *H5a* and *H5b*.

Discussion

Panel data offer additional evidence that biased websites' contribute to false beliefs, and cross-section data offer insight into three different types of media effects that could help explain this apparent relationship. We consider whether evidence is consistent with the predictions that use of biased websites is promoting ignorance of expert conclusions about outlet-favored misperceptions, promoting misperceptions of these same expert conclusions, and/or promoting misperceptions regardless of users' knowledge of the evidence. Examining these distinct influences allows us to move beyond the simple website exposure-misperception link, helping us to better understand theoretically the ways in which ideologically oriented outlets shape beliefs.

Data are consistent with the prediction that use of politically slanted news sites shapes individuals' perceptions of reality, by (sometimes) altering their understanding of experts' conclusions, and, more importantly, by shaping their beliefs above and beyond what known evidence indicates that they should believe. In other words, citizens' beliefs can deviate from what they know about the evidence as reported in the media, and this deviation appears to be significantly impacted by their use of ideological websites. Those using conservative (liberal) news outlets are more likely to believe falsehoods that favor conservatives (liberals), even if they know that experts, such as journalists, fact checkers, or scientists, disagree with them.

There is little evidence that ideologically oriented websites leave their audiences less aware of relevant facts. Rather than contributing to unawareness, use of biased online news outlets is associated with seeing evidence in ways that are less threatening to the outlets' interests. Partisan media's apparent ability to promote misperceptions *in spite of* exposure to more accurate information may help to explain how these misperceptions continue to flourish

despite the diversity that characterizes most Americans' online news diet.

An important open question concerns why some effects differed across issues. Specifically, we found that news media exposure had more influence on misunderstandings of evidence for liberal-favored misperceptions than for conservative-favored misperceptions. We suspect that this reflects differences in issues selected for this study, and not differences in the outlets or audience members. Misperceptions about both WMDs in Iraq and Obama's birthplace received extensive media coverage, including exhaustive fact checking efforts, for years leading up to this study. Experts' conclusions about these issues are unambiguous and stable, so it is unsurprising that contemporary media exposure had relatively little influence on citizens' knowledge about these conclusions. Regardless of where you get your news or what you believe, you know what experts say about these topics. News about the BP oil spill and about Romney's responsibility for outsourcing U.S. jobs abroad, in contrast, was more recent, the facts were relatively unfamiliar to most Americans, and there was considerably more ambiguity. Thus, news outlets had a much greater opportunity to shape audiences' perceptions of what experts thought. These explanations are, however, speculative and reflect a limitation of these data. Future studies would do well to identify items that exhibit greater comparability.

Nevertheless, the consistency of results is striking: Across four misperceptions, which represented a range of topics (military, environmental, economic, and personal), media profiles, and ideological biases, use of ideological oriented websites appeared to have a reliably strong influence on audience members' beliefs, above and beyond what those individuals knew about the evidence. Perhaps media's influence on misunderstandings of the evidence would have been

stronger and more consistent with a different set of issues, but even for issues where those effects were large (e.g., misperceptions about the BP oil spill) the influence of the media was only partially explained by its effect on consumers' knowledge of the evidence.

Our reliance on self-reported data is an obvious limitation. It is likely that our media exposure measures overestimate actual news consumption (Prior, 2013). The news exposure patterns observed in this dataset are consistent with many other types of data, including experiments and behavioral data, but validation using other types of data would be worthwhile. The reliance on cross-sectional data for most tests is another important limitation. It is possible, for example, that people's evidentiary knowledge drives their media exposure. Even the lagged model can be criticized in this regard: Perhaps the approaching election motivated both heightened media use *and* more inaccurate beliefs. Additional research is merited.

Finally, a valuable complement to this work would be content analyses of ideologically oriented news websites. It would be useful to better understand how exactly news organizations are able to promote these different types of misperceptions.

Conclusion

Political misperceptions pose a challenge to democracy, where citizens are expected to make decisions based on accurate (if not complete) information (Delli Carpini & Keeter, 1996). The Internet is supposed to help by providing citizens with easier access to relevant information, thereby increasing political understanding. This research reminds us that when people seek political news, what they learn depends on the news outlets they use. Although Internet users do not systematically shield themselves from information that could undermine their existing

beliefs, some do include ideologically oriented sources in their information diet. In the month leading up to the election, a quarter of Americans said they used biased news sites several times or more. Reliance on these websites appear to produce a distorted understanding of evidence, potentially promoting inaccurate beliefs even when evidence is understood correctly. It is sobering to recognize that online news may contribute to misperceptions even when consumers encounter a range of outlets and have been exposed to more accurate political information.

References

Acharya, A., Blackwell, M., & Sen, M. (2015). Explaining causal findings without bias: Detecting and assessing direct effects, from http://web.stanford.edu/~avidit/directeffects.pdf

Bakshy, E., Messing, S., & Adamic, L. (2015). Exposure to ideologically diverse news and opinion on Facebook. *Science, 348*(6239), 1130-1132. doi: 10.1126/science.aaa1160

Baum, M. A., & Groeling, T. (2008). New media and the polarization of American political discourse. *Political Communication, 25*(4), 345 - 365. doi: 10.1080/10584600802426965

Brulle, R., Carmichael, J., & Jenkins, J. C. (2012). Shifting public opinion on climate change: An empirical assessment of factors influencing concern over climate change in the U.S., 2002–2010. *Climatic Change*, 1-20. doi: 10.1007/s10584-012-0403-y

Bruns, A. (2008). *Blogs, Wikipedia, Second life, and beyond: From production to produsage*. New York: Peter Lang.

Darmofal, D. (2005). Elite cues and citizen disagreement with expert opinion. *Political Research Quarterly, 58*(3), 381-395. doi: 10.1177/106591290505800302

Delli Carpini, M. X., & Keeter, S. (1996). *What Americans know about politics and why it matters*. New Haven: Yale University Press.

Feldman, L. (2011). The opinion factor: The effects of opinionated news on information processing and attitude change. *Political Communication, 28*(2), 163-181. doi: 10.1080/10584609.2011.565014

Feldman, L., Maibach, E. W., Roser-Renouf, C., & Leiserowitz, A. (2012). Climate on cable: The nature and impact of global warming coverage on Fox News, CNN, and MSNBC. *The International Journal of Press/Politics, 17*(1), 3-31. doi: 10.1177/1940161211425410

Feldman, L., Myers, T. A., Hmielowski, J. D., & Leiserowitz, A. (2014). The mutual reinforcement of media selectivity and effects: Testing the reinforcing spirals framework in the context of global warming. *Journal of Communication*, 590-611. doi: 10.1111/jcom.12108

Garrett, R. K., Carnahan, D., & Lynch, E. K. (2013). A turn toward avoidance? Selective exposure to online political information, 2004-2008. *Political Behavior, 35*(1), 113-134. doi: 10.1007/s11109-011-9185-6

Geiser, C. (2012). *Data analysis with mplus*: Guilford Publications.

Gentzkow, M., & Shapiro, J. M. (2006). Media bias and reputation. *Journal of Political Economy, 114*, 280-316. doi: 10.1086/499414

Gentzkow, M., & Shapiro, J. M. (2011). Ideological segregation online and offline. *Quarterly Journal of Economics, 126*(4), 1799-1839. doi: 10.1093/qje/qjr044

Groseclose, T., & Milyo, J. (2005). A measure of media bias. *Quarterly Journal of Economics, 120*(4), 1191-1237. doi: doi:10.1162/003355305775097542

Haile, T. (2014). What you think you know about the web is wrong. *Time Magazine*. Retrieved from http://time.com/12933/what-you-think-you-knowabout-the-web-is-wrong

Hayes, A. F. (2013). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach*: Guilford Press.

Hicks, R., & Tingley, D. (2011). Causal mediation analysis. *Stata Journal, 11*(4), 605-619.

Hindman, D. B. (2009). Mass media flow and differential distribution of politically disputed beliefs: The belief gap hypothesis. *Journalism & Mass Communication Quarterly, 86*(4), 790-808. doi: 10.1177/107769900908600405

Hmielowski, J. D., Feldman, L., Myers, T. A., Leiserowitz, A., & Maibach, E. (2014). An attack on science? Media use, trust in scientists, and perceptions of global warming. *Public Understanding of Science, 23*(7), 866-883. doi: 10.1177/0963662513480091

Holtzman, N., Schott, J., Jones, M., Balota, D., & Yarkoni, T. (2011). Exploring media bias with semantic analysis tools: Validation of the Contrast Analysis of Semantic Similarity (CASS). *Behavior Research Methods, 43*(1), 193-200. doi: 10.3758/s13428-010-0026-z

Imai, K., Keele, L., & Tingley, D. (2010). A general approach to causal mediation analysis. *Psychological Methods, 15*(4), 309-334. doi: 10.1037/a0020761

Jamieson, K. H., & Cappella, J. N. (2008). *Echo chamber: Rush Limbaugh and the conservative media establishment*. Oxford: Oxford University Press.

Jerit, J., & Barabas, J. (2012). Partisan perceptual bias and the information environment. *The Journal of Politics, 74*(03), 672-684. doi: 10.1017/S0022381612000187

Kahan, D. M. (2013). Ideology, motivated reasoning, and cognitive reflection: An experimental study. *Judgment and Decision Making, 8*, 407-424.

Kahan, D. M., Jenkins-Smith, H., & Braman, D. (2011). Cultural cognition of scientific consensus. *Journal of Risk Research, 14*(2), 147-174. doi: 10.1080/13669877.2010.511246

Kuklinski, J. H., Quirk, P. J., Jerit, J., Schwieder, D., & Rich, R. F. (2000). Misinformation and the currency of democratic citizenship. *The Journal of Politics, 62*(03), 790-816. doi: 10.1111/0022-3816.00033

Lenz, G. S. (2009). Learning and opinion change, not priming: Reconsidering the priming hypothesis. *American Journal of Political Science, 53*(4), 821-837. doi: 10.1111/j.1540-5907.2009.00403.x

Levendusky, M. (2013). Partisan media exposure and attitudes toward the opposition. *Political Communication, 30*(4), 565-581. doi: 10.1080/10584609.2012.737435

Lewandowsky, S., Ecker, U. K. H., Seifert, C. M., Schwarz, N., & Cook, J. (2012). Misinformation and its correction: Continued influence and successful debiasing. *Psychological Science in the Public Interest, 13*(3), 106-131. doi: 10.1177/1529100612451018

Lewandowsky, S., Gignac, G. E., & Oberauer, K. (2013). The role of conspiracist ideation and worldviews in predicting rejection of science. *PLoS ONE, 8*(10), e75637. doi: 10.1371/journal.pone.0075637

Meirick, P. C. (2013). Motivated misperception? Party, education, partisan news, and belief in "death panels." *Journalism & Mass Communication Quarterly*. doi: 10.1177/1077699012468696

National Science Board. (2014, February). *Science and Engineering Indicators 2014*. (NSB 14-01). National Science Foundation, Arlington, VA.

Nyhan, B., & Reifler, J. (2010). When corrections fail: The persistence of political misperceptions. *Political Behavior, 32*(2), 303-330. doi: 10.1007/s11109-010-9112-2

Pariser, E. (2011). *The filter bubble: What the Internet is hiding from you*. New York: Penguin Press.

Patterson, T. E. (2000). *Doing well and doing good: How soft news and critical journalism are shrinking the news audience and weakening democracy--and what news outlets can do about it*. (Faculty Research Working Paper Series, RWP01-001). Cambrige, MA.

Prior, M. (2013). Media and political polarization. *Annual Review of Political Science, 16*(1), 101-127. doi: 10.1146/annurev-polisci-100711-135242

PublicMind Poll. (2012). *What you know depends on what you watch: Current events knowledge across popular news sources*. Madison, NJ: Fairleigh Dickinson University.

Silverman, C. (2015). Lies, damn lies, and viral content: How news websites spread (and debunk) online rumors, unverified claims, and misinformation. *A Tow/Knight Report*: Tow Center for Digital Journalism.

Slater, M. D. (2007). Reinforcing spirals: The mutual influence of media selectivity and media effects and their impact on individual behavior and social identity. *Communication Theory, 17*(3), 281-303. doi: doi:10.1111/j.1468-2885.2007.00296.x

Sobieraj, S., & Berry, J. M. (2011). From incivility to outrage: Political discourse in blogs, talk radio, and cable news. *Political Communication, 28*(1), 19-41. doi: 10.1080/10584609.2010.542360

Stroud, N. J. (2011). *Niche news: The politics of news choice*. New York: Oxford University Press.

Sunstein, C. (2001). *Republic.com*. Princeton, NJ: Princeton University Press.

Sunstein, C. R. (2009). *On rumors: How falsehoods spread, why we believe them, what can be done*. New York, NY: Farrar, Strauss and Giroux.

World Public Opinion. (2006). Percentage of Americans believing Iraq had WMD rises. Washington, DC: World Public Opinion: Global Public Opinion on International Affairs.

YouGov Staff. (2014). 15% 'Know for sure' Obama was not born in the U.S. *Economist/YouGov poll*. Retrieved April 28, 2014, from https://today.yougov.com/news/2014/02/12/know-for-sure/

[1] This approach also allows us to avoid epistemological debates over whether truth is knowable, and to discount conspiracy theories founded on the premise that the media, government, and other stakeholders are intentionally deceiving the public (see Lewandowsky, Gignac, & Oberauer, 2013).

[2] Bias has also been estimated based on the language used to describe an issue, as when an outlet selects more negative terminology for the opposition (Holtzman, Schott, Jones, Balota, & Yarkoni, 2011). News outlets' political orientation have also been estimated based on editorial content (Stroud, 2011) and on the political predispositions of their audiences (Gentzkow & Shapiro, 2011).

[3] The statistics reported in this section are based on a GfK KnowledgePanel survey of 1,004 adult Americans conducted between July 14 and August 7, 2012 and are computed excluding refusals and using weighted data to estimate population parameters. A team of researchers that included the authors designed the survey, and its results are consistent with those reported elsewhere (National Science Board, 2014). Also note that other variables from this dataset are used in subsequent analyses.

[4] We also created an alternative version of this measure, treating accuracy as an ordinal variable coded as accurate (3), evenly divided (2), and inaccurate (1). Model results, which are reported in the Supporting Information (Table S5), are comparable throughout.

[5] Although the large national news organizations identified in these questions are less biased than those with a more explicit political bent, research suggests that even mainstream outlets on the left and right differ both in their content (Baum & Groeling, 2008; Gentzkow & Shapiro, 2006; Groseclose & Milyo, 2005; Holtzman, et al., 2011) and their audience (Gentzkow & Shapiro, 2011). The relatively modest bias exhibited by these outlets may reduce the effect of any single exposure, making the predicted effects harder to detect, but their broad reach leads us to include them in this measure. To ensure that our results were not driven by our inclusion of these widely used outlets, we reran all analyses using only the explicitly partisan websites. The direction, magnitude, and significance of the coefficients on these alternative models are generally comparable. We note the few exceptions as they arise.

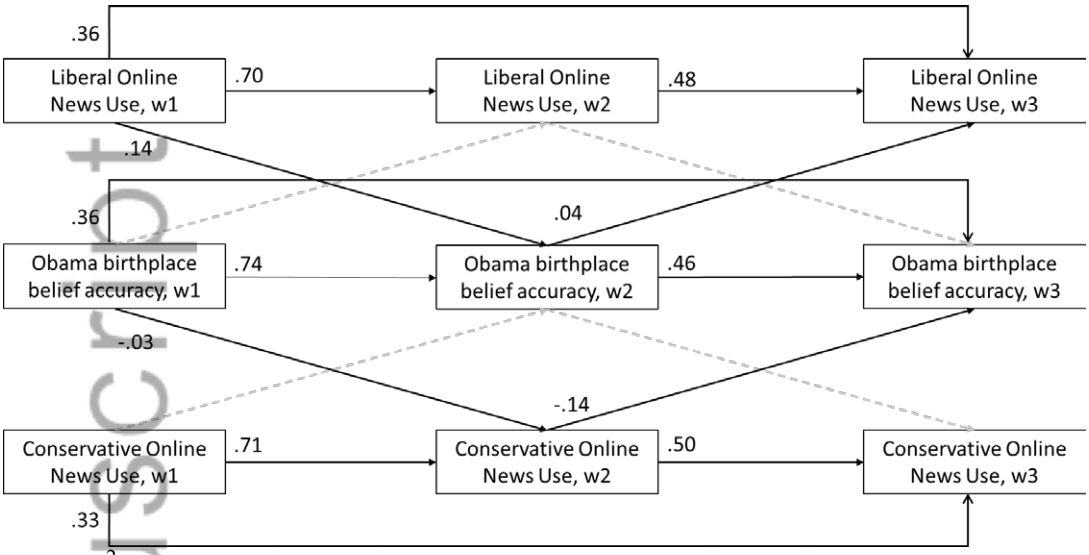
[6] This coefficient is not significant when mainstream outlets are excluded from ideological outlet measures.

[7] As noted above, the model was also tested using an ordered logistic regression and the ordinal measure of accuracy. Results for this model specification, which are substantively unchanged, are included in Table S5.

[8] When using only explicitly partisan sites in the model, conservative news use is also associated with more accurate beliefs about the BP oil spill (OR = 1.41, $p < 0.05$).

[9] Although not a central concern of this article, readers may be interested to know that none of the reported effects are dependent on users' party affiliation or ideology. Use of biased outlets influences liberals and conservatives in comparable ways. This is not entirely surprising: direct persuasion effects of partisan media have been demonstrated elsewhere (Feldman, 2011).

Figure 1. Cross-lagged model of ideologically oriented website use and political misperception



Notes. $Ç^2$ = 9.99, p = .44; TLI = 1.0; RMSEA 90% CI [0.00 – 0.04]; SRMR = .01. Significant coefficients shown; correlated residuals omitted for clarity.

Table 1. Ordered logistic regression predicting accuracy of belief by ideological media use, controlling for accurate knowledge about evidence.

	Obama's birthplace[a]	WMDs in Iraq[a]	BP Oil Spill[b]	Romney & Outsourcing[b]
Accurate knowledge of evidence	12.87***	7.78***	16.37***	33.80***
Conservative online news use	0.52***	0.51***	1.52***	1.40**
Liberal online news use	1.56**	1.40**	0.71**	0.61***
Nonpartisan online news use	1.27	1.34*	1.00	1.07
Republican or R. leaning	0.47***	0.59**	1.32	1.98**
Democrat or D. leaning	4.07***	1.90***	0.87	0.65*
Political interest	0.88	0.93	1.18	0.87
Political knowledge	1.03	1.32**	0.94	0.72***
Education	1.14**	0.98	0.99	1.01
N	955	950	614	621
Log-likelihood	-995.79	-1195.47	-709.65	-727.76
df	9	9	9	9
$Ç^2$	692.72***	447.59***	181.89***	318.60***

Notes. Exponentiated coefficients; Coefficients greater than one denote higher likelihood of

holding beliefs consistent with available evidence; a. Measured in wave 1; b. Measured in wave 3; * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

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