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ORIGINAL ARTICLE

The Value of Not Knowing: Partisan Cue-Taking and Belief Updating of the Uninformed, the Ambiguous, and the Misinformed

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The problem of a misinformed citizenry is often used to motivate research on misinformation and its corrections. However, researchers know little about how differences in informedness affect how well corrective information helps individuals develop knowledge about current events. We introduce a Differential Informedness Model that distinguishes between three types of individuals, that is, the uninformed, the ambiguous, and the misinformed, and establish their differences with two experiments incorporating multiple partisan cues and issues. Contrary to the common impression, the U.S. public is largely uninformed rather than misinformed of a wide range of factual claims verified by journalists. Importantly, we find that the success of belief updating after exposure to corrective information (via a fact-checking article) is dependent on the presence, the certainty, and the accuracy of one's prior belief. Uninformed individuals are more likely to update their beliefs than misinformed individuals after exposure to corrective information. Interestingly, the ambiguous individuals, regardless of whether their uncertain guesses were correct, do not differ from uninformed individuals with respect to belief updating.

Keywords: Differential Informedness, Misinformation, Misperception, Political Knowledge, Certainty, Corrective Information, Fact-Checking, Partisan Cues, Belief Updating

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Knowledge occupies a foundational role in theories of communication, persuasion, and public opinion. Individuals' prior beliefs about a topic, themselves, or others influence how they process information and adjust attitudes (e.g., Petty & Cacioppo, 1986), form judgments (e.g., Converse, 1964), and change behaviors (e.g., Fishbein & Ajzen, 1975). Typically, researchers study knowledge by assessing the accuracy of what people express that they know. However, insights on people's self-

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awareness about their knowledge, such as the Johari Awareness Model, imply that people may be blind to the limitations of what they know (Hall, 1974; Luft & Ingham, 1955). Recent research has started to leverage individuals' expressed certainty about their own state of knowledge to reassess mass beliefs (Graham, 2018). Notably, Pasek, Sood, and Krosnick (2015) showed that distinguishing between those who are certain and those who are unsure about a misperception they hold significantly alters what scholars conclude about the content and quality of democratic knowledge possessed by a polity.

To wit, it is important to distinguish between different kinds of public informedness, especially given the concerns over the potential influence of misinformation on citizens' beliefs about what is true (Hochschild & Einstein, 2015). Integrating and extending two theoretical traditions on political ignorance and misperception, we provide a Differential Informedness Model that distinguishes between three types of individuals—*the uninformed, the ambiguous, and the misinformed*—based on their belief presence, accuracy, and certainty. We demonstrate the model's usefulness by (a) showing its nuanced assessment of knowledge about claims of facts covered in the news media (Pasek *et al.*, 2015), (b) testing the effects of partisan cues (Popkin, 1991) in influencing the expression of differential informedness, and (c) showing the impacts of prior states of differential informedness on the persuasive effects of corrective information.

Through two survey experiments, we show that contrary to the common impression, the U.S. public is largely uninformed rather than misinformed of a wide range of factual claims verified by journalists. Importantly, the persuasiveness of corrective information is dependent on the presence, the certainty, and the accuracy of one's prior belief. Uninformed individuals are more likely to update their beliefs than misinformed individuals after exposure to corrective information. Interestingly, the ambiguous individuals, regardless of whether their uncertain guesses are correct, do not differ from uninformed individuals with respect to belief updating.

We discuss the implications of our work by proposing a framework that outlines fruitful pathways for scholars to examine the interplay between differential informedness, message features, and motivations in facilitating persuasive outcomes in mass communication research.

Differential informedness: The uninformed, the misinformed, and the ambiguous

Political knowledge research finds that it is often rational for voters to spend little time acquiring political information (Popkin, 1991); most citizens hold ideologically unconstrained and inconsistent political beliefs (Converse, 1964). Although there is a debate over suitable measurements of political knowledge and its relation to civic competence (Lupia, 2016), there is agreement that most Americans seldom recall basic facts about major political issues (Delli Carpini & Keeter, 1996). This research tradition characterizes an *uninformed* public, defined as those who have *no* beliefs

about the answer to a factual question (Kuklinski, Quirk, Jerit, Schwieder, & Rich, 2000). On the other hand, a more recent line of research warns of the danger of a *misinformed* public, who differs from the uninformed public in two ways. First, instead of having *no* established beliefs, misinformed individuals hold *inaccurate* factual beliefs (Kuklinski *et al.*, 2000). The public holds beliefs contrary to the factual evidence on issues such as the Iraq War (Kull, Ramsay, & Lewis, 2003), gun control (Aronow & Miller, 2016), climate change (McCright & Dunlap, 2011), and health care (Nyhan, 2010). Second, misinformed individuals not only hold inaccurate beliefs, but also are highly *certain* of their beliefs (Flynn, Nyhan, & Reifler, 2017). Misinformed individuals are characterized by expressing incorrect beliefs in a consistent and unambivalent direction that cannot be eliminated by aggregation (Bartels, 2002).

It is worth noting that evidence regarding belief certainty is often overlooked in research on misperceptions. Studies usually take wrong answers to factual questions in surveys as evidence of misperceptions. However, treating wrong answers at face value can lead to validity problems because people sample from considerations off the top of their heads when asked a survey question (Zaller, 1992). That is, wrong answers to factual questions could indicate either stable wrong beliefs or merely bad guesses of unfamiliar items (Pasek *et al.*, 2015). In line with research highlighting that uncertainty arises from insecurity of one's knowledge (Brashers, 2001), we emphasize both belief (in)accuracy and certainty in defining the misinformed public.

The emphasis on belief certainty leads to the characterization of a third group of individuals: *the ambiguous public*. We define this group as those who hold uncertain beliefs about a factual question. Recent work acknowledges differences between the ambiguous and the misinformed public, noting that individuals are often self-aware of their own knowledge, expressing incorrect answers with a low level of certainty (Graham, 2018). Pasek *et al.* (2015) found that only a small percentage of misperceptions about the Affordable Care Act was held confidently; most respondents expressed uncertainty about the details of the law.

We present a Differential Informedness Model (Figure 1) that describes the conceptual distinctions we apply to answers to survey questions assessing knowledge. The first step of our model concerns *belief presence*, where "don't know" answers are used as the most direct indicator of being "uninformed." Despite debates about the use of "don't know" in knowledge measurements, research shows that for closed-ended questions, those who say "don't know" are truly ignorant of the facts, rather than people who are actually informed but are reluctant to reveal their knowledge (Luskin & Bullock, 2011). Discouraging "don't know" answers harms measurement validity by increasing the chance of lucky guesses (Luskin & Bullock, 2011) and by exacerbating gender gaps in knowledge that are really differences in men and women's willingness to guess (Miller, 2019; Mondak & Anderson, 2004). If an answer other than "don't know" is given, the second step of the model evaluates *belief accuracy* in terms of whether it is consistent with the best available evidence. Answers consistent with the best available evidence are considered "correct," while

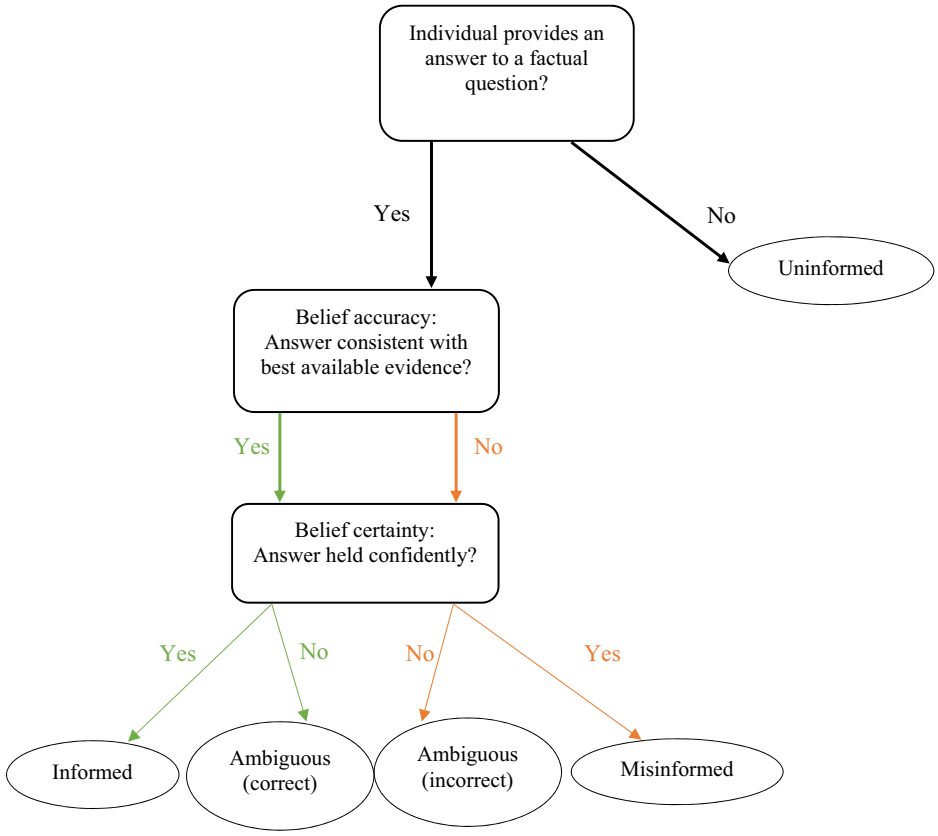

Figure 1 The Differential Informedness Model.

the rest are considered "incorrect." The third step evaluates *belief certainty*. We define certain, correct answers as "informed" and certain, incorrect answers as "misinformed." Uncertain answers, whether correct or incorrect, are defined as "ambiguous."

The Differential Informedness Model provides a useful map for communication researchers to assess states of people's knowledge. We juxtapose two different diagnoses of the public's political belief systems—that the public is either ignorant or mistaken—and integrate research in political and health contexts that separately compares misinformed individuals with (a) those who are incorrect but ambiguous (Pasek *et al.*, 2015) and (b) those who have correct beliefs but don't act accordingly (Hochschild & Einstein, 2015). The model's comprehensive comparison of informedness is easily applied to different subject areas. Further, we extend beyond past research by specifying three dimensions (belief presence, accuracy, and certainty) in defining how exactly one may deviate from the ideal, informed individual. As such, our model enables tests of theories on how each type of informedness may be

subject to features of the communication context, such as information shortcuts (Popkin, 1991), which we detail further.

The second implication of our conceptual distinctions concerns the impacts of differential informedness on persuasion effects. While simple, unidimensional categorizations of knowledge (e.g., high/low, ignorant/knowledgeable) have proved useful in predicting message acceptance (Petty & Cacioppo, 1986; Zaller, 1992), nuanced distinctions of knowledge may help to explain inconsistencies in findings on persuasive effects of media messages. Of particular interest, research has produced mixed findings on the effectiveness of corrective information that helps people to update their beliefs about facts (Walter, Cohen, Holbert, & Morag, 2019). As we show further, the uninformed, the misinformed, and the ambiguous individuals demonstrate different levels of belief updating when exposed to corrective information.

Differential informedness about politics and the effects of partisan cues

We first consider the distribution of types of differential informedness among the American public. While evidence for a misinformed public has been supported by a limited number of well-known studies, recent research that examines a larger scope of politically relevant facts shows that people are more likely to be uncertain than confidently wrong about current issues (Graham, 2018; Pasek *et al.*, 2015). Indeed, although citizens are able to learn about politics from various types of media, it is more likely that most people have limited resources to know about the vast number of factual claims in politics than developing steadfast misperceptions about them (Downs, 1957); when asked to report their beliefs, ordinary citizens are likely to struggle with judging the truthfulness of these factual claims off the top of their heads (Zaller, 1992). In line with past research, we expect ordinary citizens are more likely to be uninformed or ambiguous rather than misinformed about the factual claims in politics (H_1).

Next, given the polarized climate in the United States, we draw from theories on information shortcuts in conditions of uncertainty and low information (Brashers 2001; Popkin, 1991) to consider how informedness differs in terms of presence, certainty, and accuracy when partisan cues are present. First, a tenet of uncertainty management theory is that information can be used to manage uncertainty in a desired direction (Brashers, 2001). Information shortcuts including partisan cues, as theorized in Popkin's (1991)low-information rationality theory, provide an essential reference for individuals with inadequate knowledge when they need to make judgments about unfamiliar topics. In our Differential Informedness Model, uninformed and ambiguous individuals who are ignorant or uncertain about a fact can use partisan cues, such as the partisanship of the person making a claim, to make sense of and form more confident evaluations on the information (see Wagner & Gruszczynski, 2016). We expect that when asking people about beliefs in a factual statement, attaching a partisan source to a factual statement will decrease the

number of (a) uninformed and (b) ambiguous answers and (c) increase the number of certain answers, as compared to a factual statement without a partisan source (H_2).

Second, we consider the accuracy of individuals' beliefs under the influence of partisan cues. Partisan cues, as shortcuts, represent individuals' running tallies of favorability toward political parties (Popkin, 1991). When a partisan cue such as the person who made the factual statement is available, individuals' belief accuracy is often tainted by an identity-congruent tendency. Such a tendency may result from a rational choice by trusting the side that maximizes their benefits (Popkin, 1991) or a type of biased processing where they evaluate the information based on their own political identity, often referred as defensive processing (Chaiken, 1980) or directional motivated reasoning (Kunda, 1990). We propose that attaching a partisan source to a factual statement will make individuals more likely to evaluate the truthfulness of the statement in a partisan-congruent way, as compared to a statement without a partisan source (H_3).

Impacts of differential informedness on belief updating

Drawing from the theory of motivated reasoning (Kunda, 1990), we further demonstrate the use of the Differential Informedness Model by examining the impacts of prior states of informedness on belief updating when individuals encounter new information. The theory of motivated reasoning posits that the human reasoning process is driven by two types of motivations: the accuracy motivation and the directional motivation (Kunda, 1990). While an accuracy motivation leads to careful, balanced processing of information, a directional motivation often results in biased processing that is dependent on prior beliefs. Individuals tend to favor information that confirms their existing position and reject information that disconfirms their existing position (Taber & Lodge, 2006). This has been supported by evidence, in some instances, that supporters of political parties continue to believe information favoring their own party even when a correction is offered (Nyhan & Reifler, 2010; but see Wood & Porter, 2019).

The Differential Informedness Model, however, implies that such strong influence of directional motivation is not always the case for all individuals. The extent of biased reasoning depends on an individual's cognitive ability to access confirming information and construct self-serving beliefs (Kunda, 1990). Individuals with strong prior beliefs are more likely to engage in directional motivated reasoning than individuals with weak prior beliefs (Thorson, 2016). In our framework, the clearest contrast should be between misinformed and uninformed individuals. While those who hold inaccurate beliefs have directional incentives to reject new information, those who hold no beliefs at all should not have the motivation to counter-argue with new information. We propose that misinformed individuals will be less likely to successfully update their beliefs than uninformed individuals after exposure to new information (H_4).

The case for ambiguous individuals is fuzzier. These individuals could be similar to uninformed individuals in terms of not having a stable, coherent belief system (Converse, 1964). Although ambiguous individuals answer factual questions, the low level of certainty of their beliefs may fail to lead to directional motivated reasoning. It is even possible that the ambiguous individuals are in fact uninformed: They might guess rather than use the "don't know" option due to social desirability concerns. Of course, it is also likely that these individuals have a similar reaction to new information that misinformed individuals do. That is, negativity bias, or the tendency to devote more cognitive resource to and weigh more heavily on negative information (Soroka & McAdams, 2015), may be enough to trigger even those who hold uncertain beliefs to counter-argue with the new information. Therefore, we ask: Do ambiguous individuals differ from uninformed individuals with regards to success in belief updating (RQ_1)?

Study context: Factual political claims verified by journalists

We test the above hypotheses and research question rooted in our Differential Informedness Model in the context of political fact-checking, an increasingly popular genre of journalism in which corrective information is presented to verify the accuracy of factual statements made by political figures or in public texts (Graves, 2016; Graves & Amazeen, 2019). Political knowledge research has often been criticized for arbitrarily selecting facts that "scholars decide the public need to know" (Lupia, 2016); indeed, there is no gold standard on what constitutes the "basic" facts essential for citizens to learn to keep a well-functioned democracy. Nevertheless, political fact-checking offers a new possibility of examining public knowledge of facts that are highly relevant to civic life. Besides aiming at debunking false information, fact-checking may also reinforce correct information, bring previously unnoticed claims to public attention, and shape new beliefs (Graves & Amazeen, 2019). Fact-checkers apply news values to their work, selecting "the most newsworthy and significant" claims from public speeches, news stories, talk shows, television advertisements, press releases, campaign websites, as well as audience suggestions (Graves, 2016). By selectively verifying the facts salient to the public, fact-checking contributes to the shaping of political discourse by influencing issue knowledge, candidate evaluation, and vote choice, and holding elites accountable for the claims they make (Nyhan & Reifler, 2016; Wintersieck, 2017; but see Amazeen, 2015; Vargo, Guo, & Amazeen, 2018). As testing knowledge in all kinds of facts is impractical, examining statements verified by fact-checking journalism is a good, albeit imperfect, proxy for studying citizens' factual beliefs in politics.

We utilize political fact-checking as a context for our study in two ways. First, fact-checking organizations publish and archive a large number of *factual statements*. Although practices vary by organizations, these factual statements are often presented along with partisan cues, often the source of the factual statements. These

make it a suitable and realistic case to document the prevalence of types of informedness and test the effects of partisan cues.

Second, political fact-checking serves as an appropriate context to test the impacts of differential informedness on *belief updating*. A recent meta-analysis showed that fact-check's persuasiveness is mixed and conditioned, in part, by political knowledge (Walter *et al.*, 2019). While scholars have studied message design in hopes to make fact-checks more persuasive (e.g., Amazeen, Thorson, Muddiman, & Graves, 2018; Garrett, Nisbet, & Lynch, 2013), less attention is paid to the audience's prior states of knowledge. The Differential Informedness Model may help to reconcile inconsistent evidence: does the success of persuading people to change beliefs about what is true depend on them being uninformed, ambiguous, or misinformed?

Study 1: Design

We conducted two online survey experiments to test our hypotheses. The first was originally designed for a separate purpose and included elements that were unrelated to the contribution we aim to make. As such, we can only test H_1–H_3 with Study 1. After obtaining IRB approval, a national, nonrepresentative sample of U.S. adults was recruited by Qualtrics in March 2018 ($N = 504$). This sample broadly is comparable to U.S. adults in gender, age, race, education, and income (see Appendix S1 for sample characteristics).

The survey experiment asked participants to evaluate the truthfulness of factual statements. We constructed a list of 50 statements, which were randomly selected from articles published on *PolitiFact.com, FactCheck.org*, and *Washington Post Fact Checker* from April to June 2017, with ratings of "True" ($N = 12$), "Half True, Half False" ($N = 15$, from *PolitiFact.com*), and "False" ($N = 23$) (Appendix S2). We intentionally eliminated statements that received more ambiguous ratings (e.g., "Mostly True" or "Misleading") to avoid confounding the accuracy of beliefs (i.e., how true the statement is) with the certainty of beliefs (i.e., how sure the participant is). Participants were randomly assigned to one of the two conditions.

In the control condition, participants were told that they would be presented with questions aimed at achieving a medium level of difficulty for an average person in a future survey and were asked to indicate their answers as honestly as possible. Then, each participant saw a random 25 of the 50 statements without additional information attached. In the Trump condition, Donald Trump was the claimant. Each participant saw a random 25 of the same 50 statements attached with "Donald Trump said . . ." at the beginning of each statement. We chose to show only a random half of the statements in both conditions to decrease respondent fatigue.

All participants evaluated the truthfulness of each statement (in the Trump condition, the questions specified that participants should evaluate whether "his statement is . . ." true or not to decrease the possibility that they instead evaluate whether the statement is actually made by Trump). Those who chose an option other than

"Don't know" were asked a follow-up about how certain they were of their answer. In the end, participants also indicated their interest in politics, vote choice in the 2016 U.S. presidential election, party identification, and demographics.

Study 1: Measures

Evaluation of the truthfulness of the statement

Participants indicated their belief of each factual statement by choosing from "True," "Half True, Half False," "False," and "Don't know." The number of times a participant chose "Don't know" (Model 1), "True" (Model 4), and "False" (Model 5) across 25 statements were used as dependent variables in Table 1.

Self-reported certainty of the evaluation

After indicating their belief of each factual statement, participants who chose options other than "Don't know" indicated their certainty of the evaluation they just made on a 4-point scale (from 1 = "very uncertain" to 4 = "very certain"). Answers indicating "very uncertain" and "somewhat uncertain" were recoded as "*ambiguous*" answers, while "somewhat certain" and "very certain" were coded as "*certain*" answers. The number of times a participant chose an ambiguous answer (Model 2) and a certain answer (Model 3) across 25 statements was used as dependent variables in Table 1.

Uninformed, ambiguous, misinformed, and informed answers

Based on the above two variables, we computed the following variables: A "Don't know" answer is coded as an "*uninformed*" answer; a certain, correct answer is coded as an "*informed*" answer; an ambiguous, correct answer is coded as "*ambiguous and correct*"; a certain, incorrect answer is coded as "*misinformed*"; an ambiguous, incorrect answer is coded as "*ambiguous and incorrect*."

Trump voters

Because we used Donald Trump as a specific cue, vote choice instead of party identification was used in the analysis for a more direct interpretation of the findings. We only retained the voters in the analysis ($N = 377$). Vote choice was coded as a dummy variable: 1 = voted for Donald Trump (50.5%), 0 = voted for others (49.5%).

Political interest

We used political interest as a control variable as research in political knowledge suggests that the nature of factual beliefs may differ between people who are interested and not interested in politics (Zaller, 1992). Participants reported their political interest on a 4-point scale (from 1 = "not at all interested" to 4 = "very

Table 1 OLS Regression Models on the Number of "Don't Know" Answers, Ambiguous Answers, Certain Answers, Answers that Indicate "True," and Answers that Indicate "False" (Study 1)

	Dependent Variables				
	Model 1: Number of "don't know" answers	Model 2: Number of ambiguous answers	Model 3: Number of certain answers	Model 4: Number of answers choosing "true"	Model 5: Number of answers choosing "false"
Trump condition (Yes = 1, No = 0)	1.35 (1.45)	0.76 (0.91)	−2.11(1.42)	−3.04** (1.04)	1.40 (0.92)
Trump voter (Yes = 1, No = 0)	1.88 (1.51)	−0.99 (0.95)	−0.89(1.49)	−0.11 (1.09)	−0.70 (0.96)
Politically interested (Yes = 1, No = 0)	−1.05 (1.41)	−0.60 (0.89)	1.65(1.39)	−0.90 (1.02)	2.21* (0.90)
Trump condition × Trump voter	−5.02* (2.21)	0.11 (1.39)	4.91* (2.17)	5.90*** (1.59)	−2.79*(1.41)
Trump condition × politically interested	−3.04 (1.95)	−0.86 (1.23)	3.90* (1.92)	1.89 (1.41)	0.68 (1.24)
Trump voter × politically interested	−4.42* (2.04)	1.82 (1.29)	2.60 (2.01)	3.00* (1.48)	−1.33 (1.30)
Trump condition × Trump voter × politically interested	6.85* (2.93)	−1.46 (1.84)	−5.38 (2.88)	−2.07 (2.12)	−0.63 (1.87)
Gender (Male = 1, Female = 0)	−0.08 (0.78)	−0.14 (0.49)	0.22 (0.77)	0.58 (0.56)	−0.39 (0.50)
Race (Non-White = 1, White = 0)	−0.26 (1.09)	1.32 (0.68)	−1.07 (1.07)	0.68 (0.78)	−1.00 (0.69)
Age (in years)	0.40 (0.24)	−0.56*** (0.15)	0.16 (0.24)	−0.39* (0.17)	0.58*** (0.15)
Education	0.03 (0.26)	−0.31 (0.16)	0.29 (0.26)	0.20 (0.19)	−0.07 (0.17)
Income	−0.61* (0.26)	0.24 (0.16)	0.38 (0.25)	0.48** (0.19)	0.07 (0.16)
Constant	11.19*** (1.72)	6.16*** (1.08)	7.66*** (1.69)	4.78*** (1.24)	3.03** (1.10)
R^2	0.10	0.10	0.13	0.24	0.21
F-statistic	3.47***	3.25***	4.44***	9.62***	8.11***

Note: Data represent unstandardized B (standard error).

*$p < .05$.

**$p < .01$.

***$p < .001$.

See Appendix S5 for alternative models.

interested"). We recoded the variable into a dummy variable: Participants identified as "very" or "somewhat" interested in politics were coded as politically interested (=1); participants identified as "slightly" or "not at all" interested in politics were coded as uninterested in politics (=0).

Demographics

Participants also reported their gender, race, age, education, and income.

Study 1 results: An uninformed rather than misinformed citizenry

Our findings support H_1: Individuals are more likely to be uninformed or ambiguous rather than misinformed about the truthfulness of statements without a partisan source attached ($N = 189$, the control condition). A one-way Chi-square test shows that the differences among the proportions of response categories are significant ($\chi^2 = 1986.78$, $df = 4$, $p < .0001$). Notably, participants who were uninformed about a statement were about 1.5 times more common as those who are misinformed. Averaging across the 50 statements, the "Don't know" answer rate is 40.31%, while the misinformed answer rate is 26.85%. Consistent with previous studies examining public political knowledge, the average informed answer rate is 19.94%. The ambiguous answers are the least frequent of all: On average, only 8.33% participants selected the ambiguous, incorrect answer and 4.56% selected the ambiguous, correct answer. Together, the uninformed and ambiguous individuals consisted of more than half the number of the sample (53.20%). The distribution of answers for each statement is provided in Appendix S4.

Study 1 results: Effects of the partisan cue on differential informedness

Next, we examine the effects of the partisan cue on answers to factual questions by comparing the Trump condition with the control condition. Table 1 summarizes the results of OLS regression models that test the effect of the partisan cue on (a) "Don't know," (b) ambiguous answers, (c) certain answers, (d) the number of times the participant select "True," and (e) "False."

The findings offer partial support for H_2. We found a conditional effect of the partisan cue on the number of uninformed answers (H_{2a}). As the interaction terms show, labeling Donald Trump as the source of a factual statement only affects the number of "Don't know" answers among Trump voters; further, the effect is associated with political interest (Table 1, Model 1). For Trump voters who are not interested in politics, labeling Donald Trump as the source of a factual statement decreases the number of "Don't know" answers, compared to the control condition ($b = -5.02$, $p < .05$). For politically interested Trump voters, labeling Donald Trump as the source increases the number of "Don't know" answers ($b = 1.83$ [$6.85 - 5.02$], $p < .05$). There was no effect of the partisan cue on the number of ambiguous

answers (H_{2b}) (Table 1, Model 2). There was a conditional effect of partisan cue on the number of certain answers (H_{2c}) (Table 1, Model 3). Labeling Donald Trump as the source of factual statements increased attitude certainty for Trump voters ($b = 4.91$, $p < .05$) and for participants interested in politics ($b = 3.90$, $p < .05$).

Our analyses support H_3 regarding the effects of the partisan cue on partisan-congruent truthfulness evaluations. Attaching a partisan source to a statement leads individuals to evaluate the truthfulness of the statement in a partisan-congruent way. Table 1, Model 4 demonstrates the effect of the partisan cue on the number of times participants rate a statement as "True." Trump voters seeing the statements from Trump are more likely to rate them as "True," compared to the control condition ($b = 2.86$ [$5.90 - 3.04$], $p < .01$). Seeing the statements coming from Donald Trump also resulted in non-Trump voters being less likely to rate them as "True" ($b = -3.04$, $p < .01$). Figure 2a demonstrates the differences between the groups. Table 1, Model 5 shows the effect of the partisan cue on the

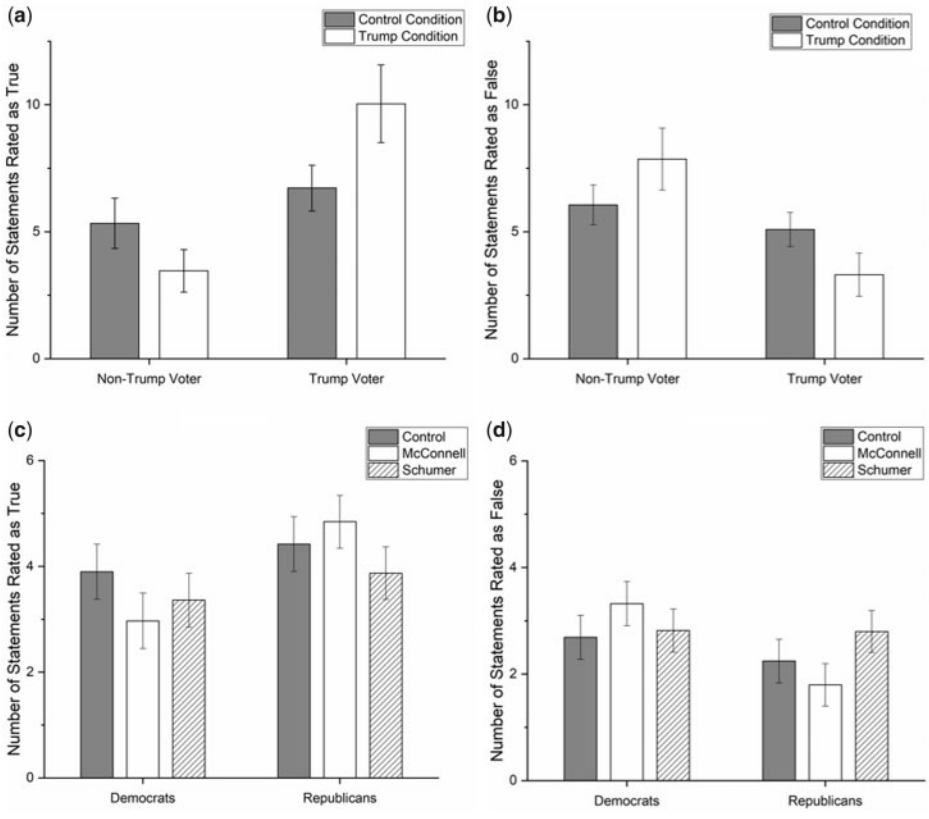

Figure 2 Effects of partisan cues on answers that indicate the factual statements is "True" (Study 1 shown in (**a**), Study 2 shown in (**b**)) and "False" (Study 1 shown in (**c**), Study 2 shown in (**d**)). Error bars represent 95% CI.

number of times participants rate the statements as "False." Trump voters reported Trump-labeled statements to be less likely to be "False," compared to the control condition ($b = -2.79$, $p < .05$), although this effect is not significant among non-Trump voters. Figure 2b demonstrates the differences between the groups.

Study 2: Design

We conducted a second online survey experiment in order to (a) address H_4 and RQ_1 regarding the impacts of differential informedness on belief updating and (b) account for the possibility of Study 1's results only revealing a unique "Trump effect" or a Republican effect. After obtaining IRB approval, a national sample of U.S. adults was recruited by Qualtrics in October 2018 ($N = 810$). Because Study 2 used Republican and Democratic politicians as partisan cues (details below), only participants who identified as either a Republican ($n = 321$) or a Democrat ($n = 304$) were retained in the analyses ($N = 625$). This partisan sample is broadly comparable to U.S. adults in gender, race, age, education, and income (see Appendix S1).

Study 2 incorporated conditions in which Republican Senate Majority Leader Mitch McConnell and Democratic Senate Minority Leader Charles "Chuck" Schumer were the sources attached to the claims of fact. We used a 3 (McConnell/Schumer/Control) × 2 (FOX/MSNBC) × 2 (Immigration/Marijuana) experimental design. The experiment contained two parts. At Time 1, we replicated Study 1 with a few modifications. We selected 10 factual statements from *PolitiFact.com* from March to August 2018 that were rated as either "True" ($n = 5$) or "False" ($n = 5$) (Appendix S2). Each statement could be plausibly associated with either McConnell or Schumer. We also eliminated the "Half True, Half False" category to observe a cleaner effect of attitude change between Time 1 and Time 2. To test whether the effects of the partisan cue in Study 1 was specific to Donald Trump, we randomly assigned participants to one of the three conditions in Study 2. In the control condition, participants were given the same instructions as Study 1 to prime honest answers. Then, they saw 10 factual statements without additional information. In the McConnell (Schumer) condition, participants were told that they would read statements made by Senate Republican Leader Mitch McConnell (Senate Democratic Leader Chuck Schumer). Then, they saw the same 10 statements attached with "Mitch McConnell said . . ." ("Chuck Schumer said . . .") at the beginning of each statement. In each condition, participants evaluated the truthfulness of each statement (in the McConnell and Schumer conditions, the questions specified that participants should evaluate whether "his statement is . . ." true or not to decrease ambiguity). For participants who chose an option other than "Don't know," a follow-up question asked them about how certain they were of the previous evaluation.

Next, participants answered questions on media trust and use. Then, they read a fact-check (see Appendix S3) that addressed one of the statements made by the corresponding politician at Time 1. The fact-check was randomly assigned to either FOX or MSNBC. We also varied issues under fact-check to be either immigration (433 words on average), a polarized topic in the United States, or marijuana (294 words on average), a less divided issue as American's support for its legalization has steadily grown. The statement checked by the article was randomly assigned as either "Immigrants can make their asylum claims at any U.S. Embassy or Consulate abroad" (rated as "False") or "A majority of Americans live in states with legal marijuana" (rated as "True"). After reading the article, participants evaluated the truthfulness of the statement again (Time 2) and then answered questions on political predispositions and demographics.

Study 2: Measures

Evaluation of the truthfulness of the statement

Participants indicated their belief of the factual statement by choosing from "True," "False," and "Don't know" both before (Time 1) and after (Time 2) reading the fact-checking article. At Time 1, the number of times a participant chose "Don't know" (Model 1), "True" (Model 4), and "False" (Model 5) across 10 statements were used as dependent variables in Table 2. At Time 2, we created a variable, *success of belief updating*, which was coded as 1 when the correct answer (i.e., an answer aligning with the fact-checking article) was chosen, 0 when "Don't know" was chosen, and −1 when the incorrect answer (i.e., an answer contrary to the fact-checking article) was chosen.

Partisanship

We only retained those identifying as either a Republican or a Democrat, including leaners, in the analyses. We recoded a dichotomous variable for partisanship. "Strong Republicans," "Republicans," or "lean Republicans" were coded as Republicans (=1), and "strong Democrats," "Democrats," or "lean Democrats" were coded as Democrats (=0).

Partisanship strength

We recoded a different dichotomous variable from the above question for partisanship strength. People who identified as "strong Republican" or "strong Democrat" were coded as strong partisans (=1) and people who identified as "Republican," "lean Republican," "Democrat," "lean Democrat" were coded as weak partisans (=0).

Table 2 OLS Regression Models on the Number of "Don't Know" Answers, Ambiguous Answers, Certain Answers, Answers that Indicate "True," and Answers that Indicate "False" (Study 2 Time 1)

	Dependent Variables				
	Model 1: Number of "don't know" answers	Model 2: Number of ambiguous answers	Model 3: Number of certain answers	Model 4: Number of answers choosing "true"	Model 5: Number of answers choosing "false"
McConnell condition (Yes = 1, No = 0)	0.29 (0.39)	−0.06 (0.31)	−0.23 (0.40)	−0.92** (0.33)	0.63* (0.30)
Schumer condition (Yes = 1, No = 0)	0.60 (0.39)	0.04 (0.31)	−0.65 (0.40)	−0.64* (0.32)	0.04 (0.29)
Partisanship (Rep = 1, Dem = 0)	0.45 (0.40)	0.29 (0.32)	−0.74 (0.41)	−0.06 (0.33)	−0.39 (0.30)
McConnell condition × partisanship	−0.18 (0.55)	−0.62 (0.44)	0.80 (0.56)	1.20** (0.46)	−1.02* (0.41)
Schumer condition × partisanship	−0.75 (0.54)	−0.43 (0.43)	1.18* (0.55)	0.28 (0.45)	0.47 (0.41)
Politically interested (Yes = 1, No = 0)	−0.91*** (0.25)	−0.74*** (0.20)	1.65*** (0.25)	0.57** (0.21)	0.35 (0.19)
Strong partisan (Yes = 1, No = 0)	0.21 (0.24)	−0.36 (0.19)	0.15 (0.24)	−0.14 (0.20)	−0.06 (0.18)
Frequency of reading fact-checks	−1.92*** (0.23)	1.08*** (0.18)	0.84*** (0.23)	1.67*** (0.19)	0.25 (0.17)
Gender (Male = 1, Female = 0)	−0.59* (0.24)	0.02 (0.19)	0.57* (0.24)	0.71*** (0.20)	−0.13 (0.18)
Race (Non-White = 1, White = 0)	0.11 (0.29)	0.44 (0.23)	−0.55 (0.30)	−0.56* (0.24)	0.46* (0.22)
Age (in years)	−0.21* (0.08)	−0.05 (0.06)	0.26** (0.08)	−0.01 (0.07)	0.22*** (0.06)
Education	−0.18* (0.08)	−0.03 (0.06)	0.20* (0.08)	0.14* (0.07)	0.04 (0.06)
Income	0.00 (0.07)	0.01 (0.06)	−0.01 (0.07)	0.10 (0.06)	−0.10 (0.05)
Constant	8.05*** (0.59)	0.96* (0.47)	0.99 (0.60)	0.42 (0.49)	1.53* (0.44)
R^2	0.23	0.12	0.20	0.30	0.09
F-statistic	13.72***	6.22***	11.72***	20.39***	4.77***

Note: Data represent unstandardized B (standard error).

*$p < .05$.

**$p < .01$.

***$p < .001$.

See Appendix S5 for alternative models.

Frequency of reading a fact-check

To control for participants' familiarity with fact-checking, we asked "In the past year, have you read any articles from the following websites?" and asked participants to report fact-checking consumption by choosing from "none" (=1), "between one and five" (=2), and "more than five" (=3) for each of the five following websites: *PolitiFact.com*, *Snopes*, *FactCheck.org*, *Washington Post Fact Checker*, and *Check Your Fact* (Guess, Nyhan, & Reifler, 2018a). We averaged across the five items (Cronbach's alpha = 0.89).

Trusted media source

We randomly assigned the fact-checking article to FOX News or MSNBC. Before reading the fact-check, participants were asked to rate "how much trust and confidence do you have in the following (nine) news sources when it comes to reporting the news fully, accurately and fairly" on a 4-point scale (from 1 = "none at all" to 4 = "a great deal") (Guess, Nyhan, & Reifler, 2018b). The media sources included FOX News and MSNBC. For the media source a participant was assigned to, indicating 3 = "a fair amount" or 4 = "a great deal" of trust toward the source, was coded as trusted (= 1). If the participant indicated 1 = "none at all" or 2 = "not very much" trust toward the source, then the media source was coded as not trusted (=0). We used Study 1's measures for *Self-reported certainty of the evaluation*; *Uninformed, ambiguous, misinformed, and informed answers*; *Political interest*; and *Demographics*.

Study 2 results: Replicating the effects of partisan cues

We investigated people's evaluations of the truthfulness of 10 factual statements at Time 1 to see whether the effects of the partisan cue in Study 1 held. Table 2 reports OLS regression models on the number of "Don't know," ambiguous, certain, "True" and "False" answers. Again, the findings provide partial support for the effects of partisan cues on belief certainty (H_2). Labeling Chuck Schumer as the source of the factual statements increased the number of certain answers among Republicans, confirming H_{2c} ($b = 1.18$, $p < .05$) (Table 2, Model 3).

We also replicate the findings on partisan cue-taking at the presence of partisan heuristics (H_3). When reading statements made by Mitch McConnell, Republicans are more likely to rate the statements as true and less likely to rate the statements as false ($p < .05$) than Democrats, compared to the control condition (Table 2, Models 4 and 5). However, when reading statements made by Chuck Schumer, Republicans and Democrats don't differ in their evaluation of the statements compared to the control group; instead, members of both parties are less likely to rate a factual statement as "True" when it comes from Chuck Schumer ($p < .05$) (Table 2, Model 4). Figure 2c and d illustrates the differences between the groups.

Study 2 results: Impacts of differential informedness on belief updating

Next, we test whether uninformed, ambiguous, and misinformed individuals at Time 1 differ in their acceptance of a fact-check at Time 2. We compare the uninformed and the misinformed individuals (H_4) and between the uninformed and the ambiguous individuals (RQ_1). Because H_4 and RQ_1 ask about success of *belief updating*, our emphasis is on the *accuracy* of factual beliefs at Time 2, that is, whether the individual makes a *correct* choice after reading the article. We ran separate analyses for those who read the articles on immigration and marijuana. The fact-checking article on immigration had a limited persuasive effect: After reading the article, less than half of the participants chose the correct answer (48.5%), while 38.4% participants chose the wrong answer and 13.0% participants indicated "Don't know."

Descriptive statistics give us initial insights on the influence of prior informedness on belief updating (Appendix S6, Table 1). Among the uninformed, about half the number *correctly updated their answer* after reading the fact-checking article, while the rest split between staying "Don't know" and the incorrect answer. In contrast, among the misinformed, more than half *held onto the incorrect answer*, while only one-third chose the correct answer and the rest indicated "Don't know." The ambiguous and incorrect individuals are somewhat more persuaded than the misinformed individuals, as half the number of them correctly update their answers at Time 2 and less than half stay incorrect. Among the ambiguous and correct individuals, only a bit more than half of them stay with the correct answer, and one-third flip to the wrong side. The vast majority of the informed individuals chose to stay with the correct answer, although nearly a quarter flipped to the wrong side.

We formally test the different patterns of belief updating with OLS regression models (Table 3). Our findings show that misinformed individuals are less likely to update their beliefs than uninformed individuals, controlling for various other individual characteristics and experimental manipulations ($p < .01$; see Appendix S6 for additional analyses). Thus, H_4 is supported. In contrast, the ambiguous individuals, despite the extent of their initial belief accuracy, do not differ from the uninformed in giving a correct answer after reading the fact-checking article (RQ_1).

In contrast to the fact-checking article on immigration, the fact-checking article on marijuana is overwhelmingly persuasive: After reading the article, 77% of participants chose the correct answer, while 16% chose the wrong answer and the rest of them chose "Don't know" (6.3%). The effect of the fact-checking article is seen across all groups. Even among the misinformed, 76.9% chose the correct answer after reading the fact-checking article. The lack of difference in belief updating is further confirmed by OLS regression models (Appendix S7): No difference is observed among the misinformed, uninformed, ambiguous individuals (H_2-RQ_1).

Table 3 OLS Regression Models on the Success of Belief Updating after Reading the Fact-Checking Article on Immigration (Study 2 Time 2)

DV: Success of Belief Updating	Model 1	Model 2
Misinformed at Time 1	−0.41**(0.13)	−0.33**(0.13)
Informed at Time 1	0.30 (0.18)	0.32 (0.18)
Ambiguous and incorrect at Time 1	−0.20 (0.17)	−0.06 (0.16)
Ambiguous and correct at Time 1	0.06 (0.20)	0.23 (0.20)
McConnell condition (Yes = 1, No = 0)	0.09 (0.13)	0.13 (0.12)
Schumer condition (Yes = 1, No = 0)	0.11 (0.13)	0.04 (0.12)
Trusted media source (Yes = 1, No = 0)	−0.19 (0.11)	−0.12 (0.10)
Partisanship (Rep = 1, Dem = 0)		−0.19 (0.11)
Politically interested (Yes = 1, No = 0)		0.06 (0.11)
Strong partisan (Yes = 1, No = 0)		−0.31**(0.11)
Gender (Male = 1, Female = 0)		−0.19 (0.10)
Race (Non-White = 1, White = 0)		−0.14 (0.13)
Age (in years)		0.15***(0.04)
Education		−0.06 (0.04)
Income		0.02 (0.03)
Constant	0.26*(0.12)	0.09 (0.23)
R^2	0.08	0.18
F-statistic	3.68**	4.37***

Notes: The baselines of comparisons in the model are uninformed individuals at Time 1, no-politician control condition, and untrusted source condition. Data represent unstandardized B (standard error).
*$p < .05$.
**$p < .01$.
***$p < .001$. *F*-test for R^2 change from Model 1 to Model 2 is significant ($p < .001$).
For additional models with interaction terms, see Appendix S6.

Discussion

Sociotechnical changes in the communication environment and the concomitant concerns over the quality and content of information people consume have urged scholars to carefully theorize how persuasion takes place (Holbert, Garrett, & Gleason, 2010). Knowledge, a foundational factor in persuasion theories, is important for considering how people elaborate on and react to new information (Petty & Cacioppo, 1986). In this paper, we conceptualized differential types of informedness and tested how individuals with different states of informedness take up partisan cues and update beliefs about what is true.

First, and contrary to the impression that many citizens are misinformed, the majority of our respondents are uninformed of a wide range of claims important enough to be verified by journalists. Only a small group of respondents hold confident, inaccurate beliefs. This builds on work by Pasek *et al.* (2015) by distinguishing

between the uninformed, who admit that they "don't know," the ambiguous, who take a guess with varying degrees of accuracy, and the misinformed, who hold steadfast false beliefs. In the current environment where concerns over misinformation often lead to heightened attention to belief accuracy, our findings highlight the necessity to bridge between work on political ignorance and misperception and the benefit of leveraging belief accuracy, belief presence and belief certainty to better assess public informedness.

Considering our Differential Informedness Model along with theories on information shortcuts (Popkin, 1991) and belief updating (Kunda, 1990) yields several important implications. Notably, the conceptual distinctions between types of political informedness are substantively meaningful in belief updating. Individuals engage in different levels of motivated reasoning depending on their prior informedness. In the immigration condition, the misinformed individuals held on to false beliefs even after reading the fact-checking article, while the uninformed and the ambiguous individuals were less likely to choose the incorrect answer. Interestingly, the ambiguous individuals, regardless of whether their uncertain guess was correct or not, did not differ from uninformed individuals with respect to belief updates. This gives hope that although the persuasive effects of fact-checks might be hindered by confident misperceptions, it is still useful to the much larger group of citizens who are uninformed or ambiguous of the facts. Of course, it is likely that these same citizens are less likely to participate in democratic politics, muting the persuasive effects of fact-checks on attitudes and behaviors.

Further, integrating the Differential Informedness Model with theories about the effects of information shortcuts on decision-making (Popkin, 1991), we find that what people believe is also influenced by who is doing the talking. Labeling the three U.S. political figures, Donald Trump, Mitch McConnell, and Chuck Schumer, as the source of a claim of fact influenced people's factual beliefs to different extents. Unsurprisingly, Trump was the strongest cue of the three, resulting in a decreased number of "Don't know" answers, an increased number of certain answers, and more partisan-congruent truthfulness evaluation. The McConnell cue resulted in increased partisan-congruent evaluation, while the Schumer cue leads to increased number of certain answers. These findings confirm that the influence of partisan cues on factual beliefs is not particular to a single partisan politician, although prominence in political discourse, or indeed, the elite in question's partisanship itself, may influence the size of the effect.

Our findings also lay plain the likelihood that context will play important roles in conclusions about persuasive effects. With the divisive yet ubiquitous immigration issue, fact-checking helps the uninformed more than the misinformed, highlighting its role in accurate belief formation beyond belief debiasing (Graves & Amazeen, 2019). For marijuana legalization, fact-checking generally helps everyone. Is this due to fundamental differences in the nature of the issues, or is it because the immigration claim is rated false while the marijuana claim is rated true? Our study implies that the misinformed may have a harder time believing

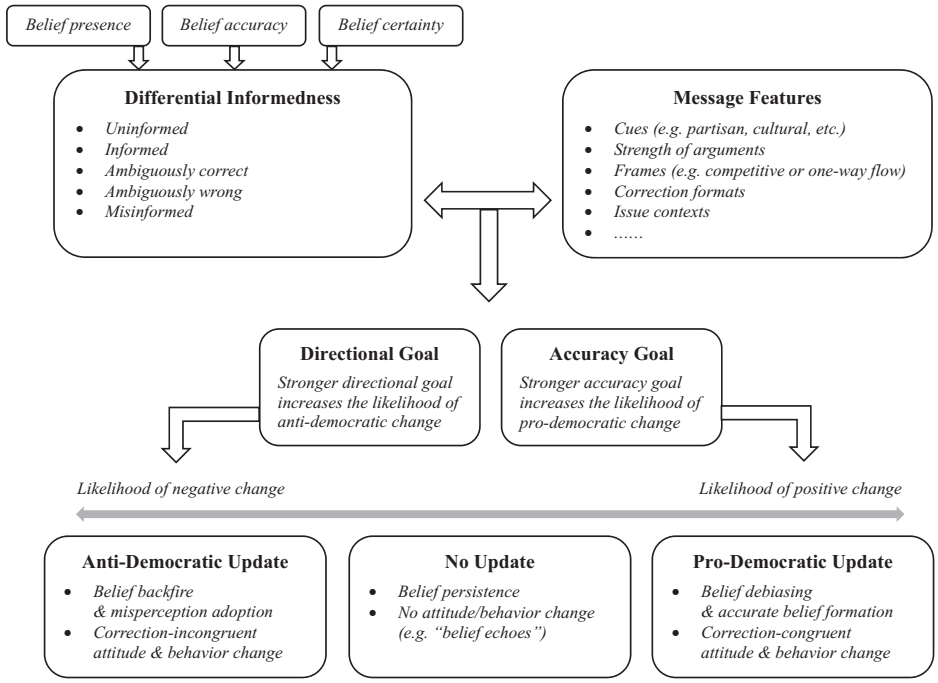

Figure 3 A simple model of informedness, message features, motivation, and persuasive outcomes.

something they thought was true is actually false than the other way around (Wintersieck, 2017).

Taken together, our work points to fruitful directions in theorizing a more generalized process (Figure 3) of how prior states of differential informedness, interacting with message features, can trigger distinct types of processing motivations and ultimately produce pro- or anti-democratic changes as well as persistence regarding various persuasion outcomes. Our proposed framework suggests directions to theorize about message features—including but not limited to information shortcuts and issue contexts—such as argument strength, message frames, etc., to consider the role of differential informedness when estimating persuasive effects. Further, building on work that highlights outcomes beyond message-congruent response changing (Miller, 2002), our work suggests that individuals may engage in accurate belief formation or hold on to persistent ones. Future research should explore if backfire, or reinforcement of responses, depends upon differential informedness (Nyhan & Reifler, 2010; Wood & Porter, 2019) and consider attitudinal and behavior outcomes beyond belief responses (Thorson, 2016).

What can journalists learn from our analysis? Fact-checking stands as an attractive remedy for the public to navigate a complicated media ecosystem rife with misinformation and a focus on the horse race (Amazeen, 2015). However, we offered a

nuanced account of the ability of fact-checking to help citizens learn about the truth. Of course, reporters do not control their audiences' prior states of informedness; but taking caution with partisan cues when presenting facts can facilitate more accurate beliefs. Fact-checkers might consider focusing on the evidence regarding the veracity of the claims they check and give less attention to who made the claim. A downside of this approach is that the partisan source is usually a key element of what makes the factual claim newsworthy and perhaps the most crucial factor in the size of the audience the fact-check earns. Finally, given that the majority of the public is uninformed rather than misinformed, journalists might consider focusing on presenting verifiable facts rather than repeating a false claim, which may lead audience to erroneously remember it as true (Peter & Koch, 2016).

While we analyzed beliefs about claims of fact for 60 claims across two studies, we only provided fact-check reporting on two of the claims. More work on representative samples across countries is necessary before meaningful generalizations about belief updating based upon informedness is possible. Of course, we randomly assigned the politicians we used in our studies to the claims we selected for analysis. In the political information ecology, these claims are not random nor is the attention they receive from fact-checkers. The nature of the political environment will also likely impact our findings on partisan cues and belief updating. People tend to adopt partisan frames, regardless of quality, when the environment is polarized, while non-polarized environments tend to encourage individuals to seek the best argument before adopting a position on an issue (Druckman, Peterson, & Slothuus, 2013). Future research should replicate our findings with considerations of contextual or ecological variances.

We have made the case that it is important to differentiate among types of informedness to assess the quality of citizens' knowledge and persuade them to believe what is verifiably true. Persuasive effects of corrective information can be strong for those who are aware of their own ignorance but may fail when individuals do not know the biases they carry that cause unearned certainty about their beliefs. We examined 60 factual claims, partisan cues regarding three political elites, and two-issue contexts for a granularity of data that has allowed us to advance knowledge on an important question in political communication. Our framework on differential informedness is applicable to other subject areas such as health and science where knowledge measurement is increasingly crucial and useful in theorizing a general process of the interplay of informedness, message features, and motivations on persuasive outcomes.

Supporting information

Additional Supporting Information may be found in the online version of this article.

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References

Amazeen, M. A. (2015). Developing an ad-reporting typology: A network analysis approach to newspaper and fact-checker coverage of the 2008 presidential election. *Journalism & Mass Communication Quarterly*, *92*(3), 617–641.

Amazeen, M. A., Thorson, E., Muddiman, A., & Graves, L. (2018). Correcting political and consumer misperceptions: The effectiveness and effects of rating scale versus contextual correction formats. *Journalism & Mass Communication Quarterly*, *95*(1), 28–48. doi: 10.1177/1077699016678186

Aronow, P. M., & Miller, B. T. (2016). Policy misperceptions and support for gun control legislation. *The Lancet*, *387*(10015), 223. doi:10.1016/S0140-6736(16)00042-8

Brashers, D. E. (2001). Communication and uncertainty management. *Journal of Communication*, *51*(3), 477–497.

Bartels, L. M. (2002). Beyond the running tally: Partisan bias in political perceptions. *Political Behavior*, *24*(2), 117–150. doi:10.1023/A: 1021226224601

Chaiken, S. (1980). Heuristic versus systematic information processing and the use of source versus message cues in persuasion. *Journal of Personality and Social Psychology*, *39*(5), 752.

Converse, P. E. (1964). The nature of belief systems in mass publics. In D. E. Apter (Ed.), *Ideology and discontent (pp. 206–261)*. New York: The Free Press.

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

Downs, A. (1957). *An economic theory of democracy*. New York, NY: Harper and Row.

Druckman, J. N., Peterson, E., & Slothuus, R. (2013). How elite partisan polarization affects public opinion formation. *American Political Science Review*, *107*(01), 57–79. doi: 10.1017/S0003055412000500

Fishbein, M., & Ajzen, I. (1975). *Belief, attitude, intention and behavior: An introduction to theory and research*. Reading, MA: Addison-Wesley.

Flynn, D. J., Nyhan, B., & Reifler, J. (2017). The nature and origins of misperceptions: Understanding false and unsupported beliefs about politics: Nature and origins of misperceptions. *Political Psychology*, *38*, 127–150. doi:10.1111/pops.12394

Garrett, R. K., Nisbet, E. C., & Lynch, E. K. (2013). Undermining the corrective effects of media-based political fact checking? The role of contextual cues and naïve theory. *Journal of Communication*, *63*(4), 617–637. doi:10.1111/jcom.12038

Graham, M. H. (2018). Self-awareness of political knowledge. *Political Behavior 42, 305–326*. doi:10.1007/s11109-018-9499-8

Graves, L. (2016). *Deciding what's true: The rise of political fact-checking in American journalism*. New York: Columbia University Press.

Graves, L., & Amazeen, M. A. (2019). Fact-checking as idea and practice in journalism. Retrieved Online: https://oxfordre.com/communication/view/10.1093/acrefore/9780190228613.001.0001/acrefore-9780190228613-e-808. *Oxford Research Encyclopedia of Communication*.

Guess, M., Nyhan, B., & Reifler, J. (2018a). *Exposure to untrustworthy websites in the 2016 U.S. election*. Retrieved from https://www.dartmouth.edu/~nyhan/fake-news-2016.pdf

Guess, M, Nyhan, B., & Reifler, J. (2018b). *All media trust is local? Findings from the 2018 Poynter Media Trust Survey*. Retrieved from http://www.dartmouth.edu/~nyhan/media-trust-report-2018.pdf

Hall, J. (1974). Interpersonal style and the communication dilemma: I. Managerial implications of the Johari Awareness Model. *Human Relations*, *27*(4), 381–399.

Hochschild, J. L., & Einstein, K. L. (2015). *Do facts matter? Information and Misinformation in American Politics*. Norman, OK: University of Oklahoma Press.

Holbert, R. L., Garrett, R. K., & Gleason, L. S. (2010). A new era of minimal effects? A response to Bennett and Iyengar. *Journal of Communication*, *60*(1), 15–34.

Kuklinski, J. H., Quirk, P. J., Jerit, J., Schwieder, D., & Rich, R. F. (2000). Misinformation and the currency of democratic citizenship. *Journal of Politics*, *62*(3), 790–816. doi:10.1111/0022-3816.00033

Kull, S., Ramsay, C., & Lewis, E. (2003). Misperceptions, the media, and the Iraq War. *Political Science Quarterly*, *118*(4), 569–598. doi:10.1002/j.1538-165X.2003.tb00406.x

Kunda, Z. (1990). The case for motivated reasoning. *Psychological Bulletin*, *108*(3), 480–498. doi:10.1037/0033-2909.108.3.480

Luft, J., & Ingham, H. (1955). The Johari window, a graphic model of interpersonal awareness. In *Proceedings of the Western Training Laboratory in Group Development*. Los Angeles, CA: UCLA.

Lupia, A. (2016). *Uninformed: Why people know so little about politics and what we can do about it*. New York: Oxford University Press.

Luskin, R. C., & Bullock, J. G. (2011). "Don't know" means "don't know": DK responses and the public's level of political knowledge. *The Journal of Politics*, *73*(2), 547–557. doi:10.1017/S0022381611000132

McCright, A. M., & Dunlap, R. E. (2011). Cool dudes: The denial of climate change among conservative white males in the United States. *Global Environmental Change*, *21*(4), 1163–1172. doi:10.1016/j.gloenvcha.2011.06.003

Miller, G. R. (2002). On being persuaded: Some basic distinctions. In J. P. Dillard & M. Pfau (Eds.), *The persuasion handbook: Developments in theory and practice* (pp. 3–16). Thousand Oaks, CA: Sage.

Miller, M. K. (2019). Who knows more about politics? A dual explanation for the gender gap. *American Politics Research*, *47*(1), 174–188. doi:10.1177/1532673X18803890

Mondak, J. J., & Anderson, M. R. (2004). The knowledge gap: A reexamination of gender-based differences in political knowledge. *Journal of Politics*, *66*(2), 492–512. doi: 10.1111/j.1468-2508.2004.00161.x

Nyhan, B. (2010). Why the "death panel" myth wouldn't die: Misinformation in the health care reform debate. *The Forum*, *8*(1), doi:10.2202/1540-8884.1354

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

Nyhan, B., & Reifler, J. (2016). *Estimating fact-checking's effects: Evidence from a long-term experiment during campaign 2014*. Retrieved from https://www.americanpressinstitute.org/wp-content/uploads/2015/04/Estimating-Fact-Checkings-Effect.pdf

Pasek, J., Sood, G., & Krosnick, J. A. (2015). Misinformed about the affordable care act? Leveraging certainty to assess the prevalence of misperceptions: Misinformed about the affordable care act. *Journal of Communication*, *65*(4), 660–673. doi:10.1111/jcom.12165

Peter, C. & Koch, T. (2016). When debunking scientific myths fails (and when it does not): The backfire effect in the context of journalistic coverage and immediate judgments as prevention strategy. *Science Communication*, *38*(1): 3–25.

Petty, R. E., & Cacioppo, J. T. (1986). The elaboration likelihood model of persuasion. In L. Berkowitz (Ed.), *Advances in experimental social psychology* (Vol. *19*, pp. 123–205). New York, NY: Academic Press.

Popkin, S. L. (1991). *The reasoning voter: Communication and persuasion in presidential campaigns*. Chicago, IL: University of Chicago Press.

Soroka, S., & McAdams, S. (2015). News, politics, and negativity. *Political Communication*, *32*(1), 1–22. doi:10.1080/10584609.2014.881942

Taber, C. S., & Lodge, M. (2006). Motivated skepticism in the evaluation of political beliefs. *American Journal of Political Science*, *50*(3), 755–769. doi:10.1111/j.1540-5907.2006.00214.x

Thorson, E. (2016). Belief echoes: The persistent effects of corrected misinformation. *Political Communication*, *33*(3), 460–480. doi:10.1080/10584609.2015.1102187

Vargo, C. J., Guo, L., & Amazeen, M. A. (2018). The agenda-setting power of fake news: A big data analysis of the online media landscape from 2014 to 2016. *New Media & Society*, *20*(5), 2028–2049.

Wagner, M. W., & Gruszczynski, M. (2016). When framing matters: How partisan and journalistic frames affect individual opinions and party identification. *Journalism & Communication Monographs*, *18*(1), 5–48. doi:10.1177/1522637915623965

Walter, N., Cohen, J., Holbert, R. L., & Morag, Y. (2019). Fact-checking: A meta-analysis of what works and for whom. *Political Communication*, *37*(3), 350–375.

Wintersieck, A. L. (2017). Debating the truth: The impact of fact-checking during electoral debates. *American Politics Research*, *45*(2), 304–331. doi:10.1177/1532673X16686555

Wood, T., & Porter, E. (2019). The elusive backfire effect: Mass attitudes' steadfast factual adherence. *Political Behavior*, *41*(1), 135–163. doi:10.1007/s11109-018-9443-y

Zaller, J. R. (1992). *The nature and origins of mass opinion* (1st ed.). Cambridge, England/New York, NY: Cambridge University Press.