The Narrow Reach of Targeted Corrections: No Impact on Broader Beliefs about Election Integrity[†]

John Carey Elizabeth Chun Alice Cook Dartmouth College Dartmouth College Dartmouth College

Brian Fogarty Leyla Jacoby
University of Notre Dame Dartmouth College

Brendan Nyhan Jason Reifler Lilian Sweeney
Dartmouth College University of Exeter Dartmouth College

Abstract

Fact-checks have been shown to be effective in correcting specific false beliefs, but do they also cause people to update their broader views about the phenomenon in question? We consider this question in the context of the 2022 Arizona governor's race, testing the effect of debunking false claims of fraud on specific beliefs about that election as well as general confidence in the 2022 and 2020 U.S. elections and beliefs about the prevalence of fraud. Our results indicate that fact-checks reduce false beliefs about the election in Arizona, but we find no evidence that participants extrapolate these findings to their general beliefs about fraud or their confidence in the 2022 or 2020 elections. These results suggest that methods of combating misinformation that rely on case-by-case corrections of specific falsehoods may not be effective in changing broader false beliefs.

[†]Carey is John Wentworth Professor in the Social Sciences at Dartmouth College and corresponding author. Fogarty is Director of the Center for Social Science Research and Associate Director and Associate Professor of the Practice in the Lucy Family Institute for Data and Society at the University of Notre Dame. Nyhan is James O. Freedman Presidential Professor of Government at Dartmouth College and the corresponding author (nyhan@dartmouth.edu). Reifler is Professor of Political Science at the University of Exeter. Other co-authors are or were undergraduate students at Dartmouth. We are grateful for funding support from an Evolving Election Administration Landscape Grant awarded by MIT Election Data + Science Lab (funds provided by Election Performance Project, LLC, a subsidiary of the Pew Charitable Trusts). Manuscript word count (not including appendix) is 4,925. All errors are our own.

The dominant approach to correcting misinformation seeks to debunk false claims, but does this approach affect beliefs and attitudes beyond the claim in question? In many cases, misperceptions reflect broader, underlying public suspicions or distrust that may remain even after specific misperceptions are dispelled. We therefore test whether correcting a false claim influences people's general beliefs and attitudes or if the effects are instead confined to the specific claim in question — a key issue in assessing the effectiveness of misinformation corrections, especially for topics like voter and election fraud for which novel specific false claims frequently arise.

Research indicates that corrections generally reduce misperceptions (Nyhan 2021; Wood and Porter 2019). Subsequent work has focused on factors such as how quickly correction effects decay and the cumulative effect of multiple corrections over time (Carey et al. 2022; Nyhan, Porter, and Wood 2022). However, few studies consider whether specific corrections affect more general beliefs and attitudes on the same topic (though see Hopkins, Sides, and Citrin (2019) and Thorson and Abdelaaty (2023) as important exceptions on the issue of immigration).

Existing research suggests that specific corrections do not necessarily cause people to update other beliefs and attitudes. For example, factual corrections of specific false claims by a candidate do not change people's opinions about the candidate in question (Nyhan et al. 2020). Similarly, factual corrections of false claims about COVID do not cause people to update their beliefs in other false claims about COVID (Carey et al. 2022).

However, less is known about whether corrections of specific claims also cause people to update their general beliefs and attitudes about the group or class from which the claim is drawn — a process we call extrapolation. Most relevantly, Berlinski et al. (2023) find that fact-checks of specific false claims about voter and election

fraud did not increase general confidence in U.S. elections as a whole. However, they only test the effect of fact-check exposure among people who were previously randomized to see election misinformation, preventing them from isolating the fact-check's effect on extrapolation.

We therefore test whether people extrapolate from specific fact-checks to update their general beliefs and attitudes in the context of the issue of voter and election fraud. We specifically consider the controversy over the 2022 Arizona gubernatorial election in which Republican gubernatorial candidate Kari Lake and her allies falsely asserted that ballot printing errors were part of a conspiracy to suppress votes from conservative areas in Maricopa County and the reason for the close win by Lake's opponent, Democrat Katie Hobbs. These claims were especially prominent on and immediately after Election Day and were widely reported on and fact-checked in the national media (Cercone 2022; Reuters Fact Check 2022; Spencer 2022; Thompson, Healy, and Vigdor 2022).

Our study design randomized whether participants from a representative YouGov sample received a fact-check treatment (adapted from an Associated Press fact-check) debunking Lake's claims or a placebo article (Kelety 2022). We begin by measuring treatment effects on two specific false beliefs: first, that ballot printing problems only occurred in conservative areas (hereafter referred to as the "Maricopa fraud myth") and second, that Hobbs was not the rightful winner of the election (hereafter referred to as the "Hobbs wrongful winner myth"). We then test whether participants extrapolated from the fact-check to update their general beliefs, measured via confidence in the integrity of the 2022 election and views on the prevalence of fraud nationwide. We also measure election confidence and perceived fraud prevalence in the 2020 election to test for further extrapolation.

Our results indicate that exposure to the fact-check decreased beliefs in both the Maricopa fraud myth and the Hobbs wrongful winner myth, increasing the accuracy of the specific beliefs that were targeted concerning the Arizona governor's race. However, exposure to fact-checks had no measurable effect on participants' confidence in the 2022 or 2020 elections or their beliefs about the prevalence of fraud or its effects nationwide. These results suggest that extrapolation is weak — specific fact-checks are unlikely to impact peoples' more general beliefs and attitudes.

Theory

We address two main questions in this study. The first is whether targeted corrections are effective in reducing false beliefs related to voter and election fraud. Although corrective information such as fact-checks are generally effective in reducing the endorsement of the specific false claims that they target (Chan et al. 2017; Walter et al. 2020; Walter and Murphy 2018), less research has sought to understand whether this effect extends to voter and election fraud, a topic that is prone to misinformed claims and strongly held beliefs. Our second, and more central, question is whether a specific correction causes people to update their more general beliefs and attitudes. Scholarship to date reaches conflicting conclusions on whether this process occurs and what mechanisms might explain these outcomes.

Prior research on topics other than elections has explored the conditions under which people extrapolate from specific corrections to general factual beliefs or attitudes toward policies or groups. Some recent studies suggest that corrections improve the accuracy of broader beliefs in related topics. For instance, one study found that correcting subjects' misperceptions about the specific factual *content* of current refugee policy shifted their more general attitudes and increased their support towards refugees (whereas correcting misperceptions about the *outcomes* of refugee policies had no analogous effect) (Thorson and Abdelaaty 2023). Similarly, correcting specific misperceptions about members of an outgroup can change how people feel toward the outgroup and other related topics. For example, individuals tend to overestimate the level of support for practices that undermine democracy among voters from their opposing party, but when provided with accurate information about the views of opposing party voters, people reduce both their animosity toward the opposing party and how much they think opposing partisans support undemocratic practices and partisan violence (Braley et al. 2023; Voelkel et al. 2023).

There are multiple mechanisms by which people could engage in extrapolation. One pathway is simple rational updating: new specific evidence could cause people to make inferences and update their beliefs in order to improve their accuracy. Such updating is likely to be more extensive as the new evidence is more compelling — for instance, a correction of a mistaken view about opposing partisans that cites evidence from a nationally representative survey should lead to greater updating than anecdotal information. Another potential mechanism is "exemplification," which posits that people psychologically latch on to striking exemplars — specific examples they perceive as illustrative of the larger group or phenomenon — as bases for their broader beliefs and attitudes about a general topic. Because exemplars are often more detailed and gripping than general or abstract factual information, they heavily influence the judgment formation process and cause respondents to also update their general beliefs about the broader group (Brosius and Peter 2017). A prominent example of this phenomenon is the "Obama Effect": exposure

to Barack Obama, a positively perceived Black exemplar, may reduce implicit prejudice toward Black Americans as a group (Bernstein, Young, and Claypool 2010 and Columb and Plant 2011, but see Skinner and Cheadle 2016 for conflicting evidence), whereas exposure to a negatively perceived Black exemplar (for example, O.J. Simpson) may cause overall prejudice toward Black Americans to increase (Columb and Plant 2011). In each of these cases, information about a seemingly diagnostic or illustrative example causes people to extrapolate from it to update their broader beliefs about a larger group.

However, other studies suggest that extrapolation from specific factual corrections to more general beliefs and attitudes may be difficult or rare. For example, fact-checks pertaining to COVID-19 and COVID-19 vaccines reduced beliefs in the targeted false claims but did not change broader related beliefs, attitudes, or behavioral intentions, such as views on the disease and public health interventions or intention to get the vaccine (Carey et al. 2022; Porter, Velez, and Wood 2023). Similarly, fact-checks targeting false claims made by Donald Trump during the 2016 presidential campaign reduced beliefs in the claims themselves but did not affect people's broader evaluations of either major electoral candidate (Nyhan et al. 2020). In each case, though subjects updated their specific beliefs based on targeted fact-checks, they did not extrapolate to update their general beliefs and attitudes.

These findings align with research on the inconsistency of people's views and their tendency to interpret discordant facts in a manner that allows them to preserve their more general beliefs and attitudes. First, people's beliefs and attitudes are rarely internally consistent (Converse 2006); people do not always make the effort or have the capacity to reconcile new information with their more general belief system. In other cases, people may make attributions or engage in other kinds of

cognitive processes that blunt the potential impact of new information. Bisgaard (2019) shows that even when a subject effectively updates their specific factual beliefs due to new evidence (e.g., on the state of the economy), they may engage in "selective attributional reasoning" and allocate credit and blame for the new evidence consistently with their previously held broader attitudes, thus leaving these general beliefs unchanged (e.g., on which party is responsible for the state of the economy). Similarly, Thorson (2023) suggests that when the new information pertains to policy outcomes, as opposed to only policy content, recipients of that information are more inclined to regard the source as partisan and the facts themselves as contestable and thus not update their more general beliefs.

To date, only one study has tested whether a correction of a false claim about fraud causes people to update their more general beliefs and attitudes about elections. Berlinski et al. (2023) find that exposure to a fact-check after exposure to fraud claims does not increase confidence in elections. However, their design estimated the effect of exposure to fact-checks only among participants whom they had previously shown the misinformation in question. As a result, they could not estimate its effect among all participants.

Hypotheses and research questions

We developed the following preregistered hypotheses and research questions about the effect of a corrective fact-check treatment targeting specific false claims about election fraud in Arizona's 2022 gubernatorial election.¹

We first propose the hypothesis that the fact-check will increase the accuracy of the specific beliefs that were targeted:

H1: Exposure to a fact-check treatment debunking false claims about election fraud in Arizona (compared to a placebo condition) will reduce false beliefs that issues tabulating ballots in Maricopa County were only experienced at voting sites in conservative areas (H1a) and that Katie Hobbs won the gubernatorial election due to election fraud and is not the rightful winner (H1b).

We also preregistered research questions about whether the fact-check treatment (the specific correction) affected confidence in the 2020 and 2022 elections and beliefs about the prevalence of fraud and/or the number of seats changed by fraud in those elections (more general beliefs and attitudes), as well as a research question about the durability of any effects in a subsequent survey wave.

RQ1a: Will exposure to a fact-check debunking false claims about fraud in Arizona (compared to a placebo condition) affect confidence in the 2022 election and beliefs about the prevalence and effects of fraud (the number of seats changed by fraud) in the 2022 election?

RQ1b: Will exposure to a fact-check debunking false claims about fraud in Arizona (compared to a placebo condition) affect retrospective confidence in the 2020 election and beliefs about the prevalence

¹As we explain in greater detail in Methods below, this study was conducted in the second wave of a three-wave panel study that has consecutively numbered hypotheses across the waves. To avoid confusingly starting with "H3" or "RQ5" in the current paper, we renumber hypotheses and research questions from the preregistration (available at https://osf.io/gpy3s/?view_only=7be519fd38114393b3c0e4bbd28ac259) starting from 1.

and effects of fraud (frequency offraud, the number of seats changed by fraud, and whether Joe Biden is the rightful winner) in the 2020 election?

RQ2: Do the treatment effects from the Arizona correction administered in the treatment wave persist in a post-treatment wave?

Methods

This study was conducted as part of a larger three-wave panel survey examining misperceptions and the effects of corrective interventions about voter and election fraud. In Wave 1 (October 18–November 7, 2022), respondents answered a series of demographic questions and were randomized to receive a fact-check treatment debunking false claims of fraud in the 2020 election, a prebunking treatment explaining how elections are secure, or a placebo. In Wave 2 (December 7–20, 2022), respondents were randomized to receive a fact-check treatment about alleged fraud in the 2022 Arizona gubernatorial election or a placebo article — the treatment of interest in this study. Wave 3 (January 21–January 30, 2023) included measures of outcome persistence from Wave 2 that were collected before a separate experiment was conducted.

This paper focuses on the effects of fact-checks about Arizona election fraud claims in Wave 2 (hereafter referred to as the treatment wave) and the persistence of outcomes into Wave 3 (hereafter referred to as the post-treatment wave). We control for Wave 1 treatment assignment in all of our analyses. Experiments in other waves will be reported separately. All outcome persistence measures in Wave 3 reported in this paper were collected before any treatment was administered in

that wave.

Participants for this study were recruited by YouGov, which used a matching and weighting procedure to assemble a nationally representative sample from its opt-in Internet panel. 2,896 participants completed the treatment wave, and 2,002 of those participants completed the post-treatment wave. We observed no evidence of differential attrition by condition from the treatment wave to the post-treatment wave (29.8% in the treatment condition and 31.9% in the control condition; $\chi^2(2) = 1.43$, p = 0.23). In the treatment wave, 37% of respondents had a four-year college degree, 46% were male, 74% were white, and the median year of birth was 1963. 54% identified as or leaned Democrat and 31% identified as or leaned Republican.

In the treatment wave, participants were randomized with $p=\frac{1}{2}$ to receive either a fact-check treatment or a placebo article. The participants assigned to the fact-check treatment were shown an article debunking false claims about election fraud in the 2022 election in Maricopa County, Arizona, while participants assigned to the placebo article were shown a neutral article about birdwatching. (The complete survey, including the experimental stimuli and the outcome measures described below, is provided in Online Appendix A.)

Respondents then answered two questions evaluating their specific beliefs about fraud in the 2022 Arizona gubernatorial election. They first rated the accuracy of the claim that "Only voting sites in conservative areas in Arizona's Maricopa County experienced issues with tabulating ballots on Election Day 2022" (a four-point scale from "Very accurate" to "Not at all accurate") and subsequently indicated whether they agree or disagree that "In the election for Arizona governor, Katie Hobbs, the Democrat, defeated Kari Lake, the Republican, due to election fraud and therefore is NOT the rightful winner" (a four-point scale from "Strongly agree" to "Strongly

disagree"). We refer to these measures, respectively, as the "Maricopa fraud myth" and the "Hobbs wrongful winner myth."

Next, respondents answered questions evaluating their general beliefs and attitudes about national elections to test whether they would extrapolate from the specific 2022 Maricopa correction. We asked about the 2022 national election to test for extrapolation from the specific case to national elections as a whole. We also include a 2020 election measure, a potential further extrapolation to see whether respondents would retroactively update their beliefs about a prior national election based on the evidence presented.

We surveyed beliefs in three main categories: election confidence, perceived prevalence of specific fraud practices, and estimated House seats won by fraud. We gauged overall confidence by asking how confident participants were that their own vote, votes in their local area, votes in their state, and votes nationwide were counted accurately in the election in question (a four-point scale from "Not at all confident" to "Very confident"). We also asked respondents to estimate how many cases there were of six different types of voter and election fraud during the 2020 national election (a seven-point scale from "Less than ten" to "A million or more"), which we combined to create a composite measure of perceived fraud prevalence. Finally, respondents indicated how many House elections they thought were determined by fraud (a four-point scale from "None" to "Ten or more").

We tested our preregistered hypotheses (H1a, H1b) and research questions (RQ1a, RQ1b, RQ2) using OLS regression with robust standard errors. We used a lasso variable selection procedure to determine the set of prognostic covariates to include in each model (Bloniarz et al. 2016).

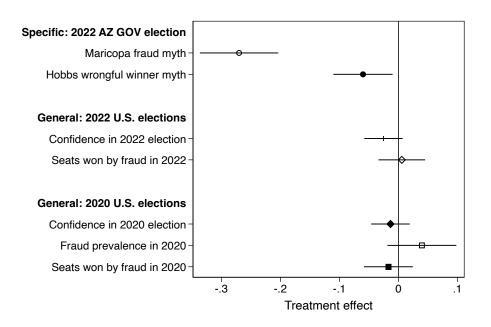
Results

The effects of exposure to the fact-checks are plotted in Figure 1 and presented in tabular form in Table 1. We find that exposure to the fact-check reduced the specific false beliefs it targeted in the treatment wave — the Maricopa fraud myth (H1a) and the Hobbs wrongful winner myth (H1b) — but had no measurable effects on general beliefs about the 2022 (RQ1a) or 2020 (RQ1b) national elections.

The fact-check treatment significantly reduced belief in the Maricopa fraud myth ($\beta=-0.270$, 95% CI -0.336 to -0.204, p<0.05) during the treatment wave. The fact-check also significantly reduced belief in the Hobbs wrongful winner myth ($\beta=-0.061$, 95% CI -0.110 to -0.010, p<0.05), though to a lesser extent (d=-0.06 versus d=-0.264 for the fraud myth). This smaller effect size may be because over 50% of those in the control group already strongly disagreed that Hobbs was the wrongful winner of the election (compared with only 31% of those in the control group who indicated the Maricopa myth was not at all accurate), limiting the number whose beliefs could be measurably altered by the fact-check. In addition, of course, the Maricopa fraud myth measure was directly targeted by the fact-check; there also may be other considerations relevant to the question of whether Hobbs was the rightful winner.

Despite the significant effects of the fact-check treatment on the specific beliefs it targeted, we find no corresponding change on participants' general beliefs and attitudes about the 2022 or 2020 elections. First, we found no measurable treatment effects for vote count confidence or perceived number of seats won by fraud in the 2022 national election (confidence, 95% CI: -0.056 to 0.008; fraudulent seats won,

Figure 1: Effects of Arizona fact-check in treatment wave



Model estimates from Table 1. See Online Appendix A for stimuli and question wording.

Table 1: Fact-check effects on specific and general election beliefs and attitudes

	Specific: 2022 AZ GOV election		General: 2022 U.S. elections		General: 2020 U.S. elections		
	Maricopa myth	Hobbs wrongful winner myth	Vote count confidence	Seats won by fraud	Vote count confidence	Fraud prevalence	Seats won by fraud
Fact-check	-0.270* (0.034)	-0.061* (0.026)	-0.025 (0.017)	0.006 (0.020)	-0.013 (0.017)	0.040 (0.030)	-0.018 (0.021)
Controls	✓	✓ ′	✓	✓	✓	✓	✓
N	2602	2573	2673	2652	2702	2692	2675

OLS with robust standard errors; * p < 0.05, *** p < 0.01, *** p < .005 (two-sided). Controls included for treatment assignment in pre-treatment wave; other control variables were selected via lasso (Bloniarz et al. 2016). See Online Appendix A for stimuli and question wording.

95% CI: -0.033 to 0.046).² We also found no measurable treatment effects for vote

²There was no fraud prevalence measure for the 2022 national election in the treatment wave; this is a deviation from the preregistration.

count confidence, belief in fraud prevalence, or perceived number of seats won by fraud in the 2020 national election (confidence, 95% CI: -0.046 to 0.019; fraud prevalence, 95% CI: -0.019 to 0.098; fraudulent seats won, 95% CI: -0.059 to 0.024).

We examine the persistence of these effects in the post-treatment wave (a preregistered research question). Figure B1 and Table B1 show that respondents who previously received the fact-check treatment continued to demonstrate a reduced belief in the Maricopa fraud myth (H1a) in the post-treatment wave, though the effect size diminishes from $\beta = -0.270$ (p < 0.005) to $\beta = -0.110$ (p < 0.05). In addition, the estimated effect of the fact-check on beliefs that Hobbs was the wrongful winner, which was smaller but significant in the treatment wave, is no longer observable in the post-treatment wave. We again found no measurable impact on general confidence in the 2022 national election or beliefs about the number of seats won by fraud in the post-treatment wave (Table B2).⁴

Finally, as preregistered, we conducted exploratory analyses of potential heterogeneous treatment effects for the following moderators: party identification, feeling toward Trump, pre-treatment outcome measures (where available), and assignment to wave 1 treatment (fact-check, prebunking, or placebo) before our relevant Arizona-related treatment wave. These analyses uncovered no evidence of consistent heterogeneous treatment effects, as illustrated in Tables B2–B8.

 $^{^3}$ In the treatment wave, the percentages of participants whose pre-treatment outcomes were at the relevant floor or ceiling and could not move further down or up (respectively) due to treatment were as follows: confidence in the 2020 election: 51.0% (4); confidence in the 2022 election: 53.2% (4); seats won due to fraud in the 2020 election: 61.4% (0); seats won due to fraud in the 2022 election: 63.0% (0); and prevalence of voter and election fraud in the 2020 election: 16.1% (1). As we report below, we find no evidence of heterogeneous treatment effects by pre-treatment levels of the outcome variables in exploratory analyses.

⁴We only included 2022 national election measures in the post-treatment wave; this is a deviation from the preregistration.

Conclusion and discussion

We examine the effect of corrections on the specific false beliefs they target as well as on people's underlying beliefs and attitudes about election integrity. Our results indicate that fact-checks can successfully correct targeted false beliefs, as participants updated their beliefs about the myths that ballot printing problems only occurred in conservative areas during the 2022 Arizona gubernatorial election and that Katie Hobbs was the wrongful winner of the election. However, we find no evidence of broader changes in confidence in the 2022 or 2020 elections or in participants' beliefs about the prevalence and effects of fraud in those elections.

These findings reinforce classic research demonstrating that people's beliefs are not always internally consistent and may be reported and expressed in a "top of the head" manner (Converse 1964; Zaller 1992). In the context of fact-checking, specific fact-checks may thus change the relevant set of considerations that people draw upon to assess the validity of the claim in question, but fail to alter the relevant set of considerations people draw on when reporting their broader beliefs and attitudes. Accordingly, specific fact-checks may fail to elicit people's awareness of potential contradictions or inconsistencies between their specific and broader beliefs.

It is also important to recognize the limitations of this study. First, our study was conducted in the context of a state election among a national sample that may have perceived the 2022 Arizona gubernatorial election as a low-salience event despite its coverage. It is possible that a correction of a higher-salience claim would have prompted more updating of broader beliefs and attitudes among respondents. Second, our treatment was delivered via a journalistic fact-check, but future studies might compare the effects of different correction methods on extrapolation such as

corrections from credible sources or ones that specifically encourage extrapolation. Finally, future research should explore the effect of treatments that seek to move in the opposite direction, providing general fact-checks and determining the extent to which they prompt updating of specific related beliefs.

Despite these limitations, the results of this study have important implications for future research on extrapolation and correcting misinformation, especially in the context of election fraud. Determining whether and how corrections can prompt people to reconsider their broader beliefs and attitudes is a critical challenge for the field given the effort devoted to fact-checking specific claims.

References

Berlinski, Nicolas, Margaret Doyle, Andrew M Guess, Gabrielle Levy, Benjamin Lyons, Jacob M Montgomery, Brendan Nyhan, and Jason Reifler. 2023. "The effects of unsubstantiated claims of voter fraud on confidence in elections." <u>Journal</u> of Experimental Political Science 10 (1): 34–49.

Bernstein, Michael J, Steven G Young, and Heather M Claypool. 2010. "Is Obama's Win a Gain for Blacks?" <u>Social Psychology</u>.

Bisgaard, Martin. 2019. "How getting the facts right can fuel partisan-motivated reasoning." <u>American Journal of Political Science</u> 63 (4): 824–839.

Bloniarz, Adam, Hanzhong Liu, Cun-Hui Zhang, Jasjeet S Sekhon, and Bin Yu. 2016. "Lasso adjustments of treatment effect estimates in randomized experiments." Proceedings of the National Academy of Sciences 113 (27): 7383–7390.

- Braley, Alia, Gabriel S Lenz, Dhaval Adjodah, Hossein Rahnama, and Alex Pentland. 2023. "Why voters who value democracy participate in democratic backsliding." Nature Human Behaviour 7: 1282–1293.
- Brosius, Hans-Bernd, and Christina Peter. 2017. "Exemplification theory." In The Wiley Blackwell-ICA International Encyclopedias of Communication, ed. Patrick Rössler. Wiley Online Library.
- Carey, John M, Andrew M Guess, Peter J Loewen, Eric Merkley, Brendan Nyhan, Joseph B Phillips, and Jason Reifler. 2022. "The ephemeral effects of fact-checks on COVID-19 misperceptions in the United States, Great Britain and Canada." Nature Human Behaviour 6 (2): 236–243.
- Cercone, Jeff. 2022. "We fact-checked misinformation about the midterm elections, from Maricopa County to Detroit." PolitiFact, November 9, 2022. Downloaded October 25, 2023 from https://www.politifact.com/article/2022/nov/09/we-fact-checked-misinformation-about-midterm-elect/.
- Chan, Man-pui Sally, Christopher R. Jones, Kathleen Hall Jamieson, and Dolores Albarracín. 2017. "Debunking: A meta-analysis of the psychological efficacy of messages countering misinformation." <u>Psychological Science</u> 28 (11): 1531–1546.
- Columb, Corey, and E Ashby Plant. 2011. "Revisiting the Obama effect: Exposure to Obama reduces implicit prejudice." <u>Journal of Experimental Social Psychology</u> 47 (2): 499–501.

- Converse, Philip E. 2006. "The nature of belief systems in mass publics (1964)." <u>Critical review</u> 18 (1-3): 1–74.
- Converse, Phillip E. 1964. "The Nature of Belief Systems in Mass Publics." In Ideology and Discontent, ed. David E. Apter. New York: Free Press.
- Hopkins, Daniel J, John Sides, and Jack Citrin. 2019. "The muted consequences of correct information about immigration." The Journal of Politics 81 (1): 315–320.
- Kelety, Josh. 2022. "Arizona voting issues not confined to conservative areas." Associated Press, November 11, 2022.
- Nyhan, Brendan. 2021. "Why the backfire effect does not explain the durability of political misperceptions." <u>Proceedings of the National Academy of Sciences</u> 118 (15): e1912440117.
- Nyhan, Brendan, Ethan Porter, Jason Reifler, and Thomas J Wood. 2020. "Taking fact-checks literally but not seriously? The effects of journalistic fact-checking on factual beliefs and candidate favorability." <u>Political Behavior</u> 42: 939–960.
- Nyhan, Brendan, Ethan Porter, and Thomas J Wood. 2022. "Time and skeptical opinion content erode the effects of science coverage on climate beliefs and attitudes." <u>Proceedings of the National Academy of Sciences</u> 119 (26): e2122069119.
- Porter, Ethan, Yamil Velez, and Thomas J Wood. 2023. "Correcting COVID-19 vaccine misinformation in 10 countries." <u>Royal Society Open Science</u> 10 (3): 221097.

- Reuters Fact Check. 2022. "Fact Check-As printing issue affected some tabulators in Maricopa County, officials say backup options were available for voters." November 10, 2022. Downloaded October 25, 2023 from https://www.reuters.com/article/factcheck-maricopa-voting-machines/fact-check-as-printing-issue-affected-some-tabulators-inmaricopa-county-officials-say-backup-options-were-available-for-voters-idUSL1N3261D8.
- Skinner, Allison L, and Jacob E Cheadle. 2016. "The "Obama effect"? Priming contemporary racial milestones increases implicit racial bias among Whites." <u>Social cognition</u> 34 (6): 544–558.
- Spencer, Saranac Hale. 2022. "Ballot Printer Delayed Maricopa Voting, Contrary to Unfounded Claims." FactCheck.org, November 9, 2022. Downloaded October 25, 2023 from https://www.factcheck.org/2022/11/ballot-printer-delayed-maricopa-voting-contrary-to-unfounded-claims/.
- Thompson, Stuart A., Jack Healy, and Neil Vigdor. 2022. "Voting Machine Problems in Arizona Fuel Right-Wing Fraud Claims." New York Times, November 8, 2022. Downloaded October 25, 2023 from https://www.nytimes.com/2022/11/08/us/politics/maricopa-voting-problems.html.
- Thorson, Emily. 2023. <u>The Invented State: Policy Misperceptions in the American</u>
 Public. Oxford University Press.
- Thorson, Emily, and Lamis Abdelaaty. 2023. "Misperceptions about refugee policy." American Political Science Review 117 (3): 1123–1129.

- Voelkel, Jan G, Michael Stagnaro, James Chu, Sophia Pink, Joseph Mernyk, Chrystal Redekopp, Isaias Ghezae, Matthew Cashman, Dhaval Adjodah, Levi Allen et al. 2023. "Megastudy identifying effective interventions to strengthen Americans' democratic attitudes.".
- Walter, Nathan, Jonathan Cohen, R Lance Holbert, and Yasmin Morag. 2020. "Fact-checking: A meta-analysis of what works and for whom." <u>Political Communication</u> 37 (3): 350–375.
- Walter, Nathan, and Sheila T Murphy. 2018. "How to unring the bell: A meta-analytic approach to correction of misinformation." <u>Communication monographs</u> 85 (3): 423–441.
- Wood, Thomas, and Ethan Porter. 2019. "The elusive backfire effect: Mass attitudes' steadfast factual adherence." <u>Political Behavior</u> 41: 135–163.
- Zaller, John. 1992. <u>The Nature and Origins of Mass Opinion</u>. Cambridge University Press.

Online Appendix A: Survey instruments

Treatment wave questionnaire (wave 2 of panel survey)

ABOUT THIS RESEARCH

You are being asked to participate in a research study. Scientists do research to answer questions and learn new information. Some research might help change or improve the way we do things in the future. This consent information will tell you more about the study to help you decide whether you want to participate. Please read this information before agreeing to be in the study.

TAKING PART IN THIS STUDY IS VOLUNTARY

You may choose not to take part in the study or may choose to leave the study at any time. Deciding not to participate, or deciding to leave the study later, will not result in any penalty and will not affect your relationship with YouGov, the University of Notre Dame, Dartmouth College, or the University of Exeter.

As an alternative to participating in the study, you may choose not to take part.

WHY IS THIS STUDY BEING DONE?

The purpose of this study is to learn more about public opinion on U.S. elections and issues in the news.

You were selected as a possible participant because you are an adult American citizen participating in YouGov's survey panel pool. Additionally, you may have agreed to participate in YouGov's Pulse program.

The study is being conducted by Brian Fogarty from the Center for Social Science Research at the University of Notre Dame, Jason Reifler from the Department of Politics at the University of Exeter, and John Carey and Brendan Nyhan from the Department of Government at Dartmouth College. It is funded by the MIT Election Data and Science Lab.

HOW MANY PEOPLE WILL TAKE PART?

If you agree to participate, you will be one of 3,750 participants taking part in this study.

WHAT WILL HAPPEN DURING THE STUDY?

If you agree to be in the study, you will be asked to do the following things:

-Completion of a short survey on YouGov's website or app. The survey is antici-

pated to take less than 20 minutes to complete.

- -Possibly, completion of a short follow-up survey approximately one month from now on YouGov's website or app. The follow-up survey is anticipated to take less than 20 minutes to complete.
- -If you have agreed to participate in YouGov's Pulse program, anonymous tracking data on your online website visits may be used by the researchers. However, there are no actions you need to take related to YouGov Pulse and this study.

WHAT ARE THE RISKS OF TAKING PART IN THE STUDY?

While participating in the study, the potential risks include:

- -A risk of completing the survey is being uncomfortable answering the questions.
- -To minimize this potential risk, you can skip any questions that you feel uncomfortable answering.

WHAT ARE THE POTENTIAL BENEFITS OF TAKING PART IN THE STUDY?

We don't expect you to receive any benefit from taking part in this study, but we hope to learn things that will help scientists in the future.

HOW WILL MY INFORMATION BE PROTECTED?

Efforts will be made to keep your personal information confidential. We cannot guarantee absolute confidentiality. Your personal information may be disclosed if required by law. No information which could identify you will be shared in publications about this study and databases in which results may be stored.

Organizations that may inspect and/or copy your research records for quality assurance and data analysis include groups such as the study investigator and his/her research associates, [redacted for peer review]

WILL MY INFORMATION BE USED FOR RESEARCH IN THE FUTURE?

Your information will not be used or distributed for future research studies.

WILL I BE PAID FOR PARTICIPATION?

You will receive 2500 points for completing each survey.

YouGov does not allow for prorated compensation. In the event of an incomplete survey, you will not receive any points.

WHO SHOULD I CALL WITH QUESTIONS OR PROBLEMS?

For questions about the study, contact the researcher, Brendan Nyhan. at nyhan@dartmouth.edu.

PARTICIPANT'S CONSENT

In consideration of all of the above, I give my consent to participate in this research study. By proceeding, I confirm that I am 18 years old, and agree to take part in this study.

- -I agree to take this survey
- -Take me to another survey

When it comes to politics, would you describe yourself as liberal, conservative, or neither liberal nor conservative?

- -Very liberal
- -Somewhat liberal
- -Slightly liberal
- -Moderate; middle of the road
- -Slightly conservative
- -Somewhat conservative
- -Very conservative

Generally speaking, do you think of yourself as a ...?

- -Democrat
- -Republican
- -Independent
- -Other (open text)
- -Not sure

[if Democrat] Would you call yourself a strong Democrat or a not very strong Democrat?

- -Strong Democrat
- -Not very strong Democrat

[if Republican] Would you call yourself a strong Republican or a not very strong Republican?

- -Strong Republican
- -Not very strong Republican

[if Independent/other/not sure] Do you think of yourself as closer to the Republican Party or to the Democratic Party?

- -The Democratic Party
- -The Republican Party
- -Neither
- -Not sure

In talking to people about elections, we often find that a lot of people were not able to vote because they weren't registered, they were sick, or they just didn't have time.

Which of the following statements best describes you?

- -I did not vote in the election this November
- -I thought about voting this time, but didn't
- -I usually vote, but didn't this time
- -I am sure I voted

Generally, how interested are you in politics?

- -Extremely interested
- -Very interested
- -Somewhat interested
- -Not very interested
- -Not at all interested

Do you approve or disapprove of the way Joe Biden is handling his job as President?

- -Strongly approve
- -Somewhat approve
- -Somewhat disapprove
- -Strongly disapprove

We would like to get your feelings toward some people, groups, and countries who are in the news these days using something we call the feeling thermometer. Ratings between 50 degrees and 100 degrees mean that you feel favorable and warm toward the person, group, or country. Ratings between 0 degrees and 50 degrees mean that you don't feel favorable toward the person or institution and that you don't care too much for that person, group, or country. You would rate them at the 50 degree mark if you don't feel particularly warm or cold toward that person, group, or country. If we come to a person or institution whose name you don't recognize, you don't need to rate them.

Election officials
White people
Black people
The news media
Joe Biden
Donald Trump
Republican Party
Democratic Party

Please indicate whether you agree or disagree with each statement below.

- -By law, abortion should never be permitted.
- -In order to reduce the budget deficit, the federal government should eliminate all welfare programs that help poor people.
- -The federal government should raise the minimum wage to \$10.
- -The federal government should guarantee health insurance for all citizens.
- -The federal government should pass new rules that protect the right of workers to join labor unions.
- -Thomas Jefferson was the 43rd president of the United States. [attention check]
- -Strongly agree
- -Somewhat agree
- -Neither agree nor disagree
- -Somewhat disagree
- -Strongly disagree

In November 2020, elections were held for 435 seats in the U.S. House of Representatives and 35 seats in the U.S. Senate. In how many of these elections do you think the winning candidate was not the rightful winner but instead won due to voter fraud?

- -None
- -One or two
- -Three to nine
- -Ten or more

In November 2022, elections were held for 435 seats in the U.S. House of Representatives and 34 seats in the U.S. Senate. In how many of these elections do you think the winning candidate was not the rightful winner but instead won due to voter fraud?

- -None
- -One or two
- -Three to nine
- -Ten or more

Please indicate whether you agree or disagree with each statement below.

- -People convicted of murder should be given the death penalty.
- -The leader of the American government is the prime minister.
- -Gays and lesbians should have the right to legally marry.
- -In order to reduce the budget deficit, the federal government should raise taxes -on

people that make more than \$250,000 per year.

- -The Affordable Care Act passed by Congress in 2010 should be repealed.
- -Strongly agree
- -Somewhat agree
- -Neither agree nor disagree
- -Somewhat disagree
- -Strongly disagree

Now we'd like to ask you about the election that took place in November 2020 for the presidency, U.S. Congress, and other offices.

How confident are you that your vote was counted as you intended in the 2020 election?

- -Very confident
- -Somewhat confident
- -Not too confident
- -Not at all confident

How confident are you that votes in your local area were counted as voters intended in the 2020 election?

- -Very confident
- -Somewhat confident
- -Not too confident
- -Not at all confident

How confident are you that votes in your state were counted as voters intended in the 2020 election?

- -Very confident
- -Somewhat confident
- -Not too confident
- -Not at all confident

How confident are you that votes nationwide were counted as voters intended in the 2020 election?

- -Very confident
- -Somewhat confident
- -Not too confident
- -Not at all confident

Do you consider Joe Biden to be the rightful winner of the 2020 election or not the rightful winner?

- -Definitely the rightful winner
- -Probably the rightful winner
- -Probably not the rightful winner
- -Definitely not the rightful winner

To the best of your knowledge, how often did each of these occur in the 2020 presidential election?

- -Voting more than once in an election.
- -Stealing or tampering with ballots.
- -Pretending to be someone else when voting.
- -People voting who are not U.S. citizens.
- -Voting with an absentee ballot intended for another person.
- -Officials preventing absentee voters from voting.
- -A million or more
- -Hundreds of thousands
- -Tens of thousands
- -Thousands
- -Hundreds
- -Less than a hundred
- -Less than ten

Now we would like to ask you about the elections that took place in November 2022 for the U.S. Congress and other offices.

How confident are you that your vote was counted as you intended in the November 2022 election?

- -Very confident
- -Somewhat confident
- -Not too confident
- -Not at all confident

How confident are you that votes in your local area were counted as voters intended in the November 2022 election?

- -Very confident
- -Somewhat confident
- -Not too confident
- -Not at all confident

How confident are you that votes in your state were counted as voters intended in the November 2022 election?

- -Very confident
- -Somewhat confident
- -Not too confident
- -Not at all confident

How confident are you that votes nationwide were counted as voters intended in the November 2022 election?

- -Very confident
- -Somewhat confident
- -Not too confident
- -Not at all confident

To the best of your knowledge, which of these states has had a losing candidate for governor refuse to accept the results of the 2022 election?

- -Arizona
- -Michigan
- -Nevada
- -New Hampshire
- -Pennsylvania
- -Wisconsin

[new page]

[correction treatment; p=.5]

Fact check: False claims of broken Arizona voting machines only in Republican areas

Associated Press

A printing malfunction at about one-quarter of the polling places across Arizona's most populous county gave rise to false claims by former President Donald Trump, Arizona Republican gubernatorial candidate Kari Lake, and social media users suggesting that the problems only affected sites in conservative parts of the county.

In reality, voting centers across Maricopa County reported printing issues that stopped some ballots from being counted onsite, including in Democrat-leaning areas, like downtown Phoenix and Tempe.

"We came right down into the heart of liberal Phoenix to vote because we wanted to make sure that we had good machines," Lake said during a press gaggle. "And guess what? They've had zero problems with their machines today."

Trump wrote on Truth Social in reference to the voting snag, "Only Republican areas? WOW!"

Such claims also spread independently on social media, with one Instagram user sharing an image that featured the text, "Funny how in Arizona the voting machines 'stopped working' in predominantly REPUBLICAN areas."

However, the claim that only voting sites in conservative areas in Arizona's Maricopa County experienced issues with tabulating ballots on Election Day is false. Voting centers in both liberal and conservative parts of Maricopa County were impacted by the printing issues, according to the Maricopa County Elections Department.

Technicians were dispatched to all sites where there were printing issues, a county elections official wrote in an email, including sites in Glendale, Phoenix, and Tempe, which all skew toward Democrats.

"It is simply untrue that the voting centers that were impacted are only in Republican areas," said Paul Bentz, a Republican pollster. "There are certainly some Republican areas impacted, but there are a significant number of Democratic-leaning areas as well as a number of swing areas or very competitive areas."

[new page]

According to the article you just read, which of the following happened on Election Day?

- -Absentee mail delivery problems in Arizona
- -Ballot printing and tabulation problems in Arizona
- -Absentee mail delivery problems in Georgia
- -Ballot printing and tabulation problems in Georgia
- -Absentee mail delivery problems in Ohio
- -Ballot printing and tabulation problems in Ohio [repeat up to three times if not answered correctly]

[new page]

[placebo condition; p=.5]

What do you need for birdwatching?

By Bill Thompson III

The most basic equipment required for bird watching is your eyes, though you will soon need to have more items with you if you intend to make this a pastime or serious hobby. How far you go is a matter of taste and budget.

The most useful thing that you can carry is a notepad and pencil. Use this to make a note of location, time, date, weather and habitat. Do a list of the birds that you see and know. Do a drawing or write down a description of those that you don't. You can look them up later in your field guide. Your notebook should become a diary of where you have been and what you have seen.

A field guide is a book that provides descriptions of birds to assist you in their identification. The descriptions use several factors to help you determine the exact bird that you are looking at. As soon as you see a bird that you do not recognize you will need to have access to a good field guide. There are many to choose from.

Binoculars. These are pretty essential and buy the best that you can afford. A good pair well looked after will last you a lifetime. Take time to choose ones that suit you.

[new page]

According to the article you just read, which of the following is "pretty essential" for birdwatching?

- -Hat
- -Map
- -Binoculars
- -Camera

Now we would like to again ask you about the elections that took place in November 2022 for the U.S. Congress and other offices.

How confident are you that your vote was counted as you intended in the November 2022 election?

- -Very confident
- -Somewhat confident

- -Not too confident
- -Not at all confident

How confident are you that votes in your local area were counted as voters intended in the November 2022 election?

- -Very confident
- -Somewhat confident
- -Not too confident
- -Not at all confident

How confident are you that votes in your state were counted as voters intended in the November 2022 election?

- -Very confident
- -Somewhat confident
- -Not too confident
- -Not at all confident

How confident are you that votes nationwide were counted as voters intended in the November 2022 election?

- -Very confident
- -Somewhat confident
- -Not too confident
- -Not at all confident

How confident are you that votes in Arizona have been counted as voters intended in the November 2022 election?

- -Very confident
- -Somewhat confident
- -Not too confident
- -Not at all confident

On Election Day 2022, a printing malfunction took place at about one-quarter of the polling places in Maricopa County, the most populous county in Arizona. This problem stopped some ballots from being counted onsite.

Please indicate whether you believe the following statement is accurate or not:

Only voting sites in conservative areas in Arizona's Maricopa County experienced issues with tabulating ballots on Election Day 2022.

-Very accurate

- -Somewhat accurate
- -Not very accurate
- -Not at all accurate

Please state whether you agree or disagree with the following statement:

In the election for Arizona governor, Katie Hobbs, the Democrat, defeated Kari Lake, the Republican, due to election fraud and therefore is NOT the rightful winner

- -Strongly agree
- -Somewhat agree
- -Somewhat disagree
- -Strongly disagree

In November 2022, elections were held for 435 seats in the U.S. House of Representatives and 34 seats in the U.S. Senate. In how many of these elections do you think the winning candidate was not the rightful winner but instead won due to voter fraud?

- -None
- -One or two
- -Three to nine
- -Ten or more

You said that the results of [answer from prior question] elections for the U.S. House and Senate in 2022 were changed by voter fraud. Please explain why you believe this to be true.

[repeated six times; drawn with uniform probability from set of races contested by two major party candidates]

In Congressional district [number] in [state], the Democratic candidate [name] got [share] of the major-party vote and the Republican candidate [name] got [share] of the major-party vote. Do you think [winning party] candidate [winning candidate name] was the rightful winner or instead won due to voter fraud?

- -Rightful winner
- -Won due to voter fraud

Now we'd like to again ask you about the election that took place in November 2020 for the presidency, U.S. Congress, and other offices.

How confident are you that your vote was counted as you intended in the 2020 elec-

tion?

- -Very confident
- -Somewhat confident
- -Not too confident
- -Not at all confident

How confident are you that votes in your local area were counted as voters intended in the 2020 election?

- -Very confident
- -Somewhat confident
- -Not too confident
- -Not at all confident

How confident are you that votes in your state were counted as voters intended in the 2020 election?

- -Very confident
- -Somewhat confident
- -Not too confident
- -Not at all confident

How confident are you that votes nationwide were counted as voters intended in the 2020 election?

- -Very confident
- -Somewhat confident
- -Not too confident
- -Not at all confident

Do you consider Joe Biden to be the rightful winner of the 2020 election or not the rightful winner?

- -Definitely the rightful winner
- -Probably the rightful winner
- -Probably not the rightful winner
- -Definitely not the rightful winner

To the best of your knowledge, how often did each of these occur in the 2020 presidential election?

- -Voting more than once in an election.
- -Stealing or tampering with ballots.
- -Pretending to be someone else when voting.
- -People voting who are not U.S. citizens.

- -Voting with an absentee ballot intended for another person.
- -Officials preventing absentee voters from voting.
- -A million or more
- -Hundreds of thousands
- -Tens of thousands
- -Thousands
- -Hundreds
- -Less than a hundred
- -Less than ten

In November 2020, elections were held for 435 seats in the U.S. House of Representatives and 35 seats in the U.S. Senate. In how many of these elections do you think the winning candidate was not the rightful winner but instead won due to voter fraud?

- -None
- -One or two
- -Three to nine
- -Ten or more

[asked if "One or two," "Three to nine," or "Ten or more" selected] You said you think that the results of [one or two/three to nine/ten or more elections] for the U.S. House and Senate in 2020 were changed by voter fraud. Please explain why you believe this to be true.

We sometimes find people don't always take surveys seriously, instead providing humorous or insincere responses to questions. How often do you do this?

- -Never
- -Rarely
- -Some of the time
- -Most of the time
- -Always

It is essential for the validity of this study that we know whether participants looked up any information online during the study. Did you make an effort to look up information during the study? Please be honest; you will not be penalized in any way if you did.

- -Yes, I looked up information
- -No, I did not look up information

Thank you for answering these questions. This research is not intended to support or oppose any political candidate or office. The research has no affiliation with any political candidate or campaign and has received no financial support from any political candidate or campaign. Should you have any questions about this study, please contact Brendan Nyhan at nyhan@dartmouth.edu.

Post-treatment wave questionnaire (wave 3 of panel survey)

ABOUT THIS RESEARCH

You are being asked to participate in a research study. Scientists do research to answer questions and learn new information. Some research might help change or improve the way we do things in the future. This consent information will tell you more about the study to help you decide whether you want to participate. Please read this information before agreeing to be in the study.

TAKING PART IN THIS STUDY IS VOLUNTARY

You may choose not to take part in the study or may choose to leave the study at any time. Deciding not to participate, or deciding to leave the study later, will not result in any penalty and will not affect your relationship with YouGov, the University of Notre Dame, Dartmouth College, or the University of Exeter.

As an alternative to participating in the study, you may choose not to take part.

WHY IS THIS STUDY BEING DONE?

The purpose of this study is to learn more about public opinion on U.S. elections and issues in the news.

You were selected as a possible participant because you are an adult American citizen participating in YouGov's survey panel pool. Additionally, you may have agreed to participate in YouGov's Pulse program.

The study is being conducted by Brian Fogarty from the Center for Social Science Research at the University of Notre Dame, Jason Reifler from the Department of Politics at the University of Exeter, and John Carey and Brendan Nyhan from the Department of Government at Dartmouth College. It is funded by the MIT Election Data and Science Lab.

HOW MANY PEOPLE WILL TAKE PART?

If you agree to participate, you will be one of 3,750 participants taking part in this study.

WHAT WILL HAPPEN DURING THE STUDY?

If you agree to be in the study, you will be asked to do the following things:

- -Completion of a short survey on YouGov's website or app. The survey is anticipated to take less than 10 minutes to complete.
- -Possibly, completion of a short follow-up survey approximately one month from now on YouGov's website or app. The follow-up survey is anticipated to take less than 10 minutes to complete.
- -If you have agreed to participate in YouGov's Pulse program, anonymous tracking data on your online website visits may be used by the researchers. However, there are no actions you need to take related to YouGov Pulse and this study.

WHAT ARE THE RISKS OF TAKING PART IN THE STUDY?

While participating in the study, the potential risks include:

-A risk of completing the survey is being uncomfortable answering the questions.-To minimize this potential risk, you can skip any questions that you feel uncomfortable answering.

WHAT ARE THE POTENTIAL BENEFITS OF TAKING PART IN THE STUDY? We don't expect you to receive any benefit from taking part in this study, but we hope to learn things that will help scientists in the future.

HOW WILL MY INFORMATION BE PROTECTED?

Efforts will be made to keep your personal information confidential. We cannot guarantee absolute confidentiality. Your personal information may be disclosed if required by law. No information which could identify you will be shared in publications about this study and databases in which results may be stored.

Organizations that may inspect and/or copy your research records for quality assurance and data analysis include groups such as the study investigator and his/her research associates, the University of Notre Dame Institutional Review Board or its designees, and (as allowed by law) state or federal agencies, especially the Office for Human Research Protections (OHRP), who may need to access the research records.

WILL MY INFORMATION BE USED FOR RESEARCH IN THE FUTURE? Your information will not be used or distributed for future research studies.

WILL I BE PAID FOR PARTICIPATION?

You will receive 500 points for completing each survey.

YouGov does not allow for prorated compensation. In the event of an incomplete survey, you will not receive any points.

WHO SHOULD I CALL WITH QUESTIONS OR PROBLEMS?

For questions about the study, contact the researcher, Brendan Nyhan, at nyhan@dartmouth.edu. PARTICIPANT'S CONSENT

In consideration of all of the above, I give my consent to participate in this research study. By proceeding, I confirm that I am 18 years old, and agree to take part in this study.

- -I agree to take this survey
- -Take me to another survey

When it comes to politics, would you describe yourself as liberal, conservative, or neither liberal nor conservative?

- -Very liberal
- -Somewhat liberal
- -Slightly liberal
- -Moderate; middle of the road
- -Slightly conservative
- -Somewhat conservative
- -Very conservative

Generally speaking, do you think of yourself as a ...?

- -Democrat
- -Republican
- -Independent
- -Other (open text)
- -Not sure

[if Democrat] Would you call yourself a strong Democrat or a not very strong Democrat?

- -Strong Democrat
- -Not very strong Democrat

[if Republican] Would you call yourself a strong Republican or a not very strong Republican?

- -Strong Republican
- -Not very strong Republican

[if Independent/other/not sure] Do you think of yourself as closer to the Republican Party or to the Democratic Party?

- -The Democratic Party
- -The Republican Party
- -Neither
- -Not sure

In talking to people about elections, we often find that a lot of people were not able to vote because they weren't registered, they were sick, or they just didn't have time.

Which of the following statements best describes you?

- -I did not vote in the election this November
- -I thought about voting this time, but didn't
- -I usually vote, but didn't this time
- -I am sure I voted

Generally, how interested are you in politics?

- -Extremely interested
- -Very interested
- -Somewhat interested
- -Not very interested
- -Not at all interested

Do you approve or disapprove of the way Joe Biden is handling his job as President?

- -Strongly approve
- -Somewhat approve
- -Somewhat disapprove
- -Strongly disapprove

Please indicate whether you agree or disagree with each statement below.

By law, abortion should never be permitted.

In order to reduce the budget deficit, the federal government should eliminate all welfare programs that help poor people.

The federal government should raise the minimum wage to \$10.

The federal government should guarantee health insurance for all citizens.

The federal government should pass new rules that protect the right of workers to join labor unions.

Abraham Lincoln was the president of Mexico. [attention check]

- -Strongly agree
- -Somewhat agree
- -Neither agree nor disagree
- -Somewhat disagree
- -Strongly disagree

In November 2022, elections were held for 435 seats in the U.S. House of Representatives and 34 seats in the U.S. Senate. In how many of these elections do you think the winning candidate was not the rightful winner but instead won due to voter fraud?

- -None
- -One or two
- -Three to nine
- -Ten or more

In November 2024, elections will be held for 435 seats in the U.S. House of Representatives and 33 seats in the U.S. Senate. In how many of these elections do you think the winning candidate will not be the rightful winner but instead will win due to voter fraud?

- -None
- -One or two
- -Three to nine

Ten or more

Please indicate whether you agree or disagree with each statement below.

People convicted of murder should be given the death penalty.

The leader of the American government is the king.

Gays and lesbians should have the right to legally marry.

In order to reduce the budget deficit, the federal government should raise taxes on people that make more than \$250,000 per year.

The Affordable Care Act passed by Congress in 2010 should be repealed.

- -Strongly agree
- -Somewhat agree
- -Neither agree nor disagree
- -Somewhat disagree
- -Strongly disagree

Now we would like to ask you about the elections that took place in November 2022 for the U.S. Congress and other offices.

How confident are you that your vote was counted as you intended in the November 2022 election?

- -Very confident
- -Somewhat confident
- -Not too confident
- -Not at all confident

How confident are you that votes in your local area were counted as voters intended in the November 2022 election?

- -Very confident
- -Somewhat confident
- -Not too confident
- -Not at all confident

How confident are you that votes in your state were counted as voters intended in the November 2022 election?

- -Very confident
- -Somewhat confident
- -Not too confident
- -Not at all confident

How confident are you that votes nationwide were counted as voters intended in the November 2022 election?

- -Very confident
- -Somewhat confident
- -Not too confident
- -Not at all confident

To the best of your knowledge, how often did each of these occur in the 2022 election?

- -Voting more than once in an election.
- -Stealing or tampering with ballots.
- -Pretending to be someone else when voting.
- -People voting who are not U.S. citizens.
- -Voting with an absentee ballot intended for another person.
- -Officials preventing absentee voters from voting.
- -A million or more
- -Hundreds of thousands

- -Tens of thousands
- -Thousands
- -Hundreds
- -Less than a hundred
- -Less than ten

On Election Day 2022, a printing malfunction took place at about one-quarter of the polling places in Maricopa County, the most populous county in Arizona. This problem stopped some ballots from being counted onsite.

Please indicate whether you believe the following statement is accurate or not:

Only voting sites in conservative areas in Arizona's Maricopa County experienced issues with tabulating ballots on Election Day 2022.

- -Very accurate
- -Somewhat accurate
- -Not -Very accurate
- -Not at all accurate

Please state whether you agree or disagree with the following statement:

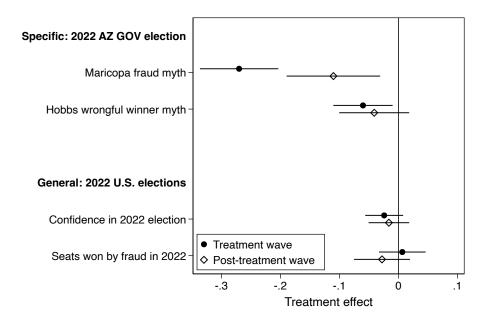
In the 2022 election for Arizona governor, Katie Hobbs, the Democrat, defeated Kari Lake, the Republican, due to election fraud and therefore is NOT the rightful winner.

- -Strongly agree
- -Somewhat agree
- -Somewhat disagree
- -Strongly disagree

[rest of survey omitted as not considered in this paper]

Online Appendix B: Additional results

Figure B1: Effects of Maricopa myth fact-check over time



Model estimates from Table B1. See Online Appendix A for stimuli and question wording. Results in the post-treatment wave were driven by a change in the treatment wave, not the control group; the baseline control did not move from the treatment wave to the post-treatment wave. The raw means for the Maricopa fraud myth placebo were 2.23 in the treatment wave and 2.20 in the post-treatment wave, and the raw means for the Hobbs wrongful winner placebo were 1.92 in the treatment wave and 1.86 in the post-treatment wave, indicating no substantive change over time.

Table B1: Effects of Maricopa myth fact-check over time

	Maricopa myth	a myth	Hobbs wro	Hobbs wrongful winner	2022 electi	2022 election confidence	2022 seats	2022 seats won by fraud
	Wave 2	Wave 3	Wave 2	Wave 3	Wave 2	Wave 3	Wave 2	Wave 3
Maricopa myth fact-check -0.270***	-0.270***	-0.110**	*090.0-	-0.040	-0.019	-0.016	-0.028	-0.036
	(0.034)	(0.040)	(0.026)	(0.030)	(0.018)	(0.018)	(0.024)	(0.027)
Controls	>	>	>	>	>	>	>	>
Z	2602	1829	2583	1840	1882	1885	1843	1907

OLS with robust standard errors; * p < 0.05, ** p < 0.01, *** p < 0.05 (two-sided). Controls included for treatment assignment in pre-treatment wave; other control variables were selected via lasso (Bloniarz et al. 2016). See Online Appendix A for stimuli and question wording.

Table B2: Heterogeneous treatment effects for Maricopa fraud myth

	(1)	(2)	(3)
Maricopa myth fact-check	-0.289***	-0.353***	-0.245***
	(0.046)	(0.050)	(0.059)
Maricopa myth fact-check \times independent	0.028		
	(0.106)		
Maricopa myth fact-check × Republican	0.052		
	(0.074)		
Maricopa myth fact-check \times Trump feelings tercile 2 (middle)		0.156	
		(0.087)	
Maricopa myth fact-check × Trump feelings tercile 3 (warmest)		0.153	
		(0.078)	
Maricopa myth fact-check × wave 1 correction treatment			-0.032
			(0.083)
Maricopa myth fact-check × wave 1 prebunking treatment			-0.043
			(0.083)
Control variables	✓	✓	✓
N	2602	2602	2602

OLS with robust standard errors; * p < 0.05, *** p < 0.01, **** p < .005 (two-sided). Controls included for treatment assignment in pre-treatment wave; other control variables were selected via lasso (Bloniarz et al. 2016). See Online Appendix A for stimuli and question wording.

Table B3: Heterogeneous treatment effects for Hobbs wrongful winner myth

	(1)	(2)	(3)
Maricopa myth fact-check	-0.022	0.002	-0.062
	(0.032)	(0.032)	(0.044)
Maricopa myth fact-check \times independent	0.015		
	(0.080)		
Maricopa myth fact-check × Republican	-0.126*		
	(0.058)		
Maricopa myth fact-check \times Trump feelings tercile 2 (middle)		-0.107	
		(0.066)	
Maricopa myth fact-check × Trump feelings tercile 2 (warmest)		-0.112	
		(0.060)	
Maricopa myth fact-check × wave 1 correction treatment			-0.007
			(0.064)
Maricopa myth fact-check × wave 1 prebunking treatment			0.014
			(0.062)
Control variables	✓	\checkmark	✓
N	2583	2583	2583

OLS with robust standard errors; * p < 0.05, *** p < 0.01, *** p < .005 (two-sided). Controls included for treatment assignment in pre-treatment wave; other control variables were selected via lasso (Bloniarz et al. 2016). See Online Appendix A for stimuli and question wording.

Table B4: Heterogeneous treatment effects for 2022 vote count confidence

	(1)	(2)	(3)	4
Maricopa myth fact-check	-0.016	-0.000	0.004	-0.003
Maricopa myth fact-check $ imes$ independent	-0.046	(0.02)	(0.010)	(50.0)
Maricopa myth fact-check $ imes$ Republican	(0.094) -0.020			
Maricopa myth fact-check \times Trump feelings tercile 2 (middle)	(0.000)	-0.054		
Maricopa myth fact-check \times Trump feelings tercile 3 (warmest)		-0.034		
Maricopa myth fact-check \times 2020 confidence tercile 1 (low)		(0.001)	-0.082	
Maricopa myth fact-check \times 2020 confidence tercile 1 (middle)			-0.051	
Maricopa myth fact-check \times wave 1 correction treatment			(6:0.0)	0.001
Maricopa myth fact-check \times wave 1 prebunking treatment				-0.006 (0.074)
Control variables	>	>	>	>
Z	2896	2839	2896	2896

OLS with robust standard errors; * p < 0.05, ** p < 0.01, *** p < .005 (two-sided). Controls included for treatment assignment in pre-treatment wave; other control variables were selected via lasso (Bloniarz et al. 2016). See Online Appendix A for stimuli and question wording.

Table B5: Heterogeneous treatment effects for 2022 seats won by fraud

	(1)	(2)	(3)	(4)
Maricopa myth fact-check	0.021	-0.006	0.012	090.0-
Maricopa myth fact-check $ imes$ independent	(0.023) 0.023	(0.023)	(0.023)	(0.030)
	(0.099)			
Maricopa myth fact-check $ imes$ Republican	-0.093			
Maricopa myth fact-check \times Trump feelings tercile 2 (middle)	(2222)	0.049		
		(0.059)		
Maricopa myth fact-check \times Trump feelings tercile 3 (high)		-0.039		
Maricopa myth fact-check \times 1–2 seats won by fraud (pre-treatment belief)			-0.058	
Maricopa myth fact-check \times 3–9 seats won by fraud (pre-treatment belief)			-0.025	
Maricopa myth fact-check \times 10 or more seats won by fraud (pre-treatment belief)			0.017	
Maricopa myth fact-check $ imes$ wave 1 correction treatment				0.035
				(0.083)
Maricopa myth fact-check \times wave 1 prebunking treatment				0.052 (0.083)
Control variables	>	>	>	>
Z	2896	2839	2895	2896

OLS with robust standard errors; * p < 0.05, ** p < 0.01, *** p < .005 (two-sided). Controls included for treatment assignment in pre-treatment wave; other control variables were selected via lasso (Bloniarz et al. 2016). See Online Appendix A for stimuli and question wording.

Table B6: Heterogeneous treatment effects for 2020 vote count confidence

	(1)	(2)	(3)	(4)
Maricopa myth fact-check	-0.005	0.013	0.003	0.005
	(0.023)	(0.025)	(0.010)	(0.056)
Maricopa myth fact-check $ imes$ independent	-0.013			
	(960.0)			
Maricopa myth fact-check $ imes$ Republican	-0.044			
	(0.063)			
Maricopa myth fact-check \times Trump feelings tercile 2 (middle)		-0.064		
		(0.058)		
Maricopa myth fact-check \times Trump feelings tercile 3 (high)		-0.036		
		(0.063)		
Maricopa myth fact-check \times 2020 vote count confidence tercile 1 (low)			-0.050	
			(0.062)	
Maricopa myth fact-check \times 2020 vote count confidence tercile 2 (middle)			0.017	
			(0.044)	
Maricopa myth fact-check \times wave 1 correction treatment				0.019
				(0.078)
Maricopa myth fact-check \times wave 1 prebunking treatment				-0.020
				(0.078)
Control variables	>	>	>	>
Z	2896	2839	2896	2896

OLS with robust standard errors; * p < 0.05, ** p < 0.01, *** p < .005 (two-sided). Controls included for treatment assignment in pre-treatment wave; other control variables were selected via lasso (Bloniarz et al. 2016). See Online Appendix A for stimuli and question wording.

Table B7: Heterogeneous treatment effects for 2020 fraud prevalence

(1) (2) 0.056 0.041 (0.052) (0.051)		(3)	(4)
		0.010	
		-0.012	-0.048
		(0.088)	(0.108)
4			
(0.163)			
0.004			
(0.112)			
0.238*	*8		
(0.107)	07)		
-0.074	74		
(0.110)	10)		
	0	0.070	
	9	(0.095)	
	0	0.145	
	9	(0.109)	
			0.140
			(0.152)
			0.085
			(0.149)
>		>	>
2896 283		9687	2896
	283	2839	2839 2896

OLS with robust standard errors; * p < 0.05, ** p < 0.01, *** p < .005 (two-sided). Controls included for treatment assignment in pre-treatment wave; other control variables were selected via lasso (Bloniarz et al. 2016). See Online Appendix A for stimuli and question wording.

Table B8: Heterogeneous treatment effects for 2020 seats won by fraud

	(1)	(3)	(3)	4)
AZ factcheck	-0.028	-0.035	-0.007	-0.065
	(0.024)	(0.025)	(0.023)	(0.061)
Maricopa myth fact-check \times independent	0.047			
	(0.101)			
Maricopa myth fact-check $ imes$ Republican	-0.009			
	(0.071)			
Maricopa myth fact-check \times Trump feelings tercile 2 (middle)		0.074 (0.059)		
Maricopa myth fact-check \times Trump feelings tercile 2 (warmest)		-0.023 (0.071)		
Maricopa myth fact-check \times 1–2 seats won by fraud (pre-treatment belief)			0.001	
Maricopa myth fact-check \times 3–9 seats won by fraud (pre-treatment belief)			-0.158	
			(0.106)	
Maricopa myth fact-check \times 10 or more seats won by fraud (pre-treatment belief)			-0.079 (0.140)	
Maricopa myth fact-check \times wave 1 correction treatment				0.038
				(0.086)
Maricopa myth fact-check \times wave 1 prebunking treatment				0.010
				(0.086)
Control variables	>	>	>	>
Z	2896	2839	2896	2896

OLS with robust standard errors; * p < 0.05, ** p < 0.01, *** p < .005 (two-sided). Controls included for treatment assignment in pre-treatment wave; other control variables were selected via lasso (Bloniarz et al. 2016). See Online Appendix A for stimuli and question wording.

Results without controls

Table B9: Fact-check effects on specific and general election beliefs and attitudes

	Specific: 202	22 AZ GOV election	General: 2022	2 U.S. elections	Genera	l: 2020 U.S. el	ections
	Maricopa myth	Hobbs wrongful winner myth	Vote count confidence	Seats won by fraud	Vote count confidence	Fraud prevalence	Seats won by fraud
Fact-check	-0.275*** (0.038)	-0.075 (0.041)	-0.005 (0.030)	-0.031 (0.034)	0.005 (0.032)	0.027 (0.061)	-0.049 (0.035)
N	2896	2896	2896	2896	2896	2896	2896

OLS with robust standard errors; * p < 0.05, ** p < 0.01, *** p < .005 (two-sided). Controls included for treatment assignment in pre-treatment wave only. See Online Appendix A for stimuli and question wording.

Table B10: Effects of Maricopa myth fact-check over time

	Maricopa myth	a myth	Hobbs wrc	Hobbs wrongful winner	2022 electi	2022 election confidence	2022 seats	2022 seats won by fraud
	Wave 2	Wave 3	Wave 2	Wave 3	Wave 2	Wave 3	Wave 2	Wave 3
Maricopa myth fact-check	-0.275***	-0.112*	-0.075	-0.032	-0.005	-0.021	-0.031	-0.039
	(0.038)	(0.046)	(0.041)	(0.050)	(0.030)	(0.033)	(0.034)	(0.042)
N	2896	2002	2896	2002	2896	2002	2896	2002

OLS with robust standard errors; * p < 0.05, *** p < 0.01, *** p < 0.005 (two-sided). Controls included for treatment assignment in pre-treatment wave only. See Online Appendix A for stimuli and question wording.

Table B11: Heterogeneous treatment effects for Maricopa fraud myth

	(1)	(2)	(3)
Maricopa myth fact-check	-0.279***	-0.362***	-0.263***
	(0.050)	(0.053)	(0.066)
Maricopa myth fact-check \times independent	0.070		
	(0.108)		
Maricopa myth fact-check × Republican	0.041		
	(0.077)		
Maricopa myth fact-check × Trump feelings tercile 2 (middle)		0.143	
		(0.092)	
Maricopa myth fact-check × Trump feelings tercile 3 (warmest)		0.178*	
		(0.079)	
Maricopa myth fact-check × wave 1 correction treatment			-0.024
			(0.094)
Maricopa myth fact-check × wave 1 prebunking treatment			-0.012
			(0.094)
N	2896	2839	2896

OLS with robust standard errors; * p < 0.05, *** p < 0.01, *** p < .005 (two-sided). Controls included for treatment assignment in pre-treatment wave only. See Online Appendix A for stimuli and question wording.

Table B12: Heterogeneous treatment effects for Hobbs wrongful winner myth

	(1)	(2)	(3)
Maricopa myth fact-check	-0.011	-0.028	-0.093
	(0.038)	(0.037)	(0.071)
Maricopa myth fact-check \times independent	0.016		
	(0.108)		
Maricopa myth fact-check × Republican	-0.106		
	(0.074)		
Maricopa myth fact-check \times Trump feelings tercile 2 (middle)		-0.043	
		(0.077)	
Maricopa myth fact-check \times Trump feelings tercile 2 (warmest)		-0.065	
		(0.069)	
Maricopa myth fact-check \times wave 1 correction treatment			-0.009
			(0.064)
Maricopa myth fact-check \times wave 1 prebunking treatment			0.065
			(0.100)
N	2896	2839	2896

OLS with robust standard errors; * p < 0.05, *** p < 0.01, *** p < .005 (two-sided). Controls included for treatment assignment in pre-treatment wave only. See Online Appendix A for stimuli and question wording.

Table B13: Heterogeneous treatment effects for 2022 vote count confidence

	(1)	(2)	(3)	4
Maricopa myth fact-check	-0.016	-0.000	0.004	-0.003
Maricopa myth fact-check $ imes$ independent	-0.046	(0.020)	(610.0)	(0.00)
	(0.094)			
Maricopa myth fact-check \times Republican	-0.020			
Maricona myth fact-check $ imes$ Trumn feelings tercile 2 (middle)	(0.000)	-0.054		
		(0.057)		
Maricopa myth fact-check \times Trump feelings tercile 3 (warmest)		-0.034		
		(0.061)		
Maricopa myth fact-check \times 2020 confidence tercile 1 (low)			-0.082	
			(0.056)	
Maricopa myth fact-check \times 2020 confidence tercile 1 (middle)			-0.051 (0.039)	
Maricopa myth fact-check × wave 1 correction treatment				0.001
•				(0.074)
Maricopa myth fact-check × wave 1 prebunking treatment				-0.006
				(0.074)
Z	2896	2839	2896	2896

OLS with robust standard errors; * p < 0.05, ** p < 0.01, *** p < 0.05 (two-sided). Controls included for treatment assignment in pre-treatment wave only. See Online Appendix A for stimuli and question wording.

Table B14: Heterogeneous treatment effects for 2022 seats won by fraud

	(1)	(2)	(3)	(4)
Maricopa myth fact-check	0.021	-0.006	0.012	-0.060
	(0.025)	(0.025)	(0.025)	(0.058)
Maricopa myth fact-check $ imes$ independent	0.023			
	(0.09)			
Maricopa myth fact-check \times Republican	-0.093			
	(0.068)			
Maricopa myth fact-check \times Trump feelings tercile 2 (middle)		0.049		
		(0.059)		
Maricopa myth fact-check \times Trump feelings tercile 3 (high)		-0.039		
		(0.068)		
Maricopa myth fact-check \times 1–2 seats won by fraud (pre-treatment belief)			-0.058	
			(0.06)	
Maricopa myth fact-check \times 3–9 seats won by fraud (pre-treatment belief)			-0.025	
			(0.109)	
Maricopa myth fact-check \times 10 or more seats won by fraud (pre-treatment belief)			0.017	
			(0.143)	
Maricopa myth fact-check \times wave 1 correction treatment				0.035
				(0.083)
Maricopa myth fact-check $ imes$ wave 1 prebunking treatment				0.052
				(0.083)
N	2896	2839	2895	2896

OLS with robust standard errors; * p < 0.05, ** p < 0.01, *** p < 0.00 (two-sided). Controls included for treatment assignment in pre-treatment wave only. See Online Appendix A for stimuli and question wording.

Table B15: Heterogeneous treatment effects for 2020 vote count confidence

	(1)	(2)	(3)	(4)
Maricopa myth fact-check	-0.005	0.013	0.003	0.005
Maricopa myth fact-check $ imes$ independent	-0.013			
	(0.096)			
Maricopa myth fact-check $ imes$ Republican	-0.044			
	(0.063)			
Maricopa myth fact-check \times Trump feelings tercile 2 (middle)		-0.064		
		(0.058)		
Maricopa myth fact-check \times Trump feelings tercile 3 (high)		-0.036		
		(0.063)		
Maricopa myth fact-check \times 2020 vote count confidence tercile 1 (low)			-0.050	
			(0.062)	
Maricopa myth fact-check \times 2020 vote count confidence tercile 2 (middle)			0.017	
			(0.044)	
Maricopa myth fact-check \times wave 1 correction treatment				0.019
				(0.078)
Maricopa myth fact-check $ imes$ wave 1 prebunking treatment				-0.020
				(0.078)
N	2896	2839	2896	2896

OLS with robust standard errors; * p < 0.05, ** p < 0.01, *** p < 0.05 (two-sided). Controls included for treatment assignment in pre-treatment wave only. See Online Appendix A for stimuli and question wording.

Table B16: Heterogeneous treatment effects for 2020 fraud prevalence

	(1)	(2)	(3)	(4)
Maricopa myth fact-check	0.056	0.041	-0.012	-0.048
Maricopa myth fact-check $ imes$ independent	0.032	(0.031)	(0.00)	(0.108)
	(0.163)			
Maricopa myth fact-check $ imes$ Republican	0.004			
Maricopa myth fact-check \times Trump feelings tercile 2 (middle)		0.238*		
Maricopa myth fact-check \times Trump feelings tercile 2 (warmest)		(0.107)		
Maricopa myth fact-check \times perceived 2020 fraud tercile 1 (low)			0.070	
Maricopa myth fact-check \times perceived 2020 fraud tercile 2 (middle)			0.145	
Maricopa myth fact-check \times wave 1 correction treatment				0.140
				(0.152)
Maricopa myth fact-check \times wave 1 prebunking treatment				0.085
				(0.149)
N	2896	2839	2896	2896

OLS with robust standard errors; * p < 0.05, ** p < 0.01, *** p < 0.05 (two-sided). Controls included for treatment assignment in pre-treatment wave only. See Online Appendix A for stimuli and question wording.

Table B17: Heterogeneous treatment effects for 2020 seats won by fraud

	(1)	(5)	(3)	4
AZ factcheck	-0.028	-0.035	-0.007	-0.065
	(0.024)	(0.025)	(0.023)	(0.061)
Maricopa myth fact-check $ imes$ independent	0.047			
	(0.101)			
Maricopa myth fact-check $ imes$ Republican	-0.009			
	(0.0/1)			
Maricopa myth fact-check \times Trump feelings tercile 2 (middle)		0.074		
		(0.059)		
Maricopa myth fact-check \times Trump feelings tercile 2 (warmest)		-0.023		
		(0.071)		
Maricopa myth fact-check \times 1–2 seats won by fraud (pre-treatment belief)			0.001	
			(0.073)	
Maricopa myth fact-check \times 3–9 seats won by fraud (pre-treatment belief)			-0.158	
			(0.106)	
Maricopa myth fact-check \times 10 or more seats won by fraud (pre-treatment belief)			-0.079	
			(0.140)	
Maricopa myth fact-check \times wave 1 correction treatment				0.038
				(0.086)
Maricopa myth fact-check $ imes$ wave 1 prebunking treatment				0.010
				(0.086)
Z	2896	2839	2896	2896

OLS with robust standard errors; * p < 0.05, ** p < 0.01, *** p < 0.00 (two-sided). Controls included for treatment assignment in pre-treatment wave only. See Online Appendix A for stimuli and question wording.