# A Measurement Gap? Effect of Survey Instrument and Scoring on the Partisan Knowledge Gap

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**Abstract**

Research suggests that partisan gaps in political knowledge are wide and widespread. Using a series of experiments, we investigate whether partisan gaps are a result of differences in beliefs or an artifact of the survey instrument. Manipulating inflationary features of frequently used survey items, we demonstrate that survey design can inflate the partisan gap by up to 71%. Our findings suggest that knowledge gaps—when they do exist—stem more from motivated responding than differences in political knowledge.

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According to one prominent perspective, a well-functioning democracy rests on a well-informed citizenry (Schattschneider 1960). Wide and widespread partisan gaps challenge the idea that citizens can hold representatives accountable (Hochschild and Einstein 2015). Hence the alarm over research that suggests as much (Bartels 2002; Campbell et al. 1980; Jerit and Barabas 2012). However, a new line of research suggests that a large fraction of the partisan knowledge gap is an artifact of the survey response process (Bullock et al. 2015; Huber and Yair 2018; Prior, Sood and Khanna 2015).

In this paper, we extend the investigation into the role of survey design. We examine to what degree common features of commercial polls explain partisan differences in beliefs. In a series of experiments, we manipulate common "inflationary" features, e.g., encouraging respondents to guess, and scoring rules, e.g., accounting for respondents' self-assessed confidence about the answer, on partisan knowledge gaps (Graham 2021; Pasek, Sood and Krosnick 2015).

Data from a large survey experiment conducted on Amazon's Mechanical Turk suggests that nearly YY% of the partisan gap is due to survey features that encourage respondents to guess when they don't know. Using data from two other survey experiments conducted in two separate surveys, one national and one state, we find that survey features that encourage partisan inference inflate the observed differences by nearly KK%. Lastly, using the conceptual framework from Luskin and Sood (2018), we define knowledge as confidently held beliefs and drawing on existing research (Pasek, Sood and Krosnick 2015; Graham 2021) craft an instrument and scoring scheme that only codes answers that respondents are confident about. Doing so reduces partisan gaps by nearly YY%. These results contribute to a growing literature that suggests that a large fraction of partisan gaps are artifacts of survey design. By adding to this evidence, our study ameliorates concerns about democratic health stemming from these gaps. However, our study also provides reasons to be pessimistic. Reducing the impact of guessing, etc., reveals a yet more sobering picture of

how much partisans know.

## Theory, Motivation, and Research Design

A large body of research suggests that partisan gaps in political knowledge are wide and widespread (Bartels 2002; Jerit and Barabas 2012; Lodge and Taber 2013). Until recently, the primary explanation for partisan gaps was that they were a consequence of partisans knowing different things. More recently, scholars have offered a second explanation: expressive responding (Bullock et al. 2015; Huber and Yair 2018; Prior, Sood and Khanna 2015). More broadly, this latter group of scholars contend that features of the survey interview process artificially inflate the observed partisan gap by encouraging partisans to guess in a biased manner when they don't know. In the following two subsections, we elaborate on both of these explanations.

### Partisan Differences in Beliefs

Partisan gaps in survey measures of political knowledge and misinformation may reflect differences in what partisans believe to be true. Differences in beliefs may, in turn, stem from selective exposure to information or motivated reasoning and retention.

Selective exposure to information–being exposed to more congenial than uncongenial information–can affect what facts people know about the world (Redlawsk 2002; Stroud 2010). Conventionally, partisan gaps are thought to stem from cognitive dissonance—people find information that is dissonant to their worldview to be painful and work to avoid it (e.g., Abelson 1959; Festinger 1962). Partisans, however, do not have to prefer congenial information to become more exposed to it. For example, African Americans, who overwhelmingly identify as Democrats, may be more exposed to the negative consequences of economic downturns and may have different beliefs about economic conditions than Caucasians, a majority

of whom identify as Republicans. By the same token, selective exposure may stem from different 'tastes' in politics. For instance, partisans of different stripes may be interested in different policies, politicians, etc. Viewed thus, the partisan gap is similar to other types of knowledge gaps across groups—see research on gaps in gender (Dolan 2011; Barabas et al. 2014) and race (Abrajano 2015).

Whatever the cause, the effect of selective exposure is undoubtedly made worse by "motivated skepticism" (Taber and Lodge 2006; Stroud 2008). People are more skeptical of uncongenial than congenial information (Zaller 1992). As a result, people are more likely to question uncongenial information and work to disprove it. People may also simply be more inclined to distrust and ignore uncongenial information (Peterson and Iyengar 2021). Lastly, even when people receive congenial and uncongenial information at the same rate, people may be less likely to remember uncongenial information (see, for example Bayes et al. 2020; Hill 2017; Flynn, Nyhan and Reifler 2017; Taber and Lodge 2006). In all, it is possible that selective exposure and motivated skepticism and retention are the sole explanations for the observed partisan gaps in political knowledge.

## Artifact of the Survey Design And Scoring

Answers to survey questions about factual beliefs reflect a mixture of knowledge, inferences, cheating, expressive responses, and guesses. And survey features affect the composition of the mixture. For instance, adding a partisan cue to the question may cause partisans to use partisanship to infer the answer when they don't know (Prior, Sood and Khanna 2015, see, e.g.,). More generally, survey responses to partisan consequential factual items on political surveys, which likely increase the salience of politics in respondents' minds, may be contaminated by affect-based inference. For example, when asked about what happened to the federal deficit during the Obama administration, Republicans, thinking Democrats cause bad things, may infer that deficits increased under Obama. Alternately, partisans

may rely on stereotypical inference. Republicans may think of Democrats as generally indifferent to deficits, and may hence infer, without actually knowing, that deficits increased under Mr. Obama (e.g. Rahn 1993; Goggin, Henderson and Theodoridis 2020). In a highly polarized political environment, minimal information can be enough to switch individuals from answering a knowledge question to using affect or expressive motivations to answer a question (Klar 2014; Merkley and Stecula 2018). Separately, but relatedly, surveys can encourage respondents to respond 'expressively' by highlighting partisan motivations over accuracy motivations (Zaller 1992; Petersen et al. 2013; Klar 2014). Some research suggests that up to half of the partisan gaps are a result of expressive responding (Bullock et al. 2015; Huber and Yair 2018; Prior, Sood and Khanna 2015, though see Berinsky 2017).

Lastly, conventionally, all correct answers are taken as evidence that the respondent knows the fact (Luskin and Bullock 2011). This conflates guesses, on-the-spot inferences, with knowledge and inflates the partisan gap. Pasek, Sood and Krosnick (2015) use self-assessed confidence to rescore the answers, taking only correct answers respondents are confident about as evidence that the respondent knows the item. More recently Graham (2021) finds that self-assessed confidence in answers is correlated with the reliability of the answers. We postulate that taking only confident correct answers as knowledge would reduce the partisan gap (Graham 2021, see also).

## Features of Political Knowledge Items in Media Polls

Based on an analysis of 180 media polls, Luskin and Bullock (2011) find that many media polls include guessing encouraging features such as providing background information and social proof in the question stem. For instance, less than 9% of the surveys offered an explicit Don't Know or Not Sure option. And about half of the items offered only two choices. As the number of response options increases, the probability of correct answers decreases (Bullock and Rader 2022). An overwhelming majority of the items (168) also included wording that

encouraged guessing, by framing the factual question as one of a 'matter of opinion.' They also find that the scoring rules used by analysts treat all correct responses–even when the respondent is inconfident about their answer—as evidence of knowledge. In all, it appears that commercial polls are designed to overestimate the proportion of people who confidently hold incorrect beliefs. We expect that removing these inflationary features will diminish the partisan gaps in political knowledge.

### Outline of the Empirical Strategy

To test the effect of different aspects of survey and question design on (partisan) response patterns, we fielded four surveys. In Study 1, we use data from a survey experiment conducted on Amazon Mechanical Turk (MTurk) (MTurk 1) to examine how survey instructions, question-wording, and response options affect how partisans respond to knowledge questions. In Study 2, we use YouGov and a telephone survey to examine the effect of partisan cues on response patterns. Lastly, in Study 3, we re-analyze the data from Mturk 1 and another survey fielded on Mturk (MTurk 2) to study the impact of how we score responses on partisan gaps.

## Study 1: The Effect of Guessing Encouraging Features

The first study focuses on four survey design features that we suspect artificially inflate the partisan gap in political knowledge. These features are the absence of a "Don't Know" option, including additional neutral or partisan information in the question stem, and explicitly encouraging guessing.

## Research Design and Data

For this study we use data from a survey conducted on Amazon's Mechanical Turk (Berinsky, Huber and Lenz 2012) in the second quarter of 2017. In the survey, we randomly assigned 1,253 respondents to one of four conditions that vary the inflationary components of survey questions.

In each condition respondents answered nine misinformation items, ranging from Mr. Obama's citizenship to whether global warming is happening or not. (For the question wording for each of the items, see Appendix SI 2.)

Each condition is explained in detail below:

**Table 1:** Experimental Treatments

| | | Treatments | | | |
|---|---|---|---|---|---|
| Condition | Label | Don't Know | Social Proof | Guessing Encouraged | Neutral Information |
| 1 | IDA | No | Yes | Yes | Yes |
| 2 | CUD | No | No | Yes | Yes |
| 3 | FSR | Yes | No | No | Yes |
| 4 | IMC | Yes | No | No | No |

**Inflationary Design Approach (IDA)** In the IDA, we include common features of commercial polls. In this design, the 'Don't Know' option is never presented so respondents cannot indicate that they don't know the answer. These questions also include social proof about the incorrect answer. For instance, we add "some people believe Barack Obama was not born in the United States, but was born in another country" to a question about where Mr. Obama was born. In other cases, we provide some neutral information about the topic, like "According to the Constitution, American presidents must be natural born citizens." Lastly, the preamble to the knowledge questions is: "Now here are some questions about what you may know about politics and public affairs..."

**Commonly Used Design (CUD)** The CUD makes one change to the IDA. Like the IDA, these questions do not feature a 'Don't Know' option, include neutral information in the question stem that encourages guessing, but does not include social proof.

**Fewer Substantive Responses (FSR)** The FSR keeps all other aspects of the CUD the same except for two things. First, the preamble is different. The preamble now reassures respondents that it is ok to not know answers to these questions, asked them to commit to not looking up answers or asking anyone, and to mark don't know when they don't know the answer. Second, the items now include a 'Don't Know' option. With that option, respondents who do not know the answer are not forced to pick a substantive answer (see (Luskin and Bullock 2011; Bullock et al. 2015, see, e.g.,)).

**Improved Multiple Choice (IMC)** The IMC condition is the best version of these multiple choice questions. They offer respondents a 'Don't Know' option, do not include any social proof, do not include guessing encouraging neutral information or social proof.

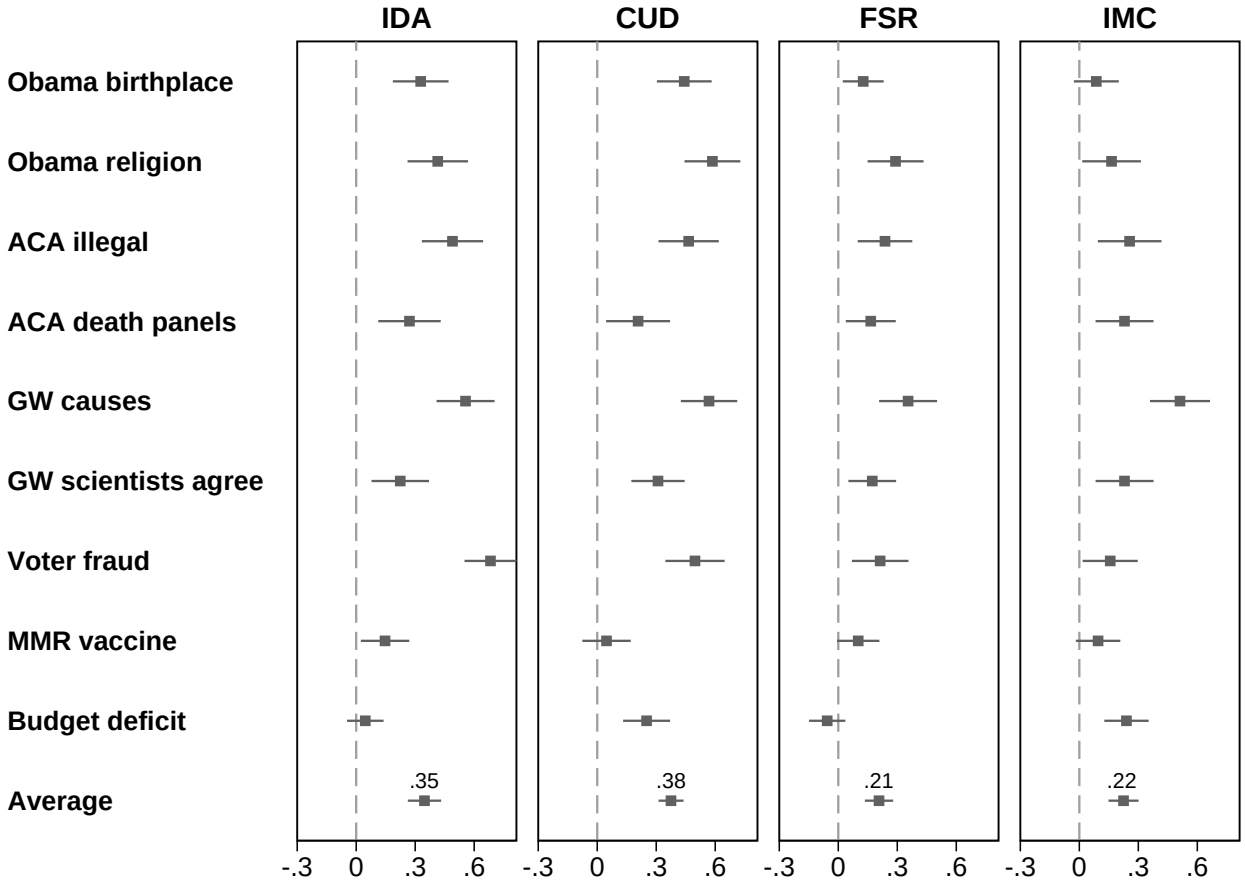
## Measures

Partisanship is coded based on self-classification of respondents. Independents who lean toward one of the two major parties are coded as supporters of that party. True independents are excluded from the analysis. A specific variation of a knowledge item is coded as congenial if the correct answer is congenial to the partisanship of the respondent.

## Results

We start by summarizing the average partisan gap on each survey item in each treatment arm (see Figure 1). In the baseline IDA condition (first column), when the correct response is congenial to the respondents' party, respondents are 35 percentage points more likely

**Figure 1:** Partisan Gap by Condition (MTurk)




Each marker is the estimated difference in proportions for the proportion of correct responses when the correct response is congenial to the party. Columns indicate the four different conditions described in Table 1. Rows indicate the nine individual survey question items described in Appendix SI 2 plus their average. Each point is the estimated $\beta$ from estimating $1\{\text{Correct response}\}_i = \alpha + \beta \text{congenial}_i + \varepsilon_i$ for each of the items and each of the four conditions. Congenial is the dummy for when the correct response is congenial to party. Horizontal bars are 95% confidence intervals constructed from robust standard errors.

to choose the correct response. The partisan gap is irresponsive to the changes made in CUD. However, the estimates from the FSR and IMC conditions are approximately 14 percentage points lower than in the IDA. This means that removing inflationary features from the questions decreases the partisan gap in political knowledge. The 14 percentage points translate to a 40% relative drop ($100 \times \frac{.35-.21}{.35}$).

To formally test our hypothesis, we regress whether or not the answer is correct, on the interaction of the survey conditions and the congenial dummy. Formally, for respondent $i$, survey item $j$, and condition $k$, we estimate the following equation

$$\text{Correct}_{ijk} = \alpha + \beta\text{Congenial}_i + \gamma\text{Condition}_k + \delta_k(\text{Congenial}_i \times \text{Condition}_k) + \text{question}_j + \varepsilon_{ijk} \tag{1}$$

$\beta$ captures the difference in the proportion of correct responses when the answer is congenial to the respondent's party Figure 1. A positive estimate suggests that respondents are more likely to choose the correct answer when it is congenial to their party. We focus on the $\delta_k$'s, which capture how the different conditions affect observed knowledge gaps (difference between columns in Figure 1). The baseline treatment arm is always IDA, so the $\delta_k$'s capture how the three conditions (CUD, FSR, IMC) affect partisan knowledge gaps. We include item fixed-effects and cluster standard errors by respondents.

Table 2 reports the results from estimating Equation (1). Column (1) includes just the congenial variable, which is significant and consistent with conventional wisdom about gaps in partisan knowledge (e.g. Bullock et al. 2015; Laloggia 2018).

Column (2) includes only the survey conditions, and two of them (FSR, IMC) elicit differences in partisan gaps that are statistically different from the baseline IDA condition. This is consistent with our observation in Figure 1. In column (3) of Table 2, we include the interaction of congenial and the four conditions (baseline is IDA). Now the congenial variable captures the knowledge gap in the IDA condition (corresponding to column (1) of Figure 1). The congenial and survey condition interactions reveal the extent to which partisan knowledge gaps change across the different survey conditions.

Figure 2 shows, in absolute terms, the estimates of how the different survey conditions attenuate the partisan gap. For the FSR interaction term, just adding a 'Don't Know'

**Table 2:** Partisan Knowledge Gaps: MTurk

| | (1) | (2) | (3) | (4) | (5) | (6) |
|---|---|---|---|---|---|---|
| Congenial | 0.281*** | | 0.351*** | 0.284*** | | 0.353*** |
| | (0.017) | | (0.035) | (0.017) | | (0.034) |
| CUD | | 0.010 | 0.000 | | 0.011 | 0.002 |
| | | (0.028) | (0.022) | | (0.028) | (0.021) |
| FSR | | −0.064** | 0.000 | | −0.063** | −0.001 |
| | | (0.024) | (0.019) | | (0.024) | (0.019) |
| IMC | | −0.080** | −0.023 | | −0.079** | −0.021 |
| | | (0.025) | (0.019) | | (0.025) | (0.019) |
| Congenial × CUD | | | 0.024 | | | 0.024 |
| | | | (0.046) | | | (0.045) |
| Congenial × FSR | | | −0.173*** | | | −0.163*** |
| | | | (0.046) | | | (0.045) |
| Congenial × IMC | | | −0.132** | | | −0.136** |
| | | | (0.048) | | | (0.048) |
| Constant | 0.179*** | 0.306*** | 0.184*** | 0.156*** | 0.303*** | 0.164*** |
| | (0.007) | (0.020) | (0.014) | (0.013) | (0.024) | (0.016) |
| $R^2$ | 0.315 | 0.234 | 0.328 | 0.324 | 0.243 | 0.337 |
| Survey item FE | Yes | Yes | Yes | Yes | Yes | Yes |
| Demographic controls | . | . | . | Yes | Yes | Yes |
| Items | 9 | 9 | 9 | 9 | 9 | 9 |
| Respondents | 628 | 628 | 628 | 627 | 627 | 627 |
| Respondent-items | 5,652 | 5,652 | 5,652 | 5,643 | 5,643 | 5,643 |

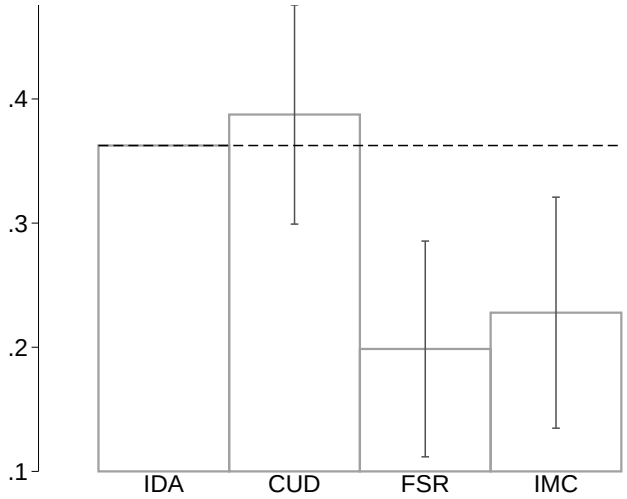
All models are linear probability models where the dependent variable indicates whether the response is correct. See Table 1 for the description of the IDA, CUD, FSR, IMC conditions. Demographic controls include age cohort, gender, education level (college degree, high school, no high school, post-graduate, and some college), and race (Hispanic, Asian, Black, White, Others). All models include the nine survey item fixed effects. Standard errors are clustered at the respondent level. Significance levels: + 0.1 * 0.05 ** 0.01 *** 0.001.

response option reduces the estimated knowledge gap by more than 49% ($p < 0.001$). For the IMC interaction term, adding a 'Don't Know' without social proof and without encouragement to guess reduces the estimated knowledge gap by more than 37% ($p < 0.01$).

In columns (4)–(6) of Table 2, we show that including the self-reported characteristics of respondents does not change the conclusion.[1] Overall, Study 1 suggests that measured partisan knowledge gaps are highly sensitive to inflationary questionnaire design features common in commercial polls.

[1]See Figures SI 1.1 to SI 1.4 for tests of balance between the four survey conditions.

**Figure 2:** Partisan Gap by Condition: MTurk




Difference between bars indicates the predicted partisan gap across the five conditions. Bars reconstructed from the interactions of the Congenial indicator with the treatment arms as reported in column (3) of Table 2. The baseline arm is IDA. See Table 1 for the description of the conditions. Capped vertical bars are 95% confidence intervals.

# Studies 2 & 3: The Effect of Partisan Cues on Partisan Gaps

The aim of studies 2 and 3 is to present experimental evidence about the effect of partisan cues in the question stem on responses by partisans. We examine closed-ended items asking policy-relevant facts or objective performance that stir affective consistency or stereotyping, or both. In the first case, items whose correct response option one side or the other would like to disbelieve, or at least one of whose incorrect response options one side or the other would like to believe, or both; in the second case items whose correct response option defies stereotype or at least one of whose incorrect response options conforms to stereotype, or both.

## Research Design and Data

To answer the research question, we exploit two datasets: a national survey conducted by YouGov (Study 2), and a telephone survey in Texas (Study 3). The YouGov survey includes data from 2,000 respondents who were interviewed between July 10th and 12th, 2012. The Texas survey has data from 1,003 respondents who were interviewed between September 10th and 21st, 2012.

In the YouGov survey, we asked respondents two retrospective economic evaluation questions: unemployment and the budget deficit. To manipulate congeniality, we randomly inserted a Republican or a Democratic cue into the question stem. In particular, we asked the following two questions:

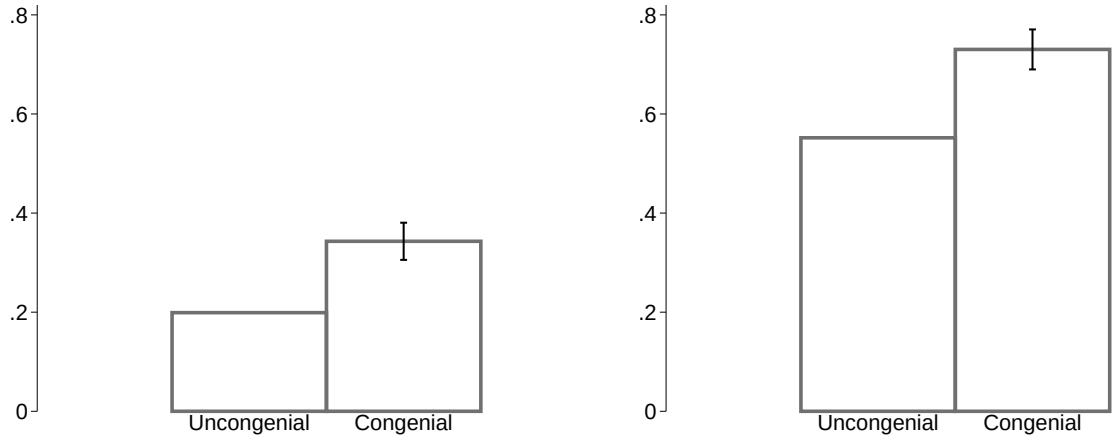
Since 2010 midterm elections, ("when Republicans regained control of the U.S. Congress" or "when Democrats retained control of the Senate") the unemployment rate [had] gone up, down, or remained the same, or couldn't you say?

Since the 2010 midterm elections, ("when Republicans regained control of the U.S. Congress" or "when Democrats retained control of the Senate"), has the budget deficit gone up, gone down, remained the same, or couldn't you say?

In the Texas survey, we added a 'no partisan cue' condition to the unemployment rate question. A third of respondents now saw: "Since the 2010 midterm elections has the unemployment rate gone up, gone down, or remained the same? Or couldn't you say?"

We made more changes to the second and final question on the Texas survey. First, we switched the question from one asking about budget deficits to one asking about federal tax rates. Second, we changed the treatment conditions to: no partisan cue, Democratic cue, and Democratic cue with a substantive response encouraging phrase. Respondents assigned to 'no partisan cue' saw "Since January 2009, have federal taxes increased, decreased, or remained the same, or couldn't you say?." The Democratic cue condition prepended "Since Barack Obama took office..." to the question. The last version prepended a substantive

**Figure 3:** Partisan Knowledge Gaps with Partisan Cues: YouGov Survey




**(a)** Unemployment **(b)** Budget deficit

Bars indicate the predicted percent of correct answers as reported in Table 3 (columns (1) and (4)). Capped vertical bars indicate 95% confidence intervals.

response encouraging phrase. The question now read as follows: "Based on what you have heard, since Barack Obama took office, . . ."

## Study 2: YouGov Results

We formally analyze the impact of partisan cues in the YouGov data by regressing whether or not the response is correct on the partisan congeniality of the cue. We code congeniality as 1 when the objective conditions became worse and when we highlight the political control of the main opposing party.

$$\text{Correct}_i = \alpha + \beta(Congenial\ Cue)_i + \varepsilon_i, \tag{2}$$

Panel (a) of Figure 3 shows that showing a congenial cue instead of an uncongenial one causes the probability of the correct response on the unemployment question on increase by 14 percentage points ($p < 0.001$, reported in Table 3). Panel (b) of Figure 3 shows that this systematic difference is not unique to the unemployment question. On the budget deficit

**Table 3:** Partisan Knowledge Gaps with Partisan Cues: YouGov

| | Unemployment has gone up | | | Deficit has gone up |
|---|---|---|---|---|
| | (1) | (2) | (3) | (4) |
| Congenial | 0.144*** | 0.147*** | 0.178*** | 0.188*** |
| | (0.019) | (0.020) | (0.021) | (0.020) |
| Constant | 0.199*** | 3.569+ | 0.552*** | 7.636*** |
| | (0.012) | (1.895) | (0.015) | (1.868) |
| $R^2$ | 0.026 | 0.055 | 0.035 | 0.167 |
| Demographic controls | . | Yes | . | Yes |
| Respondents | 2,104 | 2,066 | 2,104 | 2,066 |

Dependent variables indicate whether or not the respondent chose the correct answer. Demographic controls include age cohort, gender, education level, marital status, employment status, news interest, family income, and race. Standard errors are heteroskedasticity-robust. All models are linear probability models. Significance levels: + 0.1 * 0.05 ** 0.01 *** 0.001.

question, the difference is 18 percentage points ($p < 0.001$).[2]

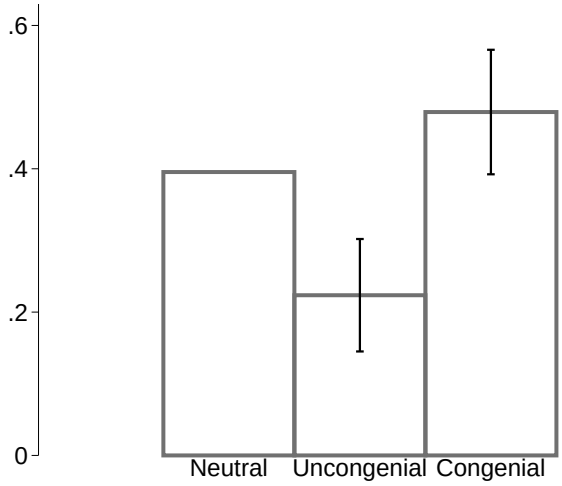
## Study 3: Texas Lyceum Results

We further supplement our results with the Texas Lyceum survey. As Figure 4 shows, on the unemployment question, the pattern that we saw on YouGov still holds when we include a neutral cue. Compared to respondents who received a neutral cue, respondents who received an uncongenial cue are 17 percentage points less likely to get the correct answer ($p < 0.001$). While respondents who receive a congenial cue are 8 percentage points more likely to get the correct answer ($p < 0.1$). These results are tabulated in Table 4.

Finally, we examine the federal tax rate question in the Texas survey. As Table 5 shows, randomly receiving a congenial cue leads to a 21.5 percentage points increase in the

[2]Figure SI 1.5 show that there is some heterogeneity in how the congenial cue affects Republicans as opposed to Democrats. However, the effect is not unique to either party since partisans of both types are more likely to get the correct response when randomly assigned the congenial cue.

**Figure 4:** Partisan Gap by Treatment Arm: Texas Lyceum, Unemployment




Bars indicate the predicted percent of responses saying that unemployment has gone up (correct response) as reported in column (1) of Table 4. Capped vertical bars indicate 95% confidence intervals.

**Table 4:** Partisan Knowledge Gaps with Partisan Cues: Texas Lyceum, Unemployment

| | Unemployment has gone up | |
|---|---|---|
| | (1) | (2) |
| Congenial | $0.084^{+}$ | $0.085^{+}$ |
| | (0.044) | (0.044) |
| Uncongenial | $-0.172^{***}$ | $-0.195^{***}$ |
| | (0.040) | (0.042) |
| Constant | $0.395^{***}$ | 0.057 |
| | (0.030) | (0.175) |
| $R^2$ | 0.048 | 0.153 |
| Demographic controls | . | Yes |
| Respondents | 758 | 752 |

Dependent variable indicates whether not the respondent got the answer correct. Demographic controls include age cohort, gender, education level, marital status, number of children, children school enrollment, family income, religion, liberalism/conservatism, and race. Standard errors are heteroskedasticity-robust. All models are linear probability models. Significance levels: + 0.1 * 0.05 ** 0.01 *** 0.001.

chance of getting the answer right compared to the neutral cue condition ($p < 0.001$). On the other hand, an uncongenial cue leads to a 29.8 percentage lower chance ($p < 0.001$). We also estimate how the cue that encourages guessing affects the "Don't Know" response rate. We find that the substantive response encouraging cue does not have a stark effect. Overall, results from Studies 2 and 3 show that partisan cues dramatically affect the size of

**Table 5:** Partisan Knowledge Gaps with Partisan Cues: Texas Lyceum, Federal Taxes

| | Responded "Gone up" | | Responded "Don't Know" | |
|---|---|---|---|---|
| | (1) | (2) | (3) | (4) |
| Congenial | $0.215^{***}$ | $0.171^{**}$ | $-0.077^{*}$ | $-0.081^{*}$ |
| | (0.051) | (0.056) | (0.036) | (0.038) |
| Uncongenial | $-0.298^{***}$ | $-0.228^{***}$ | $-0.063$ | $-0.077$ |
| | (0.042) | (0.048) | (0.042) | (0.050) |
| Congenial w/ guessing | $0.091^{+}$ | 0.042 | $-0.074^{*}$ | $-0.066^{+}$ |
| | (0.052) | (0.057) | (0.036) | (0.038) |
| Uncongenial w/ guessing | $-0.290^{***}$ | $-0.234^{***}$ | $-0.038$ | $-0.051$ |
| | (0.040) | (0.047) | (0.041) | (0.043) |
| Constant | $0.381^{***}$ | $-0.223$ | $0.187^{***}$ | $0.884^{***}$ |
| | (0.031) | (0.177) | (0.025) | (0.180) |
| $R^2$ | 0.151 | 0.219 | 0.009 | 0.126 |
| Demographic controls | . | Yes | . | Yes |
| Respondents | 758 | 752 | 758 | 752 |

Dependent variable indicates whether not the respondent got the answer correct. Demographic controls include age cohort, gender, education level, marital status, number of children, children school enrollment, family income, religion, liberalism/conservatism, and race. Standard errors are heteroskedasticity-robust. All models are linear probability models. Significance levels: + 0.1 * 0.05 ** 0.01 *** 0.001.

the partisan gaps.

# Study 4: The Effect of Scoring Method on Partisan Gaps

Lastly, we examine the consequences of scoring decisions on partisan gaps. We introduce an assessment that takes into account respondents' confidence in their answers.

## Research Design and Data

Knowledge questions are conventionally offered as multiple choice items and conventionally all correct answers are taken as evidence that the respondent knows the answer. Such scoring does not differentiate between confidently held beliefs, hunches, inferences, guesses, and expressive responses. To distinguish between hunches, guesses and confidently held beliefs,

we use the design from studies like Pasek, Sood and Krosnick (2015). In our Confidence Coding Design (CCD) respondents rate claims on a Likert scale going from 'definitely false' (0) to 'definitely true' (10).

To estimate the impact of the question and scoring design that takes respondents' confidence in their answer into account, we collected data in two separate surveys. Our first survey is the one underlying Study 1. The survey had a fifth condition in addition to the four conditions presented above. The fifth condition offered the same questions except this time respondents were asked to respond on a Likert scale. The CCD condition builds on the first four conditions and does not encourage guessing and features no social proof. (The exact question wording for each of the items is presented in Appendix SI 2.)

For the second study, we turned to another MTurk survey on which we asked four items. In the survey, we randomly assigned 1,059 respondents to two conditions. The preamble, topics, and answer options of these questions were identical to the first survey and included questions about the Affordable Care Act (2), the effect of greenhouse gases (1), and the consequences of Mr. Trump's executive order on immigration (1). In the multiple-choice version of the survey, participants received three options as answers. In two of the four conditions, respondents also had a "Don't Know" option available to them. (The exact question wording for each of the items is presented in Appendix SI 3.)

The scoring for this study is more nuanced as the multiple-choice questions had four potential response options. In the CCD treatment, survey participants see the same question as in the multiple choice treatment but have to rank the correctness of all of the $n$ answer options from the multiple choice treatment. We code a response to a question as correct if four conditions are met

1. The respondent is most confident about the correct answer. For instance, it shouldn't be the case that the respondent is more confident about an incorrect answer.

2. The respondent cannot be as confident about the correct answer as any other option. For instance, it cannot be that the four options are all rated 10.

3. The correct answer must have a confidence of $\beta$. In the main text, we use a $\beta$ of 10 but in the SI, we try less stringent criteria.

4. The confidence in the incorrect answers cannot be above $\theta$.

We code an answer as correct if the respondent indicates that they are confident that the correct answer is correct and when they do not indicate that any of the incorrect options might also be correct. In SI XX, we assess the impact of less stringent criteria.

## MTurk 1 Results

## MTurk 2 Results

Using the data from study 4 we formalize the above observation as before. We regress the dependent variable, an indicator of whether the response is correct, on the interaction of the survey conditions (Multiple Choice and Relative Scoring) and the congenial dummy:

$$\text{Correct}_{ijk} = \alpha + \beta\text{Congenial}_i + \gamma\text{Scoring}_k + \delta_k(\text{Congenial}_i \times \text{Scoring}_k) + \varepsilon_{ijk} \quad (3)$$

for respondents $i$, survey item $j$, and scoring condition $k$. As in Equation (1) $\beta$ captures the difference in the proportion of correct responses when the answer to the question is congenial to the respondent's party affiliation in the multiple choice treatment. A positive estimate indicates that respondents are more likely to choose the correct response when it is congenial to their party affiliation in the multiple choice treatment. $\gamma$ captures the effect

**Figure 5:** Partisan Gaps in Knowledge in different question designs

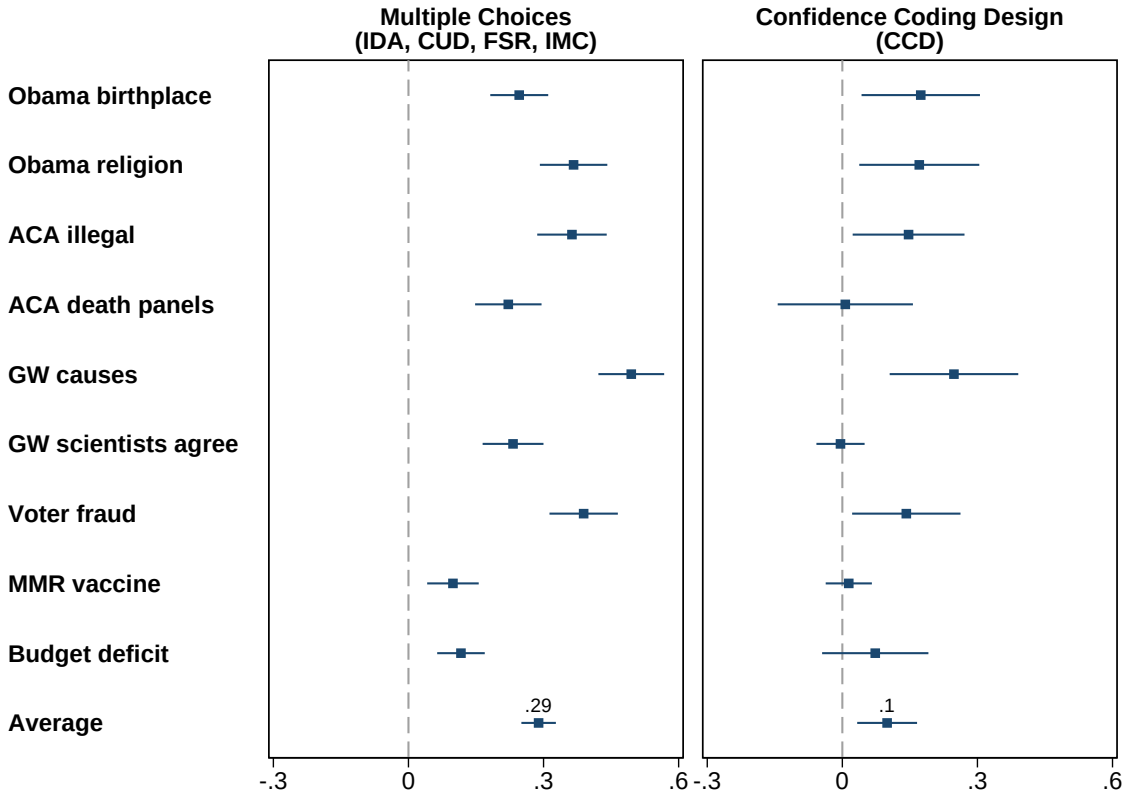



Figure shows the estimated partisan gaps in knowledge from the MTurk sample for Study 1 for two different survey conditions. The multiple-choice condition provides five closed-ended options, including the correct answer and a "Don't Know". The confidence coding condition only considers the selection of the correct answer with full confidence of 10 (see Appendix SI 3). See Tables SI 1.1 to SI 1.5 in Appendix SI 1.1 for the regression estimates the multiple-choice conditions to the confidence coding condition.

of relative scoring in the Confidence Coding Design scheme for uncongenial questions. A positive coefficient indicates that relative scoring is associated with more correct responses and a negative one with fewer. $\delta$ captures the difference in how the two scoring treatments, multiple choice, and confidence coding, affect the knowledge gaps across partisans for congenial questions. In the pooled equation, which includes all questions we also include four question fixed effects, $\text{question}_j$.

Table 6 reports the results from Equation (3). Columns 1 through 4 report the question-specific estimates. Column 5 pools all questions and adds question fixed-effects to the model. In this specification, the intercept term reports the proportion correct for

**Table 6:** Confidence Scoring and Knowledge Gaps: MTurk Study 2

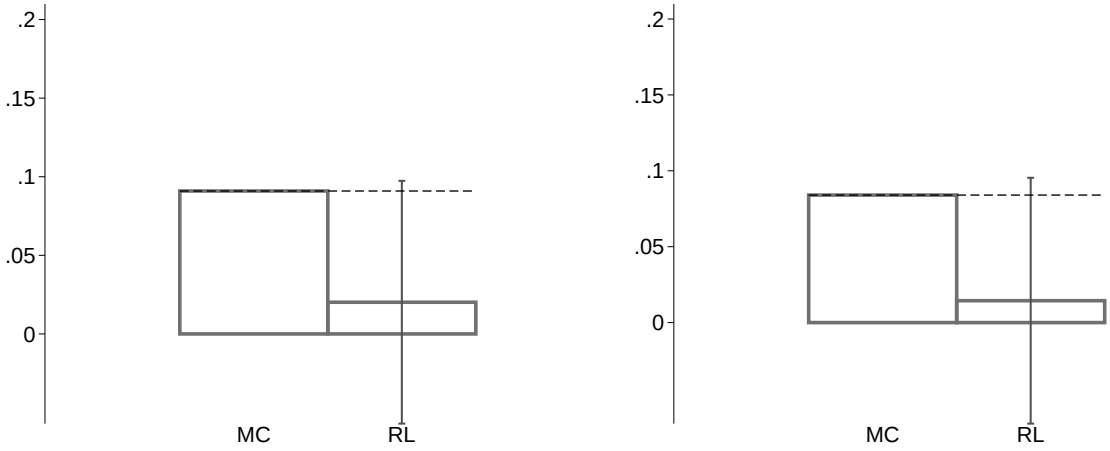
| | Individual survey question | | | | |
|---|---|---|---|---|---|
| | Affordable Care Act | Affordable Care Act 2 | Greenhouse gases | Donald Trump | All |
| | (1) | (2) | (3) | (4) | (5) |
| Congenial | 0.091* | 0.084* | 0.087* | 0.005 | 0.025 |
| | (0.038) | (0.040) | (0.041) | (0.038) | (0.023) |
| Relative Scoring (RS) | −0.179*** | −0.201*** | −0.206*** | −0.737*** | −0.377*** |
| | (0.028) | (0.030) | (0.032) | (0.028) | (0.018) |
| Congenial × RS | −0.071+ | −0.070+ | −0.098* | 0.031 | 0.024 |
| | (0.039) | (0.041) | (0.041) | (0.046) | (0.026) |
| Constant | 0.179*** | 0.207*** | 0.217*** | 0.794*** | 0.376*** |
| | (0.028) | (0.030) | (0.030) | (0.024) | (0.017) |
| $R^2$ | 0.119 | 0.128 | 0.149 | 0.528 | 0.305 |
| Survey item FE | No | No | No | No | Yes |
| Items | 1 | 1 | 1 | 1 | 4 |
| Respondents | 902 | 902 | 902 | 902 | 902 |
| Respondent-items | 902 | 902 | 902 | 902 | 3,608 |

Dependent variables indicate whether the respondent answered the question(s) correctly. See Appendix SI 3 for exact wording of the four questions. Columns (1)–(4) estimates by the individual survey questions. Column (5) includes all questions and adds the survey question fixed effects. All models are linear probability models. In the relative scoring scheme, a response is correct only if the correct answer is selected with full confidence of 10 (see Research Design and Data in the Study 4: The Effect of Scoring Method on Partisan Gaps section). The baseline are the multiple choice designs. Standard errors are clustered at the respondent level. Significance levels: + 0.1 * 0.05 ** 0.01 *** 0.001.

uncongenial questions that were scored with multiple choice rules. For $\beta$, we can see across all but one column (column 4, Donald Trump) that congenial questions in multiple choice scoring are associated with a higher proportion of correct responses. In the MC scoring treatment partisans are more likely to get questions correct that are closer to their partisanship. For the first three models focusing on the Affordable Care Act and Greenhouse Gas questions the effects are statistically significant. This is not the case for model 4 and the pooled model. $\gamma$ shows us that this is not the case for congenial questions that are scored with the relative scoring rule of the CCD approach. In this treatment all but the Greenhouse Gas question see the partisan gap in knowledge disappear.

***Figure 6 visualizes these effects as we have already seen in Figure 2 - Figure 4***

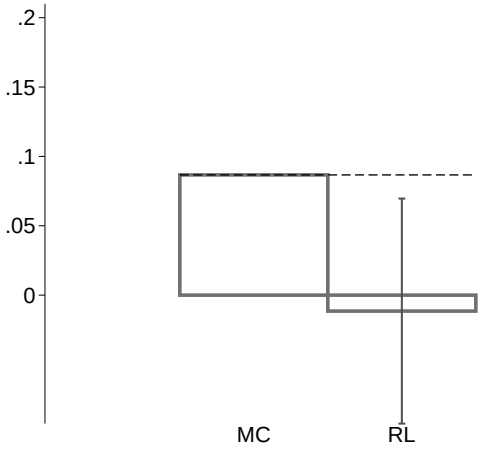
**Figure 6:** Confidence Scoring and Knowledge Gaps: MTurk Study 2



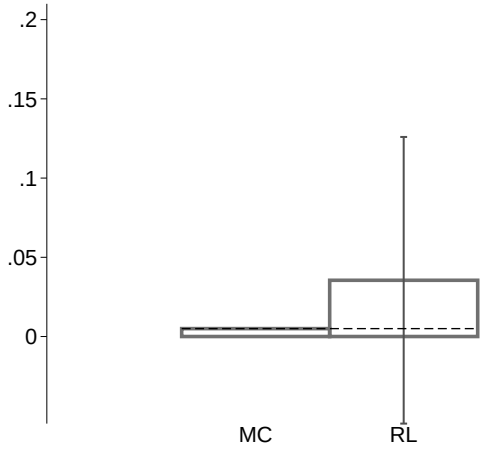

**(a)** Affordable Care Act




**(b)** Affordable Care Act 2




**(c)** Greenhouse Gases




**(d)** Donald Trump

Bars indicate the predicted percent of correct responses as reported in Table 6. MC bar indicates the predicted effect of multiple choice with congenial responses on getting the correct response. RL bar indicates the effect of relative scoring with congenial responses on getting the correct response relative to the multiple choice (MC) scheme. Capped vertical bars indicate 95% confidence intervals.

## Discussion and Conclusion

Since at least the publication of Bartels (2002), the conventional wisdom has been that partisan gaps in beliefs about politically consequential facts are both wide and widespread. The conventional wisdom in academia has also become the received wisdom for the mass public — nearly 80% of Americans believe that Democrats and Republicans disagree on facts (Laloggia 2018).

In line with some other research on this topic (Bullock et al. 2015; Prior, Sood and Khanna 2015; Schaffner and Luks 2018, though see Berinsky 2017 and Peterson and Iyengar 2020), our results suggest that a big chunk of the partisan gap is not founded in differences in beliefs. We find that common features of commercial polls like not asking don't know, inserting a partisan cue, and treating inconfident answers as knowledge inflate the partisan gaps.

The fact that partisan gaps are smaller may seem at odds with some political behavior research. For instance, the theory of selective exposure posits vast imbalances in the consumption of partisan news. However, recent studies show that most people consume scant political news (Prior 2007; Flaxman, Goel and Rao 2016), and the news that they do consume is relatively balanced (Flaxman, Goel and Rao 2016; Garz et al. 2018; Gentzkow and Shapiro 2011; Guess 2020). Other evidence points to the fact that Democrats and Republicans update in light of events in a similar fashion (Gerber and Green 1999; Kernell and Kernell 2019; Coppock 2021).

In the end, the results paint a mixed picture of democratic competence. Smaller partisan gaps are partly a consequence of the fact that the average respondent doesn't know the facts. It is mostly ignorance masquerading as partisan gaps. The upside is that partisan gaps are small and the downside is that people know even less than we thought.

# References


Abelson, Robert P. 1959. "Modes of Resolution of Belief Dilemmas." *Journal of Conflict Resolution* 3(4):343–352.

Abrajano, Marisa. 2015. "Reexamining the "racial gap" in political knowledge." *The Journal of Politics* 77(1):44–54.

Barabas, Jason, Jennifer Jerit, William Pollock and Carlisle Rainey. 2014. "The question (s) of political knowledge." *American Political Science Review* 108(4):840–855.

Bartels, Larry M. 2002. "Beyond the Running Tally: Partisan Bias in Political Perceptions." *Political Behavior* 24(2):1061–1078.

Bayes, Robin, James N Druckman, Avery Goods and Daniel C Molden. 2020. "When and how different motives can drive motivated political reasoning." *Political Psychology* 41(5):1031–1052.

Berinsky, Adam J. 2017. "Telling the Truth About Believing the Lies? Evidence for the Limited Prevalence of Expressive Survey Responding." *Journal of Politics* 80(1):211–224.

Berinsky, Adam J., Gergory A. Huber and Gabriel S. Lenz. 2012. "Evaluating Online Labor Markets for Experimental Research: Amazon.com's Mechanical Turk." *Political Analysis* 20(2):351–368.

Bullock, John G., Alan S. Gerber, Seth J. Hill and Gregory A. Huber. 2015. "Partisan Bias in Factual Beliefs About Politics." *Quarterly Journal of Political Science* 10:519–578.

Bullock, John G and Kelly Rader. 2022. "Response options and the measurement of political knowledge." *British Journal of Political Science* 52(3):1418–1427.

Campbell, Angus, Philip E Converse, Warren E Miller and Donald E Stokes. 1980. *The american voter*. University of Chicago Press.

Coppock, Alexander. 2021. "Persuasion in Parallel." *Chicago studies in American politics. University of Chicago Press. Forthcoming* .

Dolan, Kathleen. 2011. "Do women and men know different things? Measuring gender differences in political knowledge." *The Journal of Politics* 73(1):97–107.

Festinger, Leon. 1962. *A Theory of Cognitive Dissonance*. Palo Alto: Stanford University Press.

Flaxman, Seth, Sharad Goel and Justin M. Rao. 2016. "Filter Bubbles, Echo Chambers, and Online News Consumption." *Public Opinion Quarterly* 80(S1):298–320.

Flynn, DJ, Brendan Nyhan and Jason Reifler. 2017. "The nature and origins of misperceptions: Understanding false and unsupported beliefs about politics." *Political Psychology* 38:127–150.

Garz, Marcel, Gaurav Sood, Daniel F. Stone and Justin Wallace. 2018. "What Drives Demand for Media Slant?" Working paper.

Gentzkow, Matthew and Jesse M. Shapiro. 2011. "Ideological Segregation Online and Offline." *Quarterly Journal of Economics* 126(4):1799–1839.

Gerber, Alan and Donald Green. 1999. "Misperceptions About Perceptual Bias." *Annual Review of Political Science* 2:189–210.

Goggin, Stephen N, John A Henderson and Alexander G Theodoridis. 2020. "What goes with red and blue? Mapping partisan and ideological associations in the minds of voters." *Political Behavior* 42(4):985–1013.

Graham, Matthew H. 2021. "Measuring Misperceptions?" *American Political Science Review* .

Guess, Andrew M. 2020. "(Almost) Everything in Moderation: New Evidence on Americans' Online Media Diets." *American Journal of Political Science* forthcoming.

Hill, Seth J. 2017. "Learning together slowly: Bayesian learning about political facts." *The Journal of Politics* 79(4):1403–1418.

Hochschild, Jennifer and Katherine Levine Einstein. 2015. "'It isn't what we don't know that gives us trouble, it's what we know that ain't so': Misinformation and democratic politics." *British Journal of Political Science* 45(3):467–475.

Huber, Gregory A. and Omer Yair. 2018. How Robust is Evidence of Partisan Perceptual Bias in Survey Responses? A New Approach for Studying Expressive Responding. In *Annual Meeting of the Midwest Political Science Association*. Chicago: .

Jerit, Jennifer and Jason Barabas. 2012. "Partisan Perceptual Bias and the Information Environment." *The Journal of Politics* 74(3):672–684.

Kernell, Georgia and Samuel Kernell. 2019. "Monitoring the Economy." *Journal of Elections, Public Opinion, and Parties* forthcoming.

Klar, Samara. 2014. "Partisanship in a social setting." *American journal of political science* 58(3):687–704.

Laloggia, John. 2018. "Republicans and Democrats Agree: They Can't Agree on Basic Facts." *Pew Research FactTank* August 23.

Lodge, Milton and Charles S. Taber. 2013. *The Rationalizing Voter*. New York: Cambridge University Press.

Luskin, R and G Sood. 2018. "The waters of Casablanca: On political misinformation." *Unpublished manuscript* .

Luskin, Robert C. and John G. Bullock. 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.

Merkley, Eric and Dominik A Stecula. 2018. "Party elites or manufactured doubt? The informational context of climate change polarization." *Science Communication* 40(2):258–274.

Pasek, Josh, Gaurav Sood and Jon A Krosnick. 2015. "Misinformed about the affordable care act? Leveraging certainty to assess the prevalence of misperceptions." *Journal of Communication* 65(4):660–673.

Petersen, Michael Bang, Martin Skov, Søren Serritzlew and Thomas Ramsøy. 2013. "Motivated reasoning and political parties: Evidence for increased processing in the face of party cues." *Political Behavior* 35(4):831–854.

Peterson, Erik and Shanto Iyengar. 2020. "Partisan Gaps in Political Information and Information-Seeking Behavior: Motivated Reasoning or Cheerleading?" *American Journal of Political Science* forthcoming.

Peterson, Erik and Shanto Iyengar. 2021. "Partisan Gaps in Political Information and Information-Seeking Behavior: Motivated Reasoning or Cheerleading?" *American Journal of Political Science* 65(1):133–147.

Prior, Markus. 2007. *Post-Broadcast Democracy: How Media Choice Increases Inequality in Political Involvement and Polarizes Elections*. New York: Cambridge University Press.

Prior, Markus, Gaurav Sood and Kabir Khanna. 2015. "You Cannot Be Serious: The Impact of Accuracy Incentives on Partisan Bias in Reports of Economic Perceptions." *Quarterly Journal of Political Science* 10(4):489–518.

Rahn, Wendy M. 1993. "The role of partisan stereotypes in information processing about political candidates." *American Journal of Political Science* pp. 472–496.

Redlawsk, David P. 2002. "Hot cognition or cool consideration? Testing the effects of motivated reasoning on political decision making." *Journal of Politics* 64(4):1021–1044.

Schaffner, Brian F. and Samantha Luks. 2018. "Misinformation or Expressive Responding? What an Inauguration Crowd Can Tell Us About the Source of Political Misinformation in Surveys." *Public Opinion Quarterly* 82(1):135–147.

Schattschneider, Eric Elmer. 1960. "The Semisovereign people; a realist's view of democracy in America.".

Stroud, Natalie Jomini. 2008. "Media use and political predispositions: Revisiting the concept of selective exposure." *Political Behavior* 30(3):341–366.

Stroud, Natalie Jomini. 2010. "Polarization and Partisan Selective Exposure." *Journal of Communication* 60:556–576.

Taber, Charles S and Milton Lodge. 2006. "Motivated Skepticism in the Evaluation of Political Beliefs." *American Journal of Political Science* 50(3):755–769.

Zaller, John R. 1992. *The Nature and Origins of Mass Opinion*. Cambridge: Cambridge University Press.

# SUPPORTING INFORMATION

## SI 1 Supporting figures

**Figure SI 1.1:** MTurk Study 1—IDA and CUD

| Variable | Est. (95% Conf. Int.) | P-value |
|---|---|---|
| **Politics** | | |
| Political interest | 0.04(-0.00 to 0.09) | 0.07 |
| Intention to vote | 0.05( 0.00 to 0.09) | 0.04 |
| Political leaning | -0.00(-0.05 to 0.05) | 0.97 |
| **Education** | | |
| Hs diploma | -0.08(-0.24 to 0.07) | 0.29 |
| Some college | -0.00(-0.10 to 0.10) | 0.96 |
| Four-year college | -0.07(-0.17 to 0.02) | 0.12 |
| Post-graduate | 0.18( 0.06 to 0.30) | 0.0 |
| **Race** | | |
| Asian | -0.02(-0.20 to 0.16) | 0.84 |
| Black | 0.01(-0.15 to 0.18) | 0.88 |
| White | 0.01(-0.10 to 0.13) | 0.82 |
| **Other** | | |
| Female | -0.07(-0.16 to 0.02) | 0.14 |
| Age cohort | -0.00(-0.05 to 0.04) | 0.94 |
| Hispanic/latin | -0.04(-0.23 to 0.15) | 0.68 |

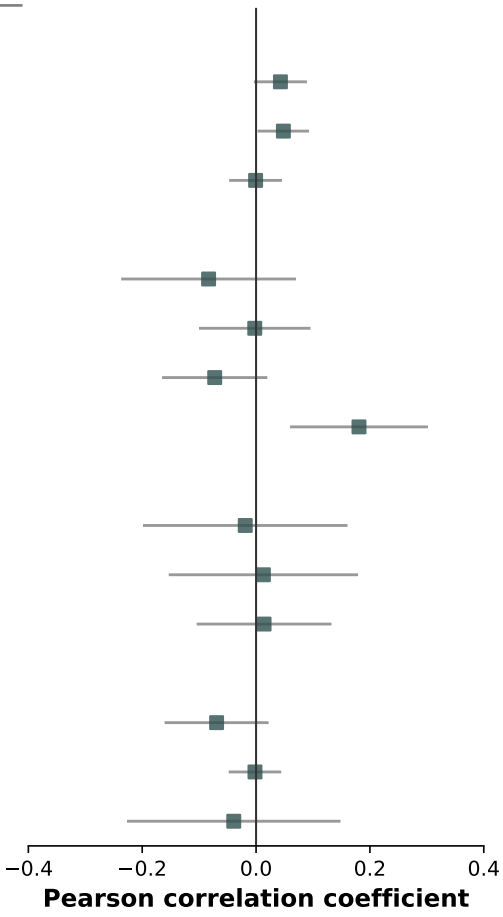



Figure shows the balance tests of respondent characteristics for the Amazon Mechanical Turk Study 1 sample. The tests compares respondents assigned to the IDA condition vs. respondents assigned to the CUD condition. See Table 1 in Study 1: The Effect of Guessing Encouraging Features. Rows are self-reported characteristics. Second column reports the estimates from regressing the characteristics on the CUD dummy, with IDA as the baseline. Third column reports the p-values. Horizontal bars are 95% confidence intervals constructed from robust standard errors.

**Figure SI 1.2:** MTurk Study 1—IDA and FSR

| Variable | Est. (95% Conf. Int.) | P-value |
|---|---|---|
| **Politics** | | |
| Political interest | 0.02(-0.03 to 0.06) | 0.41 |
| Intention to vote | 0.02(-0.02 to 0.07) | 0.31 |
| Political leaning | -0.02(-0.07 to 0.02) | 0.35 |
| **Education** | | |
| Hs diploma | -0.02(-0.17 to 0.12) | 0.74 |
| Some college | 0.00(-0.09 to 0.10) | 0.99 |
| Four-year college | -0.03(-0.12 to 0.06) | 0.57 |
| Post-graduate | 0.08(-0.06 to 0.21) | 0.26 |
| **Race** | | |
| Asian | -0.01(-0.19 to 0.16) | 0.88 |
| Black | 0.01(-0.15 to 0.17) | 0.88 |
| White | 0.01(-0.10 to 0.13) | 0.8 |
| **Other** | | |
| Female | -0.10(-0.18 to -0.01) | 0.04 |
| Age cohort | -0.00(-0.05 to 0.04) | 0.96 |
| Hispanic/latin | -0.06(-0.25 to 0.12) | 0.5 |

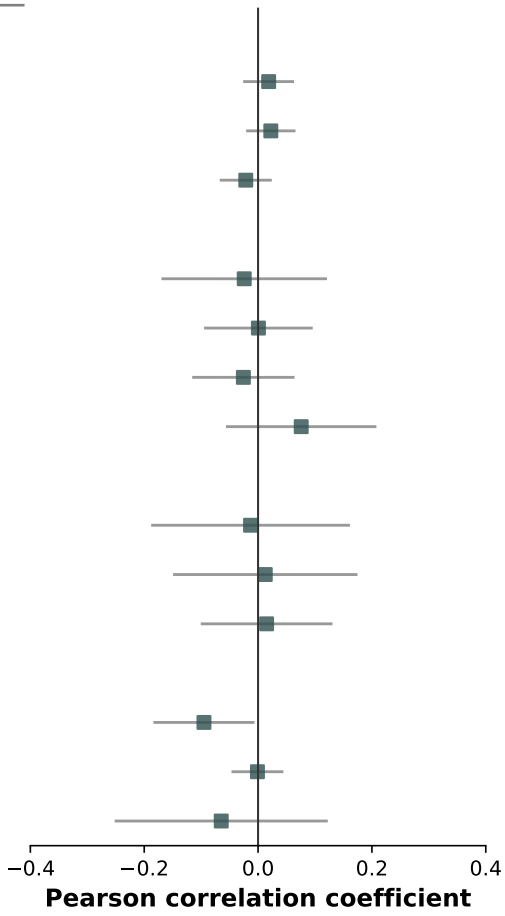



Figure shows the balance tests of respondent characteristics for the Amazon Mechanical Turk Study 1 sample. The tests compares respondents assigned to the IDA condition vs. respondents assigned to the FSR condition. See Table 1 in Study 1: The Effect of Guessing Encouraging Features. Rows are self-reported characteristics. Second column reports the estimates from regressing the characteristics on the FSR dummy, with IDA as the baseline. Third column reports the p-values. Horizontal bars are 95% confidence intervals constructed from robust standard errors.

**Figure SI 1.3:** MTurk Study 1—IDA and IMC

| Variable | Est. (95% Conf. Int.) | P-value |
|---|---|---|
| **Politics** | | |
| Political interest | 0.02(-0.03 to 0.06) | 0.41 |
| Intention to vote | 0.03(-0.01 to 0.07) | 0.19 |
| Political leaning | -0.03(-0.08 to 0.02) | 0.21 |
| **Education** | | |
| Hs diploma | -0.06(-0.22 to 0.09) | 0.4 |
| Some college | 0.03(-0.06 to 0.13) | 0.48 |
| Four-year college | -0.08(-0.17 to 0.01) | 0.09 |
| Post-graduate | 0.14( 0.01 to 0.26) | 0.03 |
| **Race** | | |
| Asian | -0.08(-0.27 to 0.10) | 0.39 |
| Black | -0.13(-0.31 to 0.05) | 0.16 |
| White | 0.10(-0.02 to 0.23) | 0.09 |
| **Other** | | |
| Female | -0.05(-0.14 to 0.04) | 0.26 |
| Age cohort | -0.03(-0.07 to 0.02) | 0.2 |
| Hispanic/latin | 0.03(-0.14 to 0.21) | 0.7 |

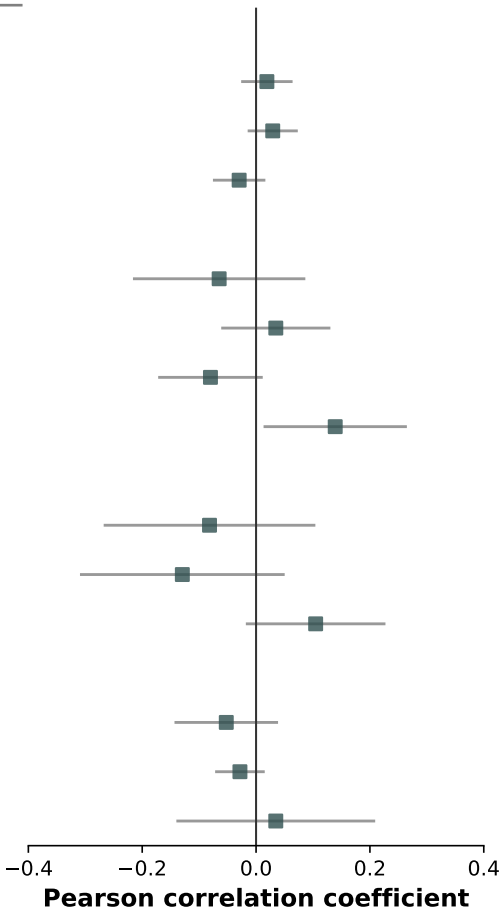



Figure shows the balance tests of respondent characteristics for the Amazon Mechanical Turk Study 1 sample. The tests compares respondents assigned to the IDA condition vs. respondents assigned to the IMC condition. See Table 1 in Study 1: The Effect of Guessing Encouraging Features. Rows are self-reported characteristics. Second column reports the estimates from regressing the characteristics on the IMC dummy, with IDA as the baseline. Third column reports the p-values. Horizontal bars are 95% confidence intervals constructed from robust standard errors.

**Figure SI 1.4:** MTurk Study 1—IDA and CCD

| Variable | Est. (95% Conf. Int.) | P-value |
|---|---|---|
| **Politics** | | |
| Political interest | 0.02(-0.03 to 0.06) | 0.44 |
| Intention to vote | 0.05( 0.00 to 0.09) | 0.04 |
| Political leaning | -0.04(-0.08 to 0.01) | 0.12 |
| **Education** | | |
| Hs diploma | -0.04(-0.19 to 0.11) | 0.61 |
| Some college | -0.03(-0.12 to 0.07) | 0.58 |
| Four-year college | -0.01(-0.10 to 0.08) | 0.88 |
| Post-graduate | 0.09(-0.04 to 0.22) | 0.19 |
| **Race** | | |
| Asian | 0.08(-0.07 to 0.24) | 0.3 |
| Black | -0.02(-0.18 to 0.15) | 0.84 |
| White | -0.03(-0.14 to 0.09) | 0.65 |
| **Other** | | |
| Female | -0.08(-0.17 to 0.01) | 0.07 |
| Age cohort | -0.00(-0.05 to 0.04) | 0.97 |
| Hispanic/latin | -0.02(-0.20 to 0.16) | 0.86 |

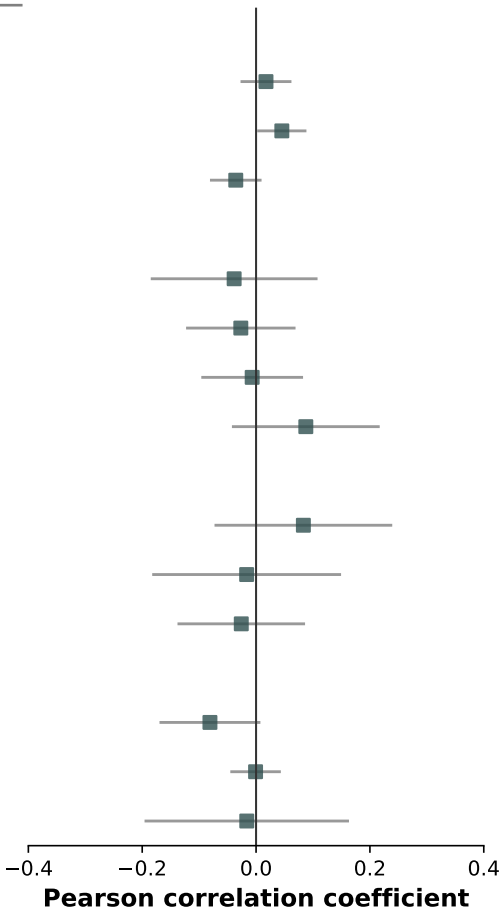
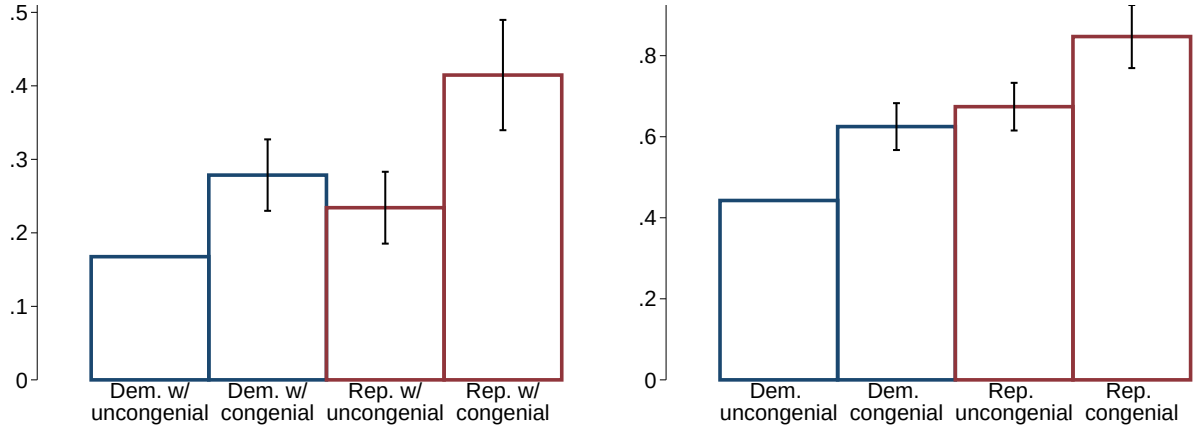



Figure shows the balance tests of respondent characteristics for the Amazon Mechanical Turk Study 1 sample. The tests compares respondents assigned to the IDA condition vs. respondents assigned to the CCD condition. See Table 1 in Study 1: The Effect of Guessing Encouraging Features. Rows are self-reported characteristics. Second column reports the estimates from regressing the characteristics on the CCD dummy, with IDA as the baseline. Third column reports the p-values. Horizontal bars are 95% confidence intervals constructed from robust standard errors.

**Figure SI 1.5:** Partisan Knowledge Gaps with Partisan Cues: YouGov




**(a)** Unemployment **(b)** Budget deficit

Figure shows the effect of congenial cues for the YouGov survey by partisanship. Bars indicate the predicted percent of responses saying that unemployment have gone up (correct response) as retrieved from the estimates in Table 3 (columns (2) and (5)). The estimates are obtained by estimating:

$$\text{correct response}_i = \alpha + \beta(\textit{congenial cue})_i + \gamma(\textit{Rep})_i + \delta(\textit{congenial cue} \times \textit{Rep})_i + \varepsilon_i.$$

Capped vertical bars indicate 95% confidence intervals.

# SI 1.1 Confidence Scoring for Mturk Study 1

**Table SI 1.1:** Confidence Scoring vs. Other Survey Conditions (MTurk Study 1)

| | Obama birthplace | Obama religion | ACA illegal | ACA death panels | GW causes GW causes | GW scientists agree | Voter fraud | MMR vaccine | Budget deficit | All |
|---|---|---|---|---|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) |
| Congenial | 0.246*** | 0.367*** | 0.363*** | 0.222*** | 0.495*** | 0.232*** | 0.389*** | 0.099*** | 0.117*** | 0.281*** |
| | (0.033) | (0.038) | (0.039) | (0.037) | (0.037) | (0.034) | (0.039) | (0.029) | (0.027) | (0.017) |
| Confidence scoring (CS) | −0.010 | −0.091*** | −0.161*** | −0.011 | −0.079*** | −0.042* | −0.095*** | −0.062*** | 0.044 | −0.058*** |
| | (0.017) | (0.020) | (0.018) | (0.043) | (0.016) | (0.019) | (0.024) | (0.016) | (0.044) | (0.010) |
| Congenial × CS | −0.072 | −0.196* | −0.216** | −0.215** | −0.247** | −0.236*** | −0.247*** | −0.085* | −0.044 | −0.171*** |
| | (0.073) | (0.076) | (0.072) | (0.083) | (0.080) | (0.043) | (0.071) | (0.039) | (0.064) | (0.034) |
| Constant | 0.036*** | 0.109*** | 0.161*** | 0.137*** | 0.088*** | 0.069*** | 0.130*** | 0.071*** | 0.806*** | 0.176*** |
| | (0.009) | (0.015) | (0.018) | (0.017) | (0.014) | (0.012) | (0.016) | (0.013) | (0.019) | (0.007) |
| $R^2$ | 0.127 | 0.185 | 0.171 | 0.064 | 0.301 | 0.111 | 0.190 | 0.038 | 0.022 | 0.343 |
| Survey item FE | No | No | No | No | No | No | No | No | No | Yes |
| Items | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 9 |
| Respondents | 784 | 774 | 728 | 729 | 784 | 787 | 785 | 775 | 747 | 794 |
| Respondent-items | 784 | 774 | 728 | 729 | 784 | 787 | 785 | 775 | 747 | 6,893 |

All models are linear probability models where the dependent variable indicates whether the response to a survey item is correct. Under the Confidence Scoring condition, we only consider responses as correct when they are chosen with a full confidence of 10 (on a 0–10 point scale). The the baseline conditions are the IDA, CUD, FSR, and IMC conditions pooled together (see Table 1 for the descriptions). Columns (1)–(9) are for each of the survey questions. The model in column (10) pools all nine survey questions. See Table 6 for a similar result using MTurk Study 2. See Tables SI 1.2 to SI 1.5 for the results comparing the Confidence Scoring condition to each of the four other individual survey conditions. See Figure SI 1.6 for the visualization of how Confidence Scoring mediates the effect that congenial responses have. Standard errors are clustered at the respondent level. Significance levels: + 0.1 * 0.05 ** 0.01 *** 0.001.

**Table SI 1.2:** Confidence Scoring vs. IDA (MTurk Study 1)

| | Obama birthplace | Obama religion | ACA illegal | ACA death panels | GW causes GW causes | GW scientists agree | Voter fraud | MMR vaccine | Budget deficit | All |
|---|---|---|---|---|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) |
| Congenial | 0.328*** | 0.415*** | 0.490*** | 0.271*** | 0.556*** | 0.224** | 0.683*** | 0.147* | 0.046 | 0.351*** |
| | (0.071) | (0.077) | (0.078) | (0.080) | (0.074) | (0.073) | (0.066) | (0.062) | (0.047) | (0.035) |
| Confidence scoring (CS) | −0.006 | −0.067* | −0.170*** | −0.022 | −0.055* | −0.069* | −0.081* | −0.044+ | −0.044 | −0.063*** |
| | (0.024) | (0.032) | (0.039) | (0.054) | (0.027) | (0.034) | (0.038) | (0.025) | (0.051) | (0.015) |
| Congenial × CS | −0.154 | −0.244* | −0.343*** | −0.264* | −0.308** | −0.228** | −0.541*** | −0.133* | 0.027 | −0.243*** |
| | (0.096) | (0.101) | (0.099) | (0.109) | (0.102) | (0.078) | (0.089) | (0.067) | (0.075) | (0.046) |
| Constant | 0.032+ | 0.085** | 0.170*** | 0.149*** | 0.064* | 0.096** | 0.117*** | 0.053* | 0.894*** | 0.177*** |
| | (0.018) | (0.029) | (0.039) | (0.037) | (0.025) | (0.031) | (0.033) | (0.023) | (0.032) | (0.014) |
| $R^2$ | 0.169 | 0.236 | 0.316 | 0.082 | 0.360 | 0.126 | 0.435 | 0.082 | 0.012 | 0.436 |
| Survey item FE | No | No | No | No | No | No | No | No | No | Yes |
| Items | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 9 |
| Respondents | 300 | 290 | 244 | 245 | 300 | 303 | 301 | 291 | 263 | 310 |
| Respondent-items | 300 | 290 | 244 | 245 | 300 | 303 | 301 | 291 | 263 | 2,537 |

All models are linear probability models where the dependent variable indicates whether the response to a survey item is correct. Under the Confidence Scoring condition, we only consider responses as correct when they are chosen with a full confidence of 10 (on a 0–10 point scale). The the baseline condition is the IDA condition (see Table 1 for the descriptions). Columns (1)–(9) are for each of the survey questions. The model in column (10) pools all nine survey questions. See Table 6 for a similar result using MTurk Study 2. See Table SI 1.1 for the results comparing the Confidence Scoring condition with all the four other conditions (IDA, CUD, FSR, IMC) pooled together. See Figure SI 1.7 for the visualization of how Confidence Scoring mediates the effect that congenial responses have. See Figure SI 1.7 for the visualization of how Confidence Scoring mediates the effect that congenial responses have. Standard errors are clustered at the respondent level. Significance levels: + 0.1 * 0.05 ** 0.01 *** 0.001.

**Table SI 1.3:** Confidence Scoring vs. CUD (MTurk Study 1)

| | Obama birthplace | Obama religion | ACA illegal | ACA death panels | GW causes GW causes | GW scientists agree | Voter fraud | MMR vaccine | Budget deficit | All |
|---|---|---|---|---|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) |
| Congenial | 0.443*** | 0.586*** | 0.465*** | 0.208* | 0.569*** | 0.309*** | 0.497*** | 0.047 | 0.251*** | 0.375*** |
| | (0.070) | (0.071) | (0.077) | (0.082) | (0.072) | (0.068) | (0.075) | (0.062) | (0.060) | (0.030) |
| Confidence scoring (CS) | 0.016 | −0.094** | −0.214*** | −0.118* | −0.083** | −0.004 | −0.128** | −0.113** | 0.177** | −0.063*** |
| | (0.018) | (0.035) | (0.042) | (0.059) | (0.031) | (0.023) | (0.042) | (0.035) | (0.062) | (0.018) |
| Congenial × CS | −0.268** | −0.415*** | −0.318** | −0.201+ | −0.321** | −0.313*** | −0.355*** | −0.033 | −0.178* | −0.264*** |
| | (0.095) | (0.097) | (0.098) | (0.110) | (0.101) | (0.073) | (0.096) | (0.067) | (0.084) | (0.042) |
| Constant | 0.010 | 0.112*** | 0.214*** | 0.245*** | 0.092** | 0.031+ | 0.163*** | 0.122*** | 0.673*** | 0.178*** |
| | (0.010) | (0.032) | (0.042) | (0.044) | (0.029) | (0.018) | (0.038) | (0.033) | (0.048) | (0.017) |
| $R^2$ | 0.262 | 0.380 | 0.308 | 0.079 | 0.369 | 0.187 | 0.287 | 0.059 | 0.076 | 0.377 |
| Survey item FE | No | No | No | No | No | No | No | No | No | Yes |
| Items | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 9 |
| Respondents | 307 | 297 | 251 | 252 | 307 | 310 | 308 | 298 | 270 | 317 |
| Respondent-items | 307 | 297 | 251 | 252 | 307 | 310 | 308 | 298 | 270 | 2,600 |

All models are linear probability models where the dependent variable indicates whether the response to a survey item is correct. Under the Confidence Scoring condition, we only consider responses as correct when they are chosen with a full confidence of 10 (on a 0–10 point scale). The the baseline condition is the CUD condition (see Table 1 for the descriptions). Columns (1)–(9) are for each of the survey questions. The model in column (10) pools all nine survey questions. See Table 6 for a similar result using MTurk Study 2. See Table SI 1.1 for the results comparing the Confidence Scoring condition with all the four other conditions (IDA, CUD, FSR, IMC) pooled together. See Figure SI 1.8 for the visualization of how Confidence Scoring mediates the effect that congenial responses have. Standard errors are clustered at the respondent level. Significance levels: + 0.1 * 0.05 ** 0.01 *** 0.001.

**Table SI 1.4:** Confidence Scoring vs. FSR (MTurk Study 1)

| | Obama birthplace | Obama religion | ACA illegal | ACA death panels | GW causes GW causes | GW scientists agree | Voter fraud | MMR vaccine | Budget deficit | All |
|---|---|---|---|---|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) |
| Congenial | 0.127* | 0.291*** | 0.238*** | 0.165* | 0.355*** | 0.173** | 0.213** | 0.101+ | −0.056 | 0.179*** |
| | (0.052) | (0.071) | (0.070) | (0.064) | (0.074) | (0.061) | (0.072) | (0.054) | (0.046) | (0.029) |
| Confidence scoring (CS) | −0.008 | −0.083** | −0.102*** | 0.042 | −0.119*** | −0.033 | −0.108** | −0.050* | −0.099* | −0.065*** |
| | (0.022) | (0.031) | (0.028) | (0.047) | (0.032) | (0.027) | (0.037) | (0.024) | (0.045) | (0.015) |
| Congenial × CS | 0.047 | −0.120 | −0.091 | −0.159 | −0.107 | −0.177** | −0.071 | −0.087 | 0.129+ | −0.069+ |
| | (0.084) | (0.097) | (0.093) | (0.098) | (0.102) | (0.066) | (0.094) | (0.060) | (0.075) | (0.041) |
| Constant | 0.034* | 0.102*** | 0.102*** | 0.085** | 0.127*** | 0.059** | 0.144*** | 0.059** | 0.949*** | 0.179*** |
| | (0.017) | (0.028) | (0.028) | (0.026) | (0.031) | (0.022) | (0.033) | (0.022) | (0.020) | (0.014) |
| $R^2$ | 0.068 | 0.146 | 0.117 | 0.033 | 0.202 | 0.081 | 0.094 | 0.052 | 0.020 | 0.428 |
| Survey item FE | No | No | No | No | No | No | No | No | No | Yes |
| Items | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 9 |
| Respondents | 330 | 320 | 274 | 275 | 330 | 333 | 331 | 321 | 293 | 340 |
| Respondent-items | 330 | 320 | 274 | 275 | 330 | 333 | 331 | 321 | 293 | 2,807 |

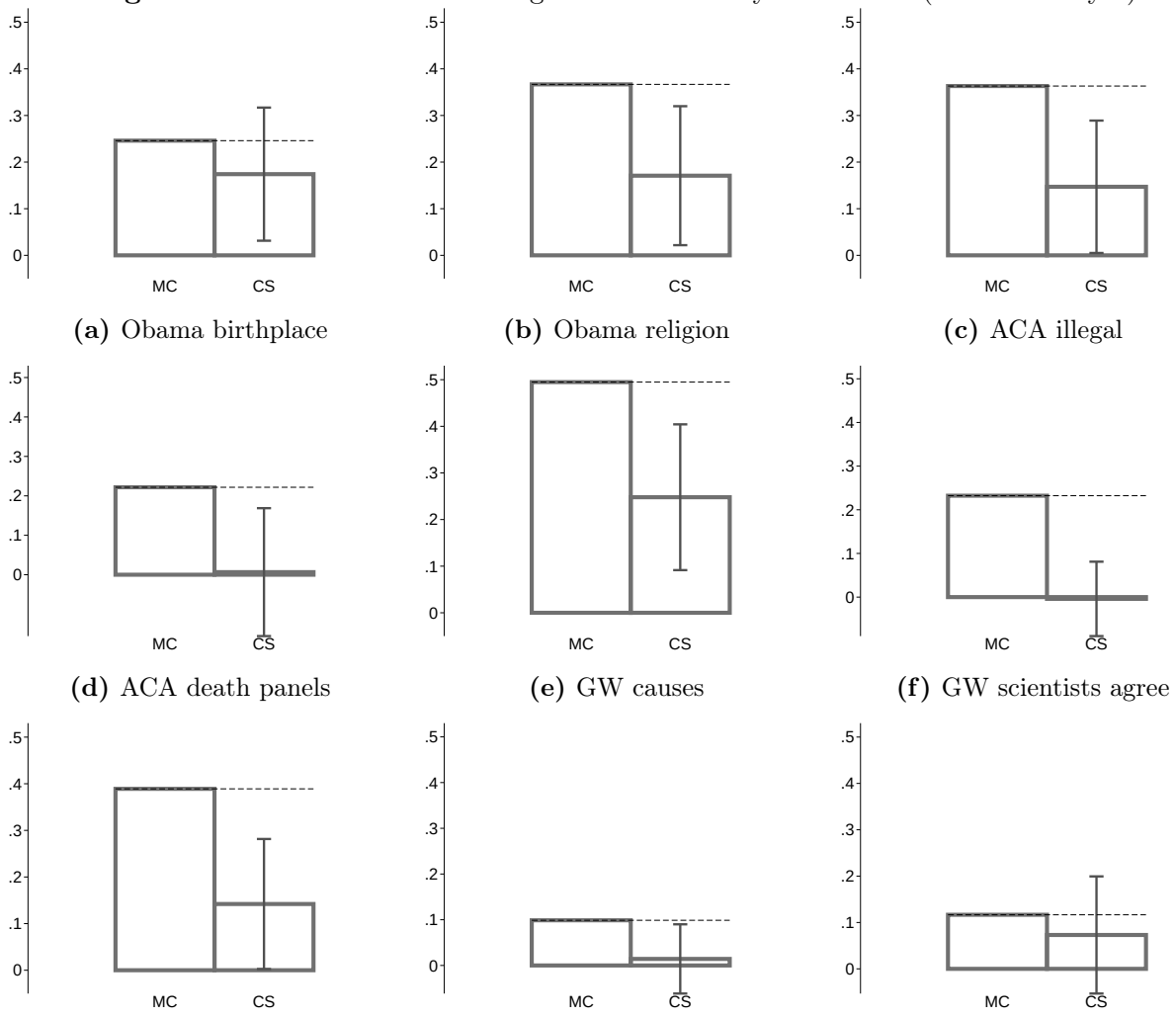
All models are linear probability models where the dependent variable indicates whether the response to a survey item is correct. Under the Confidence Scoring condition, we only consider responses as correct when they are chosen with a full confidence of 10 (on a 0–10 point scale). The the baseline condition is the FSR condition (see Table 1 for the descriptions). Columns (1)–(9) are for each of the survey questions. The model in column (10) pools all nine survey questions. See Table 6 for a similar result using MTurk Study 2. See Table SI 1.1 for the results comparing the Confidence Scoring condition with all the four other conditions (IDA, CUD, FSR, IMC) pooled together. See Figure SI 1.9 for the visualization of how Confidence Scoring mediates the effect that congenial responses have. Standard errors are clustered at the respondent level. Significance levels: + 0.1 * 0.05 ** 0.01 *** 0.001.

**Table SI 1.5:** Confidence Scoring vs. IMC (MTurk Study 1)

| | Obama birthplace | Obama religion | ACA illegal | ACA death panels | GW causes GW causes | GW scientists agree | Voter fraud | MMR vaccine | Budget deficit | All |
|---|---|---|---|---|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) |
| Congenial | 0.086 | 0.164* | 0.256** | 0.230** | 0.512*** | 0.230** | 0.157* | 0.095+ | 0.240*** | 0.219*** |
| | (0.057) | (0.075) | (0.081) | (0.074) | (0.076) | (0.074) | (0.070) | (0.056) | (0.057) | (0.033) |
| Confidence scoring (CS) | −0.037 | −0.116** | −0.170*** | 0.037 | −0.054* | −0.063* | −0.063+ | −0.044+ | 0.154* | −0.042** |
| | (0.027) | (0.035) | (0.036) | (0.048) | (0.025) | (0.031) | (0.033) | (0.023) | (0.059) | (0.015) |
| Congenial × CS | 0.088 | 0.007 | −0.109 | −0.223* | −0.264* | −0.234** | −0.015 | −0.081 | −0.167* | −0.109* |
| | (0.087) | (0.100) | (0.102) | (0.105) | (0.104) | (0.078) | (0.092) | (0.062) | (0.082) | (0.044) |
| Constant | 0.063** | 0.134*** | 0.170*** | 0.089** | 0.062** | 0.089** | 0.098*** | 0.054* | 0.696*** | 0.155*** |
| | (0.023) | (0.032) | (0.036) | (0.027) | (0.023) | (0.027) | (0.028) | (0.021) | (0.044) | (0.014) |
| $R^2$ | 0.051 | 0.084 | 0.137 | 0.055 | 0.314 | 0.119 | 0.059 | 0.046 | 0.067 | 0.363 |
| Survey item FE | No | No | No | No | No | No | No | No | No | Yes |
| Items | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 9 |
| Respondents | 315 | 305 | 259 | 260 | 315 | 318 | 316 | 306 | 278 | 325 |
| Respondent-items | 315 | 305 | 259 | 260 | 315 | 318 | 316 | 306 | 278 | 2,672 |

All models are linear probability models where the dependent variable indicates whether the response to a survey item is correct. Under the Confidence Scoring condition, we only consider responses as correct when they are chosen with a full confidence of 10 (on a 0–10 point scale). The the baseline condition is the IMC condition (see Table 1 for the descriptions). Columns (1)–(9) are for each of the survey questions. The model in column (10) pools all nine survey questions. See Table 6 for a similar result using MTurk Study 2. See Table SI 1.1 for the results comparing the Confidence Scoring condition with all the four other conditions (IDA, CUD, FSR, IMC) pooled together. See Figure SI 1.10 for the visualization of how Confidence Scoring mediates the effect that congenial responses have. Standard errors are clustered at the respondent level. Significance levels: + 0.1 * 0.05 ** 0.01 *** 0.001.

**Figure SI 1.6:** Confidence Scoring vs. Other Survey Conditions (MTurk Study 1)



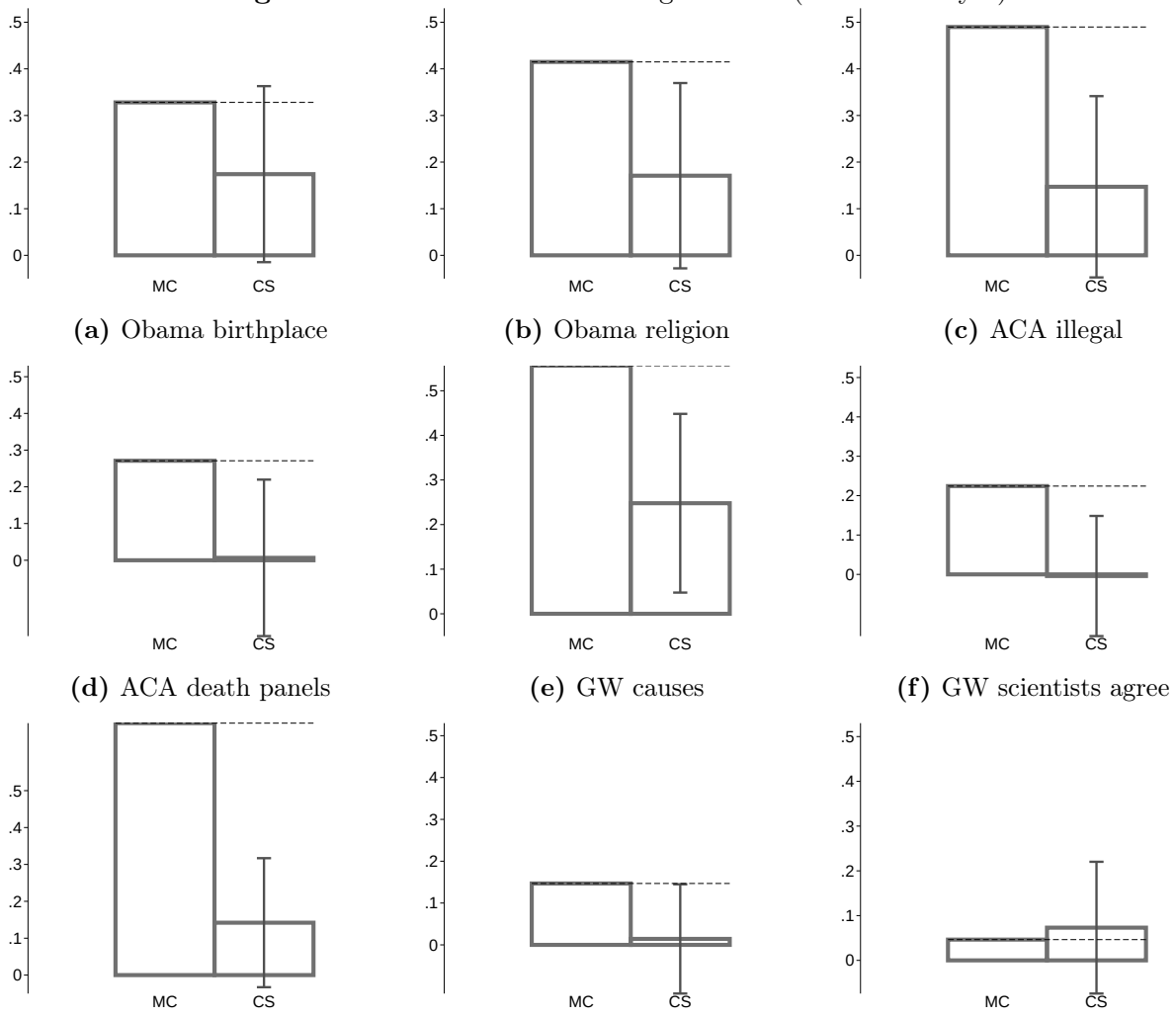

**(a)** Obama birthplace **(b)** Obama religion **(c)** ACA illegal

**(d)** ACA death panels **(e)** GW causes **(f)** GW scientists agree

**(g)** Voter fraud **(h)** MMR vaccine **(i)** Budget deficit

Bars indicate the predicted percent of correct responses when the correct response is congenial to party, depending on whether the survey condition is based on Confidence Scoring (CS) or from Multiple Choice conditions (IDA, CUD, FSR, IMC; see Table 1 for the descriptions). Reconstructed from the estimates from Table SI 1.1. Capped vertical bars indicate 95% confidence intervals.

**Figure SI 1.7:** Confidence Scoring vs. IDA (MTurk Study 1)



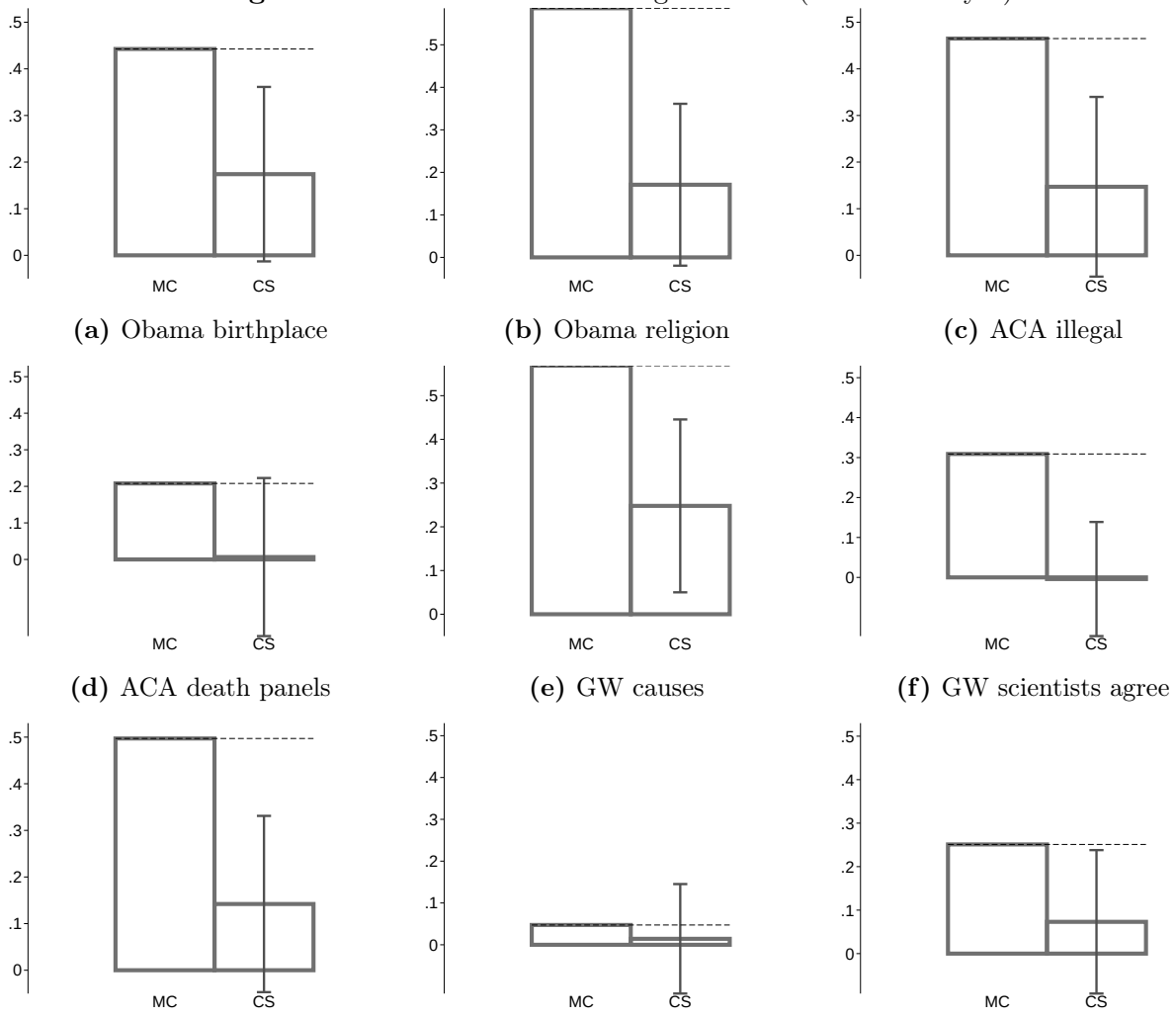

**(a)** Obama birthplace **(b)** Obama religion **(c)** ACA illegal

**(d)** ACA death panels **(e)** GW causes **(f)** GW scientists agree

**(g)** Voter fraud **(h)** MMR vaccine **(i)** Budget deficit

Bars indicate the predicted percent of correct responses when the correct response is congenial to party, depending on whether the survey condition is based on Confidence Scoring (CS) or from multiple choice IDA condition (see Table 1 for the descriptions). Reconstructed from the estimates from Table SI 1.2. Capped vertical bars indicate 95% confidence intervals.

**Figure SI 1.8:** Confidence Scoring vs. CUD (MTurk Study 1)



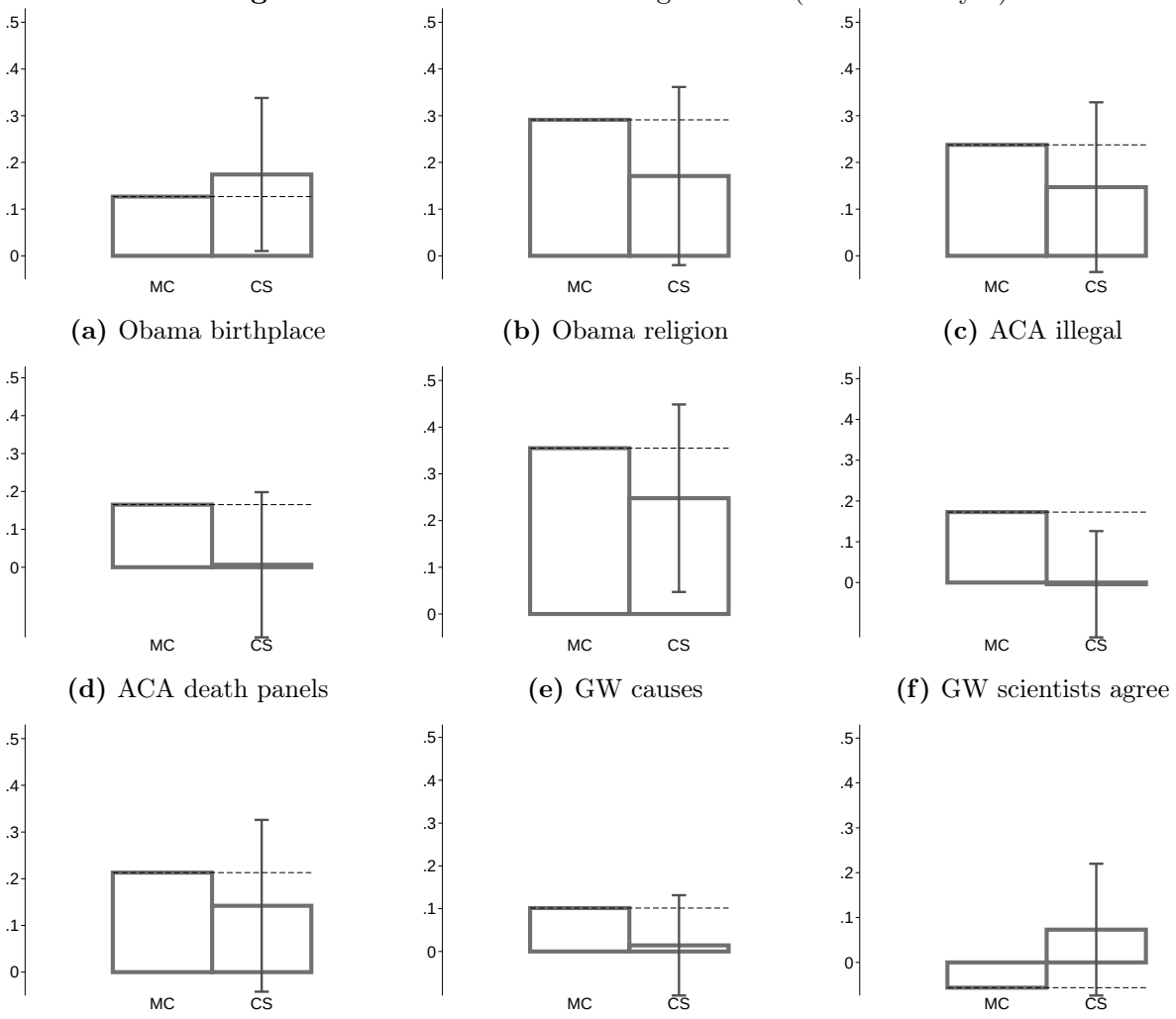

**(a)** Obama birthplace **(b)** Obama religion **(c)** ACA illegal

**(d)** ACA death panels **(e)** GW causes **(f)** GW scientists agree

**(g)** Voter fraud **(h)** MMR vaccine **(i)** Budget deficit

Bars indicate the predicted percent of correct responses when the correct response is congenial to party, depending on whether the survey condition is based on Confidence Scoring (CS) or from multiple choice CUD condition (see Table 1 for the descriptions). Reconstructed from the estimates from Table SI 1.3. Capped vertical bars indicate 95% confidence intervals.

**Figure SI 1.9:** Confidence Scoring vs. FSR (MTurk Study 1)



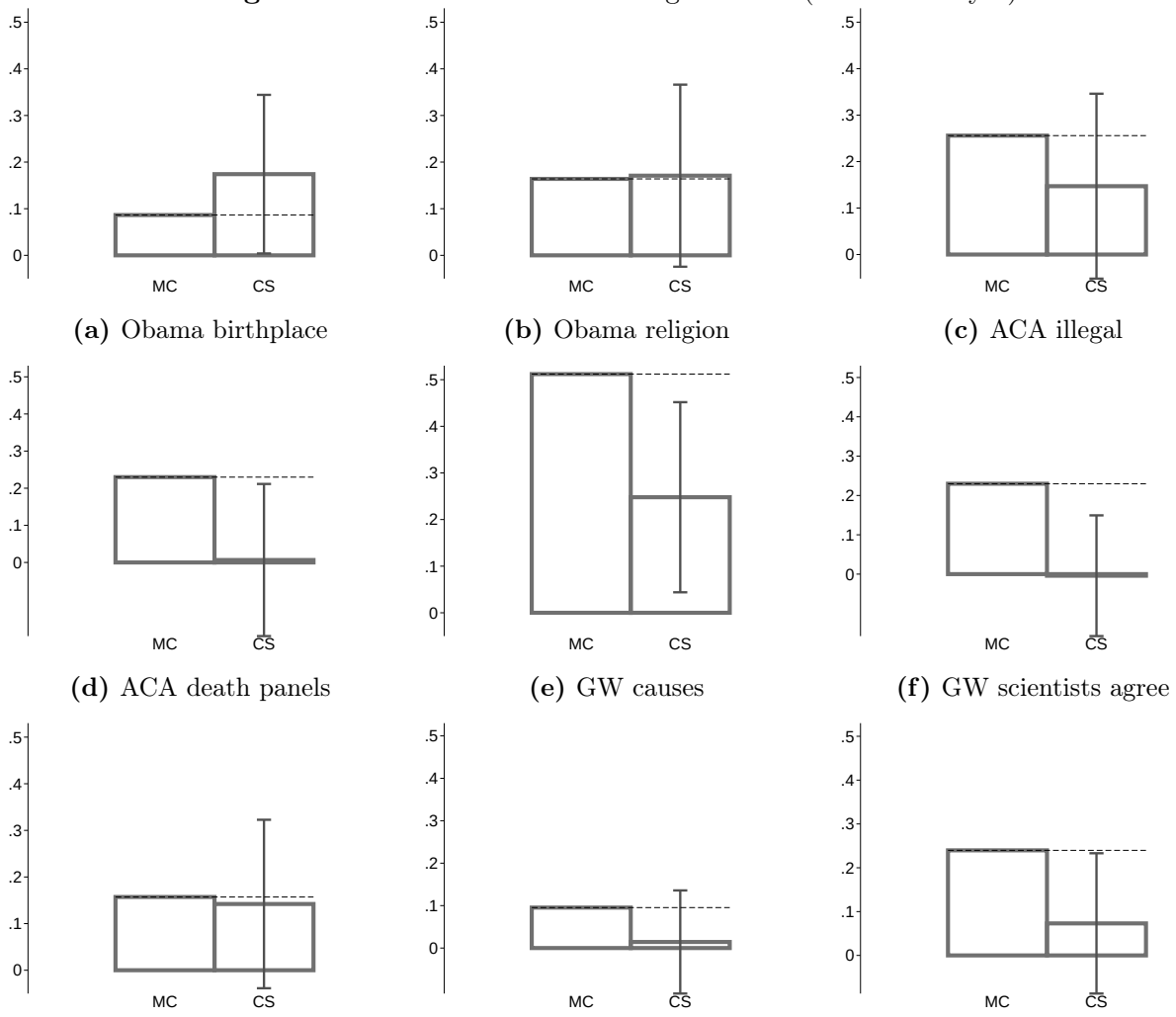

**(a)** Obama birthplace **(b)** Obama religion **(c)** ACA illegal

**(d)** ACA death panels **(e)** GW causes **(f)** GW scientists agree

**(g)** Voter fraud **(h)** MMR vaccine **(i)** Budget deficit

Bars indicate the predicted percent of correct responses when the correct response is congenial to party, depending on whether the survey condition is based on Confidence Scoring (CS) or from multiple choice CUD condition (see Table 1 for the descriptions). Reconstructed from the estimates from Table SI 1.4. Capped vertical bars indicate 95% confidence intervals.

**Figure SI 1.10:** Confidence Scoring vs. IMC (MTurk Study 1)




**(a)** Obama birthplace **(b)** Obama religion **(c)** ACA illegal

**(d)** ACA death panels **(e)** GW causes **(f)** GW scientists agree

**(g)** Voter fraud **(h)** MMR vaccine **(i)** Budget deficit

Bars indicate the predicted percent of correct responses when the correct response is congenial to party, depending on whether the survey condition is based on Confidence Scoring (CS) or from multiple choice CUD condition (see Table 1 for the descriptions). Reconstructed from the estimates from Table SI 1.4. Capped vertical bars indicate 95% confidence intervals.

# SI 2 Item Text for the MTurk Study

**Preface for Different Conditions**

**RW, IP**

Now here are some questions about what you may know about politics and public affairs.

**FSR, 14k, 24k**

Now here are some questions about what you may know about politics and public affairs. We are interested in measuring what people currently know and can recall on their own and are just as interested in what people don't know as in what they do know. So we'd like your agreement to just say "don't know" if you don't know the answer—without looking anything up or talking with anyone about it.

**Item Text 24k**

Now here are a series of statements. On a scale of 0 to 10, where 0 means definitely false, 10 means definitely true, and 5 is exactly in the middle, how definitely true or false is each statement?

- Barack Obama was born in the US (T)
- Barack Obama is a Muslim (F)
- The Affordable Care Act gives illegal immigrants financial help to buy health insurance (F)
- The Affordable Care Act does not create government panels to make decisions about end-of-life care (T)
- Temperatures around the world are increasing because of human activity, like burning coal and gasoline (T)
- Most climate scientists believe that global warming is not occurring (F)
- In the 2016 presidential election, President Trump won the majority of the legally cast votes (F)
- The vaccine for measles, mumps, and rubella (MMR) causes autism in children. (F)
- Since 2012, the annual federal budget deficit has increased. (T)

**Rest of the Conditions, By Item**

- Obama's Birthplace

  **RW and IP**

  According to the Constitution, American presidents must be "natural born citizens." Some people believe Barack Obama was not born in the United States, but was born in another country. Do you think Barack Obama was born in ...?

- The US
- Another country

**FSR**
Some people believe Barack Obama was not born in the United States, but was born in another country. Was he born in ...?

- The US
- Another country
- DK (plus DK pref)

**14k**

Was Barack Obama born in ...?

- the US
- Another country
- DK (plus DK pref)

- Obama Religion
**RW**

Do you personally believe that Barack Obama is a ...?

- Muslim
- Christian

**IP**

Most people have a religion. Some people believe Barack Obama is a Muslim. Do you personally believe that Barack Obama is a . . . ?

- Muslim
- Christian

**FSR**

Some people believe Barack Obama is a Muslim. Is he a . . . ?

- Muslim
- Christian
- DK (+ DK pref)

**14k**

Is Barack Obama a . . . ?

- Muslim
- Christian
- DK (plus DK pref)

- ACA Illegal
**RW**

To the best of your knowledge, would you say the Affordable Care Act. . . ?

- Gives illegal immigrants financial help to buy health insurance
- Does not give illegal immigrants financial help to buy health insurance

**IP**

As you may know, there is currently talk of changing the Affordable Care Act (ACA), enacted in 2010. Some people believe that the ACA gives illegal immigrants financial help to buy health insurance. To the best of your knowledge, would you say the ACA. . . ?

- Gives illegal immigrants financial help to buy health insurance
- Does not give illegal immigrants financial help to buy health insurance

**FSR**

Some people believe that Affordable Care Act gives illegal immigrants financial help to buy health insurance. Does the Affordable Care Act. . . ?

- Give illegal immigrants financial help to buy health insurance
- Not give illegal immigrants financial help to buy health insurance
- DK (+ DK pref)

**14k**
Does the Affordable Care Act. . . ?

- Give illegal immigrants financial help to buy health insurance
- Not Give illegal immigrants financial help to buy health insurance
- Don't know (+ DK pref)

- ACA—Death Panels
  **RW**
  To the best of your knowledge, would you say that the Affordable Care Act . . . ?
  - Creates government panels to make decisions about end-of-life care
  - Does not create government panels to make decisions about end-of-life care

  **IP**

  Some people believe that Affordable Care Act establishes a government panel to make decisions about end-of-life care. To the best of your knowledge, would you say that the Affordable Care Act . . . ?
  - Creates government panels to make decisions about end-of-life care
  - Does not create government panels to make decisions about end-of-life care

  **FSR**

  Some people believe that Affordable Care Act establishes a government panel to make decisions about end-of-life care. Does the Affordable Care Act. . . ?
  - Creates government panels to make decisions about end-of-life care
  - Does not create government panels to make decisions about end-of-life care
  - DK (+ DK pref)

  **14k**
  Does the Affordable Care Act . . . ?
  - Creates government panels to make decisions about end-of-life care
  - Does not create government panels to make decisions about end-of-life care
  - DK (+ DK pref)
- Global Warming—Happening + Causes
  **RW**
  Which of the following best fits your view about this? Are temperatures around the world . . . ?
  - Increasing because of natural variation over time, such as produced the ice age
  - Increasing because of human activity, like burning coal and gasoline
  - Staying about the same as they have been

**IP**
Recently, you may have noticed that global warming has been getting some attention in the news. Some people believe that temperatures are increasing around the world because of natural variation over time, such as produced the ice age. Which of the following best fits your view about this? Would you say that temperatures around the world are. . . ?

- Increasing because of natural variation over time, such as produced the ice age
- Increasing because of human activity, like burning coal and gasoline
- Staying about the same as they have been

**FSR**

Some people believe that temperatures are increasing around the world because of natural variation over time, such as produced the ice age. Are temperatures around the world . . . ?

- Increasing because of natural variation over time, such as produced the ice age
- Increasing because of human activity, like burning coal and gasoline
- Staying about the same as they have been
- DK (+ DK pref)

**14k**
Are temperatures around the world . . . ?

- Increasing because natural variation over time, such as produced the ice age
- Increasing because human activity, like burning coal and gasoline
- Staying about the same as they have been
- DK (+ DK pref)

- GW—Scientist Agreement

**RW**
Just your impression, which one of the following statements do you think is most accurate?

- Most climate scientists believe that global warming is occurring.
- Most climate scientists believe that global warming is not occurring.
- Climate scientists are about equally divided about whether global warming is occurring or not

**IP**
As you may know, the term "global warming" refers to the claim that temperatures have been increasing around the world. Some people believe that most climate scientists believe that global warming is not occurring. Just your impression, which one of the following statements do you think is most accurate?

- Most climate scientists believe that global warming is occurring.
- Most climate scientists believe that global warming is not occurring.
- Climate scientists are about equally divided about whether global warming is occurring or not

**FSR**
Some people believe that most climate scientists believe that global warming is not occurring. Which one of the following statements is most accurate?

- Most climate scientists believe that global warming is occurring.
- Most climate scientists believe that global warming is not occurring.
- Climate scientists are about equally divided about whether global warming is occurring or not
- DK (+ DK pref)

**14k**
Which one of the following statements is most accurate?

- Most climate scientists believe that global warming is occurring.
- Most climate scientists believe that global warming is NOT occurring.
- Climate scientists are about equally divided about whether global warming is occurring or not
- DK (+ DK pref)

- Voter Fraud

**RW**
As you may know, President Trump has said that several million people voted illegally in the 2016 presidential election and that he won the majority of the legally cast votes. Do you believe that President Trump . . . ?

- Won the majority of the legally cast votes
- Did not win the majority of the legally cast votes

**IP**
As you may know, not everyone living in the US has the legal right to vote. President Trump has said that several million people voted illegally in the 2016 presidential election and that he won the majority of the legally cast votes. Do think that that President Trump . . . ?

- Won the majority of the legally cast votes
- Did not win the majority of the legally cast votes

**FSR**
As you may know, President Trump has said that several million people voted illegally in the 2016 presidential election and that he won the majority of the legally cast votes. Did President Trump . . . ?

- Won the majority of the legally cast votes
- Did not win the majority of the legally cast votes
- DK (+ DK pref)

**14k**
In the 2016 presidential election, did President Trump . . . ?

- Won the majority of the legally cast votes
- Did not win the majority of the legally cast votes
- DK (+ DK pref)

- Vaccines

**RW**
From what you have read or heard, do you personally think that the vaccine for Measles, Mumps, and Rubella (MMR):

- Causes autism in children
- Does not cause autism is children

**IP**
As you may know, most children receive the vaccine for Measles, Mumps, and Rubella (MMR). Some people believe that the MMR vaccine causes autism in children. From what you have read or heard, do you personally think that the MMR vaccine:

- Causes autism in children
- Does not cause autism is children

**FSR**
Some people believe that the vaccine for Measles, Mumps, and Rubella (MMR) causes autism in children. Does the MMR vaccine . . . ?

- Cause autism in children
- Not cause autism in children.
- DK (+ DK pref)

**14k**
Does the vaccine for Measles, Mumps, and Rubella (MMR) . . . ?

- Cause autism in children
- Not cause autism in children.
- DK (+ DK pref)

- Obama—Budget Deficit

**RW**
As you may know, the federal government runs a deficit when it spends more than it takes in. Since 2012, would you say that the annual federal budget deficit has . . .

- Increased
- Stayed about the same
- Decreased

**IP**
As you may know, the federal government runs a deficit when it spends more than it takes in. Since 2012, with the Republicans having the majority in the U.S. House of Representatives, would you say that the annual federal budget deficit has . . .

- Increased
- Stayed about the same
- Decreased

**FSR**
Since 2012, with the Republicans having the majority in the U.S. House of Representatives,

- has the annual federal budget deficit . . . .
- Increased
- Stayed about the same
- Decreased
- DK (+ DK pref)

**14k**

Since 2012, has the annual federal budget deficit . . .

- Increased
- Stayed about the same
- Decreased
- DK (+ DK pref)

# SI 3 Item Text for the Second MTurk Study

The second Amazon MTurk survey was fielded in April 2017 and had 1,059 participants. In this survey we made use of new questions and probes to examine the effect of question design on (partisan) knowledge. We asked the participants four questions about the Affordable Care Act (2), the effect of greenhouse gases (1), and Donald Trump's recent executive order on immigration (1).

One half of the survey respondents got a conventional closed-ended item with five options including the opportunity to mark Don't know. The other half of the respondents had to assess the truth of statements on a scale from definitely false (0) to definitely true (10).

**1.** Does the Affordable Care Act ...?

- CE: Provide coverage for people who are currently in the country illegally, Replace private health insurance with a "single payer system", **Increase the Medicare payroll tax for upper-income Americans**, Reimburse routine mammograms only for women older than 50, Don't know (5)
- Scale: Rating each response option above from definitely false (0) to definitely true (10). Don't know was not included. See Figure SI 3.1.

**2.** Are greenhouse gases ...?

- CE: A cause of respiratory problems, A cause of for lung cancer, Damaging the ozone layer, **A cause of rising sea levels**, or Don't know
- Scale: Rating each response option above from definitely false (0) to definitely true (10). Don't know was not included. See Figure SI 3.2.

**3.** And does the Affordable Care Act ...?

- CE: Create government panels to make end-of-life decisions for people on Medicare, Replace Medicare with a "public option", **Limit future increases in payments to Medicare providers**, Cut benefits to existing Medicare patients, Don't know
- Scale: Rating each response option above from definitely false (0) to definitely true (10). Don't know was not included. See Figure SI 3.3.

**4.** Does President Trump's most recent executive order on immigration ...?

- CE: Subject immigrants living in the U.S. illegally to deportation, Strip immigrants from countries supporting terrorism of their green cards, Strip immigrants from several Muslim-majority countries of their green cards, **Temporarily ban immigrants from several majority-Muslim countries**, Don't know

- Scale: Rating each response option above from definitely false (0) to definitely true (10). Don't know was not included. See Figure SI 3.4.

If the close-ended questions 3 and 4 were not answered with Don't know the respondents received one of two a follow- up question:

- OE: What made you choose that response?
- CE: What made you choose that response? I asked someone I know, I looked it up, I've read, seen, or heard that, It makes me feel good to think that, It makes sense, in view of other things I know, I just thought I'd take a shot

**Figure SI 3.1:** Affordable Care Act 1 Scale Question

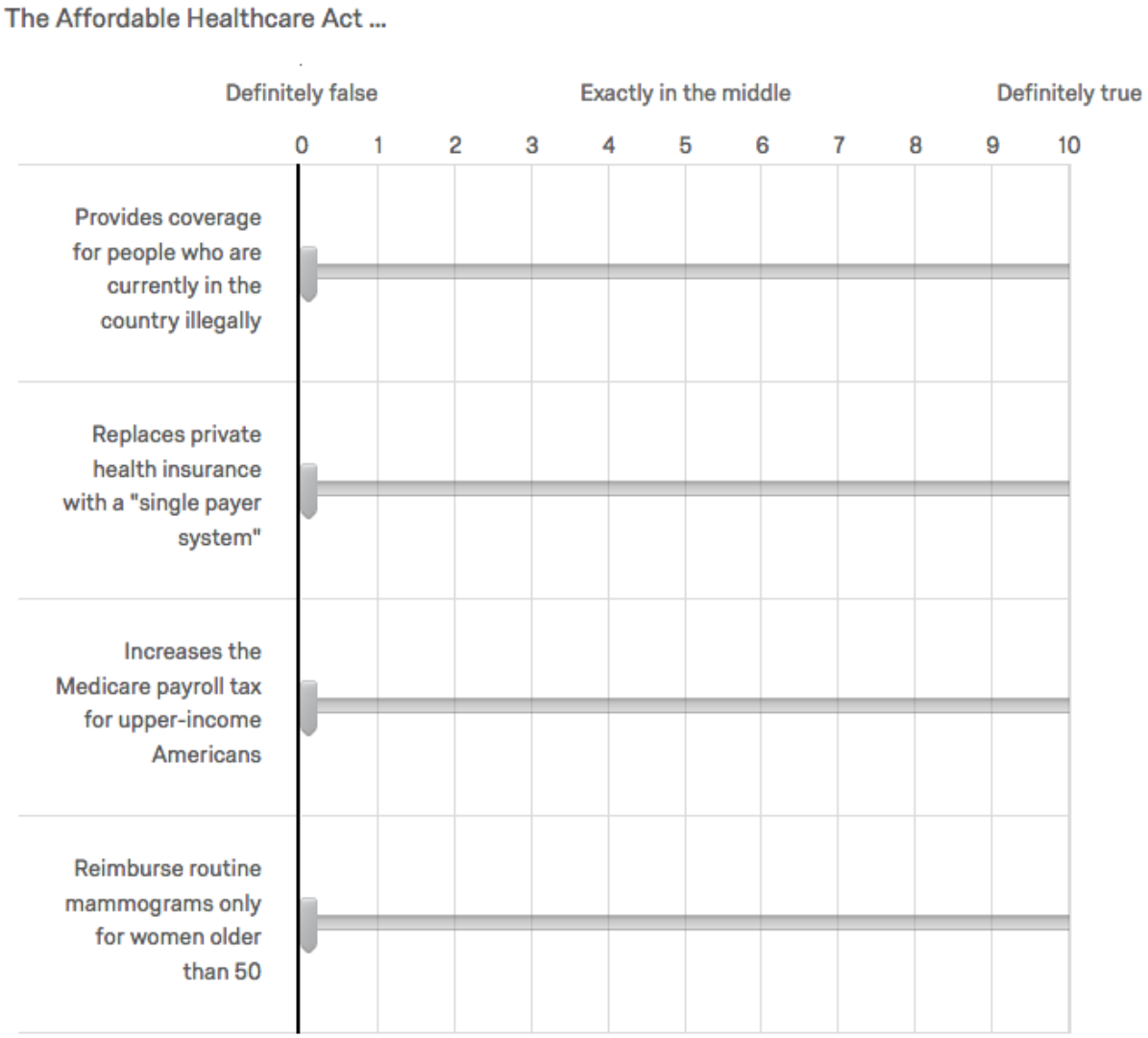


**Figure SI 3.2:** Greenhouse Gases Scale Question

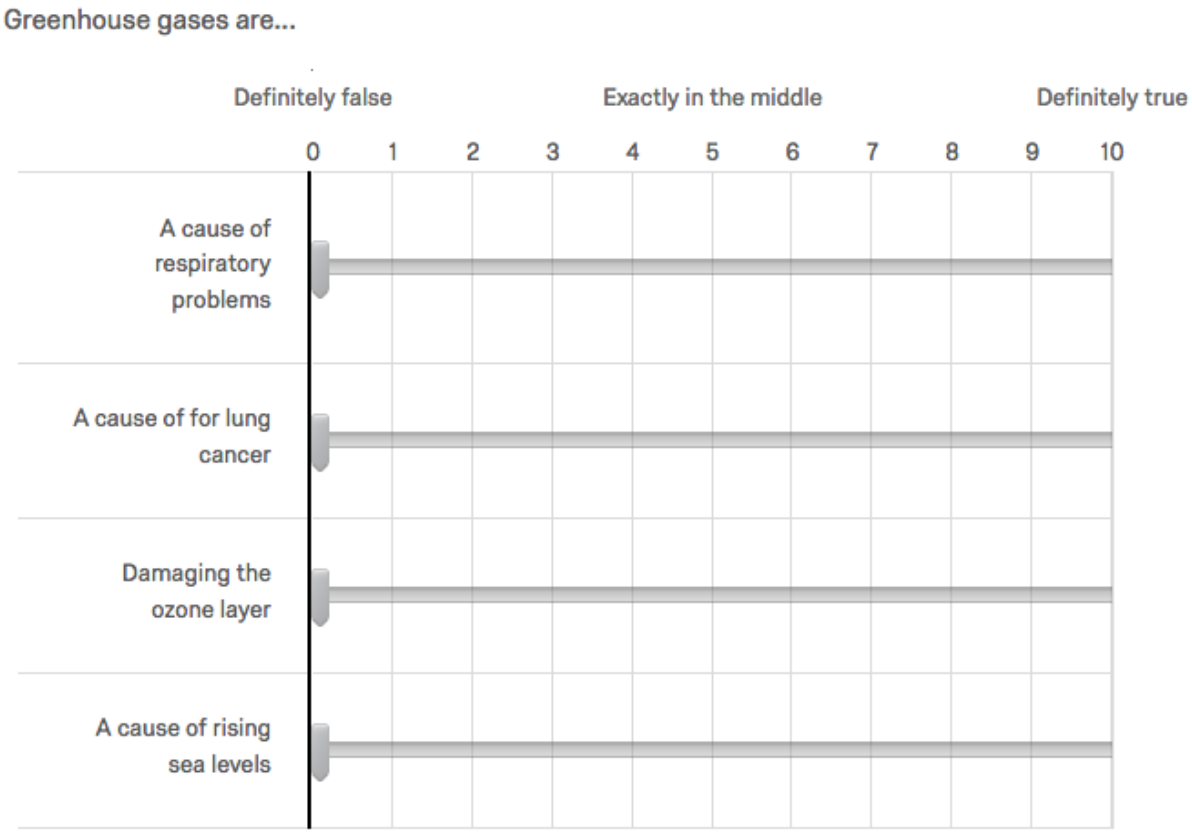


**Figure SI 3.3:** Affordable Care Act 2 Scale Question

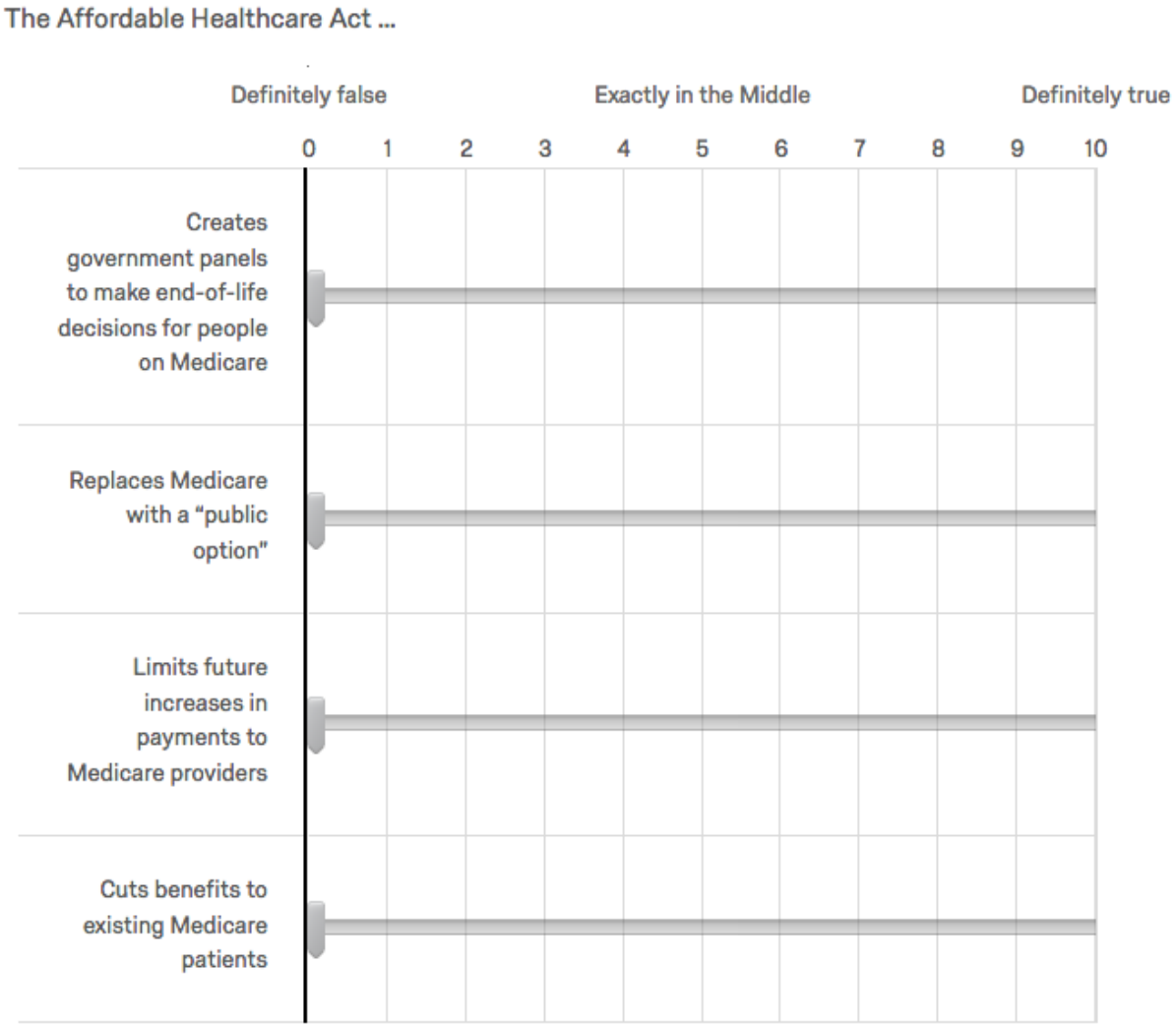
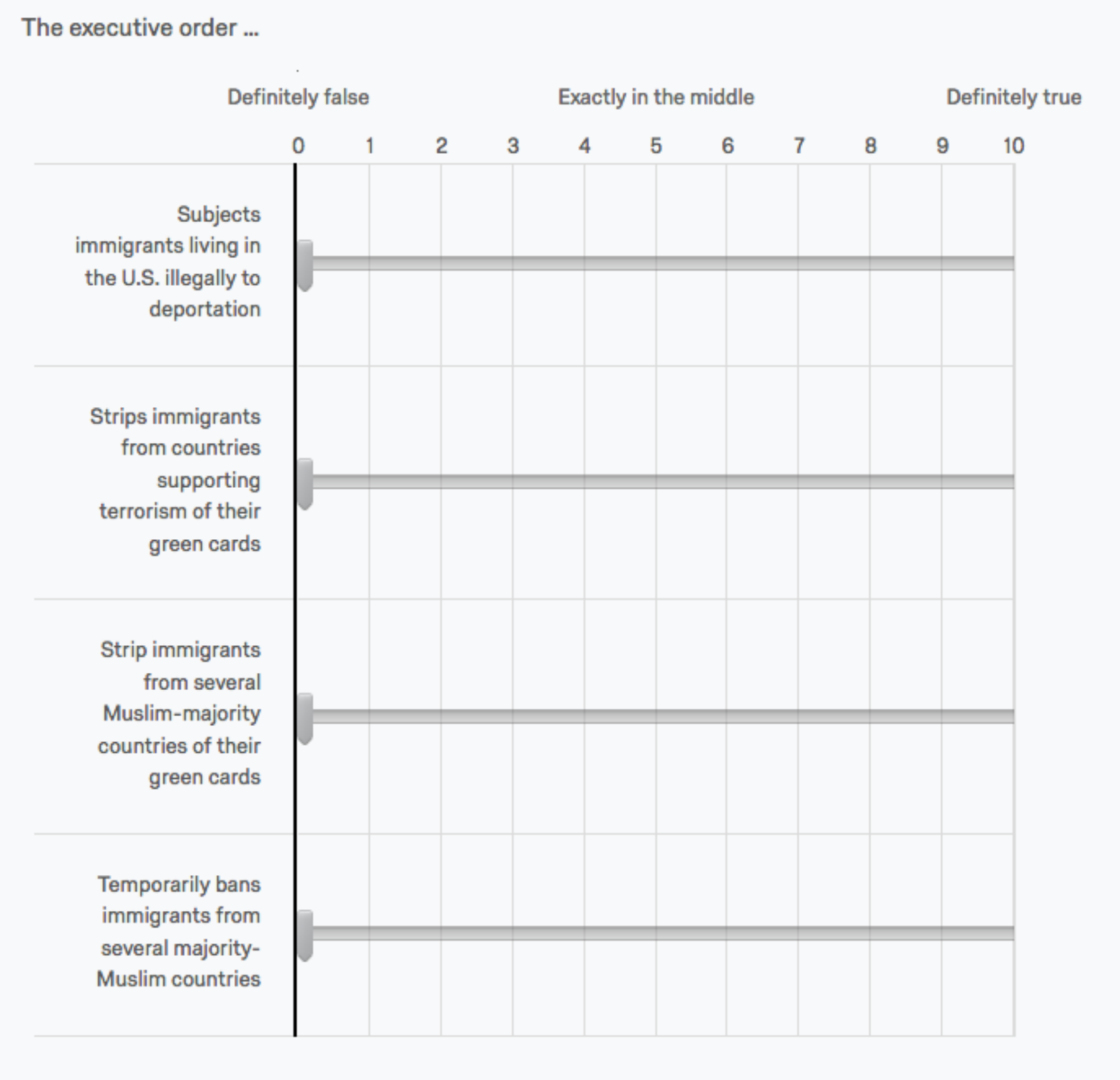


**Figure SI 3.4:** Executive Order Scale Question



**Inference**

The following close-ended two deficit related questions were presented to all survey participants.

1. During the time Barack Obama was president, the federal deficit: **Increased**, Remained about the same, Decreased, Don't Know
2. During the time George W. Bush was president, the federal deficit: **Increased**, Remained about the same, Decreased, Don't Know

Both questions were followed by a probe. For one half of the respondents this probe was open and for the other one the probe was closed.

- OE: What made you choose that response?
- CE: What made you choose that response? I asked someone I know, I looked it up, I've read, seen, or heard that, It makes me feel good to think that, It makes sense, in view of other things I know, I just thought I'd take a shot