

Estimating Public Opinion from Surveys:  
The Impact of Including a “Don’t Know” Response Option to Policy  
Preference Questions

Mads Andreas Elkjær

University of Copenhagen

[mael@ifs.ku.dk](mailto:mael@ifs.ku.dk)

Christopher Wlezien

University of Texas at Austin

[wlezien@austin.utexas.edu](mailto:wlezien@austin.utexas.edu)

December 19, 2023

*Abstract*

What are the consequences of including a “don’t know” (DK) response option to attitudinal survey questions? Existing research, based on traditional survey modes, argues that it reduces the effective sample size without improving the quality of responses. We contend that it can have important effects not only on estimates of aggregate public opinion, but also on estimates of opinion differences between subgroups of the population who have different levels of political information. Through a pre-registered online survey experiment conducted in the United States, we find that the DK response option has consequences for opinion estimates in the present day, where most organizations rely on online panels, but mainly for respondents with low levels of political information and on low salience issues. These findings imply that the exclusion of a DK option *can* matter, with implications for assessments of preference differences and our understanding of their impacts on politics and policy.

## Introduction

The survey is an important tool in the social scientist's toolkit. To guide researchers, a large literature examines how best to design survey questionnaires. An important question in this literature is whether respondents should be offered an opportunity to say "don't know" (DK) to attitudinal questions. Many survey organizations and researchers working with surveys follow the recommendations of Krosnick, et al (2002) by not explicitly offering such an option. Those authors analyze survey data from face-to-face and telephone interviews conducted around 1990 and find that offering a DK response option encourages satisficing; that is, it discourages respondents to do the cognitive work involved in formulating and expressing an opinion, causing reductions in the effective sample size and statistical power without improving the quality of responses.

Since the publication of Krosnick, et al (2002), it has become conventional wisdom that the DK response option primarily serves as an invitation to satisfice. Although we agree that respondents might satisfice, particularly on some issues, we think the time is ripe to reassess the conventional wisdom, as many increasingly important questions remain unanswered. For example, we know little about how the DK option affects estimates of public opinion in the new digital age, where most organizations rely on online panels. We know even less about the consequences of the option for estimates of opinion differences between subgroups of the population, such as gender, education, or income groups. Considering the increasing number of opinion surveys being conducted every year, and the increasing interest in estimating subgroup opinions—e.g., in the exploding literature on class and inequality (see below)—answering these questions is paramount for advancing social science research.

We begin this paper by developing an argument explaining how omitting the DK option can affect not only estimates of public support for policies but also the confidence respondents have in their answers and, perhaps most importantly, the estimated socio-economic gradient of those preferences. We contend that on issues where respondents have little information, omitting the DK response option leads to more random responses, decreasing confidence in responses and biasing the balance of public support downwards, toward 50-50, much as Converse (1964) would predict. And because respondents with low levels of political knowledge are more likely to give a random response when not offered an opportunity to say “don’t know,” effectively forcing these respondents to provide a substantive answer has a larger impact on the estimate of their opinion compared to those of better-informed respondents. An important consequence of this differential measurement error bias is that the gap in preferences between different groups will be partly determined by the amount of information available to respondents on a given issue and whether a DK response option is offered. Where information is plentiful, we expect that offering the DK option will not substantially impact measured preferences across groups: while it might encourage satisficing, per Krosnick, et al (2002), reducing the percentage of respondents who express both support and opposition, it would not substantially alter the *balance* of public support. By contrast, where information is scarce, omitting the DK option can produce more random responses, particularly for less knowledgeable groups, biasing the observed level of public support for or against a policy and the gap in preferences between groups. Omitting the DK response option in these cases is no panacea.

To assess these arguments, we implement a survey on a large sample of the United States (U.S.) population in which we experimentally manipulate response options to attitudinal questions to

vary the availability and use of DK responses. For the analysis, we randomly assign respondents to either a control or treatment group. The respondents in the two groups are asked the *exact same* questions, but those in the treatment group are offered the possibility of answering “don’t know” to the attitudinal questions. The survey includes eight questions about topical political issues that were selected to provide variation in the proportion of DK responses *and* in the preference gaps between income groups on both economic and social issues. As such, we expect variation in responses and treatment effects across questions. We first compare the distributions of responses for the two treatment conditions across the eight questions. We then assess the subjective confidence respondents have in their responses to the items. Finally, we consider the resulting gaps in preferences across subgroups.

Consistent with previous research conducted using face-to-face and telephone survey modes (Krosnick, et al 2002), we find that respondents surveyed using newer, online modes are more likely to provide non-responses when offered the DK option. This varies across questions seemingly in correspondence with the amount of information required to provide a response. We are also able to confirm that respondents with lower levels of political knowledge are more likely to choose “don’t know.” Respondents offered the DK option are more confident in their responses, and this effect also varies across issues in expected ways. Yet, as we hypothesize, providing the DK option only affects estimates of public opinion on some issues, and generally in the range of one to three percentage points. Finally, while we observe substantial effects of including the DK response option on preference gaps on more demanding items; on other, more salient issues, the consequences are limited. This also is as we expect.

These findings are good news for researchers who analyze issues on which respondents have an attitude or can easily (and reliably) produce one on the spot. That is, the common, almost standard practice of not explicitly offering a DK response option does not meaningfully distort either the balance of aggregate public preferences or differences in opinions across groups. On other, seemingly less salient issues, things are quite different. Here, omitting the DK response option makes a difference that may misrepresent the alignment of subgroup preferences—for example, we may conclude that preferences of groups differ where they don't, at least not by as much. This has direct implications for the growing body of research that examines opinion differences between subgroups of the population, such as gender, race, education, or income groups (see e.g., Häusermann, Kurer, and Schwander 2015; Cavaillé and Trump 2015; Jessen Hansen 2023; Lizotte 2020; Lizotte and Carey 2021). It has further implications for analysis using previously collected survey data, perhaps especially in research on inequality in political representation that heavily relies on accurate estimations of preference gaps (e.g., Bartels 2008; Branham, Soroka, and Wlezien 2017; Elsässer, Hense, and Schäfer, 2021; Elkjaer and Iversen 2020; Elkjaer and Klitgaard, forthcoming; Enns 2015; Enns and Wlezien 2012; Gilens 2012; Gilens and Page 2014; Lax, Phillips, and Zelizer 2019; Rigby and Wright 2011; Schakel 2019; Schakel and Van Der Pas 2021). Such research should be mindful that on low salience issues, preference gaps are endogenous to information, which in turn suggests that estimates of policy representation also are endogenous to information, i.e., the inequality that we observe may be more apparent than real. Finally, even where the DK response option does not alter the preference gaps we observe, it does influence the distributions of responses and the confidence people have in the answers they give, sometimes in dramatic ways. These results, while not surprising, also are revealing about people's true preferences.

## Previous Research on “Don’t Know” Responses

Survey organizations typically don’t offer a DK response option when registering people’s preferences on policy issues. For example, the policy of the General Social Survey for self-administered surveys is not to provide a “don’t know” response option on any attitudinal question but instead allow respondents to skip questions they do not wish to answer. Also consider Gilens’ (2012) now iconic work on inequality in representation in the US that draws on a large set of policy preference questions, most of which did not include a DK response option (Gilens 2012: 90). As discussed, this practice in large part reflects scholarly research and advice, most notably Krosnick, et al’s (2002) study highlighting the tendency for respondents to provide DK answers when they actually have preferences. That work built on previous research by Krosnick (1991) on satisficing, particularly when attitudinal items require substantial cognitive effort (for a review of recent work on satisficing in surveys, see Roberts, Gilbert, Allum, and Eisner 2019). And there is other supporting research. Berinsky (2004) finds that a DK option introduces bias by allowing respondents to not provide socially unacceptable answers on (controversial) issues like racial integration.

A good amount of research challenges the seeming consensus. Some preceded Krosnick’s (1991) original research. Shuman and Presser (1979) found a large number of “floaters” who responded DK when offered the option but concluded that our understanding of them and their responses was “rudimentary,” something that was underscored by their later work (1980). Smith’s (1985) statement on the subject argued further that the inclusion of a DK response option helps to elicit “hidden” nonattitudes, i.e., random guesses, per Converse (1964). Luskin and Bullock’s (2011) research on factual survey questions supports Smith’s earlier claims, as

they find that DK responses are more indicative of a lack of knowledge rather than obfuscation. Jessee (2017) finds much the same and also that differences in (the Big Five) personality types do not matter. Purdam, et al's (2020) cross-national analyses of factual and attitudinal items further document that DK responses tend to reveal respondents' lack of information. There thus is growing evidence that DK responses may reveal lack of knowledge and may not introduce bias. Recent research by Graham (2021) shows further that offering the DK response option makes respondents more confident in their answers.

Although the recent research implies that Smith (1985) was largely correct, and offering a DK option will help reveal nonattitudes, there is reason to think that this is most pronounced where people have weak preferences that are poorly informed. Indeed, on some high salience issues, where people have clear(er) preferences, it may be that the DK option mostly encourages people to behave as Krosnick (1991) argued, and satisfice. There also is reason to expect differences across individuals, possibly even on high salience issues, which may impact preference gaps across groups. We know that information matters for preferences, and it also correlates with other variables that are of special social and political importance, such as income. That actually was the motivation for our research.

## Theory and Implications

We suppose that the previous research is correct that the DK response option encourages respondents with preferences to give a DK response, but at the same time, we think it downplays the possibility that omitting the option encourages respondents without preferences to offer one. Specifically, following Converse (1964) and Smith (1985), we expect the exclusion of a DK

response option to lead respondents to guess, i.e., picking between two response options with 50-50 percent probability. Our conjecture has a set of clear predictions that guide the empirical analysis.

First, including the DK option should increase non-responses because it allows respondents who are uninformed or unsure about their opinion to express a nonattitude—and given the importance of information, we should see variation in the effect across individuals with differing levels of information:

*H1: a)* Including a “don’t know” response option in attitudinal survey questions leads to more “non-answers” compared to omitting it.

*H1: b)* The effect of including a “don’t know” response option on “non-answers” is stronger for respondents with lower levels of information.

H1 implies that excluding the DK option will increase the likelihood of observing majorities (as opposed to pluralities) in support of one option or another, with direct implications for conclusions about opinion-policy congruence. As discussed, however, we expect variation in the effect of the DK option across issues according to the amount of information available to people, which presumably is connected to the salience of an issue.

Although H1 has important implications for estimates of public opinion, it does not allow us to discriminate between satisficing theory and our argument: Satisficing theory also predicts more



non-responses when the DK option is offered, and it predicts variation in the use of the option across respondents according to individual ability and across issues according to task difficulty (see e.g. Roberts, Gilbert, Allum, and Eisner 2019). Our basic conjecture has further implications for other features of public opinion, however, which contrast with those of satisficing theory. While satisficing theory says little about the effect of the DK option on the confidence respondents have in their answers, our argument implies that if (some) respondents use the DK response option to convey nonattitudes or that they are unsure about their opinion, respondents who are not offered the option should feel less confident about their answers (see also Graham 2021). After all, they've been pressed to state a preference that they might not have or else hold only weakly. This informs our second hypothesis:

*H2: Respondents who are not offered a DK response option will be more unsure about their responses compared to respondents who are offered the option and do not use it.*

The natural implication of H1 and H2 is that omitting the DK response option will cause more balanced aggregate preferences because more (low information) respondents, who either have no opinion or are very unsure about it, answer the question at random. This will, in turn, alter the observed preference gap between groups with different levels of information upwards or downwards, depending on which group has more extreme preferences:

*H3: a) Omitting a “don't know” response option in attitudinal survey questions leads to more balanced aggregate preferences (the mean preference will be closer to 0.5 when there are two substantive response options).*

*H3: b)* This effect will be more pronounced for respondents with lower levels of information.

*H3: c)* Accordingly, when a larger majority of the *better*-informed group support (oppose) a policy, omitting a “don’t know” response option in attitudinal survey questions leads to larger differences in preferences between the groups; when a larger majority of the *lesser*-informed group support (oppose) a policy, omitting the “don’t know” response option in attitudinal survey questions leads to smaller differences in preferences between the groups.

These predictions contrast directly with those of satisficing theory, according to which the balance of public support, and therefore also preference gaps, should be unaffected by the inclusion of the DK option (Krosnick et al 2002). Another alternative is that respondents who do not actually have an opinion may rely on basic heuristics or considerations to provide answers if not offered an opportunity to answer DK, which can drive expressed support for a policy either upwards or downwards (Zaller and Feldman 1992; also see Althaus 2003). It is consequently possible that we observe effects that are diametrically opposed to our predictions. In the end, it is an empirical matter how expressed public opinion is affected by the presence of a DK response option.

Finally, we want to emphasize (again) that we expect to see considerable heterogeneity in effects across issues; it is implied by both our theory and the research design itself. Most importantly,

information levels should matter, as these underpin preferences and their expression in survey responses. Where people have little information and are unsure about what they think, after all, omitting the DK response option should lead to more guesses. This produces variation across issues, as people have more information – and clearer preferences – on certain, high salience issues and less on other lower salience ones. In short, the consequences of (not) including the DK option for the distributions of opinion we observe should be most consequential on low salience issues.

## Research Design

To test the hypotheses, we conducted a pre-registered survey experiment on 4,810 respondents recruited from Prolific’s online panel using their representative sample option, which ensures that the sample reflects the U.S. adult population on the dimensions of age, gender, and ethnicity.<sup>1</sup> It is not a probability sample, which may be an advantage in terms of comparability with typical opinion polls, given the rise of non-probability samples in survey research.

In the survey, we first asked respondents a range of demographic questions. They then were randomly allocated to either a control or treatment group.<sup>2</sup> Respondents in the treatment group were directly exposed to a “don’t know” response option on all attitudinal questions, whereas those in the control group were not. Following typical survey practice, however, respondents in

---

<sup>1</sup> The survey took place between September 20 and December 6, 2022. In all regression models below, we include binary variables for the month in which the survey was taken (September, October, November/December). For preregistration details, see: <https://osf.io/z2fvu> or Appendix A.

<sup>2</sup> We present a balance test in Appendix B, which shows that the randomization was successful.

the control group had the option of skipping any question they did not wish to answer, as did respondents in the treatment group, which we informed them about before receiving their consent to take the survey. In both groups, we also randomized the order of the substantive response options on all attitudinal questions to ensure that any effects we observe are unaffected by the response order; in the treatment group, the DK option was always placed at the bottom, below the substantive answers. To reiterate, the treatment in our survey is the presence of a “don’t know” response option to attitudinal questions; all other facets of the survey are exactly the same across the control and treatment groups.

The attitudinal questions asked about the respondents’ opinions on abortion, border security, capital gains tax cuts, the estate tax, infrastructure, minimum wage, transgender military service, and vaccine mandates. Across all questions, the respondents were given two substantive response options; specifically, whether they “support” or “oppose” the policy.<sup>3</sup> The eight issues were chosen to provide variation in the proportion of “don’t know” responses and in the preference gaps between income groups spanning economic and social policies, i.e., a 2x2x2 design (see Appendix A).<sup>4</sup> The (expected) variation in DK-answers and preference gaps across issues naturally implies that the treatment effect should vary across our questions.

After each attitudinal question respondents were asked a follow-up question about how sure they felt about their answer. The next part of the survey asked respondents to revisit their responses

---

<sup>3</sup> Most research on inequalities in political representation between subgroups of the population relies on policy preference questions that ask respondents whether they either support or oppose certain policies. We follow this norm in offering respondents two substantive response options.

<sup>4</sup> We used recent polling data to identify relevant questions that fit our criteria.

on three of the attitudinal questions—capital gains tax, estate tax, and abortion—where those in the control group received the DK treatment while those in the treatment group did not. This permits an additional test of H1 and H3 with experimental variation within respondents. In the interest of space, we report these results in Appendix C, but they are substantively similar to those presented below. The survey concluded by asking five factual questions about politics, which we use to derive a measure political knowledge (see Appendix A).

One concern about asking the factual questions about politics at the end of the survey is that it might cause some post-treatment bias in the measure of political knowledge. Post-treatment bias would be present if answering the attitudinal questions first influences whether respondents can provide correct answers to the factual questions asked later in the survey and/or if the presence of the DK response option in the attitudinal questions has an impact on the answers to the factual questions. While we cannot fully rule out such possibilities, we are not particularly concerned about this kind of bias, since none of the factual questions are related to the attitudinal questions asked earlier in the survey. We could have avoided any concerns about post-treatment bias by asking the factual questions about politics before the policy preference questions, but then we would risk that the use of the DK option in the policy preference questions would be affected by the answers to the factual questions. This could happen, for instance, if some respondents realize that they have only little information about politics, discouraging them from answering the policy preference questions and making them more likely to answer “don’t know.” Likewise, respondents who believe they got most of the factual questions right might be encouraged to answer the attitudinal questions and make less use of the DK option. Because we were more concerned about potentially biasing our measures of policy preferences than we were about post-

treatment bias, we opted to ask the factual questions about politics at the end of the survey, after the attitudinal questions.<sup>5</sup>

## Results

We begin the analysis by examining the distribution of responses for each treatment group in Figure 1. Two patterns stand out there. First, whereas respondents in the control group gave a no-opinion response, i.e., skipped the question, only 0.0005% of the time (10 times out of 19,240), respondents in the treatment group answered either “don’t know” or skipped the question 15% of the time. This result is important, since it shows that the standard practice of allowing respondents to skip a question (while omitting the DK response option) has virtually no impact on non-responses, which may be revealing about the online panel we use and others like it. Simply allowing respondents to skip a question does not seem to be an effective way of separating out respondents who truly do not have an opinion, unless literally everyone has preferences on all issues, regardless of their difficulty.

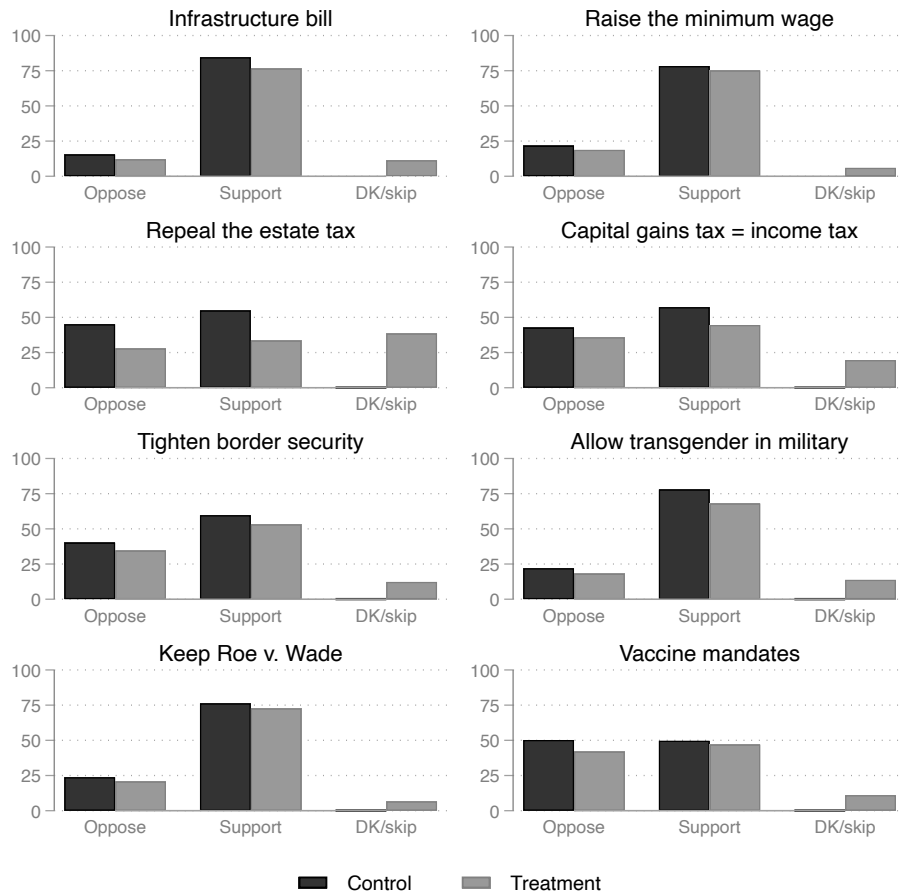
At the same time, we see significant variation in the effect of the DK-treatment across questions. The effect is strongest on the capital gains and estate tax questions, where a whopping 20% and 38.5% of respondents answered “don’t know” when given that option. That these questions attract the highest number of DK answers may be related to the difficulty many people have in understanding tax rules and policies (Stantcheva 2021). For the other issues, DK responses lie

---

<sup>5</sup> In the end, it is of course an empirical question whether the inclusion of a DK response option to attitudinal questions has an impact on responses to other questions asked later in surveys, which requires further research.

between approximately 6-13%.<sup>6</sup> These results corroborate H1a, demonstrating that including a DK option significantly increases the number of no-opinion responses, with important variation across issues seemingly in accordance with the difficulty of the question, which also is as Krosnick (1991) predicts.

Figure 1. Distribution of Responses (in %), By Policy and DK-Treatment



<sup>6</sup> All these effects are statistically significant at the 0.05-level (see Appendix Figure E1).

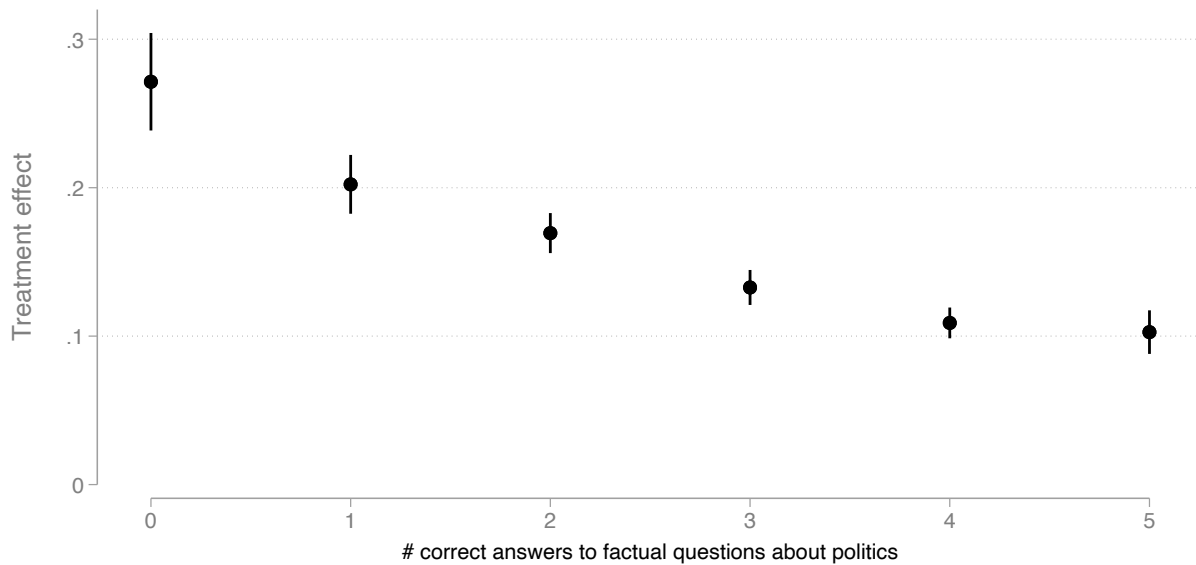
Second, on three of the eight questions (estate tax, capital gains tax, and Covid vaccines) adding the DK response option eroded majority support for a policy option. The change is most pronounced on the estate tax, where a majority in the control group supported repealing the tax while a plurality of participants in the treatment group responded “don’t know.” This result clearly demonstrates that omitting the DK option can have direct implications for inferences about policy congruence, which are drawn by assessing whether enacted policies receive majority backing. Question wording matters for the majorities we observe, and that matters for the match between opinion and policy decisions.

We next test H1b, and whether the effect of the DK-treatment varies across individuals with differing levels of information. For this, we created a binary variable that takes the value “0” if the respondent provided a substantive answer and “1” if they answered “don’t know” or else skipped the question. We then regressed this variable on an interaction between the treatment variable and our measure of political knowledge. Included in the equation are binary variables for the different policy questions. The model is estimated using OLS with standard errors clustered by respondent. Figure 2 shows the results. Consistent with H1b and previous research (Krosnick 1991; Krosnick, et al 2002), the results demonstrate that respondents with low levels of political information are most likely to respond “don’t know.” Whereas including the DK option increases DK answers by more than 20% among respondents with low levels of



information (no or one correct answer), the increase is only about 10% among respondents with high levels of information (four or five correct answers).<sup>7</sup>

Figure 2: The Effect of the “Don’t Know” Treatment On “Non-Answers” (with 95% CIs), By Political Knowledge



Note: n=38,480. The full set of results is shown in Appendix Table D1.

### *The Don’t Know Response Option and Confidence in Answers*

Having corroborated H1, we move on to test H2, which stipulates that including the DK response option in attitudinal survey questions should increase the confidence that respondents have in their answers. To remind, this hypothesis is important because, by contrast with H1, the

---

<sup>7</sup> Since information is a correlate of income, education, gender, and voter status, it is unsurprising that we see similar, although weaker, effects across these groups (see Appendix E).

expectation differs from what satisficing would predict, as it does not address the issue and there seems little basis in the model for such a connection.<sup>8</sup> Here, the dependent variable is a four-point categorical variable capturing how sure the respondents were about their answers ranging from “not sure at all,” “not very sure,” “fairly sure,” and then “extremely sure.” We regress a standardized version of this variable (mean = 0, s.d. = 1) on the treatment variable interacted with policy item dummies, again using OLS with standard errors clustered by respondent. Figure 3 depicts the results.

Consistent with H2, Figure 3 shows that the DK treatment had a significant effect on the confidence that respondents had in their answers and that this effect varies substantially across the eight questions. On average, the DK treatment increased confidence in answers by 0.2 standard deviations, ranging from a substantively rather small effect of 0.07 on the minimum-wage question to a substantively *very large* effect of 0.6 on the estate tax question.<sup>9</sup> At the same time, it is important to note that these effects are from high baseline levels of expressed confidence. On average across all questions, 91% of respondents stated that they felt either fairly or extremely sure about the answer they gave, from 79%-84% on the estate and capital gains tax questions to 98% on abortion. These results suggest that the salience of an issue matters not only

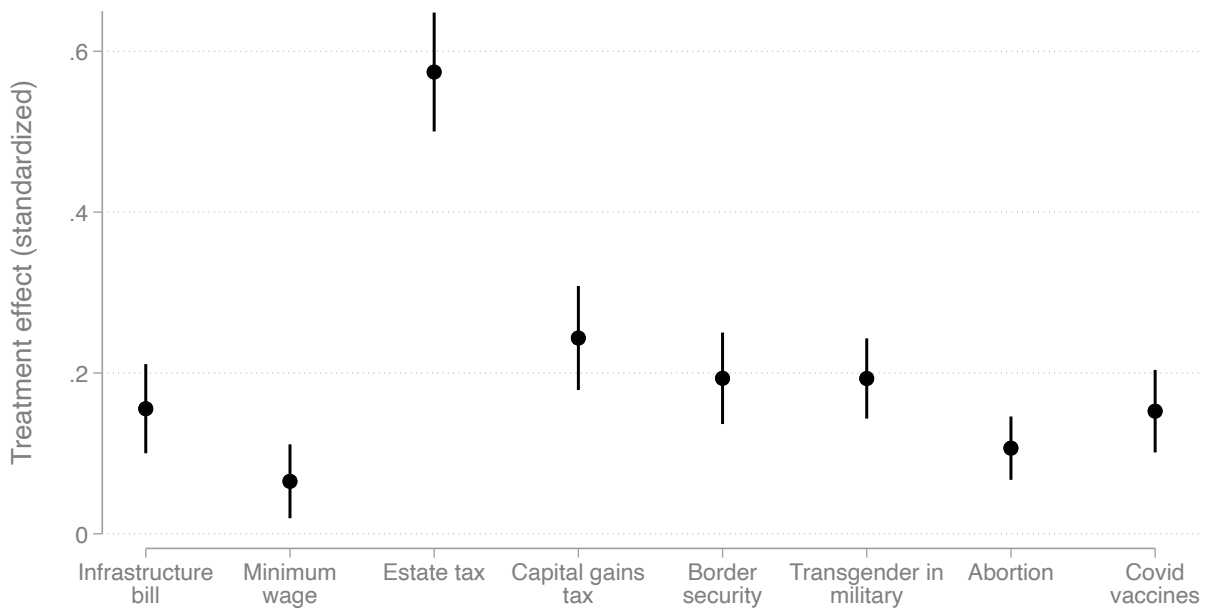
---

<sup>8</sup> Why would respondents who responded “don’t know” simply to satisfice be (more or) less confident in their responses than those who answered the question?

<sup>9</sup> On the original four-point scale the average treatment effect is equivalent to a 0.14-point shift (from 3.34 to 3.57). On the estate tax, the shift is equivalent to a 0.39-point shift (from 3.0 to 3.39).

for the number of DK answers but also for how sure respondents feel about their answers. Indeed, the effects in Figures 1 and 3 almost perfectly parallel each other. This is exactly as we hypothesized, and it supports the supposition that including a DK response option helps reveal true preferences.

Figure 3. The Effect of the “Don’t Know” Treatment on Confidence in Answers (with 95% CIs),  
By Policy Issue



Note: n=35,594. The full set of results is shown in Appendix Table D2.

***The Don’t Know Response Option and Estimates of Public Opinion***

We have now established that including a DK response option in attitudinal questions can have non-trivial effects on the number of no-opinion responses and the confidence that respondents have in their answers, and these seemingly are related. A natural implication of these findings is

that some respondents who truly don't have an opinion on an issue will provide one when not offered the opportunity to answer "don't know." If this is the case, our expectation (H3a) is that these respondents answer at random, picking one of two options with equal probability. If enough respondents do so, the estimate of public opinion will shift towards a 50-50 split between support and opposition to a policy.

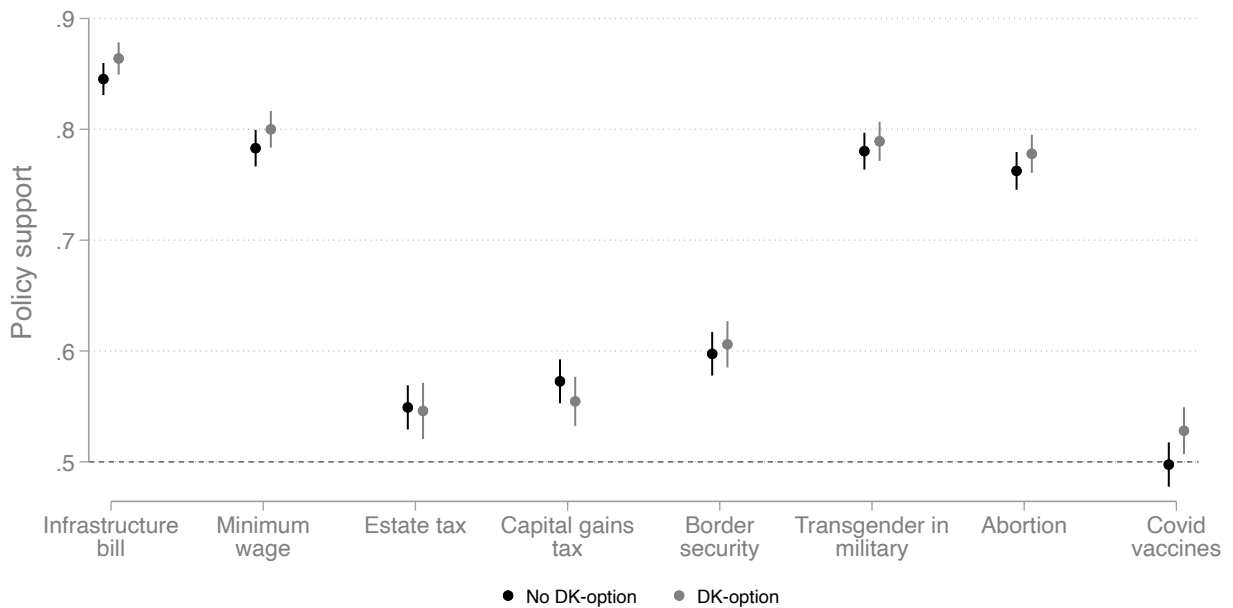
To test this implication, we regress a binary variable indicating whether the respondent supported or opposed a certain policy on the treatment variable, interacted with the policy-item dummies. As before, we estimate the model using OLS with standard errors clustered by respondent. Figure 4 plots estimated policy support for each policy question and treatment condition. Positive effects of the DK treatment imply that (some) respondents answer at random when the DK response option is omitted, and negative effects that support for or opposition against a policy strengthens. As discussed, the latter could result where respondents are uncertain about their opinion, but respond (when a DK response option is omitted) based on salient considerations (Zaller and Feldman 1992; Althaus 2003). Non-effects would be consistent with the satisficing approach.

As can be seen from Figure 4, the effects we observe vary across questions. The largest effect is on Covid vaccines, where the inclusion of the DK response option shifted net support by 3% away from an equal 50-50 split ( $p = 0.04$ ). On the infrastructure bill, minimum wage, and abortion questions, expressed preferences shifted by 1.5%-1.9% in the expected direction, though the shifts are not statistically significant ( $0.08 < p < 0.21$ ). On the border security and transgender questions, the treatment effects are below 1% ( $0.47 < p < 0.56$ ). And on the two tax

questions, particularly for capital gains, the treatment effects were negative, though again not statistically significant ( $0.23 < p < 0.85$ ).

Overall, these results only weakly corroborate H3a. The effect of the DK response option clearly differs across issues; on six of our eight questions, we observe effects in the expected direction, but they are mostly statistically insignificant. When pooling across issues, we obtain an average treatment effect of 1% ( $p = 0.12$ ) in the expected direction, but it (also) fails to reach statistical significance at conventional levels.

Figure 4. The Effect of the “Don’t Know” Treatment on Policy Support (with 95% CIs), By Policy Issue



Note: n=35,602. The full set of results is shown in Appendix Table D3.

### ***Differential Effects of the Don't Know Response Option***

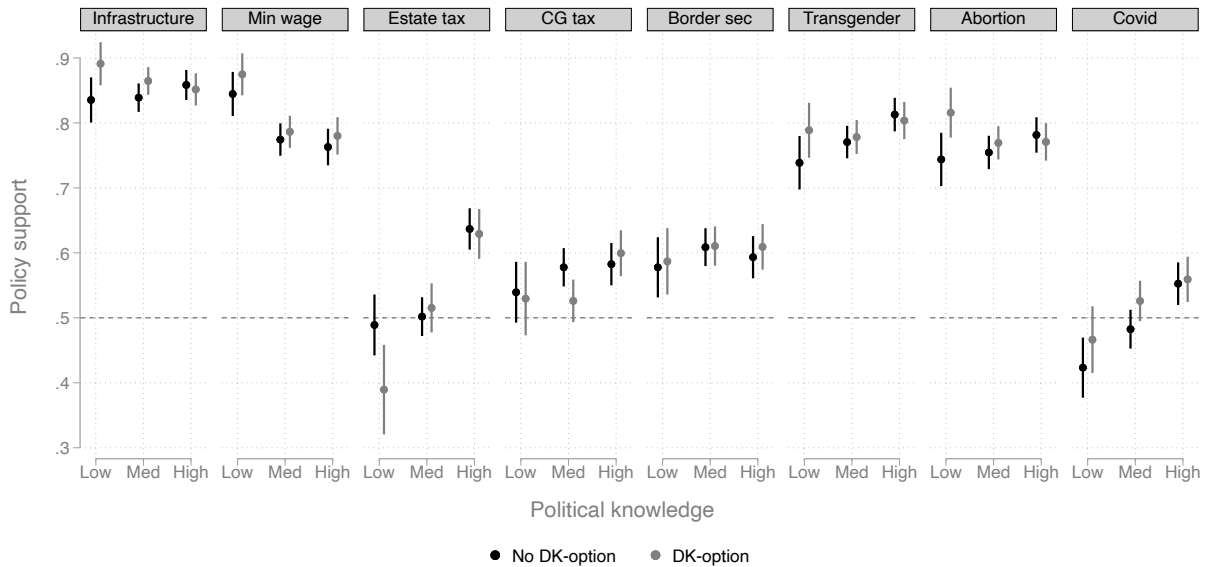
Although the results only partly (and weakly) corroborate H3a, there may still be significant differences in effects across subgroups, particular those with different levels of information. Indeed, we predict that the estimated preferences of respondents with low levels of information should be most affected by the omission/inclusion of the DK response option, per H3b.

To assess whether this is the case, we regress the policy support variable on the treatment dummy interacted with the respondent's level of political information. To allow for differential treatment effects across individual levels of information *and* across policy issues, we estimate this regression model separately for each policy question. To simplify the presentation, we rescale the original six-point categorial political information variable to three categories: the first group is "low-information" and includes respondents who correctly answered zero or one of the factual questions about politics (18% of respondents), the second is a "middle-information" group containing respondents who correctly answered two or three questions (46% of respondents), and the last group consists of "high-information" respondents who gave correct answers to four or all five questions (36% of respondents).

The results of these regressions are depicted in Figure 5. The figure shows that the omission of the DK response option can have dramatic effects on public opinion estimates for groups with low levels of political information. For example, we can see that on the question related to the recently adopted infrastructure bill, the responses of low-information respondents differ markedly depending on whether a DK response option is offered. When it is omitted, a significant number of low-information respondents appear to answer at random to the extent that

the estimate of their opinion is 5.6% ( $p = 0.023$ ) lower than when the DK response option is offered. For respondents with middling levels of information, the effect of including the DK response option is weaker, at 2.6% ( $p = 0.099$ ), and for high-information respondents it is close to zero ( $\Delta = -0.7, p = 0.69$ ). This is exactly the pattern predicted by H3b, which we would expect if respondents who truly do not have an opinion are pressed to provide one.

Figure 5. The Treatment Effect on Policy Support (with 95% CIs), by Policy Issue and Political information



Note: n varies between 3,882 on the estate tax question to 4,665 on the minimum wage question. The full set of results is shown in Appendix Table D4.

We see similar, substantively large effects on the questions related to transgender rights to serve in the U.S. military and abortion, where the effect of including a DK response option increases support for these policies among low-information respondents by 5.0% ( $p = 0.096$ ) and 7.2% ( $p = 0.012$ ), respectively. But, by far, the strongest effect of the DK treatment among low-

information respondents is found on the estate tax question; a policy where respondents are known to possess (very) low levels of information (Slemrod 2006, Bartels 2008, Stantcheva 2021). Here, the inclusion of the DK response option changed the estimate of the preferences of low-information respondents by a full 10% ( $p = 0.019$ ). In the control group there was an almost 50-50 split between those favoring retaining the estate tax or eliminating it, whereas in the treatment group only 39% of low-information respondents favored keeping the tax. On the minimum wage, the effect is in the expected direction but weaker and not as reliable as those for the other questions ( $\Delta = 3.0, p = 0.21$ ). Also note that across these five questions, the preferences of high-information respondents are virtually unaffected by the inclusion of a DK-response option. This again supports H3b.

On the remaining three questions—capital gains taxes, border security, and Covid vaccine mandates—we do not find support for the hypothesis. On these items, the presence of a DK response option did not cause a shift in the expected direction among low-information respondents.

Overall, these results suggest that the presence of a DK response option can have important effects on public opinion, but mainly among respondents with low levels of political information and only on some issues.<sup>10</sup> This pattern is consistent with our argument that omitting the DK response option forces some respondents who truly do not have enough information to provide a

---

<sup>10</sup> We observe similar, though weaker and less pervasive, effects across education, income, gender, and voter groups (see Appendix E).



substantively meaningful answer to state a preference. The estimate of the preferences of groups with a large number of such respondents will be biased towards an even 50-50 split between support for and opposition against a policy. At the same time, the results are also consistent with satisficing theory: the presence of a DK response option is an invitation to satisfice, especially among respondents with sufficient levels of information (generally respondents with middle-to-high information levels). The *balance* of policy support for these respondents is very similar to that of their counterparts, who were not offered an opportunity to say “don’t know.”

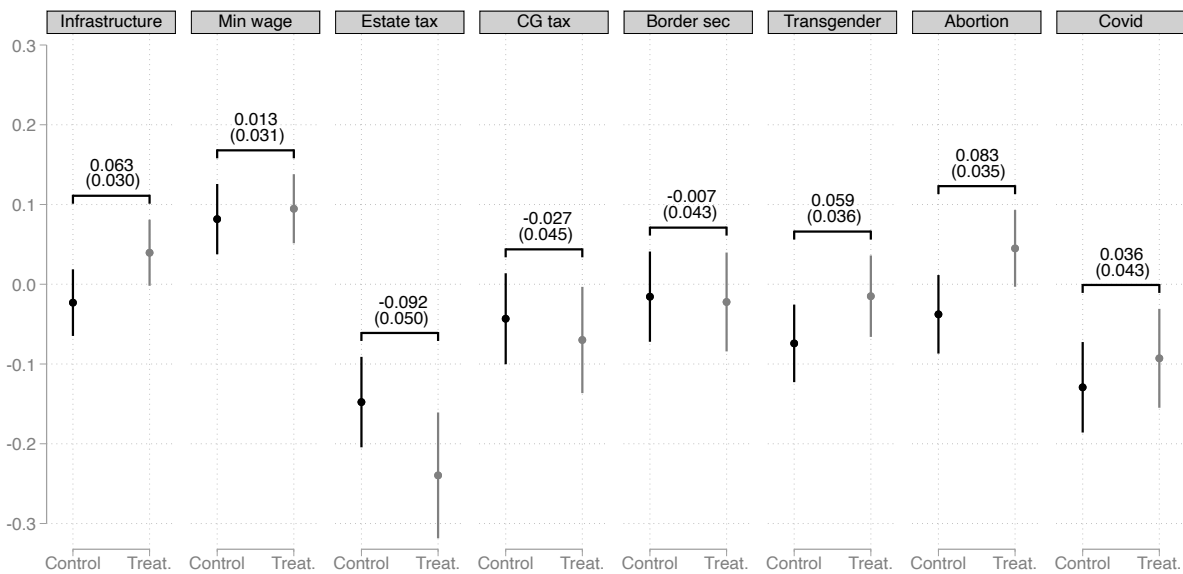
### ***The Don’t Know Response Option and Preference Gaps***

Having assessed and found (some) empirical support for all our hypotheses, we are now ready to test the final hypothesis H3c. This hypothesis is implied by H1-H3b and predicts that the gap in preferences between subgroups of the population who differ in levels of information will (partially) be a function of whether “don’t know” is included among the response options. The attentive reader will have noticed from Figure 5 that preference gaps indeed are affected by the presence (or absence) of a DK response option. But, we want to provide a more direct test.

We do so by estimating how the gaps in preferences between groups with low and high levels of information, shown in Figure 5, differ across the control and treatment groups. The results are presented in Figure 6. The figure shows that the presence of a DK response option can have important effects on the preference gaps between subgroups with different levels of information. Consistent with H3c, we see that preference gaps on the infrastructure bill, the estate tax, transgender rights, and abortion differ by more than five percentage points between the control and treatment groups. On these four issues, the absence of a DK response option drives the

preferences of low-information respondents towards an even 50-50 split in preferences, which impacts the estimated gap in preferences. On infrastructure and abortion, the impact is strong enough to change the direction of the gaps; that is, the estimate of which group is more supportive of the policy. On transgender rights the preference gap increases when the DK response option is omitted; on the estate tax, the preference gap decreases. These patterns are as predicted by H3c and thus support the hypothesis.

Figure 6. Preference Gaps Between Low and High Information Groups (with 95% CIs), By Policy and DK-Treatment



*Note:* n varies between 3,882 on the estate tax question to 4,665 on the minimum wage question. The preference gaps are calculated by subtracting the proportion of high-information respondents who support a policy option from that of low-information respondents. The numbers reported in the figure show the difference in preference gaps between low-and high-information respondents across the control and treatment groups, with the standard errors in the parentheses. The full set of results is shown in Appendix Table D4.

On the remaining questions, we either see little-to-no effect of the DK treatment (minimum wage and border security) or the effect goes against our expectation (capital gains and Covid vaccine mandates). In the latter cases, however, the changes in preference gaps are rather small—smaller than the effects we observe on the questions where the effect is consistent with H3c.

All in all, we find support for our final hypothesis H3c, but again the results confirm that the effect of a presence of a DK response option differs across issues. Satisficing theory appears to be right on certain, more salient issues. But, on other, less salient ones, the omission of the DK response option can have important effects, not only on the overall estimate of public preferences but also on confidence in answers, and the estimated gap in preferences between subgroups of the population, who differ in levels of information.<sup>11</sup>

## Conclusion

It is well-known that question wording matters for survey responses to policy questions and in different ways (Schuman and Presser 1996). Findings regarding the inclusion of a DK response option have been particularly influential on the behavior of survey organizations, who commonly do not include that option. The research on which the practice is based demonstrates that including a DK option encourages respondents to satisfice, responding “don’t know” even when they have preferences for or against a policy (Krosnick, et al 2002). In this paper, we have reassessed this conventional wisdom through a pre-registered survey experiment using newer,

---

<sup>11</sup> The results for different education, income, gender, and voter groups are shown in Appendix E.

online survey modes as well as examined new hypotheses regarding the impact of the DK-option on estimates of public opinion.

In doing so, we make four contributions. First, we confirm that (especially low-information) respondents are more likely to provide no-opinion responses when given the opportunity to answer DK, especially on low-salience issues. Perhaps most novel in this regard is the finding that providing respondents with the opportunity to skip attitudinal questions is no good substitute for the DK option in online surveys, as essentially no respondents made use of this possibility in our survey. This result is important for two reasons: i) simply allowing people to skip questions is not an effective way of separating out respondents who truly do not have an opinion on an issue; ii) since virtually no one gives non responses when the DK option is not explicitly offered, researchers are left with less information about the confidence people have in their answers compared to traditional face-to-face and telephone surveys, where the proportion of DK responses is a good indicator of confidence among those who actually did answer the question (Graham 2021). To get a sense of confidence in answers in an online context, therefore, it appears necessary to ask questions that directly probe it.

Second, and related to the previous point, including the DK-option raises the confidence respondents have in their answers, especially on low-salience issues. By omitting the option researchers therefore risk receiving answers containing more uncertainty, which can impact public opinion estimates for subgroups with many low-information respondents.

Third, although we find that the DK option can substantially impact estimates of majoritarian support for policies, particularly on low salience issues, it does not appear to have consistent effects on estimates of aggregate net support for policies. Across eight attitudinal questions, we mostly observe statistically insignificant differences in the balance of public support between groups that did or did not receive the DK response option. The largest effect is on a question related to Covid vaccine mandates and here the aggregate effect was a three-percentage point shift. In many cases, therefore, researchers interested (only) in the balance of public support *among those offering preferences* for different policy options appear able to omit the DK option to maximize statistical power, without much loss of precision. At the same time, given that omitting the option can alter majoritarian support, as in the case of estate and capital gains taxes and Covid vaccines, omitting the option may still be problematic, perhaps especially for scholars using responses in analyses of political representation.

Fourth, the effect of the DK treatment on the balance of public support differs markedly across individuals, depending on the amount of information available to them. Because low-information respondents are more likely to answer at random when not given an opportunity to answer DK, the gaps in preferences across subgroups of the population with different levels of information are endogenous to whether attitudinal questions include a DK response option or not. This has implications for the estimated socio-economic gradient of public support for policies, especially on low-salience issues where information is scarce and mainly people with high levels of information are able to express a preference for or against a policy. Researchers interested in differences in subgroup preferences thus should consider the salience of an issue when deciding whether to include the DK option or not. On high salience issues, the omission of the DK option

is likely to have only small effects on preference gaps, but on low salient issues, the option can have a large impact on estimated differences in preferences.

While we have provided some initial steps forward, the *exact* conditions under which the inclusion of the DK response option will alter estimates of public opinion, and to what degree, still remain unclear. We hope our results serve as useful guideposts moving forward, as scholarship further considers variation across issues and individuals, and also explores differences across survey mode and the spatial (and temporal) context itself. These are important to understand, we think, because they have consequences for our understanding of public opinion, and perhaps most importantly for political representation. After all, the assessment of “congruence” between what the public wants and policy decisions depends on accurate estimation of the public’s preferences (Wlezien 2017). This matters both for broad macro-level comparisons involving the average person or voter, or analyses of who gets represented—e.g., the poor, middle, and rich—the evaluation of which can depend on whether the survey items used to produce the estimates of preferences include a DK response option. Given that most research in the area, e.g., Gilens (2012), relies on preferences elicited without that option, there is reason to think that it might exaggerate differences in the representation of different groups.

In the meantime, we encourage scholars to be mindful of the possibility that a DK response option may reveal true nonattitudes—it may not *only* lead respondents to satisfice. This may be especially true with online panels, where respondents in our survey almost never provided a non-

response unless they were explicitly offered the DK option.<sup>12</sup> Our estimates indicate that, on average across the policy questions we asked in the survey, 15% of respondents in the control group would have offered a DK response had such an option been available. This proportion varies substantially across issues, from 6% in the case of the minimum wage to 38.5% for the estate tax. The proportion also varies substantially with political information, from 10.7% (across all issues) among highly informed respondents to 22.5% among those with low levels of political information.<sup>13</sup> Even though not all of the additional DK responses reflect true nonattitudes, there is reason to expect more random responses when respondents are not offered a DK option, especially for those with low levels of political information, and particularly on low salience issues.<sup>14</sup> This introduces the random response bias in results we have seen, which can be at least

---

<sup>12</sup> For comparison, consider that for the primarily telephone surveys in Gilens (2012) dataset, the median proportion of DK responses is about 4%.

<sup>13</sup> Not surprisingly, the difference associated with information varies across issues, from only 6%-7% on the minimum wage question to a whopping 28%-56% on the estate tax question.

<sup>14</sup> On average across all policy preference questions, we estimate that among those respondents in the control group who would have answered DK had such an option been available, 37% answered at random; the rest actually had a preference (but would have satisficed had the DK option been available). The estimated percentage of respondents who answered at random varies strongly with political information: from 73% among respondents with low levels of political information to just 4% among the highly informed. These estimates are based on the twin assumption that respondents who satisfice by answering DK have a preference and that their

partly averted by including the DK option. It does come at a price, as including the option reduces the number of respondents expressing preferences, partly due to satisficing itself, which reduces statistical power. Judging from our estimates, the effect of the latter (lower effective number of observations) is likely to be more consequential than the former (bias) for assessing public opinion on high salience issues, where the option matters little for response rates and the distribution of expressed preferences. On low salience issues, the random response bias in opinion estimates of groups with low levels of political information can be substantial, which poses a larger trade-off between statistical power and bias.

Finally, scholarly information and knowledge can cumulate, where we all learn from the results of survey experiments we all are doing. To this end, we encourage more empirical research and publication (and archival) of results that probe the beliefs that drive current survey practice. The point is not to prove them wrong, but to assess where they hold true and where they don't, and with what effect for our quantity of interest—public opinion.

---

mean preference is equal to the mean preference in the treatment group. For details, see Appendix F.



## References

- Althaus, S. L. (2003). *Collective preferences in democratic politics*. Cambridge University Press.
- Bartels, L. (2008). *Unequal Democracy*. Princeton University Press.
- Berinsky, A. J. (2004). *Silent voices*. Princeton University Press.
- Branham, J. A., Soroka, S. N., & Wlezien, C. (2017). When do the rich win? *Political Science Quarterly* 132(1): 43-62.
- Converse, P. (1964). The nature of belief systems in mass publics. In David Apter (ed.), *Ideology and Discontent*. Free Press.
- Cavaillé, C., & Trump, K. S. (2015). The two facets of social policy preferences. *The Journal of Politics*, 77(1), 146-160.
- Elkjær, M. A., & Klitgaard, M. B. (2021). Economic inequality and political responsiveness: A systematic review. *Perspectives on Politics* 1-20. <https://doi.org/10.1017/S1537592721002188>
- Elkjær, M. A., & Iversen, T. (2020). The political representation of economic interests: subversion of democracy or middle-class supremacy?. *World Politics* 72(2): 254-290.
- Elsässer, L., Hense, S., & Schäfer, A. (2021). Not just money: unequal responsiveness in egalitarian democracies. *Journal of European Public Policy* 28(12): 1890-1908.
- Enns, P. K. (2015). Relative policy support and coincidental representation. *Perspectives on Politics* 13(4): 1053-1064.
- Enns, P. K., & Wlezien, C. (Eds.). (2011). *Who gets represented?* Russell Sage Foundation.
- Gilens, Martin. (2012). *Affluence and Influence*. Princeton University Press.

- Gilens, M., and B. Page. (2014). "Testing theories of American politics: Elites, interest groups, and average citizens." *Perspectives on politics* 12(3): 564-581.
- Graham, M. (2021). 'We don't know' means 'they're not sure.' *Public Opinion Quarterly* 85(2): 571-593.
- Häusermann, S., Kurer, T., & Schwander, H. (2015). High-skilled outsiders? Labor market vulnerability, education and welfare state preferences. *Socio-Economic Review*, 13(2), 235-258.
- Hansen, K. J. (2023). Greed, envy, and admiration: The distinct nature of public opinion about redistribution from the rich. *American Political Science Review*, 117(1), 217-234.
- Jessee, S. A. (2017). 'Don't know' responses, personality, and the measurement of political knowledge. *Political Science Research and Methods*, 5(4): 711-731.
- Krosnick, J., et al. (2002). The impact of 'no opinion' response options on data quality: non-attitude reduction or an invitation to satisfice? *Public Opinion Quarterly* 66(3): 371-403.
- Krosnick, J. (1991). Response strategies for coping with the cognitive demands of attitude measures in surveys. *Applied cognitive psychology* 5(3): 213-236.
- Lax, J. R., Phillips, J. H., & Zelizer, A. (2019). The party or the purse? Unequal representation in the US senate. *American Political Science Review* 113(4): 917-940.
- Lizotte, M. K. (2020). *Gender differences in public opinion: Values and political consequences*. Temple University Press.
- Lizotte, M. K., & Carey Jr, T. E. (2021). Minding the Black gender gap: Gender differences in public opinion among Black Americans. *American Politics Research*, 49(5), 490-503.

- Luskin, R. C., & Bullock, J. G. (2011). 'Don't know' means 'don't know': DK responses and the public's level of political knowledge. *The Journal of Politics* 73(2): 547–557
- Purdam, K., J. Sakshaug, M. Bourne, and D. Bayliss. (2020). Understanding 'Don't Know' Answers to Survey Questions - an International Comparative Analysis Using Interview Paradata. *Innovation*, DOI: <https://doi.org/10.1080/13511610.2020.1752631>.
- Rigby, E., & Wright, G. C. (2013). Political parties and representation of the poor in the American states. *American Journal of Political Science* 57(3): 552-565.
- Roberts, C., Gilbert, E., Allum, N., & Eisner, L. (2019). Research synthesis: Satisficing in surveys: A systematic review of the literature. *Public Opinion Quarterly*, 83(3), 598-626.
- Schakel, W. (2021). Unequal policy responsiveness in the Netherlands. *Socio-Economic Review* 19(1): 37-57.
- Schakel, W., & Van Der Pas, D. (2021). Degrees of influence: Educational inequality in policy representation. *European Journal of Political Research*, 60(2), 418-437.
- Shuman, H., and Presser, S. (1996). *Questions and Answers in Attitude Surveys*. Sage.
- (1980). Public Opinion and Public Ignorance. *American Journal of Sociology* 85(5):1214-1225.
- (1979). The assessment of 'no opinion' in attitude surveys. *Sociological Methodology* 10:241-75.
- Slemrod, J. (2006). The role of misconceptions in support for regressive tax reform. *National Tax Journal* 59(1): 57-75.

Smith, T. (1985). Nonattitudes: A review and evaluation. In *Surveying Subjective Phenomena*, vol. 2, ed. C. Turner and E. Martin, pp. 215-55. New York: Russell Sage.

Stantcheva, S. (2021). Understanding tax policy: How do people reason? *The Quarterly Journal of Economics* 136(4): 2309-2369.

Wlezien, C. (2017). Public opinion and policy representation: On conceptualization, measurement, and interpretation. *Policy Studies Journal* 45(4):561-582.

Zaller, J. and S. Feldman. (1992). A simple theory of the survey response. *American Journal of Political Science* 36(3):575-616.

Online Appendix for:

Estimating Public Opinion from Surveys:  
The Impact of Including a “Don’t Know” Response Option to Policy  
Preference Questions

Mads Andreas Elkjær

University of Copenhagen

[mael@ifs.ku.dk](mailto:mael@ifs.ku.dk)

Christopher Wlezien

University of Texas at Austin

[wlezien@austin.utexas.edu](mailto:wlezien@austin.utexas.edu)

# Appendix A

## Pre-Analysis Plan

In this research, we are interested in examining the effect of including a ‘don’t know’ response option in attitudinal survey questions on survey responses. For example, does public support for a policy differ depending on whether respondents are offered a ‘don’t know’ response option? We also want to know whether the socio-economic gradient in support for a policy differ depending on whether a ‘don’t know’ option is shown or not. For example, is the gap in preferences between the rich and the poor smaller or larger when a ‘don’t know’ response option is included? These are important questions because most surveys do not include such an option and so responses may reflect differences in political information, and this may matter for assessments of preferences across groups and their influence.

For the analysis, we propose a survey that begins by asking respondents a range of questions about their demographics. Next, we randomly allocate respondents to either a control or treatment group. The respondents in the two groups will be asked the same questions, but those in the treatment group will have the possibility of answering ‘don’t know’ to the attitudinal questions (in both groups, respondents will be allowed to skip questions; that is, to move forward without answering.). In total, the survey will include eight attitudinal questions about topical political issues, a list of which is included in section 7 below. The eight attitudinal questions were chosen to provide variation in the proportion of ‘don’t know’ responses and in the preference gaps between income groups on both economic and social issues (see Table 1).

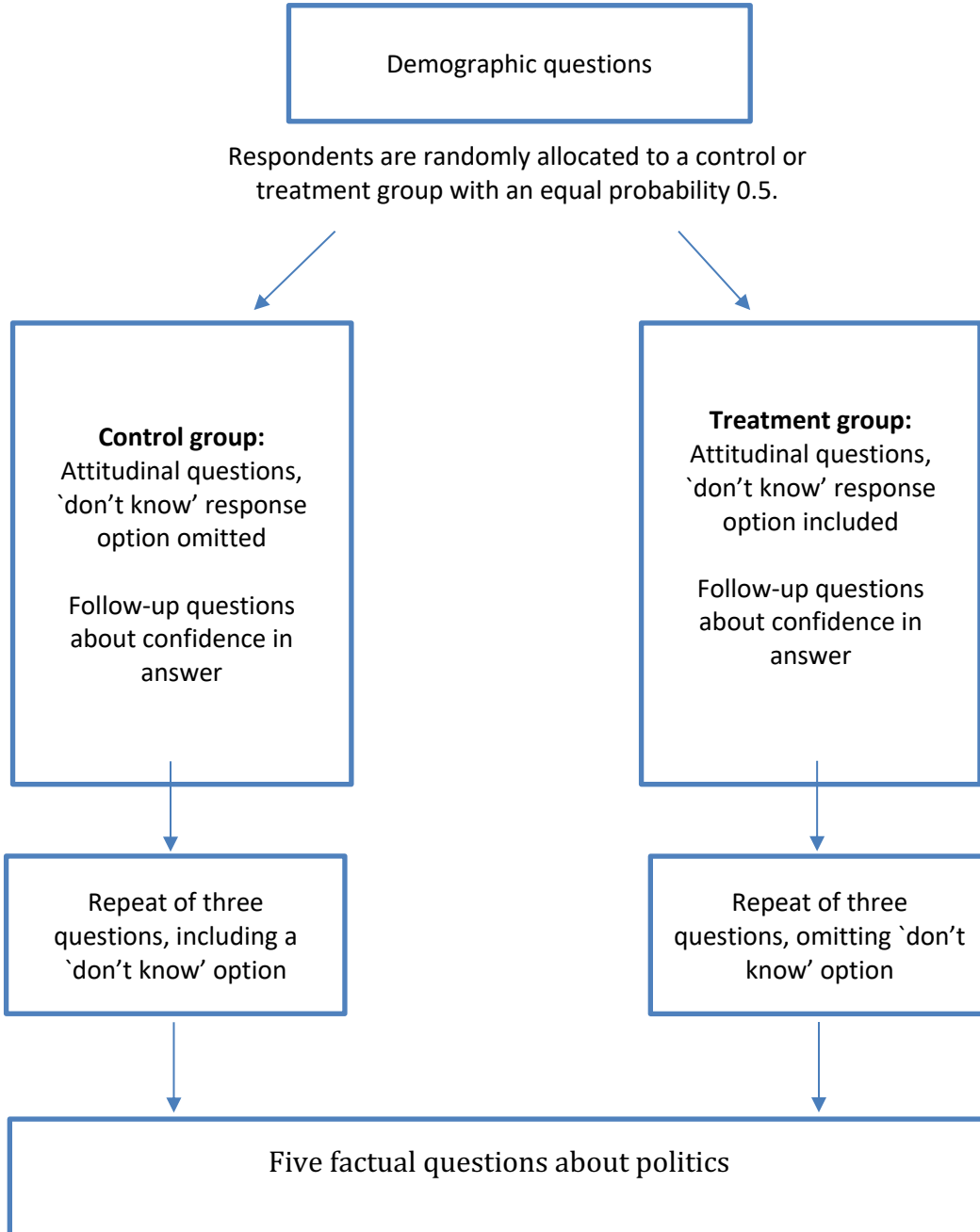
**Table 1.** Matrix of Survey Questions

|                | Proportion of ‘don’t know’-responses: low |                              | Proportion of ‘don’t know’-responses: high |                   |
|----------------|---|------------------------------|--|-------------------|
|                | Gap: low                                  | Gap: high                    | Gap: low                                   | Gap: high         |
| Economic issue | Infrastructure                            | Minimum wage                 | The Estate Tax                             | Capital gains tax |
| Social issue   | Border Security                           | Transgender Military Service | Abortion                                   | Vaccine Mandates  |

*Note:* ‘Gap’ refers to the difference in preferences between low- and high-income groups.

We used recent polling data to identify relevant questions that fit our criteria. After each attitudinal question, respondents will be asked a follow-up question about how sure they feel about their answer. The next part of the survey will ask respondents to revisit their responses on three attitudinal questions, where those in the control group receive the treatment group question wording and those in the treatment group receive the control group question wording. The survey ends by asking five factual questions about politics, which we use to measure political information. The structure of the survey is summarized in Figure 1.

**Figure 1.** Structure of the survey



### 1. Data collection

Data will be collected in the second half of 2022. We will use Prolific’s representative online panel, which is reflective of the US population on age, gender, and ethnicity. Potential participants will receive an invitation from Prolific that informs them about the survey and compensation and contains a link to the survey, which we create in Qualtrics.

For purposes of compensation, we will collect Prolific IDs. These IDs will only be used for the purpose of distributing compensation. Any identifying information that is collected for the purposes of

compensation will be stored separately from the data collected as part of the project. This identifying information will be destroyed after the compensation has been paid.

The de-identified data will be retained indefinitely.

## 2. Hypotheses

Experimental hypotheses:

1. *The effect of a 'don't know' response option on 'non-answers'*
  - a. Including a 'don't know' response option in attitudinal survey questions leads to more 'non-answers' compared to omitting it.
  - b. The effect of including a 'don't know' response option on 'non-answers' is stronger for respondents with lower levels of information, income, and education.
2. *The effect of a 'don't know' response option on survey attitudes*
  - a. Omitting a 'don't know' response option in attitudinal survey questions leads to more balanced aggregate preferences (the mean preference will be closer to 0.5).
  - b. This effect will be more pronounced for respondents with lower levels of information, income, and education.
  - c. When a larger majority of the *better*-informed group support (oppose) a policy, omitting a 'don't know' response option in attitudinal survey questions leads to larger differences in preferences between the groups; when a larger majority of the *lesser*-informed group support (oppose) a policy, omitting a 'don't know' response option in attitudinal survey questions leads to smaller differences in preferences between the groups.
3. *The effect of 'don't know' on confidence in answer*
  - a. Respondents in the control group will be more unsure about their responses than the respondents in the treatment group who did not answer 'don't know'.

Non-experimental hypotheses:

1. Respondents with lower income and education have lower levels of political information than respondents with higher levels of income and education.
2. Respondents with lower levels of information, income, and education provide more 'non-answers' than respondents with higher levels of information, income, and education.
3. Respondents with lower levels of information, income, and education feel less sure about their answers to preference questions than respondents with higher levels of information, income, and education.

## 3. Main dependent variables

- DV1 (non-answers): For each attitudinal question, we code 'non-answers' (don't knows and skipped questions/no answers) as 1 and real responses as 0.



- DV2 (policy support): For each attitudinal question, we measure policy support as a dichotomous variable with support for the policy coded as 1 and opposition as 0. 'Don't know' responses will be coded as missing. Respondents who skipped the question will also be coded as missing.
- DV3 (confidence in answer): For each attitudinal question, we measure confidence in the respondent's answer as a categorical variable with four categories (extremely sure, fairly sure, not very sure, not sure at all).

#### 4. Conditions

The treatment randomly exposes respondents to a 'don't know' response option, and we therefore have two conditions: one control and one treatment. In the control group, the preference questions will not have a 'don't know' option, but the respondents will be able to skip questions and move forward with the survey even if they wish not to answer the question. Respondents in the treatment group will be asked the exact same set of questions as those in the control group, but all preference questions will include a 'don't know' response option.

#### 5. Analyses

- To test experimental hypothesis 1a, we regress DV1 on the treatment variable using OLS.
- To test experimental hypothesis 1b, we regress DV1 on an interaction between the treatment variable and the socio-economic characteristic (political information, income, and education) using OLS.
- To test experimental hypothesis 2a, we regress DV2 on the treatment variable using OLS, and then predict policy support for each treatment condition.
- To test experimental hypothesis 2b, we regress DV2 on an interaction between the treatment variable and the socio-economic characteristic (political information, income, and education) using OLS. For each subgroup, we then predict and compare policy support in the control and treatment groups.
- To test experimental hypothesis 2c, we regress DV2 on an interaction between the treatment variable and the socio-economic characteristic (political information, income, and education) using OLS.
  - As an additional test of hypothesis 2c, we first calculate the difference in policy support between two subgroups, such as the rich and the poor. We then calculate the difference-in-differences between the control and treatment groups. Put differently, we estimate whether the difference in support between two subgroups differs between the control and treatment groups.
- To test experimental hypothesis 3, we regress DV3 on the treatment variable using OLS.
- To test non-experimental hypothesis 1, we regress our measure of political information on income and education using OLS. We run both bivariate models, including each variable in separate models, and a multivariate model that includes both variables, as well as controls for race, gender, age, and partisanship.
- To test non-experimental hypothesis 2, we regress DV1 on political information, income, and education using OLS. We run both bivariate models, including each variable in

separate models, and a multivariate model that includes all three variables, as well as controls for race, gender, age, and partisanship.

- To test non-experimental hypothesis 3, we regress DV3 on political information, income and education using OLS. We run both bivariate models, including each variable in separate models, and a multivariate model that includes all three variables, as well as controls for race, gender, age, and partisanship.
- In addition to information, income, and education, we also intend to analyze subgroup differences between men and women, and between voters and non-voters.
- We also plan to graphically analyze the distribution of responses by treatment condition and socio-economic status, and to run a range of additional tests exploiting the experimental variation within respondents.

## 6. Other

- Respondents who skip a preference question (move forward in the survey without answering) will be coded as missing. Those who answer 'don't know' will also be coded as missing.
- Respondents in the treatment group who answer 'don't know' will not be asked the follow-up question about how sure they feel about their answer.
- The survey will include five factual questions about politics. We use the number of correct answers to these questions as a measure of political information.

## 7. List of variables

### Infrastructure

In a bipartisan agreement, Congress recently passed a one trillion-dollar infrastructure law to improve roads, bridges, and other infrastructure. Do you support or oppose this law?

- I support the law
- I oppose the law
- (Don't know)

### Minimum Wage

Do you support or oppose raising the federal minimum wage to \$15 an hour?

- I support raising the federal minimum wage
- I oppose raising the federal minimum wage
- (Don't know)

### The Estate Tax

Do you think that the federal estate tax should be kept in place or eliminated?

- Kept in place
- Eliminated
- (Don't know)

**Capital Gains**

Do you think capital gains from selling stocks and other assets should be taxed at the same rate as income from work or at a lower rate?

- Capital gains should be taxed at a **lower** rate than income from work
- Capital gains should be taxed at the **same** rate as income from work
- (Don't know)

**Border Security**

Do you support or oppose tightening border security to prevent illegal immigration?

- I support tightening border security
- I oppose tightening border security
- (Don't know)

**Transgender Military Service**

Do you favor or oppose allowing transgender people to serve in the United States Armed Forces?

- I favor
- I oppose
- (Don't know)

**Abortion**

The US Supreme Court has overturned the 1973 decision in Roe v. Wade which guaranteed the right to abortion. Are you in favor or against the Supreme Court's decision to overturn Roe v. Wade?

- I am in favor of the decision to overturn Roe v. Wade
- I am against the decision to overturn Roe v. Wade
- (Don't know)

**Vaccine Mandates**

Do you think the federal government should require workers at businesses with 100 or more employees to be vaccinated against COVID-19?

- Yes
- No
- (Don't know)

**Follow-up question after each attitude question:**

How sure are you about your answer?

- Extremely sure
- Fairly sure
- Not very sure
- Not sure at all

## The Five Political Information Questions

1. What are the US federal law background check requirements for purchasing guns?
  - a. Background checks are not required when buying a gun
  - b. Background checks are required only when a person attempts to buy a gun from a licensed dealer
  - c. Background checks are required whenever a person attempts to buy a gun
  - d. Don't know
  
2. What job or political office does Janet Yellen hold?
  - a. Chair of the Federal Reserve System
  - b. U.S. Attorney General
  - c. Secretary of Labor
  - d. Secretary of Treasury
  - e. Don't know
  
3. How many justices currently serve on the Supreme Court? *(if you don't know, just leave the text box blank)*
  - a. Text-box entry (open-ended question)
  - b. Don't know
  
4. Which party controls the US House of Representatives?
  - a. The Democratic Party
  - b. The Republican Party
  - c. Neither
  - d. Don't know
  
5. Which of the following is among the executive actions President Biden has undertaken?
  - a. Allowing an open border with Mexico
  - b. Prohibiting the construction of new oil refineries in the US
  - c. Improving and expanding access to care and treatments for COVID-19
  - d. None of the above
  - e. Don't know

## 8. Copy of Survey

---

### Start of Block: Consent Form

consent Thank you for agreeing to participate in this study. What follows is a benign behavioral intervention, and then a survey of your opinions and perceptions of various policies in the United States. It is conducted by a team of non-partisan researchers and supported by research funding from the University of Texas at Austin.

The survey will take approximately four minutes, the answers you provide are and will remain anonymous and will be used solely for academic research, but will be kept indefinitely. It is important for the research that you answer as accurately as you can, so please read each of the questions carefully.

Participating in this study is voluntary. Even if you decide to be part of the study now, you may change your mind and stop at any time. You do not have to answer any questions you do not want to answer.

If you have any comments on the study, or if you would like more information, please contact Christopher Wlezien at [InformationSurvey@austin.utexas.edu](mailto:InformationSurvey@austin.utexas.edu)

- I **consent** to continue with the survey (1)
- I **decline** to continue with the survey (2)

### End of Block: Consent Form

---

### Start of Block: Prolific ID



prolific\_ID What is your Prolific ID? *Please note that this response should auto-fill with the correct ID*

---

### End of Block: Prolific ID

---

### Start of Block: Demographics

Page Break

---

gender Are you?

Male (1)

Female (2)

Other (3)



Page Break



age How old are you?

---

---

Page Break 

---

race What racial or ethnic group best describes you?

- White (1)
- Black or African-American (2)
- Hispanic or Latino (3)
- Asian or Asian-American (4)
- Native American (5)
- Middle Eastern (6)
- Two or more races (7)
- Other (8)

---

Page Break



marital\_status What is your marital status?

- Married (1)
- Separated (2)
- Divorced (3)
- Widowed (4)
- Never married (5)
- Domestic / civil partnership (6)

---

Page Break

education What is the highest level of education you have completed?

- Did not graduate from high school (1)
- High school graduate (2)
- Some college, but no degree (yet) (3)
- 2-year college degree (4)
- 4-year college degree (5)
- Postgraduate degree (MA, MBA, MD, JD, PhD, etc.) (6)

---

Page Break

family\_income Thinking back over the last year, what was your family's annual income?

- Less than \$10,000 (1)
- \$10,000 - \$19,999 (2)
- \$20,000 - \$29,999 (3)
- \$30,000 - \$39,999 (4)
- \$40,000 - \$49,999 (5)
- \$50,000 - \$59,999 (6)
- \$60,000 - \$69,999 (7)
- \$70,000 - \$79,999 (8)
- \$80,000 - \$89,999 (9)
- \$90,000 - \$99,999 (10)
- \$100,000 - \$149,999 (11)
- \$150,000 - \$199,999 (12)
- \$200,000 - \$349,999 (14)
- \$350,000 - \$500,000 (15)
- Above \$500,000 (16)
- Don't know (17)
- Prefer not to say (13)

---

Page Break

employment\_status Which of the following best describes your current employment status?

- Working full time (1)
- Working part time (2)
- Temporarily laid off (3)
- Unemployed (4)
- Retired (5)
- Permanently disabled (6)
- Taking care of home or family (7)
- Student (8)
- Other (9)

---

Page Break

vote\_2020 Did you vote at the 2020 United States presidential election?

Yes (1)

No (2)

-----

Page Break

---

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

- Democrat (1)
- Republican (2)
- Independent (3)
- Other (4)

---

Page Break

ideology How would describe your political views?

- Very conservative (1)
- Conservative (2)
- Moderate (3)
- Liberal (4)
- Very liberal (5)
- Don't know (6)

**End of Block: Demographics**

---

**Start of Block: Control group**



Q6 In a bipartisan agreement, Congress recently passed a one trillion-dollar infrastructure law to improve roads, bridges, and other infrastructure. Do you support or oppose this law?

- I support the law (1)
- I oppose the law (2)

---

Page Break

---

Q31 How sure are you about your answer?

- Extremely sure (1)
- Fairly sure (2)
- Not very sure (3)
- Not sure at all (4)

---

Page Break





Q8 Do you support or oppose raising the federal minimum wage to \$15 an hour?

- I support raising the federal minimum wage (1)
- I oppose raising the federal minimum wage (2)

---

Page Break

Q33 How sure are you about your answer?

- Extremely sure (1)
- Fairly sure (2)
- Not very sure (3)
- Not sure at all (4)

---

Page Break



Q9 Do you think that the federal estate tax should be kept in place or eliminated?

Kept in place (1)

Eliminated (2)

---

Page Break

Q34 How sure are you about your answer?

- Extremely sure (1)
- Fairly sure (2)
- Not very sure (3)
- Not sure at all (4)

---

Page Break



Q10 Do you think capital gains from selling stocks and other assets should be taxed at the same rate as income from work or at a lower rate?

- Capital gains should be taxed at a **lower** rate than income from work (1)
- Capital gains should be taxed at the **same** rate as income from work (2)

---

Page Break

Q35 How sure are you about your answer?

- Extremely sure (1)
- Fairly sure (2)
- Not very sure (3)
- Not sure at all (4)

---

Page Break

Q11 Do you support or oppose tightening border security to prevent illegal immigration?

I support tightening border security (1)

I oppose tightening border security (2)

---

Page Break

Q36 How sure are you about your answer?

- Extremely sure (1)
- Fairly sure (2)
- Not very sure (3)
- Not sure at all (4)

---

Page Break



Q12 Do you favor or oppose allowing transgender people to serve in the United States Armed Forces?

I favor (1)

I oppose (2)

---

Page Break

Q37 How sure are you about your answer?

- Extremely sure (1)
- Fairly sure (2)
- Not very sure (3)
- Not sure at all (4)

---

Page Break



Q13 The US Supreme Court has overturned the 1973 decision in Roe v. Wade which guaranteed the right to abortion. Are you in favor or against the Supreme Court's decision to overturn Roe v. Wade?

- I am in favor of the decision to overturn Roe v. Wade (1)
- I am against the decision to overturn Roe v. Wade (2)

---

Page Break

Q38 How sure are you about your answer?

- Extremely sure (1)
- Fairly sure (2)
- Not very sure (3)
- Not sure at all (4)

---

Page Break



Q14 Do you think the federal government should require workers at businesses with 100 or more employees to be vaccinated against COVID-19?

Yes (1)

No (2)

---

Page Break

Q32 How sure are you about your answer?

- Extremely sure (1)
- Fairly sure (2)
- Not very sure (3)
- Not sure at all (4)

---

Page Break



Q52 Just to revisit, do you think that the federal estate tax should be kept in place or eliminated?

- Kept in place (1)
- Eliminated (2)
- Don't know (3)

---

Page Break



Q54 Just to revisit, do you think capital gains from selling stocks and other assets should be taxed at the same rate as income from work or at a lower rate?

- Capital gains should be taxed at a **lower** rate than income from work (1)
- Capital gains should be taxed at the **same** rate as income from work (2)
- Don't know (3)

---

Page Break





Q56 The US Supreme Court has overturned the 1973 decision in Roe v. Wade which guaranteed the right to abortion. Just to revisit, are you in favor or against the Supreme Court's decision to overturn Roe v. Wade?

- I am in favor of the decision to overturn Roe v. Wade (1)
- I am against the decision to overturn Roe v. Wade (2)
- Don't know (3)

---

Page Break

End of Block: Control group

---

Start of Block: Treatment group



Q15 In a bipartisan agreement, Congress recently passed a one trillion-dollar infrastructure law to improve roads, bridges, and other infrastructure. Do you support or oppose this law?

- I support the law (1)
- I oppose the law (2)
- Don't know (3)

---

Page Break

---

Display This Question:

*If In a bipartisan agreement, Congress recently passed a one trillion-dollar infrastructure law to i... = I support the law*

*Or In a bipartisan agreement, Congress recently passed a one trillion-dollar infrastructure law to i... = I oppose the law*

Q23 How sure are you about your answer?

- Extremely sure (1)
- Fairly sure (2)
- Not very sure (3)
- Not sure at all (4)

---

Page Break



Q16 Do you support or oppose raising the federal minimum wage to \$15 an hour?

- I support raising the federal minimum wage (1)
- I oppose raising the federal minimum wage (2)
- Don't know (3)

---

Page Break

*Display This Question:*

*If Do you support or oppose raising the federal minimum wage to \$15 an hour? = I support raising the federal minimum wage*

*Or Do you support or oppose raising the federal minimum wage to \$15 an hour? = I oppose raising the federal minimum wage*

Q24 How sure are you about your answer?

- Extremely sure (1)
- Fairly sure (2)
- Not very sure (3)
- Not sure at all (4)

---

Page Break



Q17 Do you think that the federal estate tax should be kept in place or eliminated?

- Kept in place (1)
- Eliminated (2)
- Don't know (3)

---

Page Break

*Display This Question:*

*If Do you think that the federal estate tax should be kept in place or eliminated? = Kept in place*

*Or Do you think that the federal estate tax should be kept in place or eliminated? = Eliminated*

Q25 How sure are you about your answer?

Extremely sure (1)

Fairly sure (2)

Not very sure (3)

Not sure at all (4)

---

Page Break



Q18 Do you think capital gains from selling stocks and other assets should be taxed at the same rate as income from work or at a lower rate?

- Capital gains should be taxed at a **lower** rate than income from work (1)
- Capital gains should be taxed at the **same** rate as income from work (2)
- Don't know (3)

---

Page Break



Display This Question:

*If Do you think capital gains from selling stocks and other assets should be taxed at the same rate... = Capital gains should be taxed at a **lower** rate than income from work*

*Or Do you think capital gains from selling stocks and other assets should be taxed at the same rate... = Capital gains should be taxed at the **same** rate as income from work*

Q26 How sure are you about your answer?

- Extremely sure (1)
- Fairly sure (2)
- Not very sure (3)
- Not sure at all (4)

---

Page Break



Q19 Do you support or oppose tightening border security to prevent illegal immigration?

- I support tightening border security (1)
- I oppose tightening border security (2)
- Don't know (3)

---

Page Break

*Display This Question:*

*If Do you support or oppose tightening border security to prevent illegal immigration? = I support tightening border security*

*Or Do you support or oppose tightening border security to prevent illegal immigration? = I oppose tightening border security*

Q27 How sure are you about your answer?

- Extremely sure (1)
- Fairly sure (2)
- Not very sure (3)
- Not sure at all (4)

---

Page Break



Q20 Do you favor or oppose allowing transgender people to serve in the United States Armed Forces?

- I favor (1)
- I oppose (2)
- Don't know (3)

---

Page Break

*Display This Question:*

*If Do you favor or oppose allowing transgender people to serve in the United States Armed Forces? = I favor  
Or Do you favor or oppose allowing transgender people to serve in the United States Armed Forces? = I  
oppose*

Q28 How sure are you about your answer?

- Extremely sure (1)
- Fairly sure (2)
- Not very sure (3)
- Not sure at all (4)

---

Page Break



Q21 The US Supreme Court has overturned the 1973 decision in Roe v. Wade which guaranteed the right to abortion. Are you in favor or against the Supreme Court's decision to overturn Roe v. Wade?

- I am in favor of the decision to overturn Roe v. Wade (1)
- I am against the decision to overturn Roe v. Wade (2)
- Don't know (3)

---

Page Break

Display This Question:

*If The US Supreme Court has overturned the 1973 decision in Roe v. Wade which guaranteed the right t... = I am in favor of the decision to overturn Roe v. Wade*

*Or The US Supreme Court has overturned the 1973 decision in Roe v. Wade which guaranteed the right t... = I am against the decision to overturn Roe v. Wade*

Q29 How sure are you about your answer?

- Extremely sure (1)
- Fairly sure (2)
- Not very sure (3)
- Not sure at all (4)

---

Page Break



Q22 Do you think the federal government should require workers at businesses with 100 or more employees to be vaccinated against COVID-19?

- Yes (1)
- No (2)
- Don't know (3)

---

Page Break



Display This Question:

If Do you think the federal government should require workers at businesses with 100 or more employe... =  
Yes

Or Do you think the federal government should require workers at businesses with 100 or more employe... =  
No

Q30 How sure are you about your answer?

- Extremely sure (1)
- Fairly sure (2)
- Not very sure (3)
- Not sure at all (4)

---

Page Break



Q49 Just to revisit, do you think that the federal estate tax should be kept in place or eliminated?

Kept in place (1)

Eliminated (2)

---

Page Break



Q50 Just to revisit, do you think capital gains from selling stocks and other assets should be taxed at the same rate as income from work or at a lower rate?

- Capital gains should be taxed at a **lower** rate than income from work (1)
- Capital gains should be taxed at the **same** rate as income from work (2)

---

Page Break



Q51 The US Supreme Court has overturned the 1973 decision in Roe v. Wade which guaranteed the right to abortion. Just to revisit, are you in favor or against the Supreme Court's decision to overturn Roe v. Wade?

- I am in favor of the decision to overturn Roe v. Wade (1)
- I am against the decision to overturn Roe v. Wade (2)

---

Page Break

**End of Block: Treatment group**

---

**Start of Block: Knowledge Questions**

Q56 Now we're coming to some questions to which not everyone may know the answer. If you come to one to which you don't know the answer, don't worry about it and just say so and we'll move on to the next

---

Page Break



Q40 What are the US federal law background check requirements for purchasing guns?

- Background checks are not required when buying a gun (1)
- Background checks are required only when a person attempts to buy a gun from a licensed dealer (2)
- Background checks are required whenever a person attempts to buy a gun (3)
- Don't know (4)

---

Page Break



Q41 What job or political office does Janet Yellen hold?

- Chair of the Federal Reserve System (1)
- U.S. Attorney General (2)
- Secretary of Labor (3)
- Secretary of Treasury (4)
- Don't know (5)

---

Page Break

Q42 How many justices currently serve on the Supreme Court? *(if you don't know, just leave the text box blank)*

---

---

Page Break 

---





Q43 Which party controls the US House of Representatives?

- The Democratic Party (1)
- The Republican Party (2)
- Neither (3)
- Don't know (4)

---

Page Break



Q48 Which of the following is among the executive actions President Biden has undertaken?

- Allowing an open border with Mexico (1)
- Promoting the construction of new oil refineries in the US (2)
- Improving and expanding access to care and treatments for COVID-19 (3)
- None of the above (4)
- Don't know (5)

---

Page Break

**End of Block: Knowledge Questions**

---

**Start of Block: End of survey**

Qend Thank you again for participating in the survey. If you have any comments on the study, or if you would like more information, please contact Christopher Wlezien at [InformationSurvey@austin.utexas.edu](mailto:InformationSurvey@austin.utexas.edu)

Please click the arrow in the bottom-right corner to submit your responses.

**End of Block: End of survey**

---

## Appendix B:

### Balance Test

Table B1 shows that the randomization was successful. All differences between control and treatment groups are thus minor and statistically insignificant. The only partial exception is that the proportion of independents is slightly smaller in the treatment group. However, we have an almost perfect balance across the control and treatment groups on the liberalism-conservatism scale, which gives us confidence that the slightly smaller proportion of independents in the treatment is not driving the results. We also note that our results remain substantively highly similar when adding demographic covariates to our regressions.

Table B1. Balance Test

|                           | Control | Treatment | Difference (p-value) |
|---------------------------|---------|-----------|----------------------|
| Age                       | 44.16   | 44.52     | 0.355 (p = .43)      |
| Women                     | 0.507   | 0.526     | 0.195 (p = .18)      |
| College degree            | 0.539   | 0.552     | 0.014 (p = .34)      |
| Income                    | 6.972   | 6.881     | 0.092 (p = .37)      |
| White                     | 0.752   | 0.754     | 0.002 (p = .87)      |
| Black or African-American | 0.128   | 0.123     | 0.005 (p = .58)      |
| Asian or Asian-American   | 0.056   | 0.058     | 0.002 (p = .80)      |
| Hispanic or Latino        | 0.042   | 0.037     | 0.005 (p = .42)      |
| Voter                     | 0.831   | 0.836     | 0.005 (p = .63)      |
| Democrat                  | 0.494   | 0.507     | 0.014 (p = .34)      |
| Independent               | 0.286   | 0.257     | 0.029 (p = .02)      |
| Republican                | 0.184   | 0.200     | 0.015 (p = .18)      |
| Liberal-conservative      | 2.475   | 2.479     | 0.005 (p = .88)      |
| Political knowledge       | 2.854   | 2.817     | 0.037 (p = .35)      |

## Appendix C:

### Analysis of within-respondent experimental variation

Appendix Table C1 shows that we obtain substantively results when estimating the impact of the DK response option on DK answers using the within-respondent experimental variation.

Table C1. The Effect of The Don't-Know Treatment on Don't-Know Answers Estimated Using the Within-Respondent Experimental Variation.

|                                 | (1)              | (2)               | (3)               | (4)               | (5)              | (6)               |
|---------------------------------|------------------|-------------------|-------------------|-------------------|------------------|-------------------|
|                                 | Estate tax       |                   | Capital gains tax |                   | Abortion         |                   |
| Treatment                       | 0.265<br>(0.006) | 0.440<br>(0.016)  | 0.135<br>(0.005)  | 0.246<br>(0.013)  | 0.038<br>(0.003) | 0.076<br>(0.008)  |
| Political knowledge             |                  | -0.002<br>(0.001) |                   | -0.002<br>(0.001) |                  | -0.002<br>(0.001) |
| Treatment X political knowledge |                  | -0.061<br>(0.005) |                   | -0.039<br>(0.004) |                  | -0.013<br>(0.002) |
| Constant                        | 0.004<br>(0.005) | 0.012<br>(0.006)  | 0.007<br>(0.004)  | 0.015<br>(0.005)  | 0.001<br>(0.002) | 0.007<br>(0.003)  |
| Observations                    | 9,620            | 9,620             | 9,620             | 9,620             | 9,620            | 9,620             |
| R-squared                       | 0.150            | 0.182             | 0.070             | 0.095             | 0.017            | 0.028             |

Standard errors clustered by respondent in parentheses

Appendix Table C2 shows that similarly to the results reported in the main paper, we see different effects across questions when estimating the impact of the DK option on policy support using the experimental variation within respondents. On the estate tax and abortion questions, we observe effects in the expected directions, but they are substantively smaller than those estimated using the between-respondent variation reported in the main text. On the estate tax, policy support shifted by 0.94% ( $p = 0.071$ ) and on abortion by 0.81% ( $p = 0.003$ ) toward an even 50-50 split. On capital gains taxation, however, we again observed no effect of the treatment ( $\Delta = -0.37\%$ ,  $p = 0.30$ ).

Table C2. The Effect of The Don't-Know Treatment on Policy Support Estimated Using the Within-Respondent Experimental Variation.

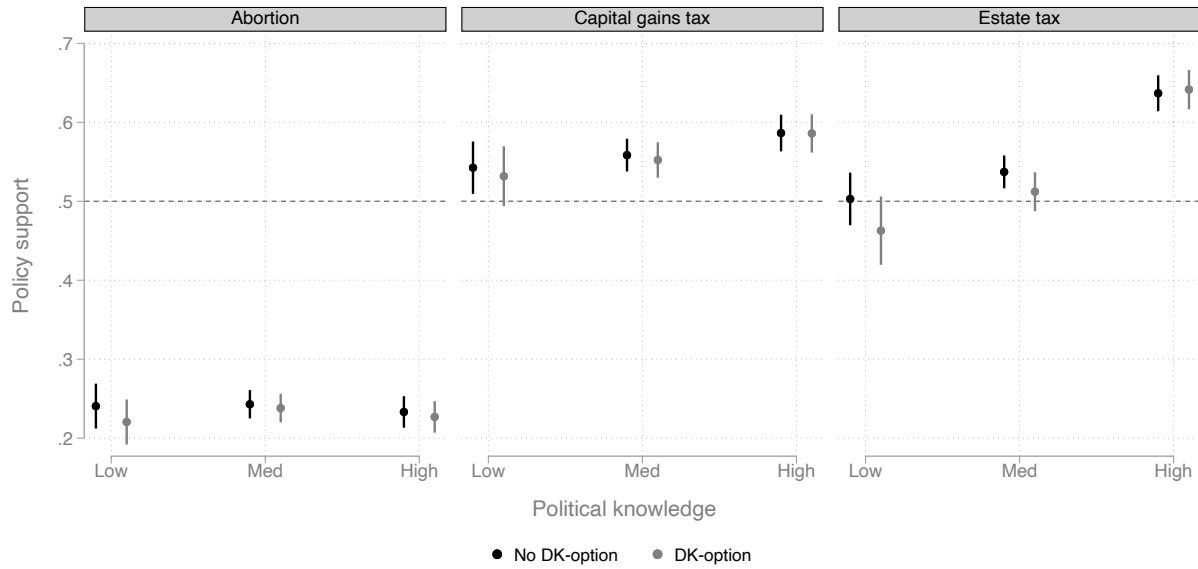
|  | (1)               | (2)               | (3)               | (4)               | (5)               | (6)               |
|--|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
|  | Estate tax        |                   | Capital gains tax |                   | Abortion          |                   |
| Treatment                                  | -0.009<br>(0.005) | -0.040<br>(0.017) | -0.004<br>(0.004) | -0.011<br>(0.011) | -0.008<br>(0.003) | -0.020<br>(0.009) |
| Political knowledge,<br>middle             |                   | 0.034<br>(0.020)  |                   | 0.016<br>(0.020)  |                   | 0.002<br>(0.017)  |
| Political knowledge,<br>high               |                   | 0.134<br>(0.021)  |                   | 0.044<br>(0.021)  |                   | -0.007<br>(0.018) |
| Treatment X Political<br>knowledge, middle |                   | 0.015<br>(0.019)  |                   | 0.005<br>(0.013)  |                   | 0.015<br>(0.010)  |
| Treatment X Political<br>knowledge, high   |                   | 0.045<br>(0.018)  |                   | 0.010<br>(0.012)  |                   | 0.014<br>(0.010)  |
| Constant                                   | 0.585<br>(0.013)  | 0.518<br>(0.020)  | 0.590<br>(0.013)  | 0.565<br>(0.020)  | 0.239<br>(0.011)  | 0.241<br>(0.017)  |
| Observations                               | 8,309             | 8,309             | 8,943             | 8,943             | 9,418             | 9,418             |
| R-squared                                  | 0.001             | 0.016             | 0.001             | 0.002             | 0.000             | 0.000             |

Standard errors clustered by respondent in parentheses

Figure C1 shows that we get substantively similar results of the DK treatment on policy support conditional on information when exploiting the experimental variation within respondents.

Among respondents with low levels of information, the presence of a DK response option changed policy support toward a 50-50 split by 4.02% ( $p = 0.016$ ) on the estate tax question and by 2.01% ( $p = 0.027$ ) on the one on abortion. On the capital gains tax question, however, the effect was only 1.08% ( $p = 0.34$ ) and in the opposite direction. Among high-information respondents, the effects are below 0.7% on all three questions (and none of them are statistically significant at the 0.05-level).

Figure C1. Policy Support Estimated Using the Within-Respondent Experimental Variation, By Don't-Know Treatment



Note: the estimates shown in the figure are estimated based on Models (2), (4), and (6) of Table C2.

## Appendix D:

### Regression Tables for Results Graphically Presented in Main Text

Table D1. Regression Results Shown in Figure 3

|                                      | (1)<br>Don't<br>know<br>response |
|--------------------------------------|----------------------------------|
| Don't know treatment                 | 0.271<br>(0.017)                 |
| Pol. Knowledge: # correct answers: 1 | -0.000<br>(0.001)                |
| Pol. Knowledge: # correct answers: 2 | 0.000<br>(0.001)                 |
| Pol. Knowledge: # correct answers: 3 | 0.000<br>(0.001)                 |
| Pol. Knowledge: # correct answers: 4 | -0.000<br>(0.001)                |
| Pol. Knowledge: # correct answers: 5 | -0.000<br>(0.001)                |
| Treatment X Pol. Know: 1             | -0.069<br>(0.020)                |
| Treatment X Pol. Know: 2             | -0.102<br>(0.018)                |
| Treatment X Pol. Know: 3             | -0.139<br>(0.018)                |
| Treatment X Pol. Know: 4             | -0.162<br>(0.018)                |
| Treatment X Pol. Know: 5             | -0.169<br>(0.018)                |
| Constant                             | -0.017<br>(0.004)                |
| Observations                         | 38,480                           |
| R-squared                            | 0.129                            |

Standard errors clustered by respondent in parentheses. The model includes fixed effects for policy item and the month in which the survey was taken.



Table D2. Regression Results Shown in Figure 4

|  | (1)<br>Confidence<br>in answer |
|--|--------------------------------|
| Don't know treatment                   | 0.156<br>(0.028)               |
| Minimum wage                           | 0.460<br>(0.023)               |
| Estate tax                             | -0.477<br>(0.028)              |
| Capital gains tax                      | -0.251<br>(0.027)              |
| Border security                        | 0.087<br>(0.027)               |
| Transgender in military                | 0.368<br>(0.025)               |
| Abortion                               | 0.657<br>(0.023)               |
| Covid vaccines                         | 0.320<br>(0.026)               |
| Treatment X Minimum wage               | -0.090<br>(0.031)              |
| Treatment X Estate tax                 | 0.419<br>(0.040)               |
| Treatment X Capital gains tax          | 0.088<br>(0.038)               |
| Treatment X Border security            | 0.038<br>(0.038)               |
| Treatment X Transgender in<br>military | 0.038<br>(0.034)               |
| Treatment X Abortion                   | -0.049<br>(0.031)              |
| Treatment X Covid vaccines             | -0.003<br>(0.035)              |
| Constant                               | -0.236<br>(0.024)              |
| Observations                           | 35,594                         |
| R-squared                              | 0.109                          |

Standard errors clustered by respondent in parentheses. The model includes fixed effects for month in which the survey was taken.

Table D3. Regression Results Shown in Figure 5

|                                     | (1)              | (2)               |
|-------------------------------------|------------------|-------------------|
|                                     | Policy support   |                   |
| Treatment                           | 0.010<br>(0.007) | 0.019<br>(0.010)  |
| Treatment x min wage                |                  | -0.002<br>(0.012) |
| Treatment x estate tax              |                  | -0.022<br>(0.017) |
| Treatment x capital gains tax       |                  | -0.037<br>(0.017) |
| Treatment x border security         |                  | -0.010<br>(0.020) |
| Treatment x transgender in military |                  | -0.010<br>(0.013) |
| Treatment x abortion                |                  | -0.003<br>(0.013) |
| Treatment x covid vaccine           |                  | 0.012<br>(0.015)  |
| Constant                            | 0.854<br>(0.008) | 0.850<br>(0.009)  |
| Policy issue FE                     | Yes              | Yes               |
| N                                   | 35,602           | 35,602            |
| R-squared                           | 0.073            | 0.073             |

Standard errors clustered by respondent in parentheses.

Table D4. Regression Results Shown in Figures 6 and 7

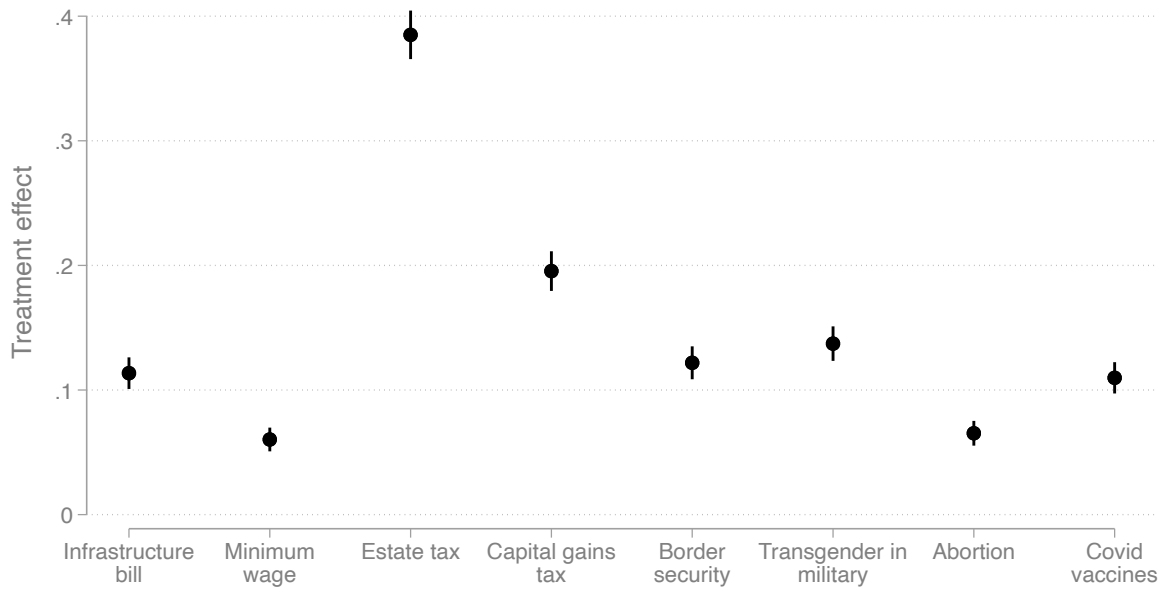
|                                    | (1)            | (2)      | (3)        | (4)     | (5)        | (6)         | (7)      | (8)     |
|------------------------------------|----------------|----------|------------|---------|------------|-------------|----------|---------|
|                                    | Infrastructure | Min wage | Estate tax | CG tax  | Border sec | Transgender | Abortion | Covid   |
|                                    | Policy support |          |            |         |            |             |          |         |
| Don't know treatment               | 0.056          | 0.030    | -0.100     | -0.010  | 0.009      | 0.050       | 0.072    | 0.043   |
|                                    | (0.025)        | (0.024)  | (0.043)    | (0.037) | (0.035)    | (0.030)     | (0.029)  | (0.035) |
| Pol. Knowledge, middle             | 0.004          | -0.070   | 0.013      | 0.038   | 0.031      | 0.032       | 0.011    | 0.059   |
|                                    | (0.021)        | (0.021)  | (0.028)    | (0.028) | (0.028)    | (0.025)     | (0.025)  | (0.028) |
| Pol. Knowledge, high               | 0.023          | -0.082   | 0.148      | 0.043   | 0.016      | 0.074       | 0.038    | 0.129   |
|                                    | (0.021)        | (0.022)  | (0.029)    | (0.029) | (0.029)    | (0.025)     | (0.025)  | (0.029) |
| Treatment X pol. Knowledge, middle | -0.030         | -0.018   | 0.113      | -0.042  | -0.008     | -0.042      | -0.057   | 0.000   |
|                                    | (0.029)        | (0.030)  | (0.049)    | (0.044) | (0.041)    | (0.035)     | (0.034)  | (0.042) |
| Treatment X pol. Knowledge, high   | -0.063         | -0.013   | 0.092      | 0.027   | 0.007      | -0.059      | -0.083   | -0.036  |
|                                    | (0.030)        | (0.031)  | (0.050)    | (0.045) | (0.043)    | (0.036)     | (0.035)  | (0.043) |
| Constant                           | 0.830          | 0.844    | 0.501      | 0.559   | 0.582      | 0.709       | 0.744    | 0.454   |
|                                    | (0.019)        | (0.020)  | (0.027)    | (0.027) | (0.026)    | (0.023)     | (0.023)  | (0.026) |
| Observations                       | 4,537          | 4,665    | 3,882      | 4,336   | 4,511      | 4,476       | 4,651    | 4,544   |
| R-squared                          | 0.003          | 0.007    | 0.022      | 0.004   | 0.001      | 0.005       | 0.002    | 0.010   |

Heteroskedasticity robust standard errors in parentheses. All models include fixed effects for month in which the survey was taken.

# Appendix E

## Additional Results

Figure E1: The Effect of the “Don’t Know” Treatment On “Non-Answers” (with 95% CIs), By Policy Issue



Note: n=38,480. The full set of results is shown in Appendix Table D1.

Figure E2. The Effect of the Don't-Know Treatment on “Non-Answers,” by Education (A),  
Income (B), Gender (C), and Voter Status (D)

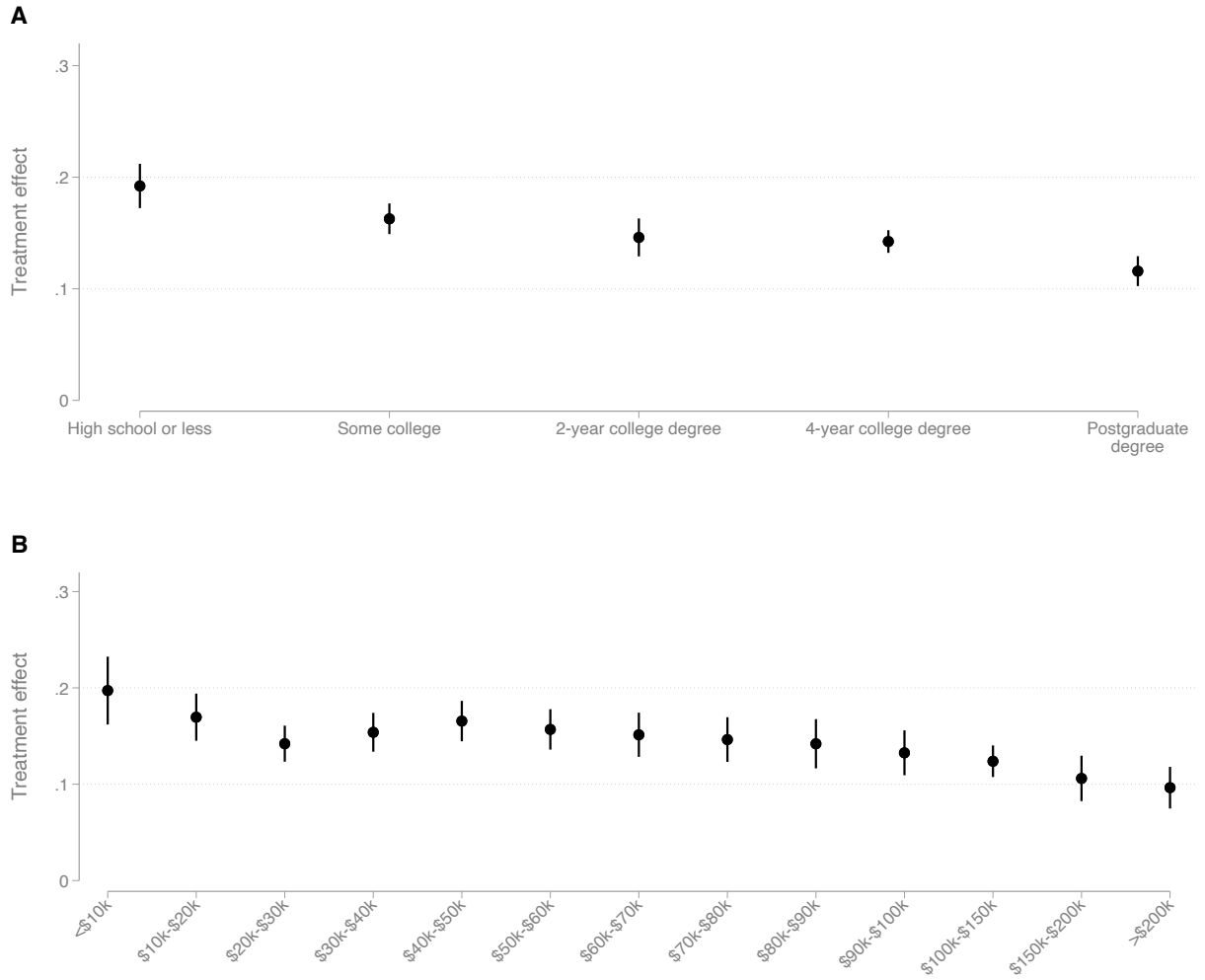


Figure E2. Continued.

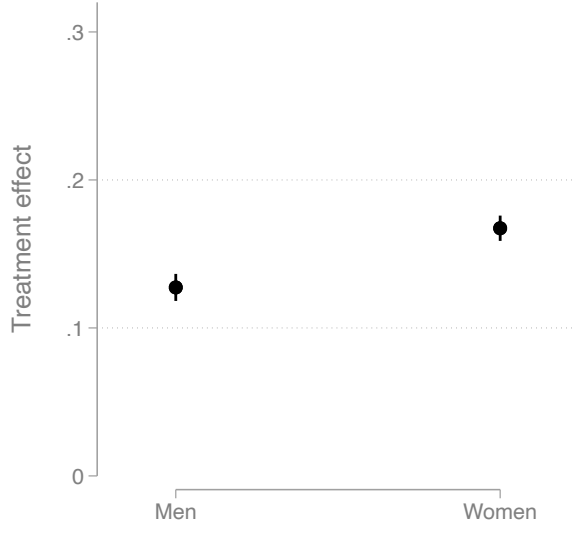
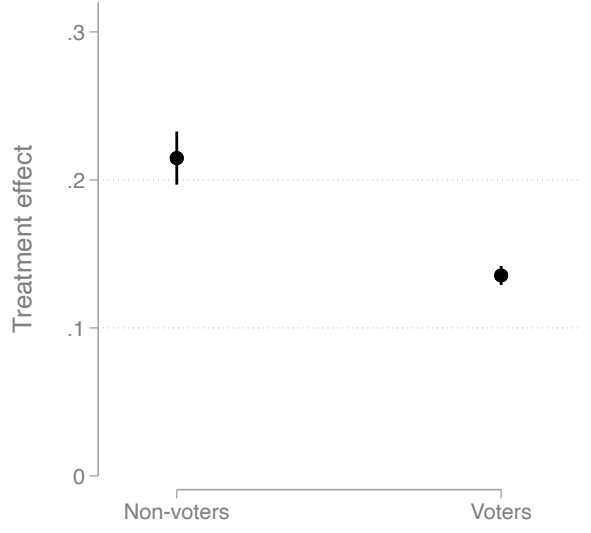
**C****D**

Figure E3. The Treatment Effect on Policy Support, by Policy Issue, Education, and Income

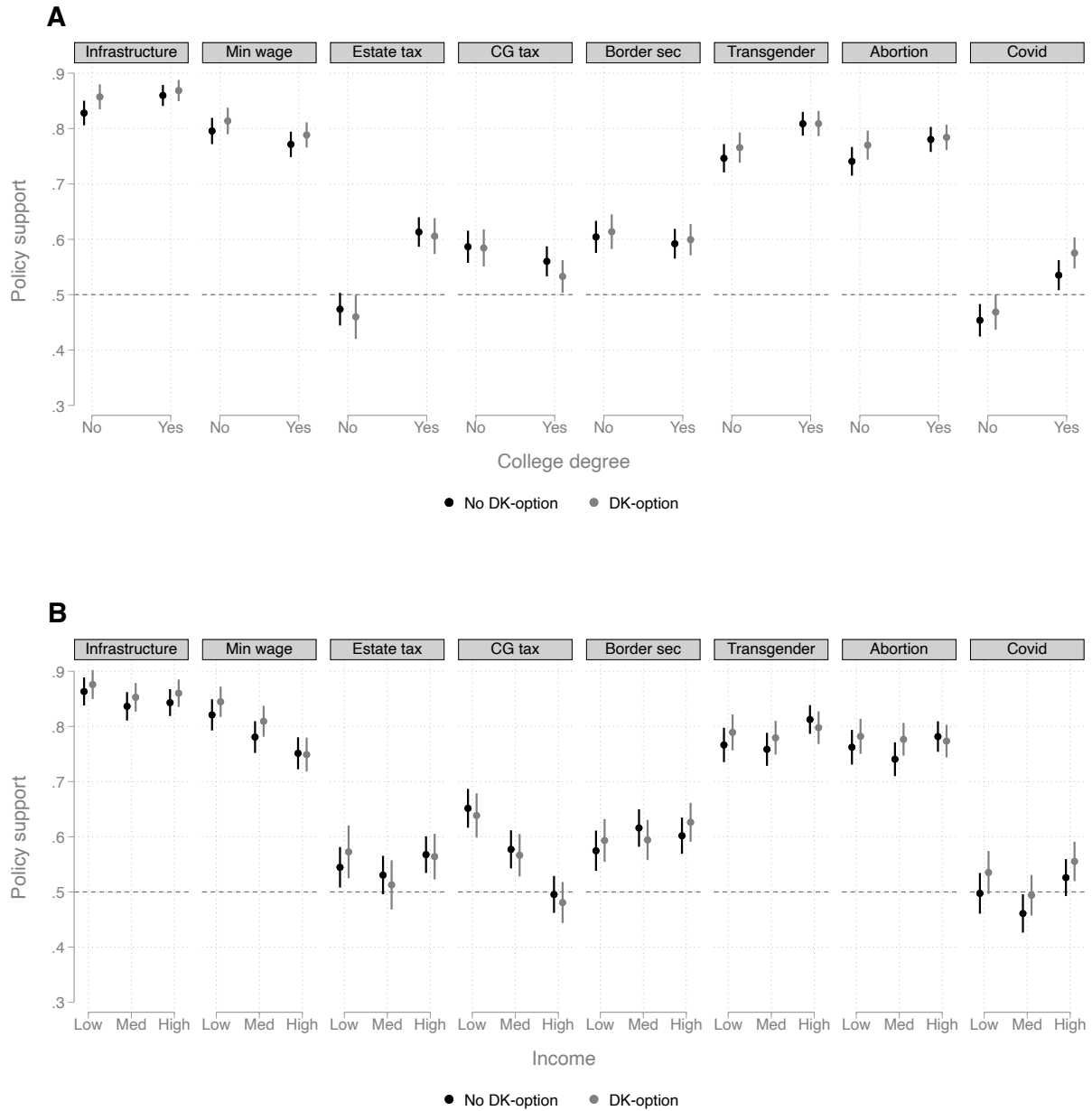


Figure E3. Continued.

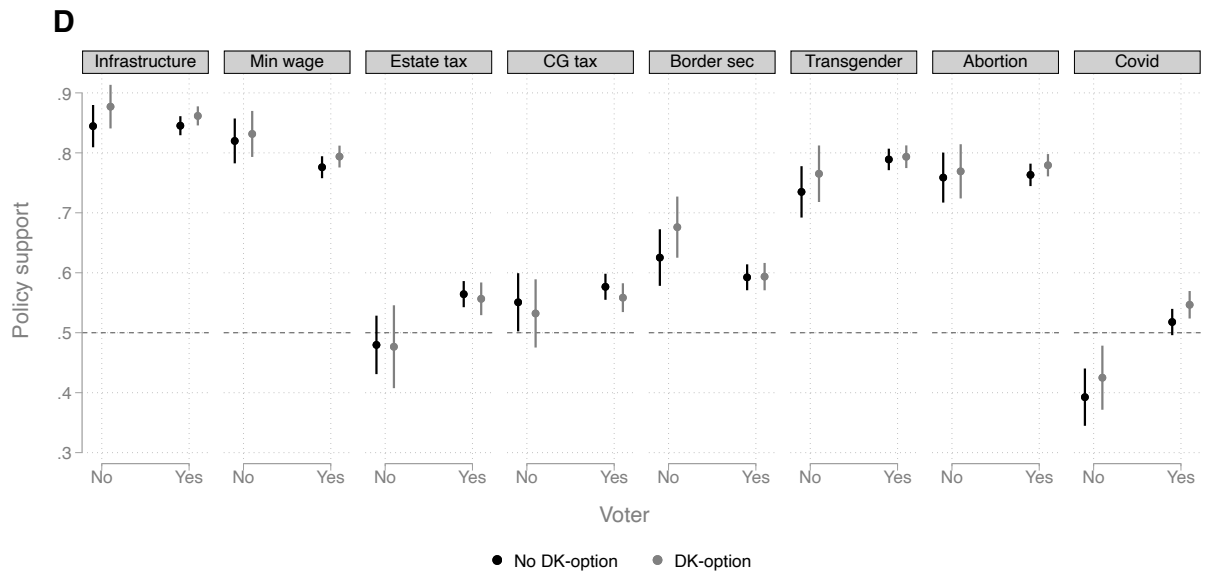
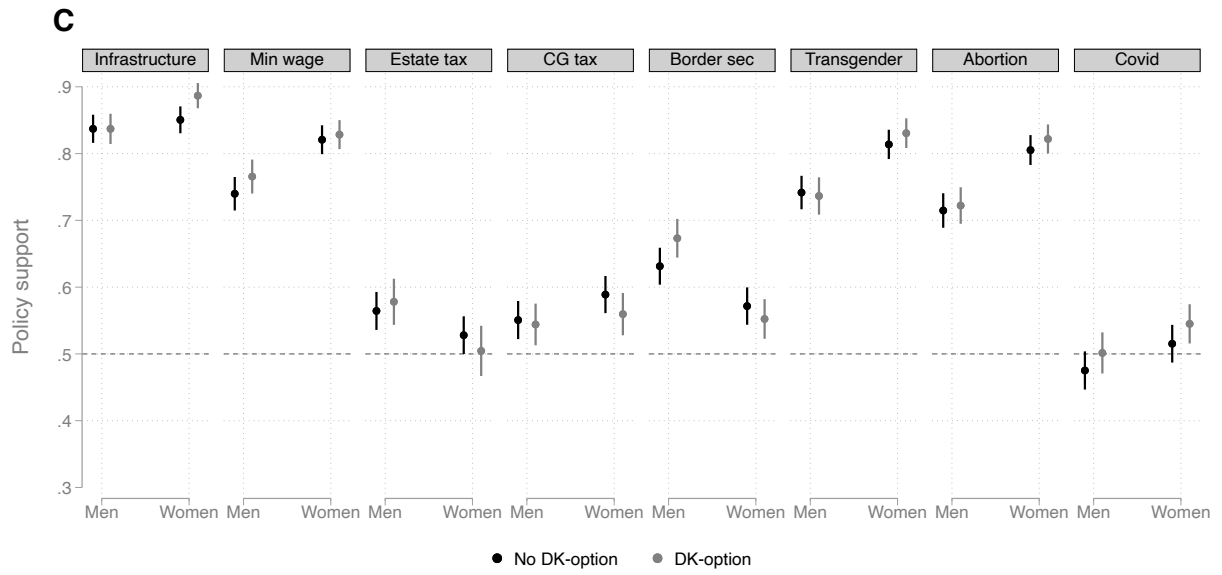
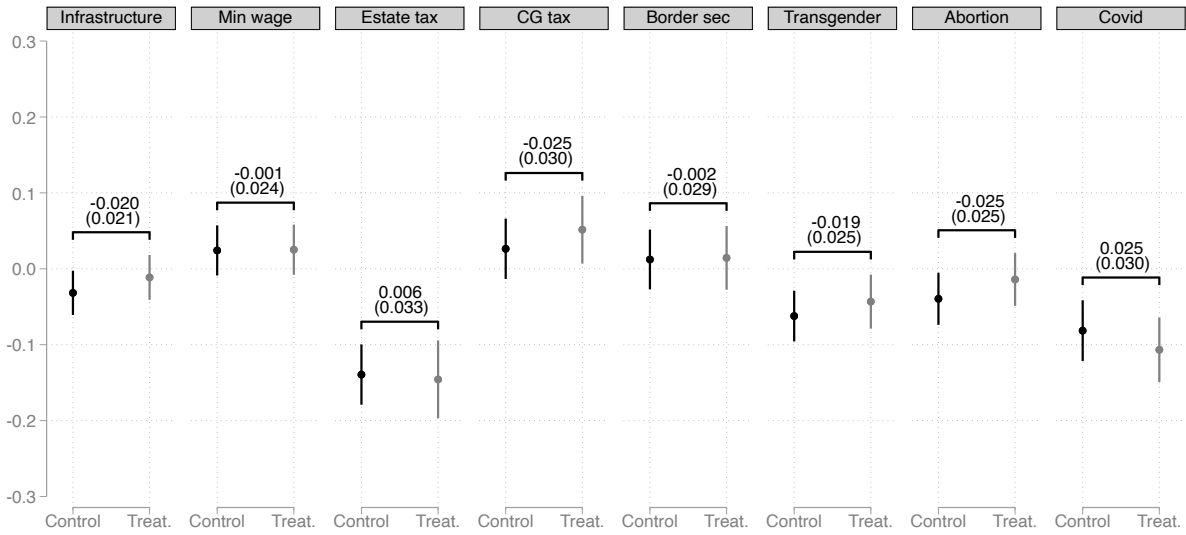




Figure E4. Preference Gaps Between Subgroups, By Policy and DK-Treatment

A: College degree



B: Income

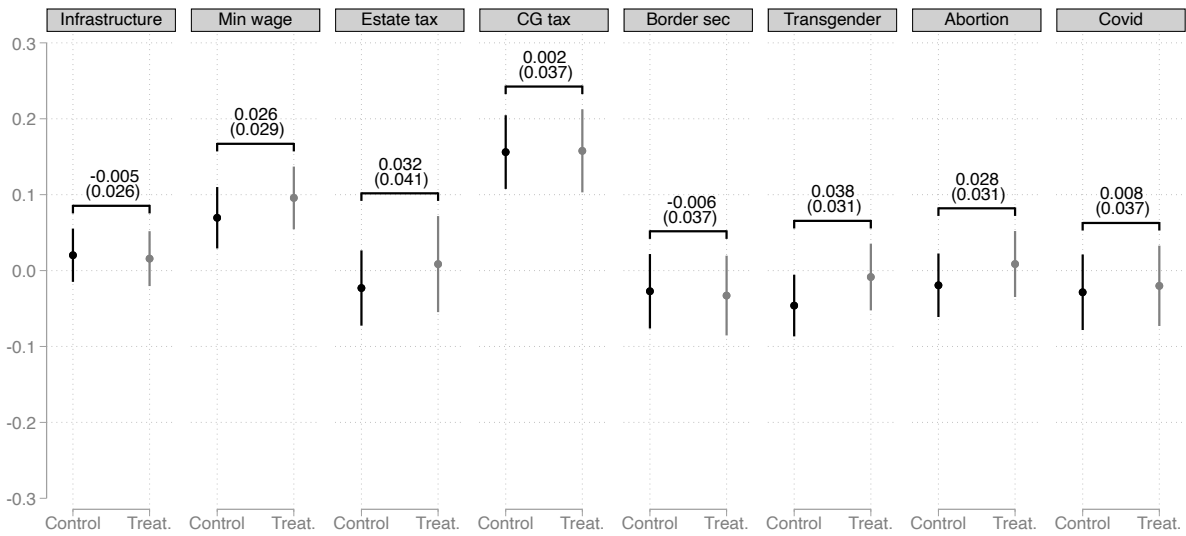
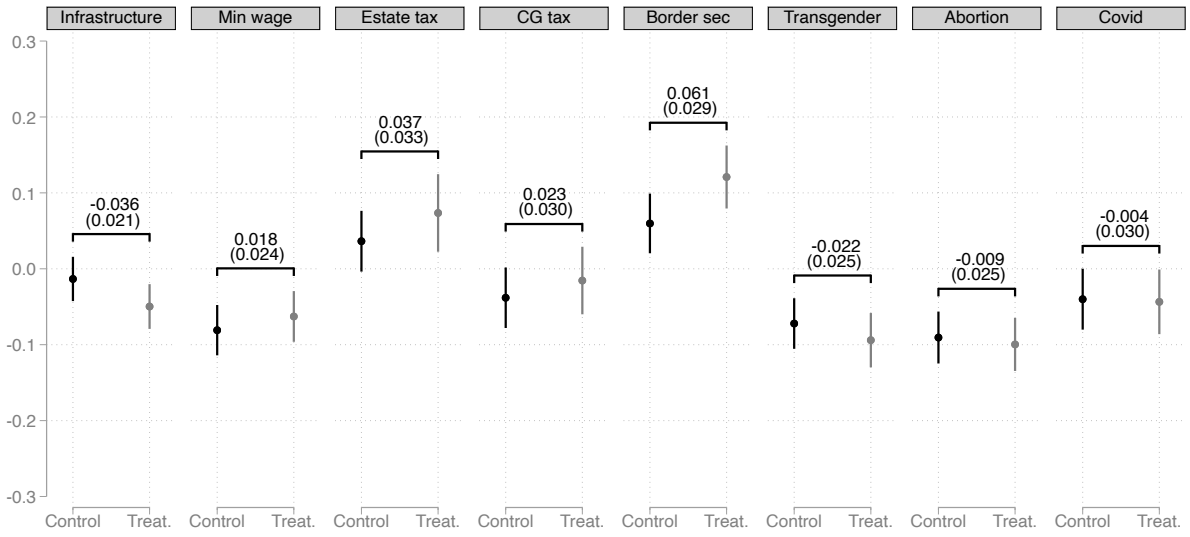
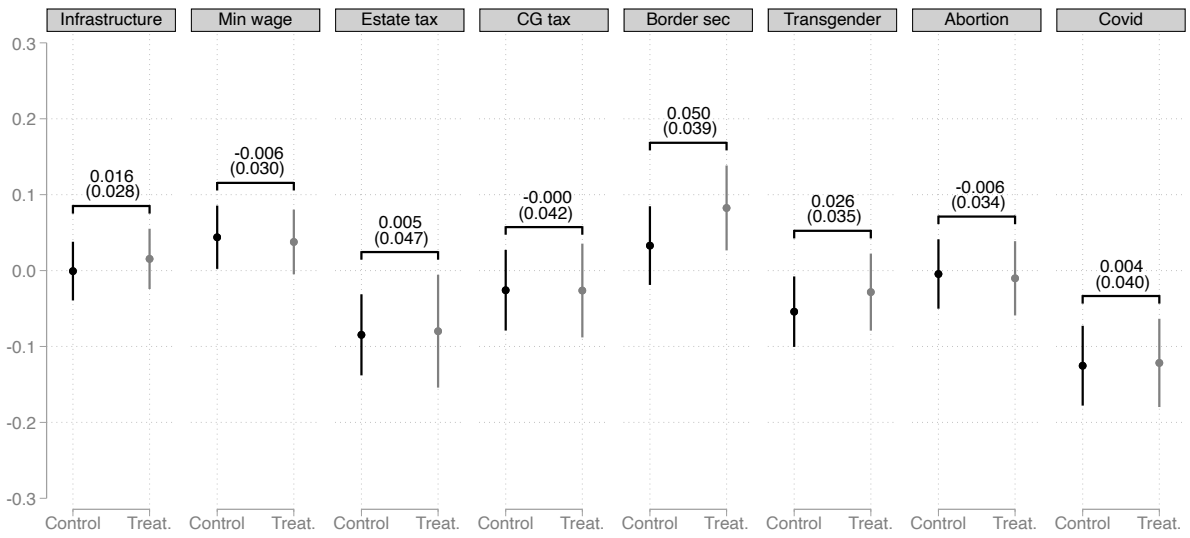


Figure E4. Continued.

C: Female



D: Voter



## Appendix F

### Calculating Random Responses

We can calculate the average treatment effect (ATE) of the DK response option as the difference in mean policy support between the treatment group ( $Y_t$ ) and the control group ( $Y_c$ ):  $ATE = Y_t - Y_c$ . To calculate the share of respondents in the control group who answered at random (among the respondents who would have answered DK had the option been available), we can disaggregate  $Y_c$  into different components based on the following assumptions: we assume that one group,  $k$ , would have answered the question even if the DK option had been available, while another group,  $l$ , would have used the DK option. Among the latter group, some respondents,  $ls$ , would have satisficed, and these therefore provided a real preference (since the DK option was not available). Another group,  $lr$ , in reality had no preference on the issue and therefore answered at random.

Following these assumptions, we can express  $Y_c$  as:  $Y_c = wY_k + (1 - w)Y_l$ , where  $w$  is the share of respondents who would have given a substantive response even if the DK option had been available ( $1-w$  is therefore the share who would have answered DK had the option been available). As noted,  $Y_l$  is a weighted average of those providing real preferences and those answering at random. Thus,  $Y_l = xY_{ls} + (1 - x)Y_{lr}$ , where  $x$  is the share who provided a real preference (but would have satisficed if the DK option had been available) and  $1-x$  is the share who answered at random. Putting these together, we can express the average treatment effect as:  $ATE = Y_t - (wY_k + (1 - w)(xY_{ls} + (1 - x)Y_{lr}))$ . Assuming that respondents who satisfice by answering DK have a preference and that their mean preference is equal to the mean preference

in the treatment group, we can substitute  $Y_{ls}$  with  $Y_t$ . We can also use  $Y_t$  as a measure of  $Y_k$ , since these respondents would have offered a real preference regardless of the availability of the DK option.  $w$  is measured simply as the share of respondents in the treatment group who gave a substantive response. Finally, since respondents who answer at random choose between two substantive response options with equal probability,  $Y_{lr} = 0.5$ . Now, we can simply plug in the numbers and solve for  $x$ .