"Don't Know" Responses and Preference Gaps:
An Assessment Using the Gilens Dataset

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February 28, 2024

Abstract

Influential studies argue that the preferences of the rich are over-represented in policy. This inference presumes accurate estimation of preference gaps, as misrepresentation is difficult to observe where opinions are similar. In this paper, we consider whether preference gaps are endogenous to information asymmetries in survey data. Our conjecture is that low information leads respondents to answer at random, which biases preference gaps between groups whose information (and income) levels differ; this tendency should be most pronounced on low-salience issues that generate many non-responses. We test the hypothesis using Gilens' (2012) dataset and find that the proportion of "don't know" responses on an issue correlates with observed preference gaps; it also predicts less divided opinion distributions, as we would expect from guessing. These results imply that where information asymmetries are greatest, preference gaps are most pronounced, raising questions about the extent of observed disparities in political representation in existing research.

Introduction

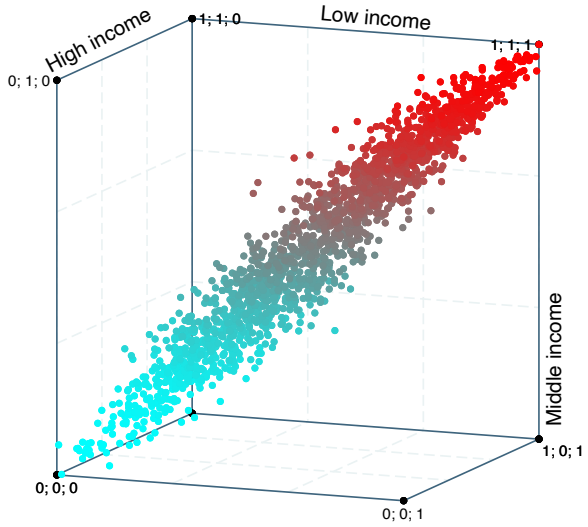
There is increasing interest in the inequality of political representation in policy, particularly the opinions of different income groups (e.g., Bartels 2008; Gilens 2012; Branham, et al 2017; Elkjaer and Iversen 2020).[1] Most research finds that the preferences of the rich are over-represented, not only in the United States but across much of Europe and possibly elsewhere. This has spawned related research on other groups, including gender, race, and education levels, that finds further evidence of unequal representation (e.g., Schaffner, Rhodes, & La Raja, 2020; Elsässer, et al 2021; Schakel and van der Pas 2021; Persson, Schakel, and Sundell 2023). The research is of fundamental importance and the findings consequential, at the very least because they matter for our understanding of how representative democracy works.

But, there are substantial limits on mis-representation, as scholars have demonstrated that the policy preferences of different groups often are strikingly similar. Consider Figure 1, which plots support for 1,779 specific policies for low-, middle-, and high-income groups in the US between 1981 and 2002 using data from Gilens (2012). Gilens (2012) estimated levels of support for each of these policies across various income percentiles using observed information about the determinants of support among different income groups.[2] In the figure, we rely on the

[1] For a comprehensive review focusing on income groups, see Elkjaer and Klitgaard (Forthcoming); for a consideration of unequal representation more broadly, see Enns and Wlezien (2011).

[2] See Chapter 2 in Gilens (2012). Relying on imputed data does limit what he, we, and others can infer, but does allow us to compare and assess preferences using the exact data Gilens (2012)

Figure 1. Policy Support for Different Income Groups, 1779 Issues



Note: Authors' analysis of Gilens' (2012) data

support of those at the 10th, 50th, and 90th income percentiles; the same ones used by Gilens to designate different groups. There, we place each policy in a three-dimensional space, where low-income preferences are on the x-axis, middle-income ones on the y-axis, and those for high-income people on the z-axis. In theory, the policies could be anywhere in the cube in Figure 1, but they clearly cluster quite tightly along the channel running from the lower left-hand corner, where there is little support from any of the groups, to the upper right, where there is strong support from all groups. Preferences thus are (very) highly correlated, not only between the middle and rich and the poor and middle, but between the poor and rich as well.[3] Perhaps most

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and Gilens and Page (2014) employed in what seemingly are the most influential publications on political inequality in political science.

[3] Pairwise correlations are .94 for the middle and rich, .93 for the poor and middle, and .84 for the poor and rich.

notably, majorities of the three groups agree on over 80% of policies, and pairs of the three groups nearly 90% of the time. Preferences of people with very different levels of income tend to be strikingly similar.

Even where preferences do differ, the observed gaps are not particularly large. This can be seen in Table 1, which shows the average absolute difference in preferences when majorities of different groups agree and disagree. For the 191 policies on which majorities of the middle and rich disagree, the average gap is 10.9 percentage points, i.e., the equivalent of a 55.3-44.4 split. It is slightly larger (11.1 points) for the middle and the poor and larger still (15.7 points) for the rich and the poor, and all of these are about twice as large as the gaps when the different groups agree. It thus may come as little surprise that previous research finds that the middle (and also the poor) have their way in policy almost as often as do the rich (Bashir 2015; Enns, 2015; Branham, et al, 2017).

Table 1. Preference Gaps Between Pairs of Income Groups

	High-low	High-middle	Middle-low
Preference gap when groups agree	7.9% (*n*=1463)	5.2% (*n*=1588)	5.7% (*n*=1574)
Preference gap when groups disagree	15.7% (*n*=316)	10.9% (*n*=191)	11.1% (*n*=205)

But, are the preference gaps we observe real? Building in part on previous research, we suspect that a nontrivial portion of the gaps are not, and instead reflect basic differences in information

levels that lead people to guess. More concretely, we argue that because income is (negatively) correlated with information, more low-income respondents answer survey questions at random, especially when not offered an opportunity to say "don't know" (for experimental evidence of this effect, see Elkjaer and Wlezien, N.d.). This implies that the estimate of low-income preferences will be disproportionately biased toward 50-50 support for or against the policy, which in turn biases observed gaps in preferences compared to better informed, higher-income groups.

We also expect that characteristics of issues matter, as some require less information to form preferences and others more. Random answering should consequently be most evident and consequential on issues where many people hold weak preferences. That the proportion of DK answers on a given survey item is closely related to the confidence *respondents who provide substantive responses* have in their answers (Graham 2021) leads us to expect that higher rates of DKs will be associated with more random answering, causing biases in estimates of preference gaps between groups whose information levels differ, such as income groups. This has important implications for survey research, perhaps especially for work on differences in policy representation between subgroups of the population, as this relies crucially on precise estimation of preference differences. If opinion differences across groups are at least partly an artifact of information differences and the survey design, after all, differentials in policy representation could be correspondingly more apparent than real.

We test the argument using the dataset from Gilens' now-classic study of unequal representation in the US between 1981 and 2002, which is the basis for the analyses in Figure 1 and Table 1.[4] The results support our expectations, as we find that the proportion of "don't know" (DK) responses is negatively related to income levels, positively related to preference gaps, and that it also predicts divided opinion distributions, as we would expect from random guessing. These results imply that a portion of the differences in opinion we observe is an artifact of information asymmetries, which has clear implications for our assessments of policy representation, which we contemplate in the concluding section.

Information, Policy Preferences, and Survey Responses

It is well-known at least since Key (1961) that people's policy preferences often are isolated, thin, and weakly held. Research that has followed largely documents that early statement, even as there is substantial variation across issues and individuals (see Erikson and Tedin, 2019). Indeed, in his classic assessment of belief systems, Converse (1964) documented high levels of instability in survey responses among most, but not all respondents, and inferred an absence of true attitudes, or preferences. That is, most people responded in what appeared to be random ways. Achen's (1975) reanalysis led him to a more charitable conclusion, in which he attributed response instability to question wording that led people with true attitudes to respond differently at different points in time. Zaller and Feldman (1992) adopted a middle ground, highlighting the importance of considerations when responding to survey questions. Rather than simply

[4] This is the same data he also employed in more recent research focused on the middle and rich (Gilens and Page 2014).

retrieving a response from long-term memory, people sample a distribution of relevant considerations at different points in time, which produces response instability. This is more common for some issues and individuals than others.

Information matters: On certain highly salient issues, people have more information and express more consistent preferences (Schuman and Presser 1981).[5] The tendency varies across individuals, and it is most pronounced for people with more information and knowledge (Converse 1964; Kinder 1983; Feldman 1989; Delli Carpini and Keeter 1996; Althaus 1998). Those with low information are more likely to provide "don't know" responses, particularly on low salience issues (Elkjaer and Wlezien, N.d.). This is as we expect given Luskin and Bullock's (2011) research on those responses in US surveys, and Purdam, et al's (2020) cross-national analysis.

Question wording also is important: Most survey organizations do not offer respondents a DK response option. This follows the recommendations of Krosnick, et al (2002), who found that offering the option encourages satisficing, i.e., providing a DK response when respondents actually have preferences, or could formulate and express one. Although omitting the option may reduce satisficing, it might encourage guessing, as respondents are asked to choose between support for or opposition to a policy, where they do not have a preference one way or the other. This is consistent with what Smith (1985) found, namely, that the inclusion of a DK response option helped to reduce random guesses (and it presumably is also what Converse (1964) would

[5] The effects of salience may be at least partly a function of extremity, per Feldman (1989).

predict). Graham (2021) shows further that DK responses are related to the confidence respondents have in their answers: On questions with many DK responses, respondents who give a substantive response tend to be less confident in their answers, implying that expressed preferences may be more weakly held on survey questions that have large numbers of DKs. There thus is reason to suspect that the common survey practice of not explicitly offering a non-response option leads respondents who do not have preferences to offer one; that is, to guess. This has implications for expressed preferences that we spell out in the next section and then test in the sections that follow.

Information, Income, and Preference Gaps

We suspect that the common wording in policy preference survey items may produce responses that misrepresent the alignment of subgroup preferences. More specifically, encouraging respondents to guess may influence the gap in observed preferences between groups whose information levels differ, which may lead us to think that preferences of groups differ where they do not, 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). There is reason, after all, to think that information levels differ across these subgroups (Althaus 1998, Barabas et al. 2014). It has further implications for analysis using such survey data, especially in research on inequality in political representation relying on observed preference gaps (see e.g., Bartels 2008; Branham, et al 2017; Elsässer, et al 2018; Elkjaer and Iversen 2020; Elkjaer and Klitgaard, forthcoming; Rigby and Wright 2011; Schakel 2019; Schakel and Van Der Pas 2021). If

preference gaps are endogenous to information, estimates of policy misrepresentation may be endogenous to information as well, i.e., the inequality that we observe may be more apparent than real.

More concretely, we hypothesize that differences in information between groups can bias estimated preference gaps. The direction of the bias may depend on the mechanism at work when survey respondents without real preferences are pressed to answer because there is not a DK option in the question, bearing in mind that there may be at least two mechanisms at work.

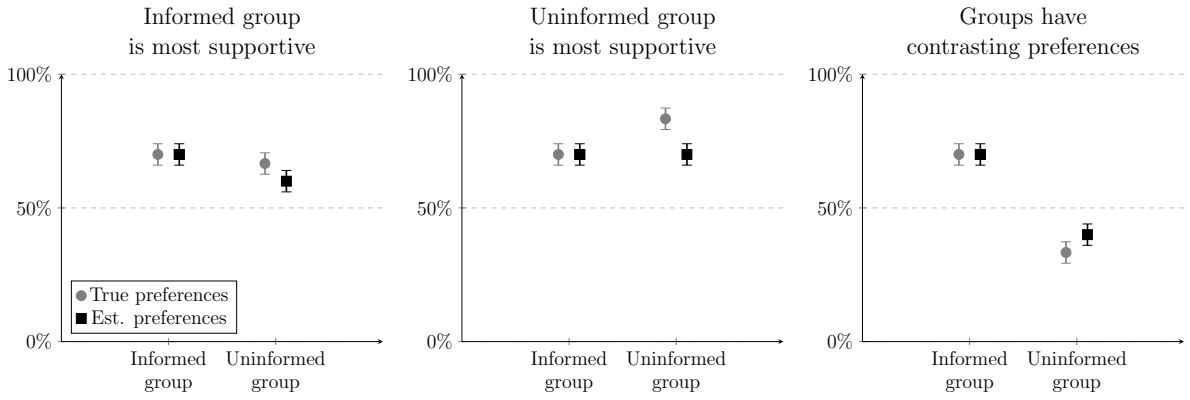
One is random "guessing," which we already have discussed. Here, respondents who do not have preferences answer at random, choosing "support" 50% of the time and "oppose" 50% of the time. This mechanism has a clear implication for preference distributions, as it predicts that those with low information will tend to express more balanced preferences when not offered a DK option compared to when they are offered one. For instance, where 40% support a policy and 20% oppose it and 40% don't know, guessing would produce a distribution of 60% in favor and 40% opposed. Although the difference between the share in support and opposition remains the same, at 20%, *among those providing a preference* the balance of support for the policy drops from two thirds to three fifths, causing the difference between the percentage in support and opposition to drop from 33% to 20%. The tendency depends on the true preferences; if they are evenly balanced at 50-50 support for or against a policy, after all, random guessing will not lead to greater balance because it cannot. Even where true preferences are imbalanced, the effect of guessing depends on the degree of imbalance and the number of respondents without preferences, the latter of which we expect to vary with issue salience. (Indeed, the two factors – the holding of preferences and their imbalance – may be correlated.)

The implications of random guessing for preference gaps between groups are more complex, as they also depend on which group has more extreme preferences. To see why, consider the hypothetical examples illustrated in Figure 2. The figure shows true (gray circles) and estimated preferences (black squares) of two groups who differ in their levels of information. "True preferences" refer to the policy support among respondents who hold a preference, while "estimated preferences" refer to the policy support that we observe in a survey. In the "informed group" respondents are well informed and hold a preference on the issue; we can therefore accurately estimate their true preferences from a survey. In the "uninformed group" some nontrivial proportion of respondents don't hold a preference on the issue (as above we assume 40%), but tend to provide one due to the common practice of not explicitly offering a "don't know" option in surveys. If they do so at random, it will bias the estimated balance of policy support of the group towards 50-50, which will also bias the estimated preference gap.

The implications of random answering for preference gaps are as follows: Random answering will widen the gap we observe only when both groups i) support or oppose the policy *and* ii) the preferences of the better informed are more extreme (left panel of Figure 2). Here, answering at random will lead the less informed group to express less support for (or opposition to) a policy, thus expanding the difference between it and the support (opposition) among the better informed. When both groups support or oppose a policy *and* the preferences of the group with more respondents who don't know are more extreme, by contrast, guessing will bring the distribution closer to that of the better informed (middle panel of Figure 2). Finally, when the two groups have conflicting preferences, guessing will shrink the gap between expressed support (opposition) (right panel of Figure 2). Importantly, as we saw in Figure 1 and Table 1, the latter

is rare even across income groups. There, majorities of the rich and the middle differ only 11% of the time, and the number is only slightly larger (16%) when comparing the rich and the poor.

Figure 2. Depictions of Policy Support among Informed and Uniformed Groups



Note: The figure shows a hypothetical example of how random answering can bias estimated preference gaps between two groups who differ in levels of information. In the informed group, we assume that 70% support the policy and 30% oppose it, yielding a balance of support of 70-30. For the uninformed group, we assume across all panels that 40% do not hold a preference. In the left panel, we assume that among the remaining people, 40% support the policy and 20% oppose it. This yields the true balance of support among those holding a preference, of 66.7-33.3, but with random answering support drops to a 60-40 split, which increases the observed preference gap between the groups from 3.3% to 10%. In the middle panel, we assume that 50% of the uninformed support the policy and 10% oppose, yielding a true balance of support of 83.3-16.7; with random answering among the 40% who don't hold a preference, this decreases to 70-30, which reduces the gap between the groups from 13.3% to 0%. In the right frame, we assume that 20% of the uninformed support the policy and 40% oppose it, yielding a balance of support of 33.3-66.7. Due to random answering among those not holding a preference, estimated support shifts to a 40-60 split, decreasing the gap between the groups from 36.6% to 30%.

A second mechanism involves not random guessing, but responding based on cues and heuristics. This mechanism may be less intuitive than the first but there is reason to suppose that some respondents do attempt to infer a preference based on the policy and question wording itself (Althaus 2003; Zaller and Feldman 1992). The implications for preference distributions are less clear, however, as it may lead respondents to express more balanced preferences in some

cases and more extreme ones in others. And it is not easy to anticipate a priori, as the direction of the effect depends on what respondents actually do; not what we think they do or should.

It also may be that both mechanisms are at work, of course. Some people may guess. Others may attempt to construct a preference. And this may vary across issues. For now, we focus our analyses on the first mechanism relating to random guessing, the predictions of which we can foresee and directly test. This is not meant to gainsay that the second mechanism is at work.

Regardless of the mechanism(s) at work, we expect that the bias in preference gaps is most pronounced on issues where people have low levels of information. On high salience issues, such as the availability of abortion, most people have a fairly good idea of their preferences and being pressed to offer an opinion therefore should not influence either preference distributions or gaps much. On other low salience issues, such as the estate tax, things are different. Here many people might not hold a preference and being pressed to offer one entails coming up with an opinion on the spot either wholly at random or based on cues and heuristics, which can bias estimated preference gaps. (For recent experimental evidence on these questions, see Elkjaer and Wlezien, N.d..). From aggregate level survey data, it is hard to identify the issues about which people have more or less information, but the proportion of DK responses should give us a clue. Graham (2021) argues and shows that the proportion is closely related to the confidence respondents who provide a substantive response have in their answers. It stands to reason that people who don't know their preferences, or are otherwise unsure about them, are less confident in their answers, implying that the proportion of DKs on an item should be related to information, including among those respondents who actually expressed a preference. If preference distributions and gaps are endogenous to information, therefore, we would expect that DK responses correlate

with preference gaps and, if people answer at random, with more evenly distributed preference distributions; that is, ceteris paribus, the mean preference will be closer 50-50 on survey items with more DK answers. These are the aggregate level implications of our argument that we will examine in the sections that follow.

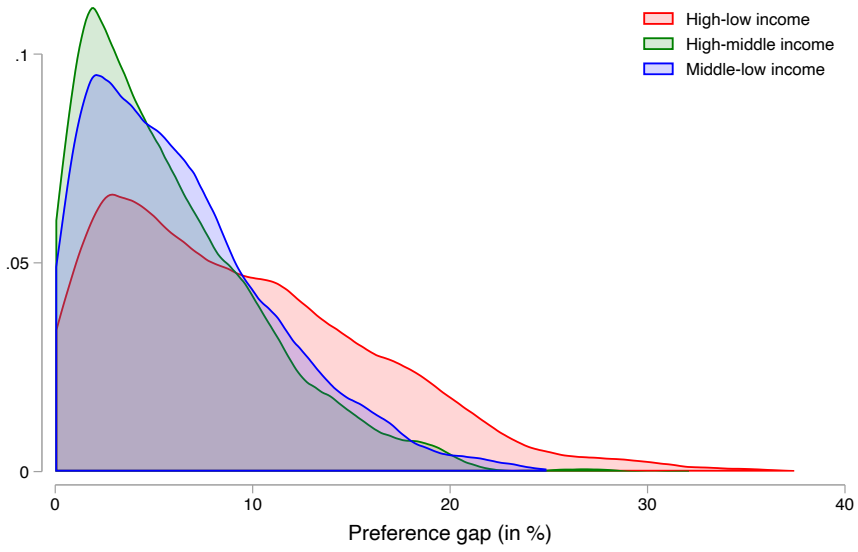
Analysis

To motivate our analysis, Figure 3 displays differences in the percentages in support of policies across different income groups, again using Gilens' (2012) dataset. Importantly for our purposes, the questions almost never explicitly offered a DK response option (Gilens 2012: 90), so some respondents provided a preference who otherwise might have not, as discussed.[6] The figure plots preference gaps across 1,779 policies for different pairwise combinations: the rich and poor, the rich and middle, and the poor and middle. As in Figure 1, and following Gilens (2012) (and Gilens and Page 2014), we use the imputed preferences of people at the 10th, 50th, and 90th income percentiles to indicate the poor, middle, and rich.[7]

[6] Because most of the questions in Gilens' dataset (2012) did not explicitly offer a DK response option, the proportion of respondents with no opinion on the different questions might be greatly underestimated.

[7] The 90th percentile might not capture what some of us consider to be "rich," looking further up the income distribution. But note that we simply follow Gilens' lead, which partly reflects the difficulty of isolating (and imputing) the preferences of the top 5 (or 2 or 1) percent. Also note that in 2021, the top 10 percent made over $228,000 on average, which strikes us as a lot of

Figure 3. Density Plot of Preference Gaps between Pairs of Income Groups



In Figure 3, we can see that the preference gaps between income groups tend to be fairly small, about seven percentage points on average, keeping in mind that the theoretical range is between 0 and 100. The finding may not surprise given what we saw in Figure 1. That said, the gaps are slightly greater for the rich and the poor, averaging approximately nine percentage points compared with six points for the middle and the poor and five points for the middle and rich. Although preferences typically do not differ by very much, in some cases they are quite large, over 15 percentage points 20 percent of the time when comparing the rich and the poor. What we want to know is whether the differences in opinions we observe are real, or at least partly an artifact of guessing among people with lower incomes and information.

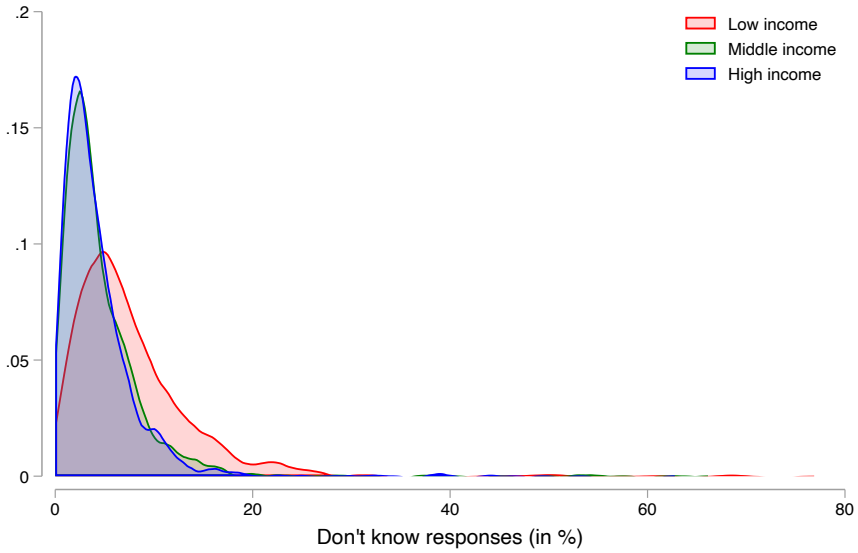
money. Note also that the estimated preferences from Gilens' dataset effectively drop DK responses, i.e., percentages in support and opposition always sum to 100.

Income Groups and Don't Know Responses

Figure 4 provides initial evidence in support of differences in information across income groups. It shows the percentages of respondents who answer "don't know" (DK) across different income percentiles; technically, it shows predicted percentages, recalling that Gilens relies only on imputed levels of support.[8] The pattern in the figure is clear: DK responses are highest, approaching eight percent, for those in the lowest income decile, and decline thereafter, dropping to five percent in the middle of the income distribution and only a little further, to 4.5 percent, for those with highest incomes. This is exactly what we would expect to observe if income is (negatively) correlated with information. At the same time, the pattern reveals that people are willing to offer a DK response even when they aren't being offered that option, and increasingly as information decreases.

[8] To predict DK responses across the income distribution, we use the approach proposed by Gilens (2012) to predict support for policy change across income groups. More specifically and following Gilens (2012), we first assign values to income groups equal to the midpoint of their income category. So, for example, if the bottom income group contains 20 percent of the respondents, we assign this group a score equal to ten, indicating a location around the 10^{th} percentile in the income distribution from the survey. We then use this measure and its square term to predict DK responses for people at the 10^{th}, 50^{th}, and 90^{th} income percentiles using linear regression.

Figure 4. Density Plot of Don't Know Responses, By Income Group

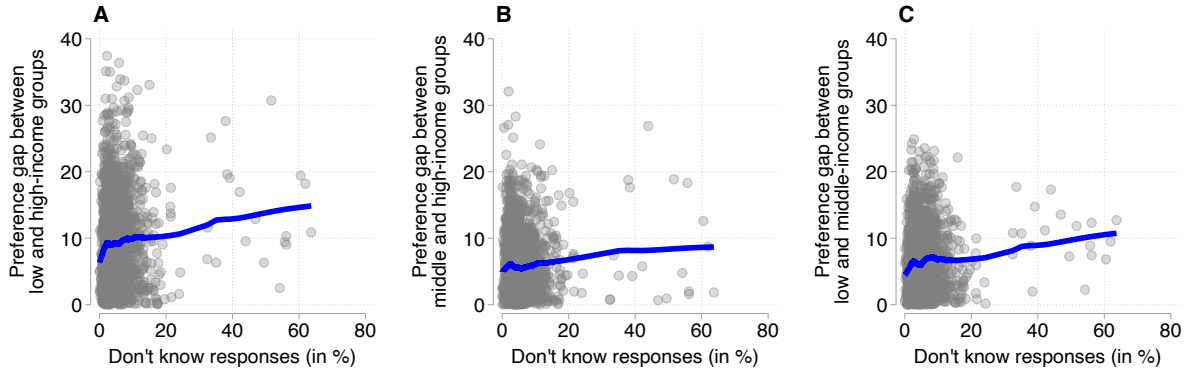


But, of course, this does not mean that people who do not have preferences offer a non-response, and much research already shows that offering the DK option makes a big difference (see, e.g., Schuman and Presser 1979; Smith 1985; Krosnick 1991; Krosnick, et al 2002; Graham 2021). Some of the work reveals that the effect of the DK option is larger for people with lower levels of knowledge, and this matters for preference gaps, particularly on low salience issues that are more demanding of respondents (Elkjaer and Wlezien, N.d.). On these issues, low-information respondents are more likely to guess when not offered a DK option, producing more divided support, and increasing the difference between the preferences of higher-information respondents to the degree the latter either support or oppose a policy. As we hypothesized earlier, this has implications for Gilens' data as well.

Don't Know Responses and Preference Gaps

As an initial assessment of the relationship between DK responses and preference gaps, we plot in Figure 5 the percentage of DK responses in each poll against the preference gaps, using the same pairs of income groups as in Figure 3 for the 1,779 policies from Gilens' dataset. While obviously imperfect, as the scatterplots do not take into account whether the preferences of high-information respondents are more extreme (or middling), they still show a positive relationship between the fraction of DK responses and preference gaps for each pair of groups. That said, the slope relating the two appears to be greatest for gaps between the rich and poor in panel A of Figure 5 and least for that between the middle and rich in panel B, which comes as little surprise given the seeming differences in information observed in Figure 4.

Figure 5. Association between DKs and Preferences Gaps for (A) High-Low, (B) High-Middle, and (C) Middle-Low Income Groups.



The regressions of preference gaps on the percentage of DKs in Table 2 provide more precise evidence of this difference. Given the signs of nonlinearity in the association between DK responses and preferences gaps in Figure 5, we log the percentage of DK responses in the

regressions.[9] The results in columns (1), (3), and (5) focus on DKs for all respondents, whereas the other columns include (averages) only for the income groups being compared, e.g., the average percentage of DKs among low- and high-income groups in column (2). We can see in the table that regardless of which measure we use, DK responses have the largest effect on P90-P10 preference differences and the smallest one on P90-P50 gaps—e.g., the coefficient for total DK responses equals 0.81 for the former and only 0.24 for the latter.

Table 2. The effect of don't knows (DK) on preference divergence between pairs of income groups

	(1)	(2)	(3)	(4)	(5)	(6)
	High-low		High-middle		Middle-low	
DK	0.81*		0.24		0.61*	
	(0.21)		(0.16)		(0.14)	
DK High-low		0.66*				
		(0.19)				
DK High-middle				0.21		
				(0.18)		
DK middle-low						0.62*
						(0.13)
Constant	8.14*	8.28*	5.48*	5.56*	5.51*	5.41*
	(0.33)	(0.33)	(0.25)	(0.24)	(0.21)	(0.22)
N	1,779	1,779	1,779	1,779	1,779	1,779
R-squared	0.03	0.03	0.03	0.03	0.03	0.03

Note: * p<0.05. Heteroskedasticity robust standard errors in parentheses. All independent variables are expressed as percentages. All independent variables are expressed as averages and are log-scaled. All regressions include policy domain and year fixed effects.

[9] A few observations register zero DK responses. Since the natural logarithm of zero is undefined, we add a small constant to these observations (0.01) to ensure they do not drop out of the analysis. The results are substantively similar when not logging the percentage of DKs (see Appendix Table A1), and binned scatterplots illustrating the associations with preferences gaps are shown in Figure A1.

These results are what we would expect if the variation in DK responses taps differences in information levels across issues *and* there is associated variation in the percentage of low-information respondents who guess. That is, the percentage of respondents who offer a DK response despite not being presented that option in the survey question serves as an indicator of the degree of nonattitudes among the respondents who provided a substantive response. This is consistent with Graham's (2021) finding that respondents who provide a substantive survey response are less confident in their responses on questions with higher rates of DKs.

Now, as mentioned above, these analyses lump together cases where we expect nonattitudes to artificially increase observed preference gaps and others where they will reduce preference gaps. That is, on some issues, high-information people have more extreme true preferences than low-information people, and so guessing among the latter will tend to drive their support toward 50%, widening observed gaps. On other issues, low-information people may have more extreme preferences, where guessing would tend to reduce observed gaps. What we want to determine is whether increasing DK responses lead to more divided preferences in both circumstances, which can inform us about the underlying mechanisms.

We can examine this by breaking down the analysis by which group has more extreme preferences, as in Figure 6.[10] Consistent with the implications of random guessing, panels A and

[10] As in columns (2), (4) and (6) of Table 3, we use the average percentage of DKs among the two income groups we compare as the independent variable. The results are substantively similar when using the average percentage of DKs among all respondents (Appendix Table A2).

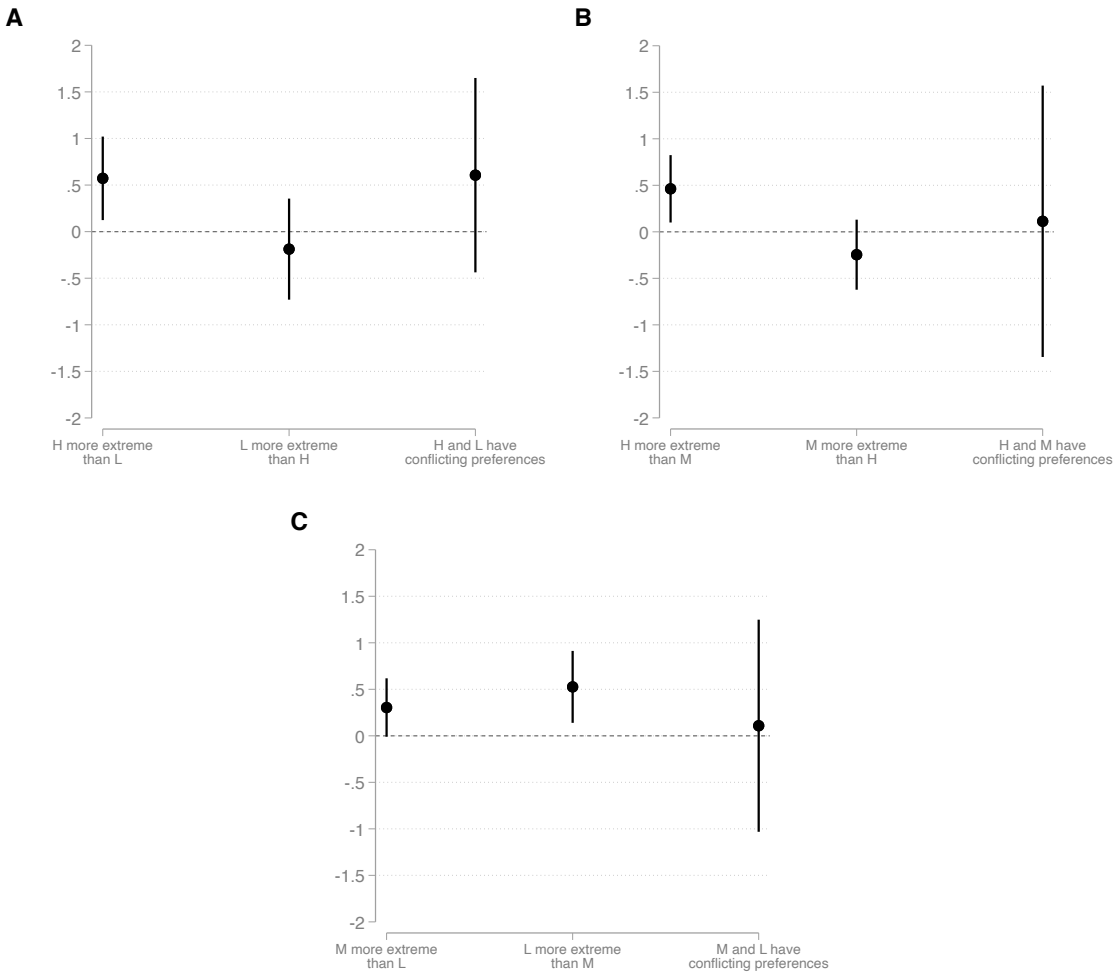
B of Figure 6 show that there is a positive association between DK responses and preferences gaps between the high-income group and either of the low- or middle-income group when the high-income group has more extreme preferences than the low- or middle-income group. When the low- or middle-income group has more extreme preferences, by contrast, the associations are negative as expected, though not statistically significant (these differences in slopes are statistically significant at the .05 level). The weaker effects on these issues, where the low- or middle-income group has more extreme preferences than the high-income group, might partly be explained by the fact that there are fewer DK answers on these issues compared to those where the high-income group has more extreme preferences.[11] If DK answers serve as an indicator of certainty in answers among the respondents who answered the question, the lower number of DK answers would indicate that fewer respondents answered at random on these issues.

When the groups have conflicting preferences, DK responses tend to be associated with larger preference gaps, contrasting with the expectation of random guessing, yet the effects are estimated with much uncertainty due to the relatively low number of observations in the Gilens dataset, where income groups have opposing preferences. We probably should not make too much out of this result, therefore, though it might indicate that some other mechanism is at work for some respondents, e.g., they might be effectively creating preferences based on the policy or

[11] For the high-low-income comparison, the percent of DKs is 5.44 on issues where the high-income group has more extreme preferences and 5.07 on issues there the low-income group has more extreme preferences. For the high-middle-income comparison, these numbers are 5.8 and 4.96 percent.

the question wording itself. As discussed earlier, the exact underpinnings – and expectations – of such behavior are not easy to establish in advance, or after the fact for that matter. The results nevertheless highlight that respondents can produce responses in different ways.

Figure 6. The Effect of Don't Knows (DK) on Preference Divergence for (A) High-Low, (B) High-Middle, and (C) Middle-Low Income Groups, by Which Group Has More Extreme Preferences



Note: Point estimates with 95 percent confidence intervals. The corresponding regression table is found in appendix A (Table A2). L, M, and H refer to low-, middle-, and high-income preferences, respectively.

For the comparison between the middle and low-income groups, we see the expected positive relationship between DKs and preference gaps when the middle has more extreme preferences

than the poor (panel C of Figure 6). But, contrary to the implication of random answering, we also observe a positive association when the low-income group has more extreme preferences than that of the middle. This might indicate that some other mechanism is at work on these survey items, as mentioned and discussed above. Finally, as in Panels A and B, we observe a noisy null effect on the few issues where low- and middle-income groups have contrasting preferences, which is 11.5% of all issues.

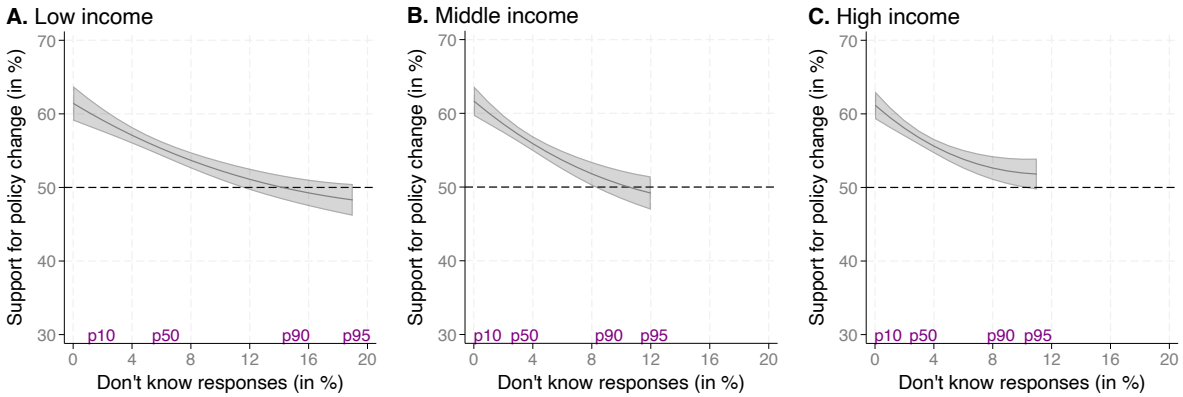
Don't Know Responses and Group Preferences

Thus far, we have concentrated on the relationships between DK responses and preference gaps, the results of which support the argument that preference gaps are endogenous to information. Our interpretation nevertheless presumes that on survey questions with higher rates of DK responses, an increasing number of respondents actually don't know their preference and therefore express a preference at random, which in turn affects the preference gaps. We can explicitly assess this underlying association by examining whether policy support converges to 50-50 support for or against a policy on issues with higher rates of DKs. We do so in Figure 7, which depicts the results of regressing percentages in support of the different policies on the percentages offering DK responses to each survey question. Specifically, and separately for each of the three income groups, we use OLS to predict the level of support for policy change based on a third-order polynomial of DK responses:

$$P_i = DK_i^3 + DK_i^2 + DK_i + \alpha \quad + \gamma \quad + \epsilon_i, \qquad (1)$$

where P is support for policy change and DK is the predicted proportion of DK responses for each income group on policy i.[12] As before, all regressions include policy domain and year fixed effects, which are represented by α and γ, and ϵ is the error term. While we here analyze the data using regression analysis, which imposes a specific functional form on the data, we get similar results when using more flexible locally weighted scatterplot smoothing (lowess) (see appendix Figure A2).

Figure 7. The Effect of Don't Knows on Policy Support, By Income Group



Note: Point estimates with 95 percent confidence intervals. Different percentiles of the distribution of don't know answers for each group is shown in purple. The corresponding regression table is found in appendix A (Table A3).

Panel A of the Figure 7 concerns low-income respondents, those at the 10th percentile of the income distribution from the survey. Support for policy change clearly declines as the percentage of DK responses increases. Most importantly, support converges on 50%, as we

[12] We use a third-order polynomial of DK responses to predict support for policy change to account for non-linearities in the association.

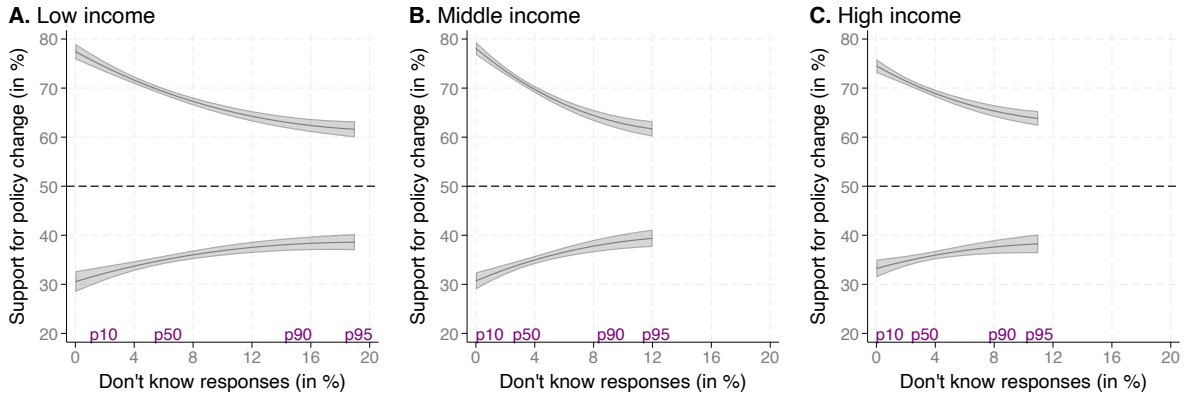
would predict were people increasingly unclear about their support for the policies that register higher rates of DKs. More specifically, support for policy change turns statistically indistinguishable from 50-50 when DKs in the low-income group are about 12%, which is equivalent to the 82nd percentile in the distribution of DK responses in this group. We see similar patterns for middle- and high-income respondents in panels B and C of Figure 7, but support for policy change is not indistinguishable from 50% until the 90th and 95th percentiles of the distributions of DK responses in the middle- and high-income groups, respectively. That we see convergence on 50% support across all groups is not at all surprising, as we expect the response tendencies to hold for all groups; we just expect them to be more consequential where information is lower, namely, among groups with lower income in our analyses, where DK responses clearly are higher. The results thus are consistent with the expectation of random answering. Where respondents are more likely to offer a DK response, other respondents without preferences are more likely to guess when not presented a DK option. As a result, preferences tend toward 50-50, more so for lower income groups, altering the preference gap between groups where information differs.

The results in Figure 7, however, lumps together cases where random answering should increase support for a policy (when support for policy change is below 50%) and cases where it should decrease support (when support for policy change is above 50%). To examine if we observe convergence in both cases, we need to break down the analysis by whether support for policy change is above or below 50%. We do so in Figure 8. Specifically, the figure presents results of re-estimating the relationships between DK responses and preferences, now separately for issues where majorities support or oppose the policies by interacting the third-order polynomials with whether a majority of the group supports or opposes the suggested policy change.

In Figure 8 we can see preference convergence toward 50-50 in all panels.[13] Consider, for example, the preferences of the low-income group in panel A. There, we see that support and opposition for policies tends to be quite substantial when there are few DK responses—at the 1st percentile of the distribution of DK responses, observed support for policies with and without majority backing are 77.5% and 30.5%—but those percentages shrink with higher rates of DKs, reaching 61.6% and 38.6% at the 95th percentile of DK responses. A similar pattern obtains for the middle-income group, where the convergence on 50% support is as strong as in the low-income group—support for policies with and without majority backing goes from 78.1% and 30.8% at the 1st percentile of the distribution of DK responses to 61.7% and 39.4% at the 95th percentile. For the high-income group, we also see convergence, but it is weaker compared to what we saw for the low-and middle-income groups, as support for policies shifts from 74.5% and 33.2% at the 1st percentile of the distribution of DK responses to 63.8% and 38.3% at the 95th percentile. In all cases, support does not converge right on 50%, which appears to contrast with what we see in Figure 7, precisely because the result there averages across cases in Figure 8. The results in Figure 8 are, of course, also based on averages, which conceal variation in support across issues, where information differences are limited for some and more substantial for others. They are nevertheless consistent with the implication of random answering, and they point to one of the mechanisms driving preferences apart as DK answers increase.

[13] Again, the results are not driven by the imposed functional form; see appendix Figure A3.

Figure 8. The Effect of Don't Knows on Policy Support, By Majority Support and Income Group



Note: Point estimates with 95 percent confidence intervals. Different percentiles of the distribution of don't know answers for each group is shown in purple. The corresponding regression table is found in appendix A (Table A4).

To summarize, the implications of the results for preference gaps are as follows: For the low-high and middle-high income groups---which by far have attracted most attention in the literature on unequal representation---the convergence on 50% is stronger in the lower-income group compared to the high-income group, which all else equal will alter the preference gap between these groups as DK answers increase. The convergence in the low- and middle-income groups, by contrast, is about equally strong, suggesting that it is not random answering that is leading preference gaps between these groups to change as DKs increase—some other mechanism might be in play here. This latter result may help explain the consistent positive effect of DKs on preference gaps between the groups that we observe in Figure 6, regardless of which group has more extreme preferences.

Conclusion

Research regarding the inclusion of a DK response option has been influential on the behavior of survey organizations, who commonly do not include that option when asking about policy preferences. That research demonstrates that including a DK option encourages respondents to satisfice, responding "don't know" when they have preferences for or against a policy (Krosnick, et al 2002). Other research shows that excluding the option encourages respondents to effectively guess, expressing a preference when they do not have one (Smith 1985). Very recent research using online panels finds that there are elements of both tendencies (Elkjaer and Wlezien, N.d.). In this paper, we consider the implications of the survey practice for preference gaps, particularly relating to income, which has occupied much scholarly attention in political science.

Using Gilens' (2012) dataset, which contains information on the policy preferences of different income groups across a broad range of issues, we show that the tendency to offer a DK response varies a lot across individuals with different levels of income (and information). While this is an established finding in the literature (see e.g., Gilens 2012), we argue that it has consequences for preference estimates of different subgroups. Specifically, we find that the variation in DK responses predicts preference gaps across income groups. This suggests that preference gaps are endogenous to differences in information between income groups, raising questions about the reliability of estimates of differences in political representation, which relies crucially on precise measurement of subgroup preferences and their differences. We find further evidence that this variation reflects a tendency of respondents to guess, sometimes randomly, and more so for lower-income groups. This causes the preferences of these groups to appear more different from those of the affluent on issues where the affluent hold more extreme preferences. On other

issues, where the poor hold more extreme preferences, we see some indication that random guessing leads to narrower gaps though these effects are not statistically significant. One reason for the lack of a significant effect in these cases may be that these are more salient issues, attracting less DK responses because people are better informed about them, or that there are other mechanisms at play at the same time, which partly cancel out the effect of random guessing. Some respondents may attempt to create responses on the spot, effectively inferring their "preferences" based on the policy area (and question wording), which can balance out the effect of those answering at random.

These results 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, and for 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 relies on preferences elicited without that option, there is reason to think that scholarship might exaggerate differences in the representation of different groups. Indeed, we have shown that this survey practice can exaggerate preference gaps, or distort them in other ways, where a substantial portion of the differences we observe are more apparent than real. Exactly how much it matters

is difficult to determine given the aggregate nature of Gilens' data, since we cannot tell how many of the respondents do – and do not – have preferences.[14]

Future research using survey experiments can help identify the conditions under which DK response option matters (and doesn't), and in what ways, keeping in mind that random guessing is not the only means by which respondents who do not have preferences produce responses on the spot. 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, as recent research indicates that respondents almost never respond "don't know" unless explicitly offered the option (Elkjaer and Wlezien, N.d.).

[14] Even if we did have that information, we then would need to parse out whether and how they satisfice, i.e., randomly or in other ways.

References

Althaus, Scott L. 2003. *Collective Preferences in Democratic Politics*. Cambridge: Cambridge University Press.

Barabas, Jason, Jennifer Jerit, William Pollock, and Carl Rainey. 2014. "The Question(s) of Political Knowledge." *American Political Science Review* 108, no. 4: 840-855.

Bartels, Larry M. 2008. *Unequal Democracy*. Princeton: Princeton University Press.

Bashir, Omar S. 2015. "Testing Inferences about American Politics: A Review of the 'Oligarchy' Result." *Research & Politics* 2, no. 4: 1-7.

Branham, J. Alexander, Stuart N. Soroka, and Christopher Wlezien. 2017. "When Do the Rich Win?" *Political Science Quarterly* 132, no. 1: 43-62.

Cavaillé, Charlotte, and Kris-Stella Trump. 2015. "The Two Facets of Social Policy Preferences." *The Journal of Politics* 77, no. 1: 146-160.

Converse, Philip E. 1964. "The Nature of Belief Systems in Mass Publics." In *Ideology and Discontent*, edited by David E. Apter, 206-261. New York: Free Press.

Delli Carpini, Michael X., and Scott Keeter. 1996. *What Americans Know About Politics and Why It Matters*. New Haven: Yale University Press.

Elkjær, Mads Andreas, and Michael Baggesen Klitgaard. Forthcoming. "Economic Inequality and Political Responsiveness: A Systematic Review." *Perspectives on Politics*. Published online DOI: 10.1017/S1537592721002188.

Elkjær, Mads Andreas, and Torben Iversen. 2020. "The Political Representation of Economic Interests: Subversion of Democracy or Middle-Class Supremacy?" *World Politics* 72, no. 2: 254-290.

Elkjær, Mads Andreas and Christopher Wlezien. 2023. "Estimating Public Opinion from Surveys: The Impact of Including a 'Don't Know' Response Option to Policy Preference Questions." Paper presented at the Annual Meeting of the Midwest Political Science Association, Chicago.

Elsässer, Lea, Svenja Hense, and Armin Schäfer. 2021. "Not Just Money: Unequal Responsiveness in Egalitarian Democracies." *Journal of European Public Policy* 28, no. 12: 1890-1908.

Enns, Peter K. 2015. "Relative Policy Support and Coincidental Representation." *Perspectives on Politics* 13, no. 4: 1053-1064.

Enns, Peter K., and Christopher Wlezien, eds. 2011. *Who Gets Represented?* New York: Russell Sage Foundation.

Feldman, Stanley. 1989. "Measuring Issue Preferences: The Problem of Response Instability." *Political Analysis* 1, no. 1: 25-60.

Gilens, Martin. 2012. *Affluence and Influence: Economic Inequality and Political Power in America*. Princeton: Princeton University Press.

Gilens, Martin, and Benjamin I. Page. 2014. "Testing Theories of American Politics: Elites, Interest Groups, and Average Citizens." *Perspectives on Politics* 12, no. 3: 564-581.

Graham, Matthew. 2021. "'We Don't Know' Means 'They're Not Sure'." *Public Opinion Quarterly* 85, no. 2: 571-593.

Häusermann, Silja, Thomas Kurer, and Hanna Schwander. 2015. "High-Skilled Outsiders? Labor Market Vulnerability, Education and Welfare State Preferences." *Socio-Economic Review* 13, no. 2: 235-258.

Jessee, Stephen A. 2017. "'Don't Know' Responses, Personality, and the Measurement of Political Knowledge," *Political Science Research and Methods* 5, no. 4: 711-731.

Kinder, Donald R. 1983. "Diversity and Complexity in American Public Opinion," in *Political Science: The State of the Discipline*, edited by Ada W. Finifter, Washington, D.C.: American Political Science Association.

Krosnick, Jon, 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, no. 3: 371-403.

Krosnick, Jon. 1991. "Response Strategies for Coping with the Cognitive Demands of Attitude Measures in Surveys," *Applied Cognitive Psychology* 5, no. 3: 213-236.

Lax, Jeffrey R., Justin H. Phillips, and Adam Zelizer. 2019. “The Party or the Purse? Unequal Representation in the US Senate,” *American Political Science Review* 113, no. 4: 917-940.

Lizotte, Mary-Kate. 2020. *Gender Differences in Public Opinion: Values and Political Consequences*, Philadelphia: Temple University Press.

Lizotte, Mary-Kate, and Tony E. Carey Jr. 2021. “Minding the Black Gender Gap: Gender Differences in Public Opinion among Black Americans,” *American Politics Research* 49, no. 5: 490-503.

Luskin, Robert C. and John G. Bullock. 2011. “‘Don't Know’ Means ‘Don't Know’: DK Responses and the Public's Level of Political Knowledge,” *The Journal of Politics* 73, no. 2: 547–557.

Persson, Mikael, Wouter Schakel, and Anders Sundell. Forthcoming. “A Man’s World? The Policy Representation of Women and Men in a Comparative Perspective,” *Perspectives on Politics*: 1-17.

Purdam, Kingsley, Joseph Sakshaug, Mollie Bourne, and David Bayliss. 2020. “Understanding ‘Don’t Know’ Answers to Survey Questions - an International Comparative Analysis Using Interview Paradata,” *Innovation: The European Journal of Social Science Research*.

Rigby, Elizabeth and Gerald C. Wright. 2013. “Political Parties and Representation of the Poor in the American States,” *American Journal of Political Science* 57, no. 3: 552-565.

Roberts, Claire, Eleanor Gilbert, Nick Allum, and L. Eisner. 2019. "Research Synthesis: Satisficing in Surveys: A Systematic Review of the Literature," *Public Opinion Quarterly* 83, no. 3: 598-626.

Schaffner, Brian, Jesse Rhodes, and Raymond La Raja. 2020. *Hometown Inequality: Race, Class, and Representation in American Local Politics*, Cambridge: Cambridge University Press.

Schakel, Wouter. 2021. "Unequal Policy Responsiveness in the Netherlands," *Socio-Economic Review* 19, no. 1: 37-57.

Schakel, Wouter and D. van der Pas. 2021. "Degrees of Influence: Educational Inequality in Policy Representation," *European Journal of Political Research* 60, no. 2: 418-437.

Schuman, Howard and Stanley Presser. 1996. *Questions and Answers in Attitude Surveys*, Thousand Oaks: Sage.

Slemrod, Joel. 2006. "The Role of Misconceptions in Support for Regressive Tax Reform," *National Tax Journal* 59, no. 1: 57-75.

Smith, Tom W. 1985. "Nonattitudes: A Review and Evaluation," in *Surveying Subjective Phenomena*, Vol. 2, edited by Charles F. Turner and Elizabeth Martin, New York: Russell Sage Foundation, 215-55.

Stantcheva, Stefanie. 2021. "Understanding Tax Policy: How Do People Reason?" *The Quarterly Journal of Economics* 136, no. 4: 2309-2369.

Wlezien, Christopher. 2017. “Public Opinion and Policy Representation: On Conceptualization, Measurement, and Interpretation,” *Policy Studies Journal* 45, no. 4: 561-582.

Zaller, John and Stanley Feldman. 1992. “A Simple Theory of the Survey Response,” *American Journal of Political Science* 36, no. 3: 575-616.

Online Appendix

Table A1. The effect of don't knows (DK) on preference divergence between pairs of income groups, non-logged DK responses

	(1)	(2)	(3)	(4)	(5)	(6)
	High-low		High-middle		Middle-low	
DK	0.11*		0.05+		0.08*	
	(0.03)		(0.03)		(0.02)	
DK High-low		0.09*				
		(0.03)				
DK High-middle				0.06+		
				(0.03)		
DK middle-low						0.07*
						(0.02)
Constant	8.67*	8.70*	5.57*	5.56*	5.93*	5.89*
	(0.23)	(0.24)	(0.18)	(0.17)	(0.14)	(0.15)
N	1,779	1,779	1,779	1,779	1,779	1,779
R-squared	0.03	0.03	0.03	0.03	0.03	0.03

Note: * p<0.05. Heteroskedasticity robust standard errors in parentheses. All independent variables are expressed as percentages. All independent variables are expressed as averages. All regressions include policy domain and year fixed effects.

Table A2. Regression results for Figure 6

	(1)	(2)	(3)	(4)	(5)	(6)
	High-low		High-middle		Middle-low	
DK	0.52*		0.50*		0.22	
	(0.25)		(0.20)		(0.17)	
DK High-low		0.57*				
		(0.23)				
DK High-middle				0.46*		
				(0.18)		
DK Middle-low						0.30+
						(0.16)
P(high)<P(low) X DK	-0.67+					
	(0.39)					
Conflicting preferences, HL X DK	0.29					
	(0.61)					
P(high)<P(low) X DK HL		-0.76*				
		(0.35)				
Conflicting preferences, HL X DK HL		0.03				
		(0.58)				
P(high)<P(middle) X DK			-0.84*			
			(0.28)			
Conflicting preferences, HM X DK			0.10			
			(0.66)			
P(high)<P(middle) X DK HM				-0.71*		
				(0.26)		
Conflicting preferences, HM X DK HM				-0.35		
				(0.76)		
P(middle)<P(low) X DK					0.40	
					(0.26)	
Conflicting preferences, middle-low X DK					-0.21	
					(0.58)	
P(middle)<P(low) X DK ML						0.22
						(0.25)
Conflicting preferences, ML X DK ML						-0.20
						(0.60)
P(high)<P(low)	0.86	1.07+				
	(0.63)	(0.62)				
Conflicting preferences, High-low	7.14*	7.55*				
	(1.10)	(1.09)				
P(high)<P(middle)			2.04*	1.70*		
			(0.45)	(0.37)		
Conflicting preferences, high-middle			5.84*	6.48*		
			(1.15)	(1.17)		
P(middle)<P(low)					-1.42*	-1.19*
					(0.41)	(0.43)
Conflicting preferences, middle-low					5.36*	5.34*
					(1.06)	(1.17)
Constant	7.21*	7.07*	4.03*	4.19*	5.82*	5.66*
	(0.40)	(0.40)	(0.30)	(0.24)	(0.27)	(0.28)
Observations	1,779	1,779	1,779	1,779	1,779	1,779
R-squared	0.21	0.21	0.17	0.17	0.16	0.16

Note: * p<0.05, + p<0.1. Heteroskedasticity robust standard errors in parentheses. Policy domain and year fixed effects not shown.

Table A3. Regression Results for Figure 7

	(1) Low-income support	(2) Middle-income support	(3) High-income support
DK, low income (L)	-1.21*		
	(0.26)		
DK, L X DK, L	0.03*		
	(0.01)		
DK, L X DK, L X DK, L	-0.00		
	(0.00)		
DK, middle income (M)		-1.68*	
		(0.32)	
DK, M X DK, M		0.06*	
		(0.02)	
DK, M X DK, M X DK, M		-0.00*	
		(0.00)	
DK, high income (H)			-1.76*
			(0.31)
DK, H X DK, H			0.10*
			(0.02)
DK, H X DK, H X DK, H			-0.00*
			(0.00)
Constant	61.43*	61.67*	61.19*
	(1.20)	(1.03)	(0.97)
Observations	1,779	1,779	1,779
R-squared	0.08	0.07	0.07

Note: * p<0.05. Standard errors in parentheses. Policy domain and year fixed effects not shown.

Table A4. Regression Results for Figure 8

	(1) Low-income support	(2) Middle-income support	(3) High-income support
DK, low income (L)	0.91*		
	(0.23)		
DK, L X DK, L	-0.03*		
	(0.01)		
DK, L X DK, L X DK, L	0.00+		
	(0.00)		
L, support above 50%	46.92*		
	(1.36)		
Support, L X DK, L	-2.58*		
	(0.30)		
Support, L X DK, L X DK, L	0.08*		
	(0.02)		
Support, L X DK, L X DK, L X DK, L	-0.00*		
	(0.00)		
DK, middle income (M)		1.27*	
		(0.26)	
DK, M X DK, M		-0.05*	
		(0.02)	
DK, M X DK, M X DK, M		0.00*	
		(0.00)	
M, support above 50%		47.39*	
		(1.12)	
Support, M X DK, M		-3.78*	
		(0.34)	
Support, M X DK, M X DK, M		0.16*	
		(0.02)	
Support, M X DK, M X DK, M X DK, M		-0.00*	
		(0.00)	
DK, high income (H)			0.82*
			(0.29)
DK, H X DK, H			-0.04+
			(0.02)
DK, H X DK, H X DK, H			0.00
			(0.00)
H, support above 50%			41.28*
			(1.17)
Support, H X DK, H			-2.51*
			(0.40)
Support, H X DK, H X DK, H			0.11*
			(0.03)
Support, H X DK, H X DK, H X DK, H			-0.00*
			(0.00)
Constant	30.55*	30.70*	33.24*
	(1.09)	(0.89)	(0.93)
Observations	1,779	1,779	1,779
R-squared	0.73	0.75	0.71

Note: * $p<0.05$. Standard errors in parentheses. Policy domain and year fixed effects not shown.

Figure A1. Binned Scatterplots of the Association between DKs (Logged) and Preference Gaps

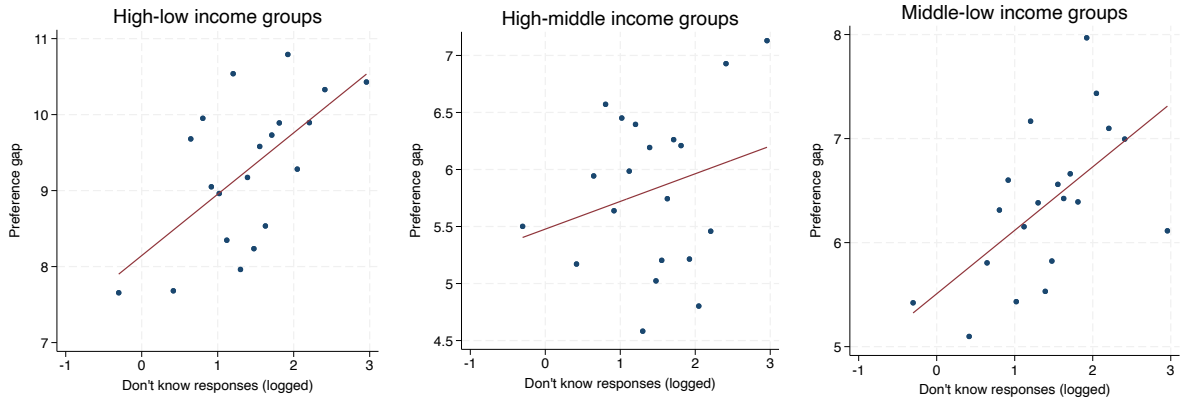


Figure A2. Lowess Smoothers of the Association between DKs and Policy Support

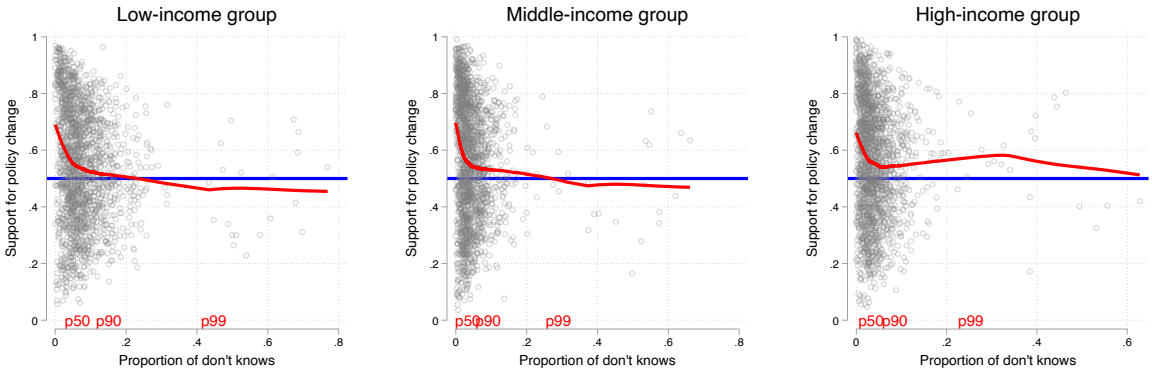


Figure A3. Lowess Smoothers of the Association between DKs and Policy Support, By Majority Support and Income Group