



RESEARCH ARTICLE

Income inequality and opinion expression gap in the American public: an analysis of policy priorities

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Abstract

Past scholarship has documented that the poor are more likely to withhold their policy preferences in public opinion surveys, suggesting income gaps in political engagement. Despite the wealth of scholarly interest in opinion formation, however, previous studies focused almost exclusively on opinion gaps in preferences, leaving income-related gaps in policy prioritisation virtually unexamined. Drawing on 596 public opinion surveys conducted with nearly 700,000 Americans over 55 years, we make a comprehensive attempt to examine income-level differences in “don’t know” responses to the most important problem (MIP) question. Our results show that the less affluent are more likely to say “don’t know” when asked about the MIP facing their country, even after controlling for various factors including educational attainment and political attention. Importantly, we also show that income-related differences in opinionation cross cut other socio-economic differences in policy prioritisation. These results have important implications for the study of public opinion.

Keywords: income level; policy priorities; the most important problem; the USA

Introduction

Income inequality has occupied a central place in a large strand of scholarly inquiry in the study of public policy (Smeeding 2005; Kelly and Enns 2010; Johnston and Newman 2016; Epp and Borghetto 2020). One of the received wisdoms in this literature is that affluent Americans enjoy greater influence over various stages of the policymaking process than less-well-off citizens do (Gilens 2012; Flavin and Franko 2017). Scholars further argue that the observation that the policy preferences and priorities of lower-income citizens are underrepresented in policymaking processes may translate into undemocratic policy outcomes, further exacerbating political and economic inequalities (Jacobs and Page 2005; Bartels 2006; Gilens 2009).

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In a rather distinct field of scholarly inquiry, scholars of political behaviour turned their attention to socio-economic differences in political engagement to advance our understanding of differential outcomes in democratic processes (Verba and Nie 1987; Leighley 1995; Verba et al. 1995; Schlozman et al. 2012). Specifically, this body of research showed that lower-income people are less likely to vote (Brady et al. 1995; Lijphart 1999; Jusko and Shively 2005; Gallego 2009), less likely to participate in political processes by contacting elected officials or making campaign contributions (Bartels 2016), and more likely to withhold their policy preferences in opinion polls (Laurison 2015).

While the relationship between social class and political engagement has received considerable scholarly attention in the study of representation over the past several decades, much less attention has been paid to the link between social class and opinion expression. Instead, income differences in voting and campaign donations have received the lion's share of the scholarly interest in the study of political engagement (Leighley 1995). Whereas this is hardly surprising, as elections produce some of the more important outcomes in democratic processes, it is critical to investigate the effect of social class on arguably the most basic and essential act of democratic politics, opinion expression. For one thing, if lower-income individuals are less likely to voice their policy priorities and preferences, this would be indicative of political alienation and disenchantment with the political system (Bogart 1967; Althaus 2003), which is of great normative importance. As Laurison (2015, 926) convincingly put it, "Reducing external barriers or even 'cognitive costs' will have little democratizing effect if lower-income people are nonetheless reluctant to even express political opinions".

Despite being one of the few survey items that has been asked consistently since the 1940s (Cavari and Freedman 2019), representational quality in the most important problem (MIP) questions has received relatively little attention. In fact, individual-level determinants of "don't know" (DK) and "no opinion" responses to policy priority questions (such as the MIP or issue questions) have gone mostly unexamined in a longitudinal manner, and this lack of attention constitutes a considerable knowledge gap in the literature for two important reasons. First, scholars in various fields of study, from opinion formation to policy responsiveness, relied heavily on the MIP question to examine numerous political phenomena at the aggregate level (Smith 1980, 1985; Jones 1994; Jones and Baumgartner 2004, 2005; McCombs 2004; Jennings and John 2009; Jones et al. 2009; Enos and Hersch 2015; Bevan et al. 2016; Oldendick and Hendren 2017; Gruszczynski 2020), where little to no attention has been paid to the individual-level dynamics of opinion expression gaps among socio-demographic groups. Second, although research on policy responsiveness tends to be inconclusive in regard to the role of public opinion in the policymaking process, recent experimental studies document strong evidence that exposure to public opinion research leads to important changes in politicians' legislative behaviour (Hager and Hilbig, 2020; Tomz et al. 2020)¹; therefore, misrepresentation of policy priorities at the aggregate level may have normatively

¹Indeed, public opinion polls clearly indicate that large segments of the public want political elites to pay closer attention to polls (Gallup News Service 2005).

important implications for democracy and its “signal detection system” (Jones and Baumgartner 2005; Ura and Ellis 2008).

The present study makes a comprehensive attempt to examine the characteristics of opinion givers by utilising a recently constructed dataset of open-ended MIP responses from every survey conducted in the past 75 years that asked the MIP question (Heffington et al. 2019). Building on a large body of research that establishes a link between political agency and efficacy, and political engagement (Verba et al. 1995; Almond and Verba 1963; Morrell, 2003; Beaumont, 2011), we argue that higher-income individuals, relative to the less affluent, are more likely to express their policy concerns. Furthermore, we show that the income gap in the expression of policy concerns cross cuts racial, gender, and partisan gaps. Interestingly, while the opinion expression gap between the lowest and the highest income groups diminishes among the better educated, it does not disappear. Finally, we show that accounting for missing responses via multiple imputation (MI) leads to considerable changes in policy prioritisation patterns at the aggregate level, especially for some of the traditionally salient policy categories. These results lend support to the contention that political inequalities in American politics are present even in the basic act of political expression and engagement.

The rest of the article proceeds as follows. First, we review the literature on income inequality and political opinionation and develop our theoretical expectations. We then estimate a series of logistic regression models that predict “DK/no opinion” responses to the MIP question over several decades.² Using MI procedures, we then account for missing responses and compare our imputed results with original policy prioritisation models. We conclude by discussing the implications of our findings for the study of representation of interests and political opinionation.

Theorising income inequality and political expression

Background

Since the last two decades, there has been a renewed interest in various aspects of political inequality in the United States (US) and elsewhere. Unlike earlier studies, this new line of research highlighted the unequal nature of policy responsiveness in the US by focusing on the link between the substantive policy preferences of the average American and actual policy outputs (Monroe 1979, 1998; Erikson et al. 2002; Burstein 2003; Winters and Page 2009; Hacker and Pierson 2010; Gilens 2012; Epp 2018; Epp and Borghetto 2020). Specifically, this body of research has been primarily interested in the extent to which government officials respond to changes in mass opinion in regard to a particular policy (Canes-Wrone, 2015, 149), where “mass opinion” is typically “assumed to refer to the aggregated responses of individuals as reflected in opinion polls” (Manza and Cook 2002, 631). While this literature has advanced our understanding of the opinion-policy nexus, we believe there is great value in taking a step back and scrutinising those

²There is considerable variation in how survey organizations coded nonresponse in MIP questions across time and space. For this reason, we treat nonresponses (i.e. no opinion) the same as “don’t knows” and use them interchangeably throughout the text.

who refrain from joining the pool of opinion givers when asked about the MIPs facing the country.

Although the use of opinion polls in democratic processes has been a hotly debated question (Burstein 2003), a widely accepted view is that descriptive representation in collective preferences is of great normative importance for various reasons, according to both the delegate and the trustee models of democracy (Herbst 1995; Althaus 2003). In fact, as Althaus (2003, 259) highlights in his influential work, there are various descriptive uses of opinion polls in democratic processes, from gauging public reactions to political events, helping the public hold politicians accountable to the policy preferences of citizens, influencing policy formulation, to pinpointing winning political issues in election periods (see also Gallup and Rae 1940; Key 1961; Nacos et al. 2000; Sobel 2001; Belot 2019). For this reason, distortions in collective preferences due to the underrepresentation of particular groups in the pool of opinion givers may have the potential to undermine the quality of democratic processes. In Althaus' (2003, 252) words, "the possibility that some group members may fail to give an opinion reinforces the potential for political inequality in the relative influence of group preferences". While we proceed with caution in interpreting the importance of descriptive representation in collective preferences for actual representational outcomes in democracies, we join a growing body of research examining systematic distortions in collective preferences and make a comprehensive attempt to understand income-related differences in reluctance to express perceived policy priorities.

Income inequality, policy prioritisation, and opinion-expression gap

Past scholarship has theorised about economic hardship and income inequality as having negative effects on various forms of political participation, although the causal relationship is fairly complex (Finkel 1985; Marx and Nguyen 2018). While several potential mechanisms have been proposed as to how income level can shape one's political engagement, a large line of scholarly inquiry highlights the role of material resources in political processes (Burns et al. 2001). Reviewing prior research, Beaumont (2011, 217) contends that "one's position in the social hierarchy provides valuable material resources, shapes the political norms around us, and influences invitations into politically active groups". Building on this contention, the author shows that civic resources, which tend to overlap with socio-economic status (SES), explain diminished political engagement among lower SES individuals. Lending empirical support to the idea that individuals facing economic hardship tend to have lower levels of civic participation, Lim and Sander (2013) also report that income inequality leads to declines in both political and nonpolitical types of civic engagement. Others argued that those facing economic hardship are so preoccupied with financial difficulties that they have little time for and interest in political matters (Brody and Sniderman 1977; Rosenstone 1982). In short, studies focusing on the relationship between one's material well-being and political engagement suggested that economic hardship may dampen political engagement directly or indirectly by diminishing the material resources and social capital that are known to foster active political engagement (Verba et al. 1995).

A related body of research turned to the concepts of internal and external political efficacy to explain disparities in political engagement among the public (Abramson and Aldrich 1982; Bowler and Donovan 2002; Marx and Nguyen 2016). One established finding in this research is that lower-income individuals often have diminished internal political efficacy (Almond and Verba 1963; Pateman 1970; Verba et al. 1995; Morrell 2003), namely “feelings of personal political effectiveness, or the perception that the self is capable of influencing government and politics” (Finkel 1985, 892), which helps explain their withdrawal from politics at greater rates. Marx and Nguyen (2018, 921) draw on the literature on the psychology of poverty to argue that economic hardship depresses internal political efficacy by reducing cognitive and emotional sources: “Besides a shortage of time to acquire political information, social problems also trigger cognitive and emotional processes that are likely to impede the processing and retrieval of information”. That is, cognitive limitations imposed by the psychology of poverty may further diminish one’s civic skills and confidence in one’s ability to participate in politics. In the context of answering survey questions about the most pressing problems of the country, this implies that the poor, compared to higher-income citizens, may be less likely to provide opinions about the most pressing problems facing the country due to reduced cognitive and emotional resources.

Studies also show that external efficacy, the belief that political elites and institutions are responsive to the needs and policy priorities of the public, fosters participatory habits in political processes (Finkel 1985; Valentino et al. 2009). Feeling excluded from political decision-making processes, lower-income individuals may withhold their opinions when asked about the problems facing their country, as they may think it is not worthwhile to provide an opinion on macro political phenomena in an unresponsive political system. Francis and Busch (1975, 208), for instance, argue that survey nonresponse is not random “because persons on the periphery feel excluded, become alienated, and express this by non-response or refusing to be interviewed”. Similarly, Bourdieu (1984, 1991) highlights that income and its correlates, such as education and occupation, do not only increase political participation by improving people’s technical ability to understand and engage in politics but also create a subjective sense of their place in the world (i.e. *habitus*), which leads them to feel entitled and expected to have political opinions. Seen in this vein, Bourdieu argues, class-related dispositions towards politics dominate much of individual behaviour in socio-political life. Consequently, as Laurison (2015, 928) summarises, “lower-income and less-educated people report being less interested in politics, feeling alienated from politics, feeling that other people understand politics better (internal efficacy), and believing that they can have little impact on politics (external efficacy) . . . [which are] manifestations of the perception that many relatively disadvantaged people have that political debates, much like art galleries and opera houses, are dominated by and intended for other, better-off kinds of people”. Indeed, the author’s study demonstrates that lower-income people are more likely to give DK answers to political questions even after controlling for differences in resources, knowledge, cognitive capacities and skills, leading him to conclude that class-based differences in political participation do not only stem from differences in cultural capital, education or cognitive skills but also

from widespread differences in the willingness of the poor to express political opinions.

Berinsky's (2002) study of public opinion on social welfare policy controversies documents that less-well-off individuals are less likely to offer opinions on social welfare policy questions. According to the author, the broader political culture surrounding the social welfare policy in the US interacts with significant resource differentials (e.g. political interest, knowledge) to create disproportionately high DK responses among the disadvantaged, and this tendency results in overrepresentation of conservative policy positions regarding the social welfare policy. Extending this research in a book-length study, Berinsky (2004) has shown that controversies surrounding particular policies such as racial policy led the poor to withhold their opinions at greater rates, which has important implications for collective preferences.

To recap, different strands of research attribute the relatively low levels of political involvement among the poor to reduced material, cognitive and emotional resources that are known to influence the sense of civic duty and political efficacy. While past research recognises the complexity of the causal relationship, thanks to the considerable overlap among civic skills, and material and cognitive resources, the contention that the poor withdraw from politics at greater rates has received substantial empirical evidence. Based on this discussion, we argue that lower-income individuals withhold their opinion when asked about the MIPs facing the country and suggest three potential explanations based on past studies: Compared to affluent citizens, the poor (i) are more likely to think that it is not worthwhile to provide their opinion on a macro political problem due to limited government responsiveness (i.e. external efficacy), (ii) have less confidence in understanding and participating effectively in politics (i.e. internal efficacy), and (iii) have less material and emotional resources (e.g. time, money, social and political networks) that can help sustain their political interest and motivation. Using Schlozman et al. (2012, 181) words, "position in the socio-economic hierarchy... affects the acquisition of such participatory factors as psychological orientations to politics like political interest, knowledge, and efficacy and the civic skills developed in school and adult institutional settings". Following this line of reasoning, we expect lower-income individuals to withhold their policy priorities at greater rates than higher-income individuals due to diminished political efficacy and sense of civic duty (Hypothesis 1).

Prior research has also shown that formal education strengthens one's sense of competence to participate effectively in political processes (Verba and Nie 1987; Verba et al. 1995; Delli Carpini and Keeter 1996; Morrell 2003). Formal education also provides individuals with material resources and stronger political networks, which in turn enhance their external efficacy (Rasmussen and Nørgaard 2018). As Beaumont (2011, 216) argues, "education yields valuable political assets, but often intersects with status and civic resources, providing the greatest benefits to those who need them least". Empirical evidence supporting this view is abundant (Laurison 2015). For instance, Schlozman et al. (2012) show that college graduates are far more politically active than high school graduates. Furthermore, Finkel's (1985) analysis shows that the effect of political participation on internal and external efficacy is lowest among the better educated, implying that there is relatively little room for improvement in internal and external efficacy among the better

educated. Following this research, we argue that formal education reduces the negative effect of economic hardship on opinion expression by enhancing internal and external efficacy (Hypothesis 2).

Empirical approach

Previous scholarship on nonresponse focused almost exclusively on questions of policy preferences and political knowledge (Krosnick and Milburn 1990, 1991; Delli Carpini and Keeter 1993; Nadeau and Niemi 1995; Berinsky 2005; Page and Shapiro 2010), whereas little attention has been devoted to item nonresponse in policy priority questions, such as the most important “problem” or “issue” surveys. In an attempt to shift empirical focus from nonresponse in policy preferences to that in policy priorities, we make the first large-scale attempt to examine DK/no opinion answers to the MIP question. To that end, we make use of a recently constructed dataset of policy priorities that covers the period of 1939–2015. This dataset, arguably the most comprehensive of its kind, has various advantages. First of all, unlike most other datasets used in studies of item nonresponse, this dataset contains open-ended questions. As Luskin and Bullock (2011, 549) wrote, “on closed-ended items, guessing is a snap, lucky guessing a reasonable chance, and retrieval not a factor . . . the vast majority of those saying “don’t know” really don’t know”. That is to say, reluctance in expressing opinions is likely driven by political knowledge on closed-ended items. This is arguably less so with open-ended questions of policy priorities, which provide additional opportunities to explore the sources of DK answers other than education and knowledge.

There has been considerable variation in how survey organisations measured nonresponse in MIP questions in the past decades. The great majority of surveys in the MIP dataset utilised either “don’t know”, or “no opinion” or both items to code nonresponse. In the context of MIPs, we believe that the items “don’t know” and “no opinion” are conceptually very similar. This is because open-ended policy priority questions in MIP surveys do not measure political knowledge but instead measure perceived priorities. For this reason, we believe that both “don’t know” and “no opinion” are good measures of policy inattention.³

The dataset at our disposal constitutes a significant improvement over most existing datasets of public opinion in an important way in the context of the study of item nonresponse. Studies exploring various questions about policy responsiveness and representation of interests relied heavily on datasets of individual policy preferences for the most salient issues of the day, leaving numerous issues that fail to make it onto the government and the public agenda largely unexamined (Page 2002; Burstein 2006). Accordingly, scholars argue that preference data often used by such studies lead researchers to overstate the importance of their findings (Gilens 2012). Gilens suggests that one way to overcome this issue is to encourage the use of individual-level attitude data for nonsalient issues. With its open-ended structure

³One may argue that different factors such as income level, education and efficacy lead respondents to say “don’t know” or “no opinion” when asked about the most important problem. In the absence of additional data, however, we are unable to examine this possibility. The MIP dataset does not allow us to distinguish between types of nonresponse, as all types of nonresponses were coded as missing in the dataset.

and unusually long period of coverage, the MIP dataset includes both salient and nonsalient issues and allows for a more fine-grained analysis of DK answers. By shifting our empirical focus from closed-ended preference questions about salient issues to open-ended priority questions, we seek to go beyond preferences to examine whether such income gaps are also present in policy priorities.

This recently constructed dataset codes nearly a million Americans' responses to the MIP question from around 700 opinion surveys conducted in the past seven decades (Heffington et al. 2019). However, since data about the respondent's income level are not available from before 1960, we restrict our analysis to the period of 1960–2015, which leaves us with 596 opinion surveys and nearly 700,000 respondents. This dataset categorises open-ended MIP responses into topic codes based on three coding schemes, the Comparative Agendas Project (CAP), Singer, and the Manifesto Research on Political Representation (MARPOR), and therefore, allows for comparisons across time. The dataset also codes the discrete categories of income into quartiles based on the distribution of household income within each survey. While not ideal, income quartiles were widely used in previous scholarship dealing with the respondent's socio-economic characteristics (e.g. Ura and Ellis 2008), and the use of quartiles enables comparison across a large number of different surveys.

Since we report additional analyses using the content-coded MIP answers (specifically CAP-coded answers) to supplement our main analysis, it is worth discussing the three coding schemes utilised in the MIP dataset. The MIP dataset coded responses into a wide variety of problem categories that match issue classifications provided by Matthew Singer (Singer 2011), MARPOR (Volkens et al. 2014), and the CAP (Baumgartner and Jones 2002). The MARPOR coding scheme is the least comprehensive among the three, providing seven broad topic categories such as the economy, external affairs, and welfare and quality of life. The CAP and Singer coding schemes provide much more specific topic codes, with the Singer scheme having a larger number of topic categories. Although these two coding schemes differ in the coding of some specific categories, there is significant overlap in many of the salient policy areas. Heffington and collaborators (2019, 19) note that “we can see that while there is some loss of data in translating the Singer scheme into the CAP scheme, these losses are very minor and do not amount to significant incompatibilities because the omitted categories are so rarely used”.

We estimate a series of logistic regression models that predict nonresponse at the individual level, where our dependent variable measures whether the respondent said “don't know” (or “no opinion”) when asked about the MIP facing the country. Around 11% of respondents (nearly 100,000 individuals) gave DK/no opinion responses to open-ended MIP questions over the past decades. Our main independent variables of interest include income level, formal education, and copartisanship (coded as 1 if the respondent identifies strongly/weakly with the same party as the incumbent president). The variable income level measures household's income as a quartile in a given survey and therefore takes into account the distribution of income in the sample. As the MIP dataset does not provide raw income data, we are unable to use alternative, recoded income measures. The variable education measures the respondent's highest completed level of schooling using an ordinal scale: no high school, some high school, high school, college, and postgraduate.

Research shows that various socio-economic and demographic factors are correlated with policy priorities and political knowledge and therefore need to be controlled for in our empirical models (Althaus 2003; Jerit et al. 2006). For example, past research showed that women are significantly less likely than men to express attitudes in surveys (Atkeson and Rapoport 2003). Similarly, studies show that people of colour are more likely to abstain from providing opinions in polls (McDonald and Thornburg 2012). As for age, Berinsky (2008) found that middle-aged respondents were much less cooperative than younger and older respondents. For these reasons, we control for race (White = 1), gender (Female = 1), and age, as well as place of residence (south = 1; urban = 1). Additionally, given that partisanship plays an important role in shaping policy priorities (Zaller 1992; Lupia et al. 1998), it may well be the case that those identifying with the same party as the incumbent president are less likely to mention policy areas when asked about the MIPs facing the country. Finally, we employed year fixed effects.⁴

A large portion of respondents come from surveys conducted by Gallup (37%, with 286,000 respondents), CBS News/NYT (19%, with 149,000 respondents), CBS News (10%, with 77,000 respondents), ABC News/Washington Post (6%, with 46,000 respondents), Pew (5%, with 41,000 respondents), Los Angeles Times (5%, with 38,000 respondents), and ANES (3%, with 23,000 respondents) between 1960 and 2015. The sample size in individual surveys ranges from 450 to 5,800, with the average being around 1,600. These surveys are highly representative of the US population. Specifically, 52% of the respondents are female, and 15% are racial minorities (i.e. non-White), which is greatly in line with the US census data. While 45% of the respondents identified as Democrats, nearly 30% were Republican. Around 21% of the respondents fall within the lower quartile, 27% within the second quartile, 26% within the third quartile, and 25% within the highest quartiles.⁵ More than half of all respondents are high school graduates (54%), whereas those with a postgrad diploma and those with no high school education constitute around 15% of our sample.⁶ Summary statistics are reported in the supplementary file (see Table A.1).

Before we present our empirical results, it is worth illustrating DK answers by year to put nonresponse in surveys into context. In Figure 1, we provide a comparison of the proportion of respondents stating three most popular policy areas, the economy, defence and international affairs, as the MIP versus that of nonresponse.⁷

⁴We estimate additional models using survey fixed effects instead of year fixed effects and report these results in Table A.2 in the Online Appendix.

⁵One limitation with this setting is that the income variable may be proxying for unobserved variation in formal education (or political sophistication) within educational groups. Due to discreteness of the income and education variables, we are unable to further explore this possibility.

⁶Although the MIP dataset contains information about survey weights utilized by each polling organization, these weights are not comparable across surveys. Using the US census dataset (i.e. the Current Population Survey) of around 60 million individuals interviewed between 1940 and 2010, we created survey weights based on four socio-demographic characteristics (age, gender, race and education) and estimated additional models with these survey weights. These additional results are almost identical to our original findings (see Table A.4).

⁷In the appendix, we present additional figures that break down the nonresponse in the dataset by gender and by age (see Figure A.2 and Figure A.3).

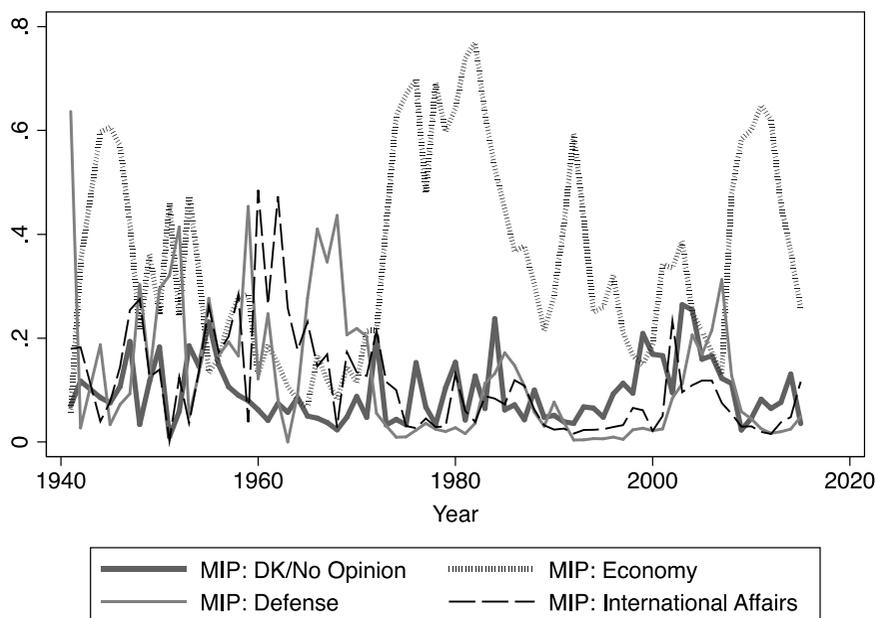


Figure 1. The proportion of nonresponse in the MIP dataset by year.

While the proportion of nonresponse by year fluctuated considerably over time, it is clear from the figure that DK answers constituted an important portion of MIP answers. The economy was the most frequently mentioned MIP in the great majority of surveys in the MIP dataset. For much of the past several decades, the proportion of nonresponse was often as high as the proportion of respondents stating “defence” and “international affairs” as the MIP facing the country. This implies that DK/no opinion answers in the MIP surveys, which constitute 10.5% of the observations in the dataset, were much more common than mentions of various important policy areas including “health care” (3.5%), “education” (2%), “civil rights” (3.8%), and “social welfare” (4%).

Results

Reviewing different strands of research on the link between income level and opinion expression, we hypothesise that lower-income individuals are more likely to give DK answers when asked about the MIPs facing the country (H1), and that increasing formal education alleviates income-related gaps in opinion expression (H2). To that end, we estimate a series of logistic regressions with year fixed effects that predict nonresponse in MIP surveys and report these results in Table 1. As coefficients from logistic regressions are difficult to interpret, we also provide simulated predicted probabilities based on hypothetical scenarios. We then report our interactive models in Table 2 and illustrate marginal effects drawn from our interactive models in Figure 2.

Table 1. Determinants of DK responses to the MIP question, 1960–2015

	Main models		Substantive impact (simulated predicted probabilities)
	Model 1	Model 2	
Income quartiles			Baseline Pr(nonresponse): 0.072
Second quartile	−0.134*** (0.0115)	−0.0935*** (0.0146)	
Third quartile	−0.288*** (0.0126)	−0.227*** (0.0158)	Δ from first to second quartiles: −0.01 (−%13)
Fourth quartile	−0.422*** (0.0138)	−0.366*** (0.0171)	Δ from first to third quartiles: −0.018 (−%25)
Education			Δ from first to fourth quartiles: −0.025 (−35%)
Some high school (HS)	0.0646*** (0.0204)	0.0761*** (0.0241)	
HS	−0.483*** (0.0185)	−0.506*** (0.0221)	
College	−0.704*** (0.0211)	−0.684*** (0.0256)	
Postgrad	−0.741*** (0.0245)	−0.773*** (0.0300)	
Race: White		−0.0919*** (0.0147)	
Gender: Female		0.0668*** (0.0107)	
Presidential copartisan		0.0597*** (0.0112)	
Age		−0.00443*** (0.000323)	
Residence: the south		0.120*** (0.0111)	
Residence: urban		−0.0972*** (0.0126)	
Constant	−1.720*** (0.0967)	−1.694*** (0.107)	
AIC	393134.9	259734.6	
BIC	393854.6	260485.7	
Observations	675,328	463,068	

Standard errors in parentheses.

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

To begin with Table 1, Model 1 presents our baseline model with no control variables, whereas Model 2 includes our theoretically relevant controls. It is important to note that we lose about one-third of our observations when including the control variables, as many of the MIP surveys in the past did not include questions about residence (e.g. urban/rural) and racial background. As seen in the table, a relatively large number of factors seem to play a role in shaping policy prioritisation at the individual level. Income level is negatively associated with nonresponse, and it reaches statistical significance at the $p < 0.001$ level in both models. That is, lower-income individuals are more likely to give DK/no opinion responses to the MIP question, even after controlling for various important factors such as formal education. In substantive terms, a hypothetical change from the lowest income quartile to the highest income quartile leads to a 35% decrease in the

Table 2. Interactive effects of education and income level

	Model 3	Model 4
Some high school	0.120*** (0.0433)	0.159*** (0.0507)
High school	-0.532*** (0.0374)	-0.550*** (0.0439)
College	-0.721*** (0.0467)	-0.703*** (0.0567)
Postgrad	-0.883*** (0.0619)	-0.964*** (0.0783)
Income quartile	-0.164*** (0.0197)	-0.142*** (0.0220)
Some high school × income quartile	-0.0260 (0.0234)	-0.0390 (0.0265)
High school × income quartile	0.0294 (0.0205)	0.0276 (0.0229)
College × income quartile	0.0170 (0.0222)	0.0170 (0.0253)
Postgrad × income quartile	0.0575** (0.0252)	0.0711** (0.0298)
Gender: Female		0.0655*** (0.0106)
Race: White		-0.0884*** (0.0147)
Presidential copartisan		0.0596*** (0.0112)
Age		-0.00454*** (0.000323)
Residence: the south		0.119*** (0.0111)
Residence: urban		-0.0963*** (0.0126)
Constant	-1.540*** (0.101)	-1.527*** (0.113)
AIC	393117.7	259720.2
BIC	393860.2	260493.4
Observations	675,328	463,068

Note: Income quartile is treated as a continuous variable in the interaction for brevity in reporting. Standard errors in parentheses.

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

probability of nonresponse, holding other variables constant at their means. Notably, a change from the lowest to the 2nd income quartile results in a 13% decrease in nonresponse probabilities. These changes in predicted probabilities are statistically significant at the $p < 0.05$ level.⁸ These results lend empirical support to the hypothesis that income level is negatively associated with nonresponse.

⁸While these changes seem rather small in absolute terms due to the small baseline probability of giving DK/no opinion answers, relative changes in predicted probabilities (e.g. changes relative to baseline probabilities) are substantively large. It is also noteworthy that “DK/No opinion” was the third most popular answer (among the CAP-coded policy categories) in MIP surveys after the economy and defence, which suggests that baseline probabilities of most policy areas (i.e. the probability of mentioning given policy areas as the MIP) are small. For this reason, we believe the suggested changes in the probability of nonresponse are substantively significant.

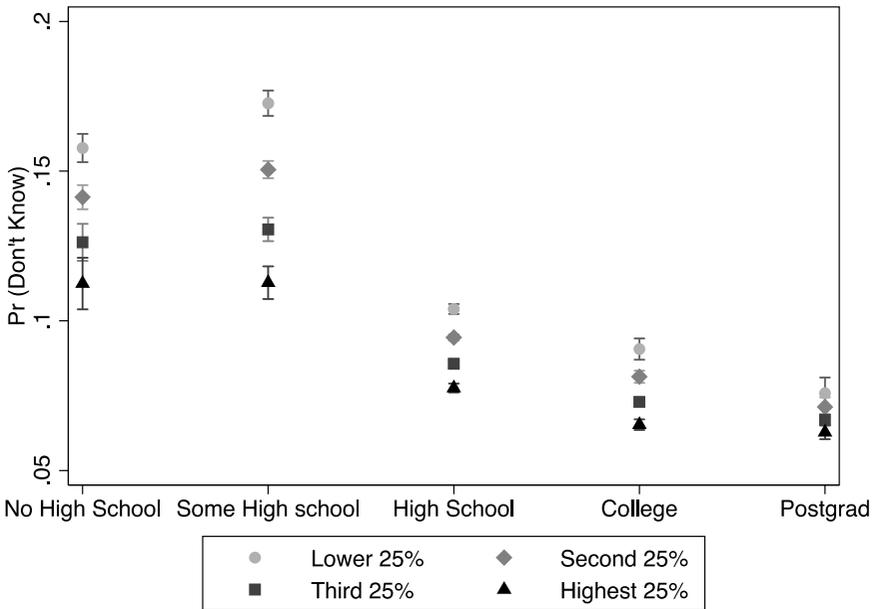


Figure 2. The effect of income level on policy prioritisation across education categories.

Similarly, education level is negatively associated with item nonresponse (statistically significant at $p < 0.001$). Specifically, having completed high school education or above substantially decreases the likelihood of nonresponse in the MIP question. Table 1 also shows that various demographic characteristics predict nonresponse. White respondents are less likely, and women are more likely to say DK/no opinion when asked about the MIP facing the country, where the racial gap appears to be larger than the gender gap. Also, the likelihood of giving DK/no opinion responses to the MIP decreases as the age of the respondent increases. While we are unable to explain why this is the case given the nature of our data, such factors as social desirability bias may help us understand this particular finding (Karp and Brockington 2005). Respondents from southern regions are more likely and respondents residing in urban areas are less likely to give DK responses to the MIP. This particular finding points to the centre-periphery dynamics behind policy prioritisation and opinion expression.

Although the results reported in Table 1 provide insight into the various demographic and socio-economic factors that predict DK responses to the MIP question across decades, they do not tell us much about how income level interacts with education level to shape nonresponse. For example, the vast literature on political opinionation has shown that educational attainment and political sophistication are some of the most important predictors of DK/no opinion responses to policy attitude and preference questions. Accordingly, it may be the case that the income gap in opinion expression exists mostly among those at the bottom of the formal education scale. We test this proposition by estimating interactive models, which we report in Table 2. The table shows that the interactions between individual

education categories and income level do not reach statistical significance at any conventional significance level (except for the postgraduate group).

To ease the interpretation of interactive effects, we also graphically illustrate the effect of income level across the categories of education level in Figure 2. As seen in the figure, the largest income-related gaps in opinion expression are among the least educated respondents (i.e. no high school and some high school), whereas the income-related gaps narrow as one goes from “no high school” to “post graduate”. However, the opinion expression gap between the lower 25% and the highest 25% is negligible only at the postgraduate level, which constitutes a small fraction of the respondents in the dataset. The fact that nearly three-quarters of the respondents fall within the “no high school”, “some high school” and “high school” categories suggests the prevalence of income-related differences in opinion expression in the broader public. To be more specific, the opinion-expression gap between the lower 25% and the highest 25% is similar among high school graduates and college graduates, and only marginally smaller among those with postgraduate degrees. All in all, the lack of statistical and substantive significance in the interactive effects reported in Table 2 and Figure 2 suggests that although the likelihood of giving DK answers in MIP questions is smaller among the better-educated groups, income-related gaps in DK answers are not mitigated by increasing formal education. This means that we do not find support for our second hypothesis, namely that increasing formal education alleviates the negative effect of economic hardship on opinion expression.

In addition to educational attainment, various other factors help explain DK responses to the MIP. Specifically, the results reported in Table 1 demonstrated that gender, race, the respondent’s residence, and copartisanship appear to be important explanatory factors. In the online appendix, we report additional interactive models that illustrate the effect of income level on DK responses across the values of these four variables. Figure A.4 shows that income gaps in opinion expression are consistent across both gender, racial and partisan groups, as well as across place of residence. More specifically, White and non-White respondents, men and women, those living in small towns and major cities, those identifying with the same party as the incumbent president and those identifying with the other party are not statistically distinguishable from one another. This implies that the documented income gaps cross cut other socio-economic and demographic divisions in opinion expression.⁹

The MIP dataset also allows us to explore whether income gaps in DK answers have changed over time. In Figure A.1 in the Online Appendix, we illustrate the average marginal effects of the lowest and highest income levels on DK responses over time. The figure shows that the gap between the lowest and highest income quartiles in DK answers remained fairly constant for nearly 40 years for the period of 1960–2000. Starting from the late 1990s, the gap between the income levels has begun to shrink in size, primarily due to sharp increases in the highest income quartile’s DK

⁹We estimate additional models with alternative control variables, including attention to the election campaign, religiosity, presidential approval and survey house dummies and reported these results in Table A.3 in the appendix. As these questions were not asked in most MIP surveys, our sample size in these models shrinks more than tenfold. We also replicated our models with survey fixed effects and reported these results in the same table. Our results regarding the effect of income level on DK/no opinion responses are insensitive to these new model specifications.

answers. Importantly, the figure also shows that the likelihood of giving DK answers has tripled for both income quartiles. This is rather surprising, as one could expect to find decreasing rates of DK answers to MIP questions, thanks to easier access to information channels (e.g. social media), as well as increasing levels of education. While we are unable to delve further into this finding in the absence of additional data, we will touch upon some potential implications of this finding in the following section.¹⁰

In the analysis above, we argued and showed that there are considerable income-related gaps in responses to the MIP questions, which have important implications for political science research. One way to demonstrate the effect of nonresponse bias on inferences about the public's priorities is to account for item nonresponse in the analysis of the prioritisation of traditionally salient policy categories within the public.¹¹ By doing so, we will be able to show whether accounting for item nonresponse changes policy prioritisation patterns. However, it is worth discussing some of the assumptions that govern MI procedures. Although MI is increasingly used in political science research and is known to be superior to alternative solutions to missing data (King et al. 2001; Lall 2016), it may be biased under certain circumstances. Given that missingness in our case can be predicted by observed data (e.g. income and education, among other variables), we assume that our data are missing at random (MAR), and it is therefore appropriate to utilise MI. Although it is no easy task to determine the mechanism of missingness and put its assumptions to test, Lall's (2016, 419) recent observation strengthens our confidence in MI even under weaker MAR assumptions: "if the dataset contains one or more variables that are highly correlated with missingness, it is reasonable to assume that multiple imputation will perform almost as well as under (pure) MAR".

Following insights from prior research (Allison 2001; Enders 2010; White et al. 2011), we employed MI and repeated the process of imputation 10 times (i.e. $m = 10$), based on which multiple datasets were created to reflect the uncertainty around the true value and then were combined for inference.¹² We followed this procedure for five policy categories (civil liberties, crime, welfare, health policy, education policy) separately, where we reported two models for each policy area, one original and one using MI, that predicted the prioritisation of given policy categories. If lower-income individuals, who tend to differ from higher-income individuals in priorities, are underrepresented in MIP responses, then accounting for missing values in MIP responses might change policy prioritisation patterns.

The results from imputed and original models are reported in Tables 3 and 4.¹³ As seen in the tables, there are considerable differences in the coefficients of the

¹⁰Although one could argue that increasing nonresponse over time can be attributed to the growing use of telephone interviews, where social desirability bias is arguably diminished, the inclusion of the interview method variable in our analysis does not change the trend reported in Figure A.1. Also, it does not change our main results regarding income level and education.

¹¹We thank anonymous reviewers for raising this point and for encouraging us to use multiple imputation.

¹²We followed prior research in determining the number of imputed datasets. While it is possible to increase m , past scholarship suggests that "m=10" is usually sufficient (Schafer and Olsen, 1998).

¹³We present the summaries of the observed, imputed and completed data for our policy categories in Tables A.5a, A.5b, A.5c, A.5d and A.5e in the Online Appendix. For brevity, we present the summaries only for the first five imputed datasets.

Table 3. Comparison of original results with multiple imputation (MI) results – civil liberties, crime and welfare

	Civil Liberties		Crime		Welfare	
	Original	MI	Original	MI	Original	MI
Income quartiles						
Second quartile	-0.015 (0.033)	-0.0925*** (0.013)	-0.005 (0.018)	-0.074*** (0.012)	-0.209*** (0.059)	-0.101*** (0.014)
Third quartile	-0.020 (0.035)	-0.216*** (0.014)	-0.033* (0.019)	-0.169*** (0.012)	-0.167*** (0.061)	-0.223*** (0.015)
Fourth quartile	-0.088 (0.036)	-0.320*** (0.015)	-0.046** (0.021)	-0.254*** (0.013)	-0.213*** (0.066)	-0.358*** (0.016)
Education						
Some high school (HS)	0.022 (0.036)	0.101*** (0.020)	-0.187*** (0.033)	-0.018 (0.020)	-0.117 (0.111)	0.062*** (0.023)
HS	-0.060* (0.034)	-0.330*** (0.018)	-0.376*** (0.030)	-0.373*** (0.018)	-0.238** (0.100)	-0.495*** (0.021)
College	-0.198*** (0.047)	-0.509*** (0.022)	-0.585*** (0.034)	-0.555*** (0.021)	-0.597*** (0.112)	-0.685*** (0.025)
Postgrad	-0.092 (0.122)	-0.605*** (0.027)	-0.751*** (0.043)	-0.662*** (0.025)	-0.898*** (0.142)	-0.783*** (0.029)
Race: White	-0.889*** (0.031)	-0.228*** (0.013)	-0.449*** (0.016)	-0.287*** (0.011)	-0.03 (0.058)	-0.089*** (0.014)
Gender: Female	0.11*** (0.022)	0.068*** (0.009)	0.192*** (0.012)	0.117*** (0.008)	0.353*** (0.042)	0.084*** (0.01)

Note: We report only the key demographic and socio-economic variables for brevity. Standard errors in parentheses. ***p < 0.01, **p < 0.05, *p < 0.1.

Table 4. Comparison of original results with multiple imputation (MI) results: health policy and education policy

	Health policy		Education policy	
	Original	MI	Original	MI
Income quartiles				
Second quartile	0.009 (0.022)	-0.084*** (0.012)	-0.026 (0.034)	-0.112*** (0.013)
Third quartile	-0.016 (0.023)	-0.199*** (0.013)	0.028 (0.035)	-0.219*** (0.014)
Fourth quartile	-0.054** (0.024)	-0.299*** (0.014)	0.076*** (0.035)	-0.305*** (0.015)
Education				
Some high school (HS)	0.324*** (0.064)	0.145*** (0.022)	-0.116 (0.087)	0.067 (0.023)
HS	0.294*** (0.057)	-0.251*** (0.0203)	0.096 (0.076)	-0.382*** (0.021)
College	0.246*** (0.060)	-0.355*** (0.027)	0.581*** (0.078)	-0.376*** (0.024)
Postgrad	0.212*** (0.062)	-0.393*** (0.025)	0.807*** (0.081)	-0.347*** (0.027)
Race: White	0.168*** (0.022)	-0.043 (0.012)	-0.078*** (0.028)	-0.116*** (0.027)
Gender: Female	0.477*** (0.015)	0.202*** (0.009)	0.372*** (0.021)	0.122*** (0.013)

Note: We report only the key demographic and socio-economic variables for brevity. Standard errors in parentheses. ***p < 0.01, **p < 0.05, *p < 0.1.

income variable across models. As demonstrated in the tables, while the statistical association between income level and the prioritisation of given issues as the MIP was either relatively weak or nonexistent, the empirical models with MI demonstrate that the link is much stronger when missing responses are accounted for. Especially in the issues of civil liberties, education, and health policy, differences between the original and MI models are noteworthy. These results imply that the lack of statistically significant differences between income groups in the prioritisation of civil liberties, crime, welfare, education, and health policies in the original models may have been driven partly by nonresponse bias. In other words, if all lower-income individuals gave a response to the MIP question, we would find that lower-income individuals prioritise these issues at greater rates than higher-income individuals.

Discussion

Berinsky (2004, 133) concludes his work on political participation with a powerful message: “In order truly to foster equality in participation – be it an opinion poll or writing to one’s member of Congress – we need to ensure that when citizens do speak, they speak with their interest in mind”. In the absence of descriptive representation in collective preferences, an essential component of representative democracy, what Jones and Baumgartner (2005, 249) called the “signal detection system”, would work inefficiently, leaving the true needs and demands of politically disadvantaged groups unheard (Althaus 2003). Althaus (1996, 18) once suggested that “representation problems may be as germane to opinion surveys as they are to elections . . . [as] public opinion polling elevates the clear wishes of the informed few over the muted, fragmented, and ill-communicated desires of the many”. Motivated by this observation, the present study shows that the poor diverge considerably from the affluent in the expression of policy priorities. While an examination of the potential implications of this particular finding for the quality of democratic processes goes beyond the scope of this study, we argue that the documented differences in opinion expression shed light on the extent of political engagement among lower-income people.

Nonresponse constitutes nearly 15.5% of all the MIP answers among the low-education and low-income respondents, compared with 8% among their high-education and high-income counterparts. This gap amounts to thousands of respondents in a dataset of several hundred thousands. To put it into context, DK/no opinion answers constituted the second most frequently mentioned category among the low-education and low-income group, dwarfing many of the traditionally salient policy categories including health care, agriculture, immigration, education, social welfare, international affairs, among others. In contrast, “DK/no opinion” was the fifth most commonly mentioned answer among the high-education and high-income group. This implies that we know little about the policy agendas of traditionally disadvantaged groups in society, and that accounting for nonresponse would change the ranking of policy categories substantially. Furthermore, the results from our imputed models imply that our understanding of socio-economic differences in policy priorities would change considerably if

low-income and high-income individuals were equally likely to say DK/no opinion to the MIP question. This suggests important informational effects for the policy-making process, from the agenda setting to policy design stages.

Our findings call for a more nuanced treatment of item nonresponse in aggregate-level analyses of the public's policy agenda. Most importantly, our results imply that discouraging DK/no opinion responses in preference and priority questions would hide a lot of information regarding the public's true preferences and attitudes (Luskin and Bullock 2011). If the lack of political awareness and interest constitutes an important challenge for the quality of representative democracy, then scholars of democracy need to extract as much information as they can from DK responses to better understand the factors that make particular groups of individuals hesitant to express their political opinion.

Our study is not without limitations. Most importantly, the research design employed in the present study does not allow us to delve further into causal mechanism behind nonresponse in MIP questions. We acknowledge that we are unable to distinguish between motivational reasons (e.g. interest in macro politics) and reasons related to efficacy (e.g. internal/external efficacy) behind nonresponse. Relatedly, while the MIP dataset allowed for a comprehensive analysis of DK/no opinion responses over a very long period of time, it required us to focus on only a handful of factors that are known to be associated with nonresponse due to lack of common variables across surveys. Finally, we are aware that our findings are drawn from a single case, which begs the question as to how far our findings can travel beyond the US case. Future research complementing the insights provided in the present study could focus on other political contexts where income inequality is less severe.

Supplementary material. To view supplementary material for this article, please visit <https://doi.org/10.1017/S0143814X22000253>

Data availability statement. Replication materials are available in the Journal of Public Policy Dataverse at <https://doi.org/10.7910/DVN/CNWBMY>.

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