

Beyond the Mean: How Thinking About The Distribution of Public Opinions Reduces Politicians' Perceptual Errors

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Abstract

Recent studies find that elected politicians regularly over-estimate the conservatism of their constituents' preferences. While these findings have potentially concerning implications for democratic representation, they depend on the magnitude and sources of this 'conservative over-estimation,' neither of which is well-understood. Here, we show that a novel approach to measuring politicians' perceptions—whereby politicians draw the distribution of their constituents' positions, rather than provide a point estimate—clarifies the magnitude and sources of politicians' perceptual errors. While the vast majority of politicians in our sample exhibit a conservative bias, our 'perceived-distribution' task cuts the size of this bias in half. Exploring how politicians build out public-opinion distributions, we further show that conservative over-estimation is counterbalanced by projection effects among politicians on the left, but that projection among politicians on the right reinforces it. Our results raise questions about existing accounts of elite misperception and help identify cognitive sources of the conservative over-estimation.

Keywords: policy representation; representative democracy; perceptual accuracy; measurement; ideology

In representative democracies, elected officials are expected to enact public policies that reflect their constituents’ preferences. This representation requires that politicians accurately perceive public opinion (Mansbridge 2003; Miller and Stokes 1963; Stimson, MacKuen and Erikson 1995). Moreover, common wisdom suggests that elected politicians must accurately discern what their constituents want to be re-elected (Downs 1957; Fenno 1977; Mayhew 2004). Yet, puzzlingly, recent studies suggest that most politicians consistently misperceive their constituents’ preferences, often reporting estimates that widely diverge from those documented in public opinion surveys (Broockman and Skovron 2018; Pilet et al. 2023; Walgrave, Soontjens and Sevenans 2022). Even more worryingly, these errors tend to have a directional bias: Across multiple countries, political systems, and policy issues, politicians consistently perceive public opinion as more conservative than it actually is.

The sources of the conservative over-estimation also remain a puzzle. For instance, early research suggested that conservative constituents or interest groups may be more likely to contact politicians (Broockman and Skovron 2018), but later research has not supported this mechanism (Pilet et al. 2023). Indeed, the persistence of conservative over-estimation across diverse institutional settings precludes any straightforward ‘supply-side’ explanation. Other studies note that conservative over-estimation is especially pronounced among right-leaning politicians and, thus, may be caused by politicians projecting their own views onto constituents (Sevenans et al. 2023; Lucas 2024).

We argue that new measurement approaches are needed to advance this important literature. In existing work, politicians are invariably asked to summarize their constituents’ preferences with a single point estimate. For example, some studies ask politicians to report what percentage of their constituents support a particular policy (Pilet et al. 2023), while others ask politicians to place their average constituent on a number line that represents the left-right ideological spectrum (Belchior 2014; Kübler 2024). These point-estimate questions have yielded remarkable insights. At the same time, they sit uneasily with qualitative studies of politicians, which suggest that politicians rarely conceive of constituents’ preferences in terms of what the ‘average’ constituent wants.

Instead, politicians commonly think about their constituencies as consisting of different groups with distinct preferences (Fenno 1977; Walgrave, Soontjens and Sevenans 2022). Thus, politicians may struggle to accurately summarize this differentiated view of public opinion with a single point estimate, even if their knowledge of their constituents’ preferences is comprehensive.

We adapt a new approach to measuring perceptions of public opinion, the ‘perceived-distribution’ task, which allows politicians to draw the full distribution of their constituents’ preferences (Dias, Lelkes and Pearl 2024). This perceived-distribution task offers two key advantages over existing measures. First, it lets politicians report their perceptions of their constituents’ preferences in a way that may be more natural to them and that allows them to express more information. Second, the perceived-distribution task provides more data with which to understand the potential psychological causes of conservative over-estimation. In particular, it allows researchers to directly observe the order in which politicians think of different constituents, and thus examine whether certain types of constituents (e.g., those who share the politician’s views) are more accessible in politicians’ minds.

Our empirical analysis proceeds in three steps. First, we replicate past research on conservative over-estimation in the context of Canadian municipal politics. Using surveys with over 1,800 municipal politicians and 94,000 citizens, we estimate how much politicians misperceive their constituents’ positions on the left-right ideological spectrum when asked to provide a point estimate of average constituency ideology. Consistent with past research, we find that politicians, and especially right-leaning politicians, substantially over-estimate their constituents’ conservatism (Belchior 2014; Kübler 2024).

Second, we use a pre-registered experiment with over 800 Canadian municipal politicians to test whether the perceived-distribution task reduces conservative over-estimation. Consistent with our expectations, we find that the arithmetic mean of politicians’ public-opinion distributions is far closer to their average constituent’s actual ideology than their point estimates. Indeed, the perceived-distribution task cuts conservative over-estimation in half, and these improvements in accuracy are especially pronounced among right-

leaning politicians. Drawing distributions also significantly reduces the errors politicians make when subsequently providing point estimates of constituency ideology. We further find that, even when drawing distributions, right-leaning politicians continue to over-estimate their constituents’ conservatism, albeit to a lesser extent.

Third, our perceived-distribution task allows us to explore potential explanations for politicians’ perceptions. We show that, on average, politicians begin building out public-opinion distributions by first considering constituents who are close to their own position on the left-right ideological spectrum. This pattern suggests that self-similar constituents are most accessible in politicians’ minds, in line with the psychological projection mechanism that has been suggested to explain elites’ misperceptions (Sevenans et al. 2023; Lucas, Sheffer and Loewen 2024). Our results further show that projection helps to explain why right-leaning politicians are more prone to conservative over-estimation. Among left-leaning and centrist politicians, initial projection effects are counterbalanced by subsequent conservative over-estimation as politicians continue to build out public-opinion distributions. However, among right-leaning politicians, projection effects are reinforced rather than tempered, because these politicians also proceed to exhibit conservative over-estimation as they build out their distributions.

How politicians perceive their constituents is central to most theories of democratic representation (Mansbridge 2003; Miller and Stokes 1963; Stimson, MacKuen and Erikson 1995). As such, understanding the size and sources of any biases in these perceptions is central to assessing the health of democracies. Our findings offer two contributions to this literature. First, they suggest that politicians’ perceptions may not be as inaccurate as existing work suggests. This finding has important implications for theories of elite behaviour and policy representation. It also helps to reconcile persistent inaccuracies in politicians’ perceptions (Pilet et al. 2023) with the fact that democracies tend to enact policies that conform to public opinion (Caughey and Warshaw 2022; Soroka and Wlezien 2010). Second, by refining the measurement of politicians’ perceptions, we provide researchers with better tools to understand the sources of these perceptions.

1 Do Politicians Misperceive Public Opinion? If So, Why?

Political scientists commonly measure voters’ ideologies and policy preferences with ideal points. This convention stretches back to the late 1940’s, when spatial models of voting became popular for understanding voter and legislator behaviour (Black 1948; Downs 1957). Consistent with this tradition, in virtually every study of how politicians perceive public opinion, respondents are asked to summarize the preferences of individual voters with point estimates.¹ In particular, politicians provide a single quantity in response to questions such as ‘What percentage of constituents support policy X?’ or ‘Where does the average constituent stand on issue Y?’

Findings based on these point-estimate questions have painted a gloomy picture of elites’ perceptual accuracy. The first study to note the possibility of systematic bias in politicians’ perceptions of constituents was Erikson, Luttbeg and Holloway (1975). Subsequent large-scale surveys with legislators and legislative staffers have confirmed that politicians misperceive their constituents’ preferences frequently, in some cases making substantively large errors (Broockman and Skovron 2018; Jasko et al. 2022; Pereira 2021; Pilet et al. 2023; Walgrave, Soontjens and Sevenans 2022). Even more worryingly, these errors tend to have a directional bias: Across multiple countries, political systems, and policy issues, politicians tend to perceive public opinion as more conservative than it is (Belchior 2014; Broockman and Skovron 2018; Dekker and Ester 1989; Pilet et al. 2023).

Scholars have tried to explain these perceptual errors in different ways. Some have suggested ‘supply-side’ explanations—e.g., that conservative constituents may be more likely to contact politicians (Broockman and Skovron 2018). However, others have failed to find support for this mechanism (Pilet et al. 2023). Indeed, the remarkable persistence of conservative over-estimation across diverse institutional settings precludes any

¹Of the more than thirty studies that have examined the accuracy of politicians’ perceptions, we are aware of just one that asked politicians to estimate the distribution of public opinion (Converse and Pierce 1984).

straightforward ‘supply-side’ explanations. Another class of explanations suggests that politicians may tend to project their views onto constituents (Sevenans et al. 2023; Lucas, Sheffer and Loewen 2024). In particular, conservatives appear to exaggerate the commonness of their views (Stern et al. 2014), which aligns with findings that conservative over-estimation is especially pronounced among right-wing politicians (Broockman and Skovron 2018; Norris and Lovenduski 2004; Pilet et al. 2023).

These explanations of politicians’ perceptual errors notwithstanding, the phenomenon itself seems incongruent with common wisdom about politicians’ incentives and policy representation. After all, the re-election prospects of elected officials supposedly depend on their ability to discern what constituents want (Downs 1957; Fenno 1977; Mayhew 2004). Thus, they should be strongly motivated to develop ‘at least tolerably accurate’ perceptions of public opinion (Miller and Stokes 1963, 50). Some research also finds that democracies largely enact policies that conform to public opinion (e.g. Caughey and Warshaw 2022; Soroka and Wlezien 2010). How can this be true, if politicians misperceive their constituents’ preferences so frequently?

Another explanation for conservative over-estimation is that politicians are fairly accurate assessors of public opinion, but scholars have measured their perceptions in ways that hide this knowledge. Indeed, the standard approach of estimating public-opinion perceptions with point estimates sits uneasily with findings from qualitative interviews with politicians. These interviews suggest that politicians find it unnatural to think about public opinion in terms of the point estimates queried in surveys (e.g., Walgrave, Soontjens and Sevenans 2022). In particular, politicians seemingly struggle to summarize the preferences of different groups with a single point estimate, and prefer to think about their constituencies as consisting of different groups with distinct preferences (Fenno 1977; Walgrave, Soontjens and Sevenans 2022). Indeed, this perspective may be more practical for politicians, given that different constituents are affected by different issues (Bishin 2009; Fastenrath and Marx 2024; Hill 2022) and that politicians must gain support from a variety of groups and citizens.

One recent study confirms that point-estimate questions can distort perceptions of

public opinion (Dias, Lelkes and Pearl 2024). When placing the ‘average’ Democrat and Republican on the same left-right policy scale, (non-elite) Americans seemed to perceive a gulf between the parties’ views. Yet, when the same respondents were asked to draw the distribution of each party’s preferences, their perceptions of polarization were far more modest and, critically, accurate. Similarly, asking politicians to draw the distribution of their constituents’ preferences may result in a more accurate picture of their perceptions. Such a measurement approach would allow politicians to represent their perceptions more naturally and fully. Of course, politicians are unlikely to think about public opinion explicitly in terms of distributions *per se*. Yet, given their differentiated views of public opinion, politicians may be able to accurately report the distribution of their constituents’ preferences, even if they fail to summarize these perceptions with a single point estimate. In any case, we contend that thinking in terms of distributions approximates politicians’ real-world reasoning far more closely than point estimates.

Data and Methods

To examine our research questions, we turn to data from municipal politicians in Canada. Canadian municipal politicians offer a valuable perspective on elite perceptions in that these politicians are directly elected and have wide-ranging policy responsibilities, including policing and public safety, land-use planning and housing, parks and recreation, transportation, and utilities. In addition, Canadian municipal politicians appear to be similar to other politicians on perceptual accuracy tasks (McAndrews et al. 2022; Lucas 2024).

Outcome: Ideological Perception

For our perceptual task, we chose to focus on general ideology (that is, ideological self-placement) as opposed to particular policy preferences. This is for three reasons. First, it allows for meaningful between-case comparisons. Few policy issues are relevant to many municipalities, so focusing on ideology allows us to ensure comparability in mea-

surements. Second, many issues likely escape the attention of citizens entirely. In these situations, politicians may rely on abstract perceptions of ideology to impute public opinion about an issue. Indeed, recent research in Canada (and other countries) has found that left-right ideology plays an important role in municipal policy preferences (Lucas 2024; Tausanovitch and Warshaw 2014) and municipal policy-making and representation (de Benedictis-Kessner and Warshaw 2016; Lucas and Armstrong 2021; Warshaw 2019). Third, politicians’ perceptions of their constituents’ ideologies exhibit similar biases to their perceptions of citizens’ policy preferences.² On page eight of our Supplementary Material, we show that over-estimating the conservatism of constituents’ ideologies is closely related to over-estimating the conservatism of constituents’ specific policy attitudes.

Examining politicians’ perceptual accuracy requires us to measure politicians’ perceptions as well as some ‘ground truth’ to which to compare those perceptions. For the perceptions themselves, we rely on survey data from the Canadian Municipal Barometer (CMB), a research partnership which has carried out annual surveys of local politicians in Canada since 2020. The CMB survey is restricted to municipalities above 9,000 population in Canada (a total of 442 municipalities and about 3,800 politicians) and is fielded in January and February of each year. Between 2020 and 2024, response rates on the CMB annual surveys ranged between 20 and 25 per cent, comparable to other high-quality surveys of political elites.³ On page three of our Supplementary Material, we summarize overall response rates as well as the representativeness of the annual surveys on characteristics such as province, gender, and municipal population size. In general, our survey respondents are representative of the full sampling frame on these observable characteristics.

²See Belchior (2014), Kübler (2024), and page eight of our Supplementary Material.

³For comparison, Broockman and Skovron (2018) report a response rate of 20.8 per cent in their classic study of perceptual accuracy, and Bucchianeri et al. (2021) report a response rate of 12 per cent in a study of American municipal politicians. These are excellent studies, indicating that our response rate is similar to those of other high-quality elite surveys in North America.

To develop estimates of municipal ideology to which to compare the politicians’ perceptions, we collected public opinion data from a large number of public opinion surveys, each of which contains an ideological self-placement question along with the demographic variables and municipal indicators needed to construct the multilevel regression and poststratification estimates described below. These data are drawn primarily from the Consortium on Electoral Democracy’s federal and provincial election studies (Stephenson et al. 2021) and from the Canadian Municipal Election Study (McGregor et al. 2021). We provide a full table of these survey datasets on page two of our Supplementary Material. All told, we have 94,073 survey responses available for the local area estimates, an unprecedentedly large data source in the Canadian setting.

We use a Bayesian implementation of Multilevel Regression and Poststratification (MRP) to construct our estimates of average ideological self-placement. In addition to the individual-level survey responses, MRP models require municipality-level predictors. We rely on two sources for these predictors. First, we collected 79 unique socio-demographic indicators from the 2021 Canadian census, including information on income, racial composition, educational attainment, housing stock, population size, population density, age, immigration status, religion, language, occupation type, and commuting patterns. Second, we use data on Conservative Party support in Canada’s 2021 federal election, using areal weighted interpolation to interpolate election results at the polling station level into municipalities. We provide additional detail on model specification, model data, and validation of local estimates on page four of our Supplementary Material.

Experiment: Perceived-Distribution Task

Having examined the overall size and direction of politicians’ perceptual error, the second step in our analysis explores the effect of the perceived-distribution task on politicians’ perceptual accuracy. We employ a setup in which respondents draw out a distribution of constituency ideology, as well as provide a point estimate of average constituency ideology.

We provide a screenshot of our perceived-distribution task in Figure 1. Our approach

lets politicians represent the full distribution of their constituents’ preferences. In the task, politicians place twenty tokens on the left-right ideological spectrum, where each token represents five percent of residents in the respondent’s municipality. An additional benefit to asking politicians to draw the distribution of their constituents’ opinions is that these distributions provide more data to understand why politicians perceive their constituents in the way that they do: By examining how politicians draw the distribution of public opinion—in particular, what parts of the distribution politicians focus on first—researchers can directly observe which constituents are most accessible in politicians’ minds (Dias, Lelkes and Pearl 2024). This information is invaluable for understanding the sources of politicians’ perceptual errors, so far as they exist. By contrast, point-estimate questions provide just one data point per politician to understand the sources of politicians’ perceptions.

In politics people sometimes talk of left and right. Imagine a scale from 0 to 10, where 0 means left and 10 means right. Where would you place **residents in your municipality** on this scale generally?

Imagine that you have 20 tokens, each representing 5% of the residents in your municipality. Place each token in a bin to indicate where different residents in your municipality stand on this scale.

To place a token in a bin, click on the bin. To remove a token from a bin, click the "remove" button under the bin.

Once you've placed 20 tokens, a "Submit" button will appear. Click the "Submit" button to move on to the next page.

Tokens left: 0

Bin	0 (Left)	1	2	3	4	5	6	7	8	9	10 (Right)
Tokens	0	1	2	3	4	2	1	0	0	0	7
Buttons		remove	remove	remove	remove	remove	remove	remove	remove	remove	remove

Submit

Figure 1: A filled-out example of the ‘perceived-distribution’ task used in this study.

Our experiment was embedded within the CMB’s 2024 annual survey, which was

fielded between 8 January and 28 February 2024.⁴ A total of 806 politicians completed our study, for a response rate of 22 per cent.

We measured three key quantities: (1) politicians’ own ideological self-placements, (2) their perceptions of the ideological position of the average resident in their municipality, and (3) their perceptions of the distribution of ideological positions in their municipality. We employed a pre-registered experiment, in which we randomized the order of these three questions, making very small wording changes in the preamble to each question based on its position in the order.⁵ To measure the first two quantities, we use the same questions from Study 1—i.e., those that have been employed in the CMB survey since 2020. To measure politicians’ perception of the distribution of ideology in their municipalities, we use an adapted version of an existing task (Dias, Lelkes and Pearl 2024). As shown in Figure 1, this task asks respondents to place twenty tokens on the same 0–10 left-right scale, where each token represents 5 per cent of residents in the respondent’s municipality. We refer to this task as the ‘perceived-distribution’ task in our figures and analysis.

To measure perceptual error with respect to politicians’ point estimates, we simply subtract the municipality’s MRP estimate from the politician’s point estimate. To measure perceptual error with respect to the perceived-distribution task, we first calculate the mean of the distribution drawn by each politician. We then subtract the municipality’s MRP estimate from this distribution’s mean.⁶

⁴Our hypotheses and analysis plan were pre-registered prior to the completion of data collection and can be accessed at this link: [REDACTED].

⁵Specifically, the first question to appear included the following preamble: ‘In politics, people sometimes talk of left and right...’ The remaining questions began with ‘Thinking about the same left-right scale...’

⁶Note: Our findings are qualitatively identical when we replace these measures with the absolute distance between politicians’ perceptions and our MRP estimates.

Results

Conservative Perceptual Bias Among Local Politicians

To examine our research questions, we first turn to data from 1,865 municipal politicians in Canada, who completed surveys between 2020 and 2023. Figure 2 summarizes the results of these surveys. In each case, the quantity of interest is the difference between a politician’s perception of their average constituent’s ideology and the actual average of their constituents’ self-placements on the ideological spectrum. Positive values represent over-estimates of municipal conservatism, and negative values represent under-estimates of municipal conservatism. Panel A plots the distribution of these ‘perceptual error’ scores. While this distribution covers the full possible range, two-thirds of the distribution sits to the right of zero, indicating that politicians tend to over-estimate their municipalities’ conservatism.

Panel B provides a statistical test of this tendency, displaying politicians’ average perceptual error across several specifications. All coefficients are positive, substantively large, and reliably distant from zero, indicating a strong tendency toward conservative over-estimation. This is true when we propagate uncertainty in our underlying estimates of municipal ideology through to our calculations of politician’s perceptual-error scores (‘Bayesian’), when we reduce error by averaging individual politicians’ perceptions across multiple annual surveys (‘Average’),⁷ when we pool responses across years (‘All Years’), and when we calculate separate estimates for each year (labeled by year). The estimates range between 0.53 and 0.70, indicating that municipal politicians tend to over-estimate the conservatism of their constituents by a little more than 0.5 points.

These are substantively important errors: Fully 30 per cent of politicians place their municipal residents on the wrong side of the left-right midpoint.⁸ Moreover, the average error made by politicians is similar in size to ideological gaps widely understood to be

⁷That is, for the 739 politicians who completed more than one annual survey, we average across their multiple judgements of their municipality’s ideology.

⁸This proportion excludes the 20 per cent of politicians who place their municipal residents at the exact midpoint of the ideology scale. An alternative approach is to round

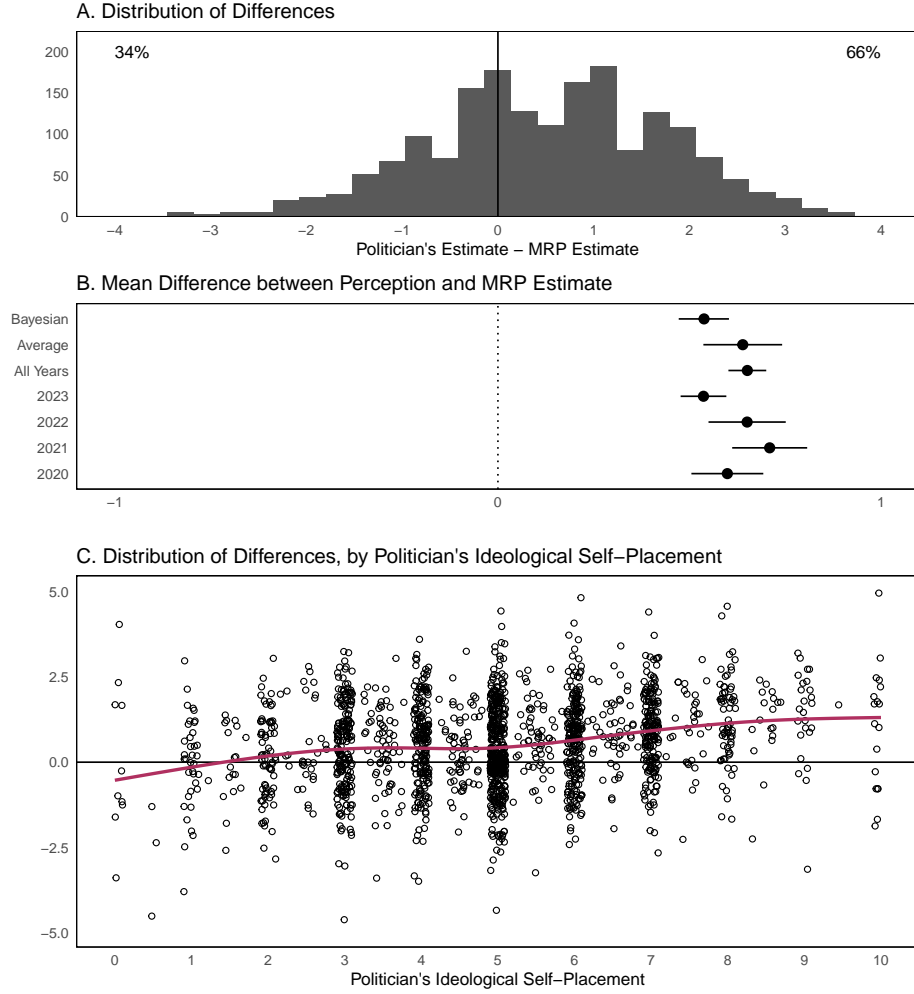


Figure 2: Descriptive overview of politicians' perceptual accuracy. Panel A: Distribution of misperception scores among 1,865 local politicians; positive values are conservative over-estimates and negative values are conservative under-estimates. Panel B: Estimates of average perceptual error across distinct specifications and years, with 95 per cent confidence intervals. Panel C: Perceptual error by politician's ideological self-placement.

substantively important, such as the ideological gap between men and women (0.5 points in our survey data), the ideological gap between those with and without university degrees (0.36 points in our data), and the ideological gap between Canada's most left-leaning and right-leaning regions (0.53 points in our data).

Finally, Panel C in Figure 2 replicates past studies in finding that conservative over-all estimates to their nearest integer. Using this approach, 61 per cent of politicians are incorrect in their placements: 21 per cent place their constituents to the left of the correct position, and 40 per cent place their constituents to the right of the correct position. 39 per cent place their constituents correctly.

estimation is not unique to politicians on the ideological left or right, but is especially pronounced among right-leaning politicians. The dark red line summarizes the average perceptual-error score as we move from politicians on the ideological left to the ideological right. While conservative over-estimation appears to be particularly strong among right-leaning politicians, the dark red line is positive even among many left-leaning politicians. Only among the most left-leaning politicians does conservative over-estimation disappear.

In summary, this descriptive analysis provides a valuable replication of past studies among an especially large sample of elected politicians.⁹ Moreover, we argue that these politicians offer a valuable case study for understanding the mechanisms that underpin conservative over-estimation.

Perceived-Distribution Task Substantially Reduces Conservative Bias

We now turn to a pre-registered experiment conducted in 2024, where we asked 806 municipal politicians in Canada to complete, in random order, both a standard point-estimate question and the perceived-distribution task pictured in Figure 1. Figure 3 summarizes these results.

Panel A shows that politicians' perceptual-error scores, when derived from the point-estimate question,¹⁰ are significantly more conservative and incorrect than their perceptual-error scores from the perceived-distribution task. On average, politicians over-estimated constituents' conservatism by 0.65 points when responding to the point-estimate question. However, the arithmetic mean of their perceived distributions only over-estimates conservatism by an average of 0.2 points. That is, overall, the perceived-distribution

⁹On page eight of our Supplementary Material, we show that these results do not depend on our decision to focus on ideological placement rather than policy preferences. Using data from the 2020 Canadian Municipal Barometer survey, we show that the same politicians also over-estimate their constituents' conservatism on many specific policy issues.

¹⁰This question is identical to that asked in 2020–2023 surveys.

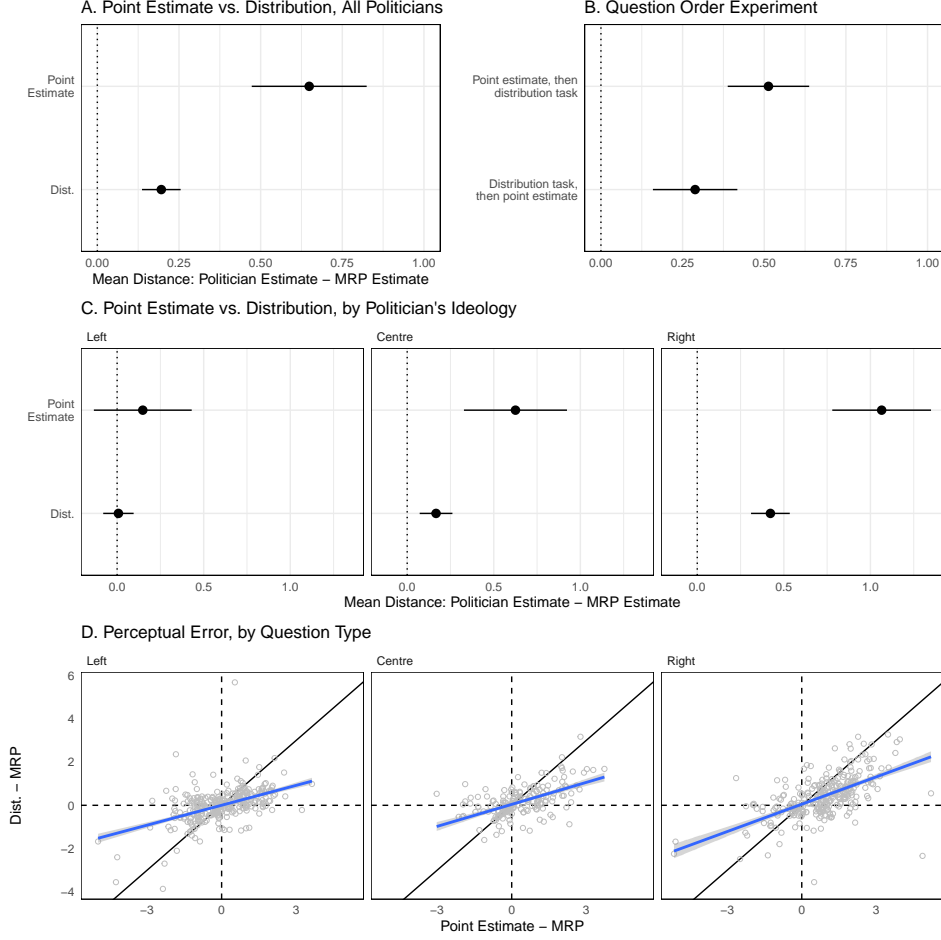


Figure 3: Politicians' perceptual errors when completing the point estimate versus distribution tasks. Panel A: Mean estimates of perceptual error for 2024 point estimate vs. distribution tasks. Panel B: Error on point-estimate question when randomized to be completed before distribution task vs. after distribution task. Panel C: Mean estimate of point estimate vs. distribution tasks by politician's ideological self-placement. Panel D: relationship between perceptual error on point-estimate question (horizontal axis) and perceptual error on distribution task (vertical axis).

task cuts perceptual error by more than half. Moreover, because politicians' point estimates tend to over-estimate the conservatism of their average constituent's ideology, the perceived-distribution task substantially reduces conservative over-estimation.

In Panel B, we show that politicians' completion of the perceived-distribution task positively affects their perceptual accuracy even on a subsequent point-estimate question. All politicians were randomly assigned to complete the point-estimate question either before or after the perceived-distribution task. Politicians who completed the point-estimate question first exhibited errors comparable to those reported from previous annual

surveys in Figure 2. In contrast, politicians who completed the point estimate question after the perceived-distribution task made substantively smaller errors on average. By having the opportunity to consider the distribution of ideological preferences among their constituents, politicians’ perceptions become more accurate even on the point-estimate question.

In Panel C, we observe that the reduction in perceptual error is particularly substantial among politicians in the centre and the ideological right. Politicians on the left, who are less susceptible to conservative over-estimation in general (see Panel C in Figure 2 above), also benefit less from the increase in accuracy supplied by the perceived-distribution task.

Finally, Panel D provides an alternative perspective on our data, plotting perceptual-error scores from the point-estimate question (horizontal axis) against perceptual-error scores from the perceived-distribution task (vertical axis). We summarize the relationship between the two sets of perceptual-error scores with the blue line, which is drawn from an outlier-robust bivariate regression model. If the error on the two tasks were perfectly correlated, the blue line would follow the dark black 45-degree line, indicating that the perceived-distribution task offered no improvement over the point-estimate question. In fact, however, the blue line is much flatter than the 45-degree line, regardless of where a politician sits on the ideological spectrum. This finding confirms that the perceived-distribution task reduces perceptual error in proportion to the size of these errors.

Projection, Bias, and Ideological Asymmetry

When politicians are allowed to represent their perceptions using distributions, their perceptions of public opinion appear much more accurate. Yet, even in the perceived-distribution task, right-leaning politicians still over-estimate the conservatism of their constituents. This asymmetry reflects a more general asymmetry, summarized in Panel C of Figure 2, in which conservative bias is especially common among—but by no means exclusive to—politicians on the ideological right.

To explore the sources of this asymmetry, we leverage the order in which politicians placed tokens in the perceived-distribution task. Past studies have shown that politi-

cians’ perceptions of public opinion are correlated with the politicians’ own preferences (Sevenans et al. 2023), perhaps reflecting a more general tendency to assume that others hold views similar to one’s own (Bursztyrn and Yang 2022). In fact, we find that politicians tend to begin the perceived-distribution task by ‘projecting’ their views onto constituents, but over-represent the number of conservative constituents toward the end of the task.¹¹

Figure 4 summarizes this analysis. In Panel A, we plot ‘projection’ effects on the point-estimate question (in blue) and on each token placed in the perceived-distribution task (in gray). This projection effect is measured as the effect of the politician’s own ideological self-placement on their perception of their constituents’ ideologies, net of the MRP estimate of the constituency’s actual ideological position. Consistent with past research, we find that projection effects are substantively large and statistically significant in the point-estimate question and in the early token placements of the perceived-distribution task. However, these projection effects fade as politicians move away from their own positions and place additional tokens in the perceived-distribution task, such that tokens at the end of the sequence (15-20) exhibit little-to-no projection.

Panel B of Figure 4 reports politicians’ average perceptual error for each token placed in the perceived-distribution task by politicians on the left, in the centre, and on the right. Left-leaning politicians begin by dramatically under-estimating the conservatism of their constituents, but then move quickly rightward, finishing their sequences with tokens to the right of their constituents’ actual conservatism. Centre politicians begin with fairly centrist (and, incidentally, accurate) tokens, but then quickly move rightward. Right-leaning politicians begin to the right of their constituents and then tend to move even further rightward. Together, Panels A and B suggest a two-stage sequence in which politicians begin by projecting their own ideology onto their constituents, but then fill in

¹¹In our pre-registered analysis plan, we hypothesized that conservative over-estimation would be visible in a tendency to place conservative tokens early in the perceived-distribution task; in other words, we expected that conservative constituents would be especially accessible in the minds of all politicians.

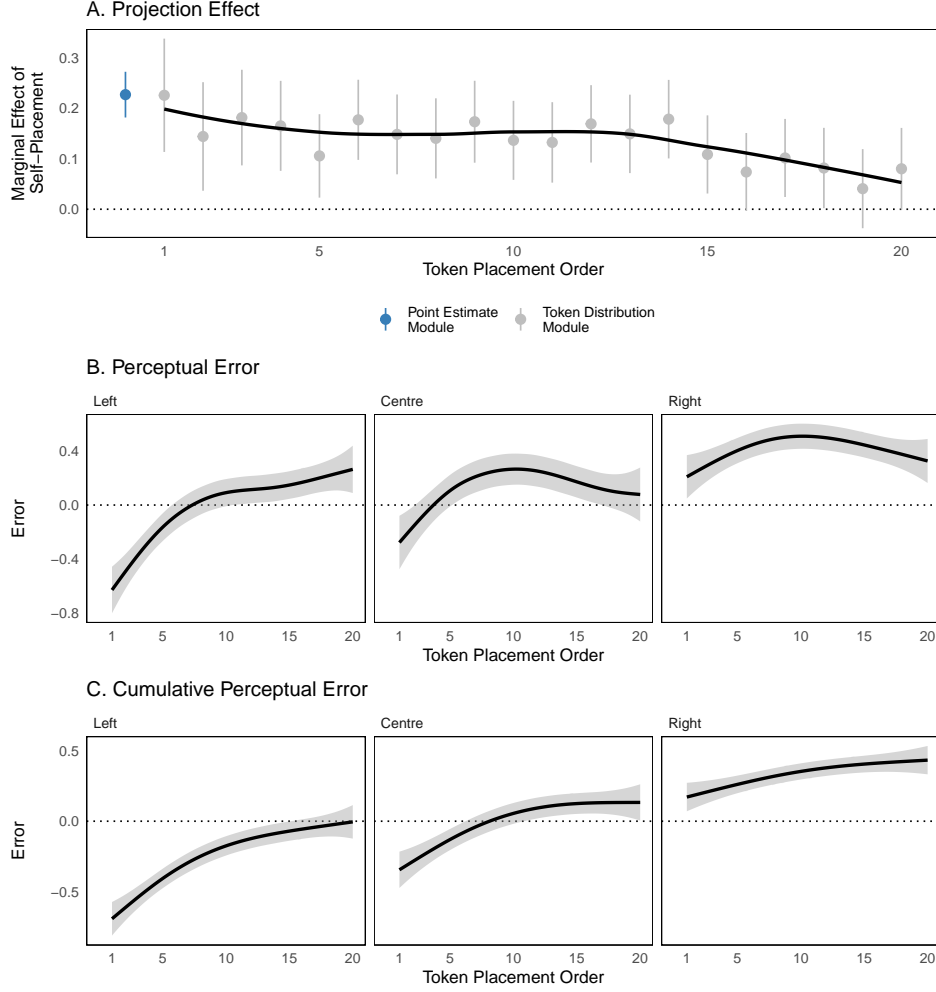


Figure 4: Perceptual accuracy and projection effects by token placement order. Panel A: Effect of politician’s own ideological self-placement on perception of constituents for point-estimate question (blue) and for each token placement from 1-20 (gray). Panel B: Average perceptual error by order of token placement (horizontal axis) and politician’s ideological self-placement. Panel C: Cumulative perceptual error by order of token placement (horizontal axis) and politician’s ideological self-placement.

their distributions with an excess of conservative exemplars.

Panel C of Figure 4 summarizes the consequence of this token-placement sequence in politicians’ cumulative perceptual error. Left-leaning politicians begin by dramatically under-estimating conservatism. However, by virtue of their ‘over-correction’ in the rightward direction, ultimately produce perceived distributions whose arithmetic means are quite accurate. The sequence is similar for politicians in the centre. However, right-leaning politicians are most accurate at the beginning of the perceived-distribution task, but then move away from their average constituents’ true ideological position as they

place more tokens. In short, politicians on the left produce more accurate estimates because their tendency to project counterbalances conservative over-estimation. However, among right-leaning politicians, projection effects reinforce conservative over-estimation.

2 Conclusion

Our results reveal that the apparent accuracy of politicians' perceptions of their constituents depends in part on how these perceptions are elicited. Politicians in our study — especially right-leaning politicians — consistently made large errors when asked to provide point estimates of their constituency's ideological position. In particular, and in keeping with findings in other countries and levels of government, these politicians regularly over-estimate their constituents' conservatism (Broockman and Skovron 2018; Norris and Lovenduski 2004; Pilet et al. 2023; Walgrave, Soontjens and Sevenans 2022). However, when the same politicians were asked to draw the distribution of their constituents' ideologies, the error in their estimates is reduced by more than half.

These results suggest that when politicians are asked to characterize their constituents in a manner that is more natural to them, their perceptions appear much more accurate. However, the mechanisms that underpin this increased accuracy are worthy of additional study: Politicians may perform better on the perceived-distribution task simply because it forces a slower, more deliberate consideration of a wide variety of exemplars. Alternatively, politicians may perform better because the perceived-distribution task more directly reflects how politicians actually think about their constituents. We think both mechanisms are likely to be involved.

Whatever the mechanism behind our experimental effects, however, our results help to resolve a long-standing puzzle in elite behaviour and policy representation research: Why does past research find that politicians misperceive their constituents preferences, given that politicians are incentivized to know what their constituents want (Downs 1957; Fenno 1977; Mayhew 2004) and that policy generally follows public opinion (Caughey and Warshaw 2022; Soroka and Wlezien 2010)? The answer is that politicians are fairly

accurate assessors of public opinion, but scholars have measured their perceptions in ways that hide this knowledge.

Nevertheless, even when politicians complete the perceived-distribution task, perceptual errors persist. In particular, politicians of the centre and right continue to over-estimate their constituents' conservatism. While the substantive magnitude of these over-estimates is much smaller, their persistence suggests that conservative bias is not only a function of how researchers have measured politicians' perceptual accuracy. We have suggested that a well-established mechanism in politicians' general perceptual error—a tendency toward projection—helps to explain the large and persistent asymmetry between left-leaning and right-leaning politicians in the magnitude of conservative over-estimation. That said, we have also revealed a marked tendency toward conservative over-estimation among all politicians across the ideological spectrum.

We see considerable value in future applications of our perceived-distribution task to politicians' perceptions of citizens' policy preferences. Where constituents stand on specific policy issues, rather than how they place themselves ideologically, is even more directly related to politicians' ability to deliver policy responsiveness, and there is extensive research documenting politicians' misperception of public preferences across a host of policy domains. Testing whether distribution-based thinking similarly improves politicians' perceptual accuracy about concrete policy attitudes would be an important extension and validation of our findings.

We also see potential in considering the types of constituencies politicians think about and respond to. It may be that the perceived-distribution task would improve the perceptual accuracy of some politicians more than others, depending on what their constituencies look like. In our study, local politicians were asked to estimate the ideology of all citizens in their locality. It might be the case that politicians at other levels of government, who serve larger and often more heterogeneous constituencies, may benefit even more from thinking about the distribution of public opinion. In systems where politicians are motivated to respond to well-defined party electorates that are ideologically cohesive (as is often the case in proportional representation systems), distributions

may not provide much added value over point estimates. Comparatively exploring how different measurement approaches reduce perceptual errors has the potential to uncover differences in the underlying sources of seemingly universal biases, such as conservative over-estimation, that may be otherwise masked.

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