

Letter

“Moderates”

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Many Americans express a mix of conservative and liberal views across issues. Prior research indicates these voters are cross-pressured. A recent, influential article “Moderates” (Fowler et al. 2023) argues that these voters instead largely have centrist views on individual issues. To reach this conclusion, “Moderates” develops a method to determine which voters’ views are well-summarized by liberal-conservative ideology. “Moderates” finds that most voters’ views are. It therefore concludes that the large number of such voters with centrist estimated ideologies—“moderates”—must hold centrist views on issues. We show that this method systematically overstates how many voters’ views are well-summarized by liberal-conservative ideology: it assumes voters’ views are unless they either answer questions randomly or form a single cluster with distinctive views. In simulations, we show this problem is large. The article’s core conclusion that many voters who express a mix of conservative and liberal views can be inferred to support centrist policies therefore remains in doubt.


Many Americans express a mix of liberal and conservative views across issues. A recent, influential¹ article in the *American Political Science Review*, “Moderates” (Fowler et al. 2023), offers a novel interpretation of these voters’ views. Prior research largely characterizes these voters as genuinely cross-pressured across issues (e.g., Ahler and Broockman 2018). “Moderates” argues that (1) most ostensibly cross-pressured voters hold “genuinely centrist views” (643) on issues, and (2) these centrist voters (“moderates”) are “central to electoral change,” (644) being more likely to change their votes in response to candidate ideology and quality.


To reach these conclusions, “Moderates” does not measure whether voters explicitly support centrist policies; indeed, prior research shows that they rarely do (Broockman 2016). Rather, the article first develops a method that purports to use answers to binary policy questions to determine which voters’ views on individual issues can be “well-summarized” (643) by liberal-conservative ideology. The article’s model identifies a large group of voters (approximately three-quarters of voters) whose views on individual issues it concludes can be inferred from their estimated liberal-conservative

ideology. Many of these voters are estimated to have moderate liberal-conservative ideologies. On this basis, “Moderates” concludes that these voters support centrist policies on individual issues.²

In this article, we show that, unfortunately, the method “Moderates” offers does not accomplish what it claims, and the article’s conclusions are therefore unreliable. There are many models that can be used to understand response patterns in public opinion datasets, each of which provides a particular lens for summarizing the data and characterizing different types of response patterns. The authors of “Moderates” recognize that different voters might be understood better through different lenses (models). They therefore present a mixture model which attempts to capture multiple theories of how issue opinions are organized. The model categorizes each respondent as being “Downsian” (ideological), “Conversionian” (non-ideological), or “Inattentive” based on their pattern of issue question responses. “Downsian” (ideological) respondents are those whom the article argues have views “well-summarized” by liberal-conservative ideology. The titular “moderates” are not explicitly modeled. Rather, the article defines “moderates” as a subset of respondents (a) the model categorizes as “Downsian” (ideological), and so whose views on individual issues it argues can be inferred from their liberal-conservative ideology, and (b) who have moderate estimated ideologies. The article then infers this subset of voters have centrist views on individual issues.

The promise of this approach is that it puts different theoretical accounts in competition to see which can

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¹ The article is among the most-cited articles recently published in the *APSR*, and has been cited in the *New York Times*.

² For example, the article describes this group as having “genuinely centrist views” (643) on issues and as “genuinely middle of the road on most issues” (644).

predict the response patterns of the most voters. However, such an approach only works if the specified models each capture the underlying theoretical accounts comparably well. As we explain below, this is not the case for the “Moderates” mixture model. It defines “Conversionist” voters to have much more restrictive patterns of possible issue positions than “Downsian” voters. This makes the “Conversionist” sub-model a relatively poor predictive model (which also does not closely align to the article’s verbal description of it or to the perspective articulated by Converse 1964). As a result, this lens on the data sees few such “Conversionist” (non-ideological) voters. On the other hand, many more potential response patterns can be described by the “Downsian” sub-model, so the model sees many more “Downsian” (ideological) voters. This leads the article to be vulnerable to overestimating the share of voters whose views on individual issues can be safely inferred from their liberal-conservative ideology (“Downsians”). In turn, this also leaves the article vulnerable to significantly overestimating the share of voters with moderate estimated ideologies who can be safely inferred to have moderate views on individual issues (“moderates”).

“MODERATES” GOALS AND METHOD

Converse (1964) coined the term “constraint” to describe the strength of correlations between Americans’ views on different issues. Converse (1964) concluded that *ideological* constraint in particular was relatively rare—that is, that most Americans’ views were not structured by a single liberal-conservative dimension across all issues. Since Converse (1964), understanding to what extent American public opinion exhibits constraint in general, or one-dimensional ideological constraint in particular, has been a central scholarly focus (e.g., Ansolabehere, Rodden and Snyder 2008; Lauderdale, Hanretty, and Vivyan 2018; Kinder and Kalmoe 2017). Scholars have studied this question for many reasons, including that, if liberal-conservative ideology predicts voters’ views on issues well, voters’ issue views can be inferred from their overall liberal-conservative ideology alone.

“Moderates” proposes a method to categorize voters into a group whose issue views are well-summarized by their liberal-conservative ideology (ideologues) and those whose views are not (non-ideologues). The article then treats the liberal-conservative ideological model as correct for the individuals estimated to be ideologues, in particular leveraging the liberal-conservative ideological model to infer that voters within this category who are estimated to have moderate estimated ideologies will have centrist views on individual issues.³ The risk associated with this inference is that if the model misclassifies non-ideological voters as ideologues, it may produce inaccurate inferences about their views on issues from their estimated ideologies.

To identify ideologues, the method estimates a three mode mixture model which takes respondents’ answers to binary survey questions at a single point in time as

input and estimates the probability that respondents fall into one of three categories:

1. “Downsians” (i.e., one-dimensional ideologues) have responses that arise from a one-dimensional model of liberal-conservative ideology. Within this set of voters, respondents who have more liberal/conservative responses on one issue are predicted to have these on all issues.
2. “Conversionists” (i.e., non-ideologues) share a common response probability to each question. Within this set of voters, responses on one issue do not predict responses on any other issue.
3. “Inattentives” have a 50% probability of answering Yes to each question, as one might if one were randomly clicking in a survey.

Mathematically, the three modes of this mixture model each correspond to profiles of predicted probabilities of respondent i giving a “Yes” response to each binary issue question j . Where Λ is the cumulative logistic distribution function:

$$p(Y_{ij} = 1 | \text{“Downsian”}) = \Lambda(\beta_j(x_i - a_j)) \quad (1)$$

$$p(Y_{ij} = 1 | \text{“Conversionist”}) = \lambda_j \quad (2)$$

$$p(Y_{ij} = 1 | \text{“Inattentives”}) = 0.5. \quad (3)$$

We note that “moderates” are not a mode of this mixture model; rather, this mixture model attempts to identify which voters’ views are “well-summarized” by a single dimension (“Downsians”). “Moderates” then defines “moderates” as the subset of “Downsians” who have an estimated ideology x_i in the middle third of the distribution of all Downsians’ estimated ideology (651). These respondents are inferred to have centrist views on individual issues purely on the basis that the model says they must by virtue of being “Downsians.” If voters are truly of the “Downsian” type, their views on individual issues can be inferred from their ideology x_i . Due to the monotonic relationship between every issue position j and ideology, those with moderate (i.e., close to the median) estimated values of x_i have moderate positions on all issues in expectation.

“Moderates” therefore uses a mixture model in a different way than is typical in political science (e.g., König, Marbach, and Osnabrügge 2017). Rather than considering the mixture model’s estimates as primary objects of interest and examining how they vary, the article instead leverages the model’s classification of some voters as “Downsians” to conclude that these voters’ views on individual issues can be inferred from their estimated one-dimensional ideology x_i . For instance, the article infers that respondents classified as “Downsians” and who also have moderate estimated ideologies are “genuinely middle of the road on most issues” (644).⁴

³ For example, the article describes this group as “genuinely middle of the road on most issues” (644).

⁴ Elsewhere they describe this group as “having genuinely moderate views across issues” (643), as “genuine centrists” (645), and as “hold [ing] genuine views in the middle of the same dimension of policy ideology that explains the views of consistent liberals and consistent conservatives” (644).

The critical question underpinning the article’s conclusions is whether it is safe to assume that we can infer voters’ views on individual issues from their liberal-conservative ideology if the article’s model classified them as “Downsian.” We argue that it is not. There are many response patterns where voters’ views on individual issues are not “well-summarized” by one-dimension (and so their views on individual issues cannot be inferred from their estimated ideology x_i) and yet who the mixture model categorizes as “Downsian.”⁵ We argue that this key problem arises *not* because the “Downsian” model is misspecified, but rather because the model implements an extremely restrictive definition of what pattern of responses *non-ideological* voters (“Conversians”) could provide.

Key Problem

“Moderates” claims that the “Conversian” category “flexibly” (646, 647) captures respondents who express views that are “genuine” but “not well summarized by a single ideological dimension” (643). This would leave the “Downsian” category capturing respondents whose views on individual issues *can* be “well summarized” by a single ideological dimension—and therefore among whom those with centrist estimated ideologies can be inferred to have centrist views on individual issues. But the model does not measure whether voters’ views are “*well*” or “*not well*” summarized by a single ideological dimension. It instead asks which of the three modes of the mixture model each respondent’s pattern of issue position responses is *best* predicted by. This is problematic because, as we will explain, it is easier for most voters’ views to be explained by the “Downsian” mode than the “Conversian” mode. This is simply because the “Downsian” mode accommodates many subtypes of respondents, but the “Conversian” mode does not allow more than one type of respondent to coexist within it.

In the model, the probability that “Conversians” answer “Yes” on any given issue j is λ_j for *all* Conversians. The model therefore assumes that “Conversians” are a homogeneous type which form a single cluster with a shared pattern of views, like a set of ideologues with the exact same ideology.⁶ The “Conversian” mode of the model *can* thus effectively capture one group of voters with a particular idiosyncratic belief system—for example, libertarians, where λ values might be high

(“conservative”) across all respondents of this type for economic issues but low (“liberal”) for social issues.

However, contrary to what “Moderates” claims, voters of the exact type Converse imagined—voters with various patterns of beliefs not well-described by liberal-conservative ideology—cannot coexist in the model’s “Conversian” category. For example, Converse (1964, 235) argues that voters’ views towards social groups generate non-ideological constraint in their views, such as whether voters are “sympathetic to [Blacks] as a group” (see Elder and O’Brian 2022). Some voters might be highly sympathetic, affecting their views across a subset of issues; others may harbor animosity, and therefore hold the opposite set of positions on that subset of issues. The “Moderates” model does not allow non-ideologues with hostility towards Blacks and non-ideologues with sympathy towards Blacks to coexist in the “Conversian” category. This means the model’s “Conversian” category is more restrictive and does not match the article’s verbal description of the category as “flexibly” (646, 647) accommodating voters with “genuine views that are not well summarized by a single ideological dimension” (643)—and certainly not Converse’s (1964) conception of public opinion.

The model’s restrictive conception of non-ideologues makes it vulnerable to miscategorizing a large share of true non-ideologues as moderate ideologues. Individuals whose responses do not exactly fit the model’s chosen single cluster of “Conversians,” the single cluster of “Inattentives,” or any point on the “Downsian” dimension are still necessarily classified as one of these by the model. The model typically describes most such respondents as “Downsians” simply because that mode of the mixture model is more flexible than the others in the response patterns it can describe: whereas the “Downsian” mode is consistent with varying profiles of responses across the range of estimated respondent ideology x_i , the “Conversian” mode is restricted to a single predicted probability profile (λ). Voters whose responses are not well-explained by one-dimensional ideology, yet who also do not closely resemble the single cluster of “Conversians”, are thus often categorized as “Downsians.”

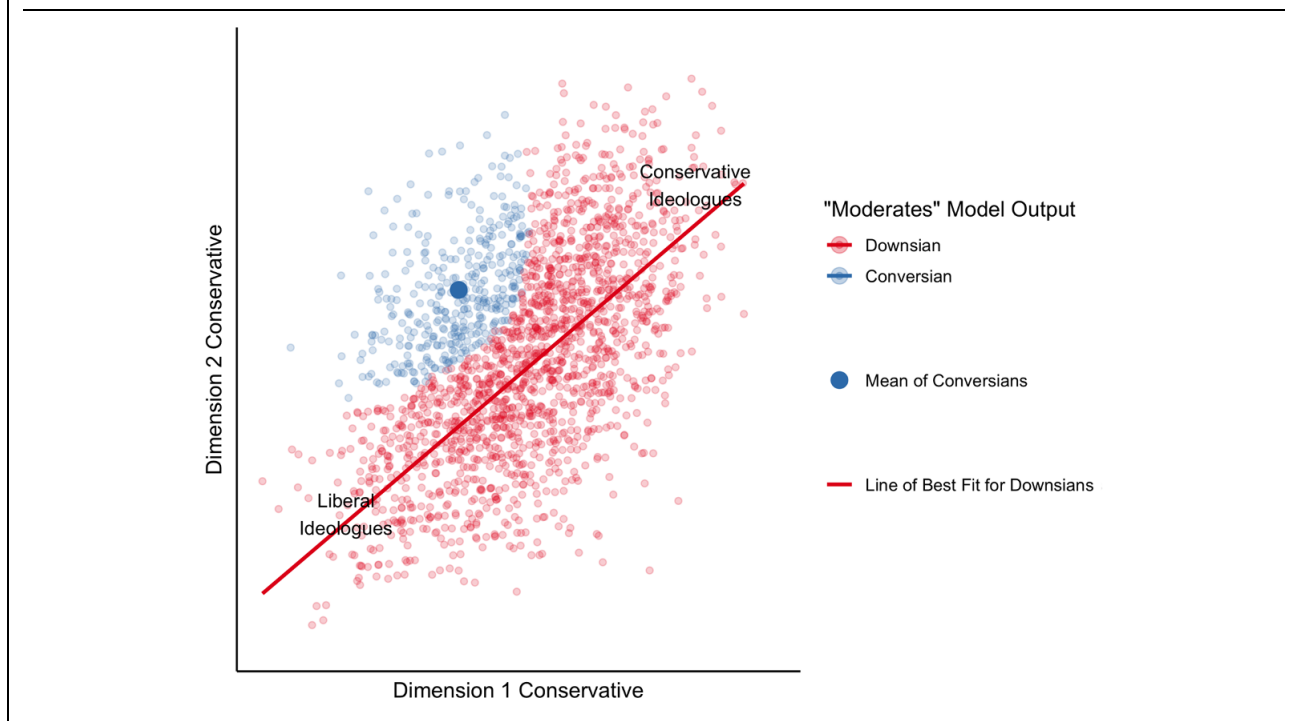
Visualizing the Problem

A graphical illustration clarifies this problem. The points in Figure 1 show data from a simulated survey. In the simulation, 2,500 voters’ answers to 100 survey questions are determined by voters’ true latent views in one of two correlated dimensions and random measurement error.⁷ One could imagine that these dimensions correspond with views on two distinct issue domains, such as social issues and economic issues.

⁵ At some points, the article acknowledges that the mixture model does not in fact identify whether a one-dimensional spatial model “well-summarize[s]” respondents’ views, it only identifies whether it “better summarize[s]” their “full portfolio of issue positions relative to” the specified alternative models (646). However, the article’s substantive conclusions depend on the mixture model identifying a subgroup for whom the spatial model in fact does “well summarize” (643; elsewhere, “well describe,” 659) their views on issues.

⁶ Mathematically, the Conversian model is as flexible as a restricted version of the “Downsian” type where all respondents are forced to share the same ideal point x_i , which reduces to a profile of issue-specific probabilities like the λ_j .

⁷ This simulation uses a 2D spatial model data generating process as an example of how the “Moderates” model divides up voters into types strictly for the purposes of visual exposition. Our critique does not rely on there being two true issue dimensions.

FIGURE 1. Motivating Example in Simulated Dataset

The x- and y-axes correspond to these two underlying dimensions. The colors show the categorizations the “Moderates” model produced.

Voters with conservative views on both dimensions (upper-right) or liberal views on both dimensions (lower-left) could fairly be described as one-dimensional ideologues, as their views in both domains can be predicted well from an overall liberal-conservative ideology: those near the dimension in the lower-left have conservative views on both issue domains, and so forth. However, voters in the upper-left and lower-right have liberal views in one domain and conservative views in another. Their views are less well-predicted by a single liberal-conservative ideological dimension.

The problem in the “Moderates” model is evident: the article’s model only characterizes respondents in the top-left quadrant as non-ideologues (“Conversionians”), even though voters in the bottom-right quadrant are just as poorly described by one dimension. Fowler et al. (2023, 643) leave vague what it means for voters’ views to be “well” or “not well” summarized by one dimension. However, it is clear that voters in the top-left and bottom-right are equally “not well” summarized by one dimension, and so if voters in the top-left should be categorized as “Conversionians” instead of Downsians, so should voters in the bottom-right—yet they are not.

This poses a particularly acute problem for the article’s characterization of its exact population of interest: voters who express a mix of liberal and conservative views across issues. Note that, because the respondents at the bottom-right are closest to the middle of the liberal-conservative ideological spectrum (red line), they would be described as “moderates” and so

inferred to have centrist views on issues by virtue of also being “Downsians”—despite actually being conservative on one issue domain and liberal on another. This shows that it is not safe to assume that voters’ views on individual issues can be reliably inferred from their one-dimensional ideology if the “Moderates” model categorizes them as “Downsians”—and that this assumption may be *particularly* likely to fail for those categorized as “Downsians” with moderate estimated ideology, that is, for “moderates.”

The “Moderates” method characterizes voters this way because, as a restriction of a more flexible multidimensional spatial model, the method asks two questions. First, the model asks: within a multidimensional space, what is the best way to place a freely movable line (the estimated ideological spectrum for Downsians) and a freely movable point (the estimated mean issue positions of Conversionians) such that the distance of all the points (respondents) from the movable line, the movable point, and a fixed point (Inattentives) is minimized?

Second, to categorize respondents, the method then asks whether each point (respondent) is closest to the line (Downsians), to the movable point (Conversionians), or to the fixed point (Inattentives). The key problem is that more points (respondents) tend to be closer to the movable line than the movable or fixed points, as was the case in Figure 1. This is simply because a line is “bigger” than a point—that is, it is a more flexible description of the data than the two points are—not because of anything about the structure of ideology. In other words, the main finding of “Moderates” that more voters are labeled as “Downsian” (close to a line)

than “Conversionian” (close to a point) is a feature of geometry, not politics.⁸

Our argument in the previous subsection can be understood in terms of this graphical exposition. Because the model only allows *one* point (one profile of λ_j s) to represent the views of “Conversionians,” non-ideologues cannot have multiple different profiles of genuine views. But the model allows ideologues to have a variety of response patterns. More voters are thus categorized as ideologues (all those in red), including many who are not well summarized by this category.

Figure 2 shows that the same pattern appears in the datasets “Moderates” used, when viewed through the lens of a 2D spatial model. The colors again depict the categorizations the “Moderates” model produced, but now in the article’s own datasets. To display the data graphically, we again use a 2D IRT model to estimate two latent dimensions, and orient them so that larger values correspond with conservative positions. Such a model is more flexible than the “Moderates” model, which does not necessarily make it a better model, but does allow us to use it to understand the kind of voters the “Moderates” model labeled “Conversionians.”

Viewed through this lens, “Conversionians” occupy a narrow, off-diagonal cluster in every dataset. These “Conversionians” do not appear to be a stable group “Moderates” discovered; rather, in each survey dataset, they are a *subset* of the voters whose views are not predicted well by a one-dimensional spatial model.⁹ Where this is varies politically by year: “Conversionians” lean conservative in some years, moderate in others, and liberal in others. However, in almost all years, these voters hold liberal positions on one set of issues A and conservative positions on another set of issues B—but the voters occupying the opposite quadrant, with *conservative* positions on issue set A and *liberal* positions on issue set B, are typically labelled “Downsians” instead. The “Moderates” model’s “Conversionian” category thus does not successfully capture non-ideologues in the “flexible” (646) way the article intended. It instead captures a *subset* of individuals whose views are relatively poorly predicted by a one-dimensional spatial model.¹⁰ As a consequence, many voters who fit the article’s verbal description of the “Conversionian” category similarly well—and whose views on individual issues it is not safe to infer from their estimated liberal-conservative ideology—are nevertheless categorized as “Downsians.”

⁸ Supplementary Figure OA2 shows that similar results obtain when the latent dimensions are uncorrelated.

⁹ Supplementary Figure OA1 shows similar results in our simulated data.

¹⁰ Appendix D in Fowler et al. (2023) finds that a two-dimensional version of the model classifies even more voters as ideologues. The article interprets this as indicating that the one-dimensional model potentially underestimates the share of ideologues. We interpret this as that their two-dimensional mixture model’s “Downsian” submodel is even more flexible relative to the “Conversionian” submodel than the one-dimensional version: a plane (“Downsians”) versus a point (“Conversionians”) in a multidimensional space.

ESTIMATES IN SIMULATED DATA

Because we do not know the true data generating process (DGP) underlying real survey responses, to explore the potential magnitude of this problem, we next present simulations where we control the data generating process and can observe how the “Moderates” model performs. Our simulations all include a population which matches both Converse’s (1964) conception of public opinion as exhibiting non-ideological forms of constraint within subsets of issues and the article’s verbal description of non-ideologues. We show that the “Moderates” model often misclassifies a substantial proportion of these non-ideologues as one-dimensional ideologues (“Downsians”).¹¹

In our main simulation, respondents have true latent views in each of 15 different issue domains. 5,000 respondents from each DGP answer a simulated survey. The survey asks 5 issue questions in each of the 15 issue domains, for a total of 75 questions. Within this framework, we consider several DGPs that could generate respondents’ views. This setup allows us to vary the extent to which respondents’ expressed views are *non-ideologically* constrained (i.e., *within* issue domains) in the sense that Converse (1964) defined constraint versus constrained by one-dimensional ideology in particular (i.e., across all issue domains).

We use a Rasch model to probabilistically translate respondents’ latent views in the 15 issue domains into observed binary responses to the 75 questions.¹² Finally, we apply the “Moderates” model to the observed binary responses. See Section B of the Supplementary Material for details.

Our main simulation relies on three DGPs with varying ideological constraint, as ideological constraint varies across real voters (Kinder and Kalmoe 2017). In particular, we simulate:

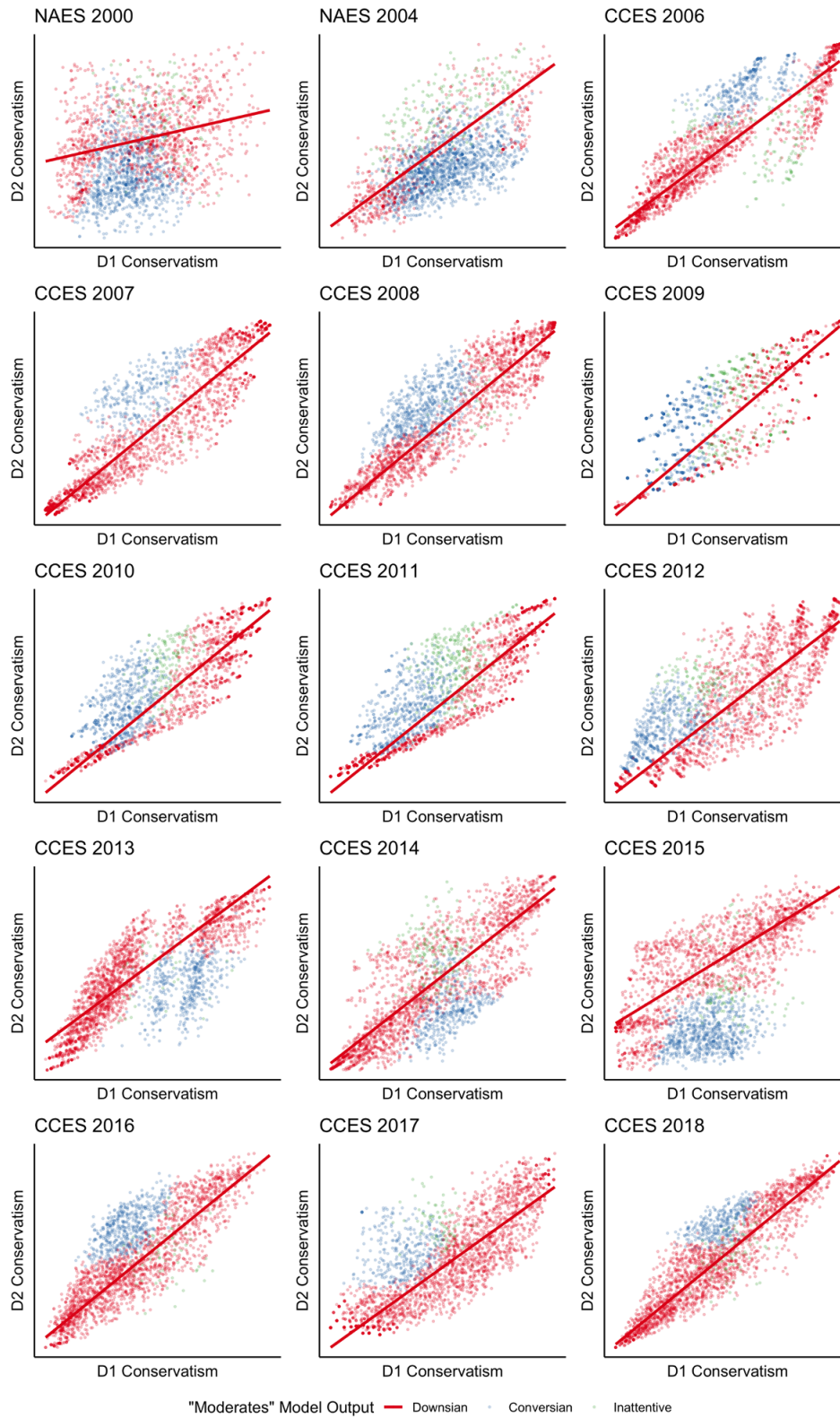
- A “Non-Ideologues” DGP. Respondents in this data-generating process exhibit no *one-dimensional ideological* constraint; their views in each issue domain are entirely uncorrelated with those in all other issue domains.
- A “Some Ideological Constraint” DGP where liberal-conservative ideology determines half of the variation in respondents’ views in every issue domain.
- A “One-Dimensional Ideologues” DGP, where respondents’ liberal-conservative ideology solely determines respondents’ views in every issue domain.

If it functions as the article indicates, the “Moderates” model should identify the “Non-Ideologues” DGP’s voters as “Conversionians,” as the article claims that the “Conversionian” category captures respondents who

¹¹ “Moderates” presents simulation studies, but these only show that the model recovers the data-generating parameters when the data are generated from the model itself, not from alternative models of non-ideological voters.

¹² This represents the presence of measurement error when latent views are translated into observed responses and/or genuine opinion variation within issue domains.

FIGURE 2. Motivating Example Applied to Datasets in “Moderates”



Note: Section A.2 of the Supplementary Material discusses details.

TABLE 1. Simulation 1 Results

| True type | Ground truth in DGP | | “Moderates” model: Share categorized as... | | | |
|---|---|--|--|-------------------------------|-------------|--|
| | Share of true latent preferences moderate | | Ideologues (“Downsians”) | Non-Ideologues (“Conversian”) | Inattentive | Moderate ideologues (“Downsians” with moderate ideology) |
| Non-ideologues (100% “Conversian”) | 33% | | 75% | 25% | 0% | 44% |
| Some ideological constraint (semi-“Downsian”) | 33% | | 88% | 12% | 0% | 24% |
| One-dimensional ideologues (100% “Downsian”) | 33% | | 94% | 6% | 0% | 18% |

express views that are “genuine” but “not well summarized by a single ideological dimension” (643). In our simulation, these respondents’ responses are definitely not “well summarized” by a single ideological dimension: they arise from individuals responding based on independent views in 15 different issue domains. By contrast, the latent views held by the “One-Dimensional Ideologues” group are entirely determined by one-dimensional ideology, matching the definition of “Downsians” in “Moderates.” By construction, the share of individuals’ true latent issue views which are moderate¹³ are identical in every DGP.

We combine 5,000 responses from each of these three DGPs into one dataset, and then estimate the “Moderates” model in this dataset. Table 1 shows the results.

Table 1’s first row shows that the “Moderates” model miscategorized *three-quarters* of non-ideological respondents as ideologues (“Downsians”) in this simulation. These respondents are simulated to match Fowler et al.’s (2023) verbal description of the “Conversian” type, yet the “Moderates” model usually categorizes them as “Downsian.”

It is problematic that, in data simulated to match the theories the article verbally claims to capture, the “Moderates” model does not see the data as consistent with those theories. This is additionally problematic for the substantive conclusions of the article, as the article leverages the output of the model to justify an assumption. In particular, the article assumes that voters’ views on individual issues can be inferred from their estimated one-dimensional ideology if they are categorized as “Downsians.”¹⁴ However, in this simulation, the “Downsian” category contains many voters whose views on individual issues are essentially unrelated to one-dimensional ideology, and so their views on issues cannot be inferred from it.

¹³ Moderate latent issue preferences are defined as those in the middle third of each issue’s distribution, mirroring Fowler et al.’s (2023) definition of moderate latent ideology.

¹⁴ For example, the article describes respondents categorized as “Downsians” and with moderate estimated ideologies as “having genuinely moderate views across issues” (643).

Indeed, the non-ideologues who the “Moderates” model miscategorizes as ideologues are disproportionately miscategorized as *moderate* ideologues in particular (“moderates”). In our simulations, the non-ideological, semi-ideological, and purely ideological categories are constructed to have similar shares of respondents with latent moderate issue views. However, the model classified about twice as many true non-ideologues as moderate ideologues (“moderates”) as it did true semi-ideologues or true ideologues. Figure 1 showed why this occurs: respondents with a mix of liberal and conservative views which do not closely approximate the distinctive set of views chosen for Conversians tend to be classified as Downsian and be closest (even if not close) to the middle of an estimated liberal-conservative dimension. This leads them to be categorized as moderate ideologues (“moderates”).

In Section B.3 of the Supplementary Material, we present a second simulation which includes several more DGPs, including pure partisans and inattentive respondents. For example, we introduce a “Libertarian” DGP, motivated by our earlier discussion. As we noted, the model’s “Conversian” category does not formalize a diverse variety of voters with genuine views unconstrained by one-dimensional ideology, it rather formalizes a single cluster of like-minded voters mathematically equivalent to a group of Downsians with the same ideal point. In Section B.3 of the Supplementary Material, we confirm this by showing that, when introducing a single cluster of voters with distinctive views (“Libertarians”), the model often labels them all as “Conversian” non-ideologues. Most crucial is the implication of this behavior for how other respondents are classified: when the “Conversian” mode corresponds with libertarians, the model then classifies almost all other voters as ideologues, because the “Conversian” category cannot accommodate multiple types of non-(one-dimensional) ideologues. Supplementary Figures OA3 and OA4 illustrate this visually.

Section B.4 of the Supplementary Material presents a qualitatively different simulation inspired by Converse (1964) where non-ideological voters’ views are constrained by their views towards various groups. We find that the “Moderates” model similarly misclassifies

most of these voters as Downsians. Section B.5 of the Supplementary Material shows that the primary simulation shown in this section produces similar results under a variety of alternative hyperparameters.

These simulations confirm three key points regarding the “Moderates” model:

- The “Conversian” category is well-suited to identify a group of respondents who share *the same* views, but does not broadly capture respondents with non-ideological views.
- The model typically miscategorizes other non-ideological voters who do not fall into this cluster as ideologues, dramatically overestimating the share of voters who are ideologues.
- The model disproportionately miscategorizes non-ideological cross-pressured voters as *moderate* ideologues in particular—that is as “moderates”—because they hold a mix of liberal and conservative views.

In Section C of the Supplementary Material, we generate simulated datasets that have the same sample sizes and pairwise correlation structures as the datasets “Moderates” analyzes, but where all respondents’ share a common data generating process based on a latent multivariate normal model. The “Moderates” model categorizes about the same proportion of respondents in them as “Downsians” as in the original datasets. This implies that the proportion of “Downsians” that “Moderates” estimated in the original datasets cannot reliably indicate how many respondents truly belong to different underlying types, as it returns the same answers in datasets where all respondents were simulated from a single data generating process. The proportion of each type the model estimates instead appears to depend largely on the pairwise correlations of issue positions, which were preserved in these simulations.

CONTRARY EVIDENCE

We have shown that the model “Moderates” uses does not reliably distinguish ideologues from non-ideologues, either as the article itself verbally defines these terms or as Converse (1964) and other literature uses them. This leaves the evidence the article adduces ambiguous with respect to how many voters are well-summarized as one-dimensional ideologues and, therefore, to what extent we can infer that voters have centrist views on issues if their liberal-conservative ideology is estimated to be moderate. However, other studies offer insight, and reach different conclusions.

First, with respect to how many voters are one-dimensional ideologues, standard factor analytic approaches find that only approximately 30% of the variation in expressed opinions can be explained by a single dimension (Broockman 2016). Using panel data, Lauderdale, Hanretty, and Vivyan (2018) estimate that liberal-conservative ideology represents only about 25% of the temporally stable variation in

public opinion. Freeder, Lenz, and Turney (2019) find that knowledge of party positions largely explains whether people hold stable ideological views, and similarly conclude that only about 20%–40% do so. Finally, Ahler and Broockman (2018) find that only 30% of voters prefer candidates whose issue positions convey a broad ideology matching their own, rather than candidates which match their idiosyncratic issue views. While the quantities of interest are defined differently, these studies all converge on estimates of the prevalence of liberal-conservative ideologues or ideology far lower than the 73% in “Moderates.”¹⁵

Second, with respect to how many voters support moderate policy, Broockman (2016) finds that only 18% of voters express support for policy more moderate than the two parties on the typical issue, and that voters with a mix of liberal and conservative views are no more likely to support moderate policies than consistently liberal or consistently conservative voters. By contrast, “Moderates” argues that voters with a mix of liberal and conservative views largely support moderate policies.

These debates have important substantive implications. They center on the question of how to understand the large number of voters who express a mix of liberal and conservative views on surveys. Understanding these voters is crucial because, as scholars have long known (Lazarsfeld, Berelson, and Gaudet 1944) and “Moderates” re-confirms, they are disproportionately likely to be “floating” or “swing” voters. If “Moderates” is correct, because these voters are mostly ideologues, that they have moderate estimated ideologies indicates that they agree with each other about what they want from government: moderate policy on individual issues. But other studies generally find that this is in fact a highly heterogeneous group who want different things from government than each other—many of which are not moderate—and therefore whom it is not straightforward for politicians to satisfy (Ahler and Broockman 2018; Broockman 2016; Lauderdale, Hanretty, and Vivyan 2018).

MOVING FORWARD

“Moderates” outlines ambitious goals: categorizing whether individual voters are one-dimensional ideologues versus whether their views are not well-summarized by one dimension. The article’s creative reorientation of previous literature’s focus on characterizing groups or issues towards instead characterizing individuals holds tremendous promise. Unfortunately, these goals cannot be accomplished with tweaks to the “Moderates” model because different data are required to answer these research questions, along with different models capable of handling those data.

¹⁵ There is also a far broader literature on the breadth and nature of ideology in the mass public which we do not have space to adequately review here (e.g., Kalmoe 2022).

As a way forward, we highlight two ways that richer data than that used by “Moderates” can enable richer models that extract more informative quantities of interest about individual respondents. First, in order to measure substantive moderation, it is helpful to gather more detailed measures of individuals’ views on particular issues. This enables measuring substantive moderation more directly and does not require the strong assumptions necessitated by binary issue questions that span multiple issues. Second, it is helpful to gather panel data that ask each respondent each issue question in multiple waves. This enables the data to distinguish between unstable issue opinion that is likely to be due to weak/non-attitudes, measurement error, or random sampling of considerations (Zaller 1992) versus stable issue opinion that is likely to be due to real views—even where these do not match broader ideological patterns in a respondent’s views on other issues or are extreme. Together, data that are richer in these two ways can enable the substantive questions that motivate “Moderates” to be answered in more convincing ways.

First, as we describe in our critique above, binary issue questions that span multiple issues have the severe limitation that they can only provide indirect evidence of substantive moderation on those particular issues. While different issue questions may present binary alternatives that divide liberals and conservatives at different substantive thresholds on each issue, no individual response can ever mark a respondent as having a “moderate” view on an issue. Each question divides all individuals to the left of a cutpoint from all individuals to the right of a cutpoint, inevitably pooling in substantive moderates on that issue with those who hold more extreme views on one side of the issue or the other. In order, then, to make any claims about substantive moderation from binary questions about multiple issues, one needs to have already assumed a cross-issue 1D spatial model fits well in order to make inferences across questions. For example, “if respondent i is in the majority 2/3 on issue j with most people who are generally on the left, and is in the majority 2/3 on issue j' with most people who are generally on the right, they are likely to have moderate views on both issue j and issue j' .” But this follows only if the 1D spatial model strongly predicts underlying views, and as noted already, typical 1D spatial models explain only a modest fraction of the variation in survey responses y_{ij} . Thus, it is also plausible that the person who has been assumed to be a substantive moderate might also have relatively extreme positions within both issue-level majorities, albeit on opposite ideological sides (Broockman 2016). On the basis of binary cross-issue data, we cannot know without making cross-issue assumptions that seem dubious based on available data. This problem can be addressed by asking about a range of policy views on each issue, such as by using a five or seven point ordinal scale which includes moderate policy options, or with a series of binary questions about the same issue.

However, survey questions remain noisy signals. A wealth of past research has indicated that many respondents do not give stable issue responses in repeated

surveys. The canonical spatial model that sits at the core of the “Moderates” model attempts to account for this noise with the error term ϵ_{ij} :

$$y_{ij} = \beta_j(x_i - \alpha_j) + \epsilon_{ij}.$$

This ϵ_{ij} term might absorb sources of noise such as measurement error. Unfortunately, it might also absorb “genuine” opinion that is inconsistent with respondent i ’s ideology, such as a pro-choice conservative’s opinion on abortion.¹⁶ A liberal view on abortion expressed by an otherwise-conservative voter could plausibly be measurement error or genuine non-ideological opinion. In cross-sectional data, these two possibilities for the nature of expressed opinions that are inconsistent with the 1D spatial model $\beta_j(x_i - \alpha_j)$ —measurement error and genuine non-ideological opinions—are observationally equivalent.

In panel data one can separately model the component of this residual variation that is stable (and thus more likely to reflect meaningful opinions) versus unstable (and thus more likely to reflect random responding, weak/non-attitudes, or measurement error). In particular, repeated measures enable disaggregation of this ϵ_{ij} term into temporally stable v_{ij} and unstable ϵ_{ijt} variation (Lauderdale, Hanretty, and Vivyan 2018):

$$y_{ijt} = \beta_j(x_i - \alpha_j) + v_{ij} + \epsilon_{ijt}.$$

Panel data can thus help address both aims that “Moderates” articulates. First, the degree to which an individual repeatedly expresses opinions that are or are not reducible to a 1D spatial model could indicate the extent to which their views are or are not ideological. Second, if one is going to characterize an individual as having a moderate issue position, or an extreme one, one could do this on the basis of them repeatedly giving that response.

Both of these data requirements—more detailed issue-specific responses and repeated measures—mean setting aside the large volumes of cross-sectional, binary issue data from decades of election studies which are deployed in “Moderates.” However, we have used ordinal, panel issue opinion datasets previously in order to make arguments about the relative prevalence of moderate versus extreme opinion and ideologically structured, stable opinion versus stable opinion that is not ideologically structured. Lauderdale, Hanretty, and Vivyan (2018) used data collected by Broockman (2016) and a similar model to the one specified above to estimate how much of the variation in responses on

¹⁶ “Moderates” recognizes and attempts to overcome this problem by allowing a subset of “Conversion” respondents to share a λ_j term. Unfortunately, as we describe above, this has the downside that all “Conversion” must share the same views on each issue: for example, pro-life liberals’ abortion views and pro-choice conservatives’ abortion views cannot both be captured by the λ_j for abortion among “Conversion.” Also indexing λ by i would address this problem, but in cross-sectional data λ_{ij} would then not be separately identifiable from the error term ϵ_{ij} . As we note, panel data would not face this challenge.

each *issue* could be predicted based on ideology ($\beta_j(x_i - \alpha_j)$), versus *idiosyncratic* respondent-issue-specific deviations from a respondent's ideology which persist over time (v_{ij}), versus temporal instability (ϵ_{ijt}). That analysis was done at the population level, not the individual level, but the novel ambition “Moderates” articulates—to understand how ideological *individuals* are—could also be accomplished within a generalization of this framework, with sufficiently rich panel data. One would need a “wide” dataset with a larger number of issue questions (each asked about in multiple waves) in order to be able to gain enough information about individual respondents to measure whether their personal views are relatively stable versus unstable, or relatively ideologically structured versus unstructured. Such a dataset is feasible to collect, albeit not available “off the shelf.”

Thus, in our view, while the data and methodology in “Moderates” cannot support the article's substantive claims, its novel ambition to distinguish between one-dimensional ideologues and non-ideologues, as well as moderate and cross-pressured voters, is well worth pursuing. Pursuing this ambition is eminently possible with richer datasets which provide more direct signals regarding which opinions are moderate versus not and which opinions are stable versus not.

SUPPLEMENTARY MATERIALS

To view supplementary material for this article, please visit <https://doi.org/10.1017/S0003055424001333>.

DATA AVAILABILITY STATEMENT

Research documentation and data that support the findings of this study are openly available at the American Political Science Review Dataverse: <https://doi.org/10.7910/DVN/6ZA5NO>.

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CONFLICT OF INTEREST

The authors declare no ethical issues or conflicts of interest in this research.

ETHICAL STANDARDS

The authors affirm this research did not involve human participants.

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