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ORIGINAL ARTICLE

Political Psychology

Extremism at the center: Uncovering political diversity among midpoint responders on the left–right self-placement item

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Abstract

The midpoint of the left-right self-placement item is hiding important political diversity, and may be conflating moderate responders with populists and other political sub-groups. Survey researchers should consider this problem when examining relationships between political orientation and political attitudes. We suggest testing for non-linearity in these relationships, and measuring anti-establishment and populist beliefs separately. Researchers interested in building theories explaining the psychological underpinnings of ideological extremism should also consider the possibility that a qualitatively different type of ideological extremist self-places on the midpoint.

KEYWORDS

Anti-establishment attitudes, ideology measurement, left–right self-placement, populist attitudes, scale midpoint

INTRODUCTION

Political ideology, defined as "an interrelated set of moral and political attitudes" (Jost, 2006, p. 653), reliably predicts between-person differences on party support (Jou, 2010), attitudes towards social and political issues (Kroh, 2007), and cognitive motivational tendencies (Jost et al., 2003). A person's ideological leaning is typically measured using the left–right[1] self-placement item in survey research (see Bauer et al., 2017, for a description of the history of its

[1]Or liberal conservative, in the U.S. context in particular. This paper will refer to the self-placement item as the left–right item except when referring to the U.S. context directly, as left–right is somewhat more generalizable to contexts outside of the U.S.

Highlights

- The midpoint of the left–right self-placement item is hiding important political diversity and may be conflating moderate responders with populists and other political subgroups.
- Survey researchers should consider this problem when examining relationships between political orientation and political attitudes. We suggest testing for nonlinearity in these relationships, and measuring anti-establishment and populist beliefs separately.
- Researchers interested in building theories explaining the psychological underpinnings of ideological extremism should also consider the possibility that a qualitatively different type of ideological extremist self-places on the midpoint.

usage) and is a standard measure of ideology in large nationally representative surveys. For example, in the Australian Election Study (AES), participants are asked to respond to the following item: "In politics, people sometimes talk about the 'left' and the 'right'. Where would you place yourself on a scale from 0 to 10, where 0 means the left and 10 means the right?" (McAllister et al., 2019, p. 6, questionnaire booklet). Researchers often correlate scores on this measure with scores on various political attitudes, values, and psychological constructs, and these relationships are typically assumed to be linear (e.g., Jost et al., 2003).

Historically and across many democratic nations, the midpoint is the most populated response option on the left–right item (Converse & Pierce, 1970; Rodon, 2015). Midpoint responders are politically heterogeneous (although it is probably not the only point along the left–right item that is heterogeneous—see Enders et al., 2024 for a discussion of heterogeneity at the extreme response ends). The midpoint comprises genuine moderates with centrist policy views (Knutsen, 1998), those who do not know what the terms *left* and *right* mean (Converse & Pierce, 1970; Knutsen, 1998), and those with low political interest (Rodon, 2015). It also likely includes those who do not identify with, or see relevance in, *left* and *right* in modern society (Rodon, 2015), and cross-pressured responders who hold a mixture of typically left- and right-wing stances (Treier & Hillygus, 2009).

One further possibility is that populists account for some of this heterogeneity. Populism is commonly defined as a thin-centered ideology that pits the people against corrupt elites and holds that politics should represent the will of the people (Mudde, 2004). Populism is considered thin-centered because it lacks a coherent set of values reflecting how society should be arranged; although, crucially, it can be attached to ideologies with such features (thick-centered ideologies). As a manifestation of this, populist political parties and positions exist across the political spectrum, including right-wing, left-wing, neoliberal, and nationalist forms (Zulianello, 2020). Further attempts to describe the core dimensions of thin-centered populism led to the development of a three-dimensional structure of populist attitudes—anti-elitism, the perception that the people are homogeneous and virtuous, and popular sovereignty or will of the people (Schulz et al., 2018). These positively correlated yet distinct dimensions allow for different varieties of populism that may emphasize one or two dimensions over others.

For example, some populist parties and political actors predominantly focus on issues pertaining to the corrupt elite and the need to transfer more democratic power to regular people. This form of populism, termed *valence populism* (Pellegrini, 2023; Zulianello, 2020), largely sidelines issues commonly tied to the left or the right and instead focuses almost exclusively on corruption, integrity, and reforming the existing democratic system. Populists, and valence populists in particular, may find the midpoint an appropriate self-placement

option because it is unambiguously neither left nor right (or liberal or conservative) and traditional left- and right-wing issues are less important than non-ideological ones. As one example, the mean left–right item score of supporters of the Italian political party M5S, once considered a valence populist party, fell on the midpoint. The mean score was significantly to the left of the right-populist Forza Italia and to the right of the social Democratic Party (Pellegrini, 2023). In short, this suggests that populists with a specific focus on the core populist dimensions of anti-elitism and popular sovereignty over and above left- or right-leaning issues may reasonably see the midpoint as reflective of their politics.

It may also be possible for some populists with a focus on some typically right-wing issues to self-place on the midpoint. The people homogeneity dimension of populism manifests through endorsing anti-immigration stances and rejecting pluralism in society and politics (Akkerman et al., 2014), which fits neatly with right-wing populist parties in particular. Populists endorsing this dimension may still nonetheless not identify with the traditional political right because right-wing parties and politicians could also be viewed as being part of the corrupt elite that resists the will of the people.

Populism and midpoint "bumps"

Research investigating relationships between the left–right item and variables that reflect the anti-elite dimension of populism, such as skepticism of governments and authorities, has reported W- and M-shaped plots that are indicative of extreme scores at the left–right item midpoint. One example is in the reported W-shaped relationships between the left–right item and conspiracy beliefs (Imhoff et al., 2022; Marques et al., 2022), where a pronounced *bump*[2] at the midpoint was present in both cases. Marques et al. (2022), in a large representative New Zealand sample, found a W-shaped relationship between political ideology and conspiracy beliefs. A fourth-degree polynomial function best fit this relationship, such that conspiracy belief is higher among extreme left–right responders *and* midpoint responders (although extreme right responders appear to be the most conspiratorial). Similarly, plots of the left–right item against conspiracy mentality in data representing 23 countries (and again in 13 EU nations in a second study) displayed a midpoint bump, with midpoint scores appearing similar to the extreme left and extreme right (Imhoff et al., 2022). A re-analysis of this data by Enders et al. (2024), using a similar additive polynomial regression method to Marques et al., found that fourth-degree polynomial functions best fit the data, commensurate with Marques et al.'s findings on general conspiracy beliefs. Furthermore, trust in the European Parliament and attachment to Europe among European citizens is, on average, *lower* at the midpoint than at the center-left or center-right among European Social Survey respondents (Toshkov, 2023). While these bumps might be the result of populist midpoint responders, the political composition of the midpoint group beyond genuine centrists and ideologically cross-pressured people remains unknown.

The present research

In sum, some midpoint responders on the left–right item may hold populist tendencies—tendencies that, while often associated with the political extremes (van Prooijen &

[2]We use the term "bump" to refer to cases where *y*-axis scores are appreciably higher or lower for midpoint responders relative to scores for responders one point to the left or one point to the right of the midpoint. This creates a visual bump (higher) or dip (lower) when the left–right item (*x*-axis) is plotted against variables of interest on the *y*-axis. However, for simplicity, we refer to all cases (bumps and dips) simply as bumps.

Krouwel, 2019), are also found in midpoint responders (Pellegrini, 2023). The midpoint bumps may indicate that the left–right item fails to detect important political groupings that differ significantly in attitudes towards the political system (Uscinski et al., 2021). At a time in which establishment parties are losing support to populist and other movements (Guth & Nelsen, 2021), the single-item self-placement measure of left–right ideology may not be fit for purpose when researchers wish to understand anti-establishment sentiment in particular (Santucci & Dyck, 2022).

Two aims guided our research. First, we aimed to examine the prevalence of midpoint bumps by plotting the left–right item against items measuring attitudes towards several current social and political issues, as well as attitudes towards the political and democratic system. Second, we aimed to investigate a possible explanation for these bumps by determining whether multiple politically meaningful subgroupings, including populists, exist within the midpoint response group. We therefore took items that demonstrated nonlinearity at the midpoint of the left–right item, based on visual inspections of scatterplots and polynomial testing, and conducted latent profile analyses (LPA) solely on midpoint responders. LPA, as a type of mixture modeling, is a useful analytical technique when one wishes to "recover hidden groups in observed data" (Oberski, 2016, p. 275). It categorizes people probabilistically into unobserved groups based on their responses to a set of variables (Spurk et al., 2020). Following this, we examined whether any one midpoint group was predominantly responsible for bumps on singular items as a result of their relatively extreme mean scores.

We present the following research questions as a summary:

RQ1: When plotted against the left–right item, on which variables do midpoint bumps exist?
RQ2: Can a populist profile be identified within the midpoint response group, across these variables?
RQ3: Does a populist profile account for bumps at the midpoint?

We used data from the AES (McAllister et al., 2019) and the ANES (American National Election Studies, 2021), which are two large-scale surveys that contain the left–right (liberal-conservative in the ANES) item, and items measuring attitudes towards a range of social and political issues and political system attitudes. We chose the ANES as a comparison sample as this survey offers participants "Don't know" and "Haven't thought much about this" response options to the liberal-conservative item, whereas the AES does not. If AES responders did not know where to place themselves, they could refuse to respond and skip the question but may have felt pressure to respond on the scale when not presented with more suitable options (see Scholz & Zuell, 2016). Therefore, we might expect that so-called cognitive don't knowers (Rodon, 2015) are more likely to self-place on the midpoint in the AES survey given a lack of a clear alternative.

We stress that this research is exploratory and descriptive in nature, and should be seen as a useful first step towards developing an understanding of the complexity of midpoint response on the left–right item. Consequently, we do not propose any hypotheses.

ASSESSING CORRELATIONS BETWEEN THE LEFT–RIGHT ITEM AND POLITICAL ATTITUDES

We examined the prevalence of bumps across a wider range of variables than what has been reported in the extant literature to date. We plotted the left–right item against our attitude items (see Table 2 for items and Figure 1 for plots), using data from the 2019 wave

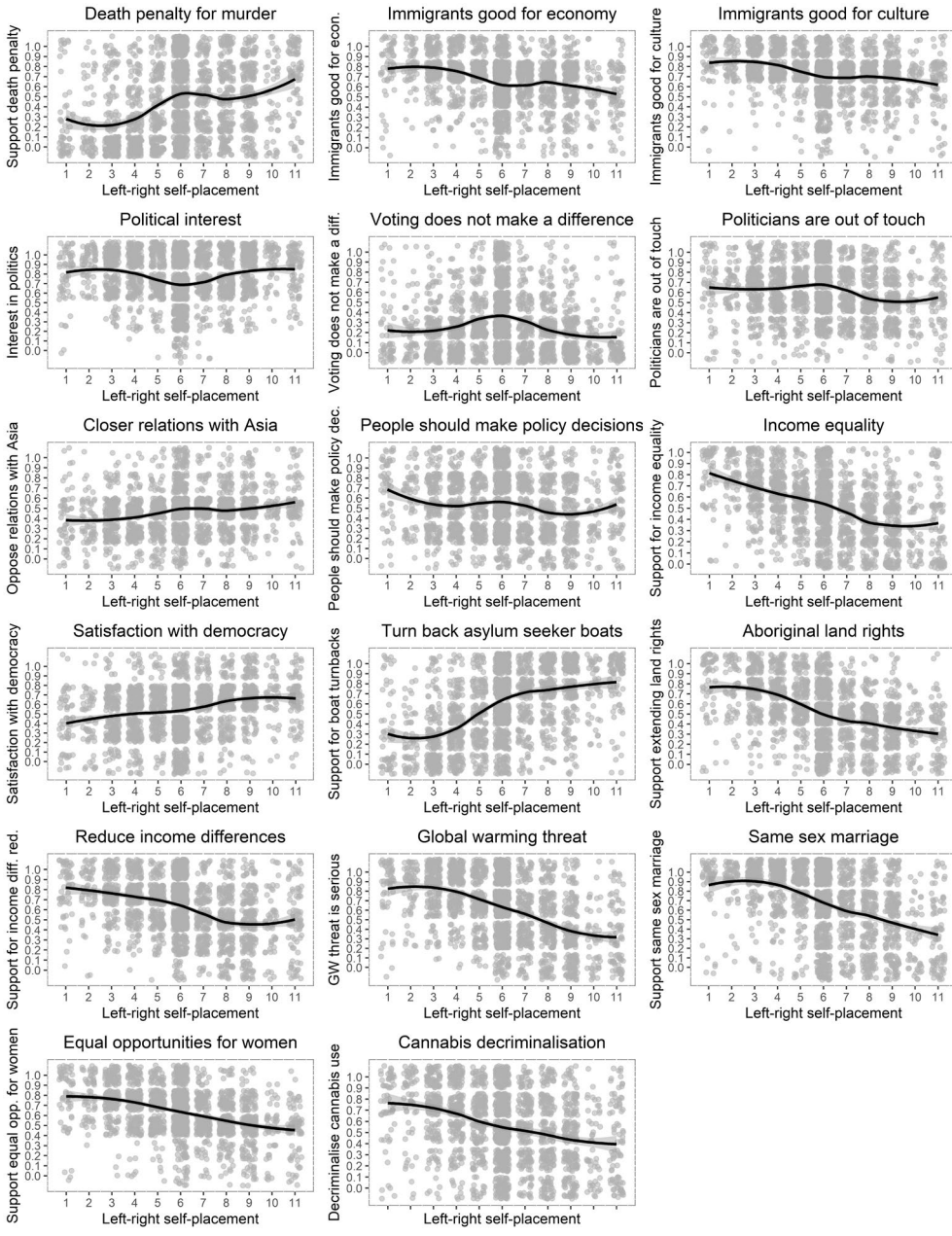

FIGURE 1 Scatterplots of relationships between left–right item and selected attitude items, with LOESS trend lines (AES data). The shaded area represents the 95% confidence level for the trend line.

of the AES. This survey was initially chosen for the simple reason that the first author is Australian. We then conducted polynomial tests on all of these bivariate relationships (detailed below). Polynomial testing allowed us to determine the best-fitting polynomial function and tentatively draw conclusions regarding the presence of a midpoint bump. We also conducted the same analyses using the 2020 wave of the ANES (see Table 3 for items used and Figure 2 plots).

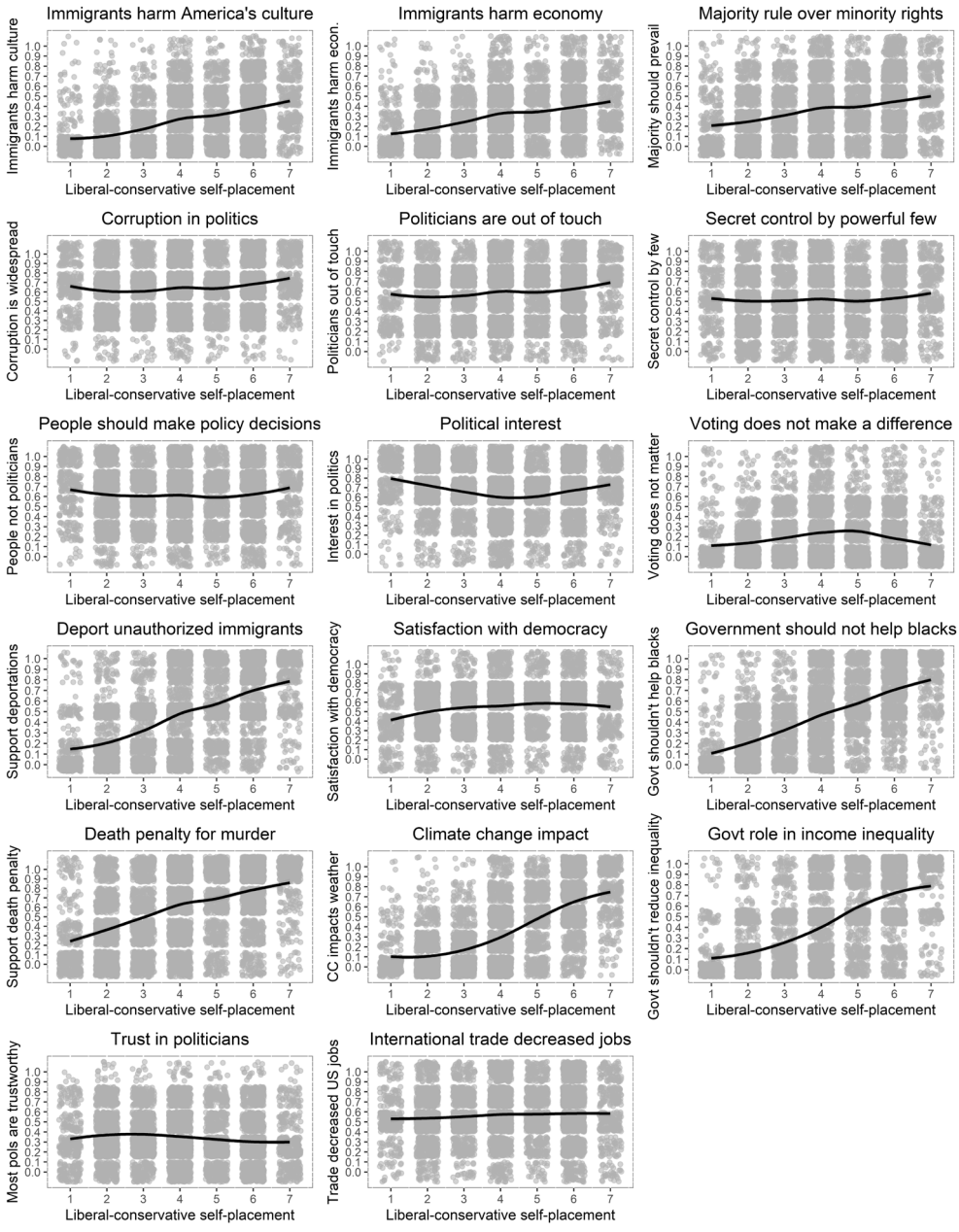

FIGURE 2 Scatterplots of relationships between left–right item and selected attitude items, with LOESS trend lines (ANES data). The shaded area represents the 95% confidence level for the trend line.

Method

Samples and measures

The AES and ANES are large sample surveys ($N = 2179$ for AES; $N = 8280$ for ANES). The 2019 AES survey data were collected between 20/5/2019 and 30/9/2019 using a mix of online and hard copy survey formats. Data can be accessed at https://australianelectionstudy.org/voter-studies/. The 2020 ANES survey data were collected between 18/08/2020 and 3/11/2020

(pre-election survey) and between 8/11/2020 and 4/1/2021 (post-election survey), using a mix of internet, telephone, and video interviews with participants. Data can be accessed at https://electionstudies.org/data-center/2020-time-series-study/. There were 652 midpoint responders in the AES and 1818 in the ANES.

AES left–right item

The AES left–right item is a single item measured on an 11-point scale, ranging from 0 (Left) to 10 (Right). We recoded this to range from 1 to 11 for all analyses. There are no other response options and no other labels for response options. The text of the item is as follows: "In politics, people sometimes talk about the 'left' and the 'right'. Where would you place yourself on a scale from 0 to 10, where 0 means the left and 10 means the right?"

ANES liberal-conservative item

The ANES uses a 7-point scale to measure liberal-conservative self-placement. As previously mentioned, liberal-conservative anchor points are commonly used for the self-placement item in U.S. research and opinion polling, as opposed to left–right. The item text is as follows: "We hear a lot of talk these days about liberals and conservatives. Here is a seven-point scale on which the political views that people might hold are arranged from extremely liberal to extremely conservative. Where would you place yourself on this scale, or haven't you thought much about this?" Each scale response option is labeled as follows: 1—Extremely liberal; 2—Liberal; 3—Slightly liberal; 4—Moderate/middle of the road; 5—Slightly conservative; 6—Conservative; 7—Extremely conservative. Participants can also indicate that they "Haven't thought much about this" or "Don't know."

Correlated items

A full list of attitude items can be found in Tables 2 (AES) and 3 (ANES) in the Results and Discussion section below. We selected as broad a range of items as possible, initially from the AES; then, we attempted to select similar items from the ANES. The AES is a relatively small survey compared with the ANES, with fewer items measuring political views and policy attitudes. Furthermore, some of these items are measured categorically and not on continua, so they are unsuitable for plotting bivariate relationships. Some items are also context-specific, such as how important the Royal Family is to Australia. We wanted to analyze similar items across the two surveys, so we could reasonably compare the results to allow us to observe commonalities across contexts. This was not always possible because either an equivalent item did not exist in the ANES or the response scale was categorical. We avoided items that overtly measured attitudes about the government in power at the time of the survey, as responses could be susceptible to partisan bias. Rather, we focused on items measuring attitudes toward politicians and the political system generally.

Results and discussion

Table 1 shows the prevalence of midpoint response option selection across the two samples.

Analytic strategy

Our first goal was to generate scatterplots for the bivariate relationships between our attitude items and the left–right item. To do this, we used R Statistical Software (version 4.4.1; R Core Team, 2024) via RStudio (Posit team, 2022) and the *geom_smooth* function using the "loess" method in the *ggplot2* package (Wickham, 2016), which adds a LOESS (Locally estimated scatterplot smoothing)

TABLE 1 Prevalence of midpoint response option in AES and ANES data.

Response options	AES ($N = 2179$)	ANES ($N = 8280$)
Midpoint	30% (31%)	22% (26%)
Left-of-midpoint options combined	32% (34%)	30% (35%)
Right-of-midpoint options combined	33% (35%)	33% (39%)
Don't know	Option not offered	<1%
Refused/skipped	4%	<1%
Haven't thought much about this	Option not offered	15%

Note: Proportions of response option selection for the AES and ANES. These proportions, when non-left–right responses are excluded, are in parentheses.

Abbreviations: AES, Australian Election Study; ANES, American National Election Studies.

trend line. Shaded areas around the line represent a 95% confidence level. We then gave our best judgment as to whether the trend line indicates a bump at the midpoint based on visual inspections. We report our judgments, simply recorded as *Yes* or *No*, in Tables 2 and 3.

To support claims from visual inspections that a given plot is indeed bumped at the midpoint, we sequentially added polynomials to a regression model for each bivariate relationship. Enders et al. (2024) suggest that a W- (or M-) shaped relationship is best modeled by a fourth-degree or quartic polynomial term, to represent the three changes in direction that could indicate a midpoint bump. However, a polynomial equation can better fit the data than a linear equation due to changes in direction at any point along the left–right item, for instance at the extremes of the scale. This is why it is important to consider both the polynomial tests and visual inspections in conjunction. We used a Lagrange Multiplier test to determine the best-fitting model, as in Marques et al. (2022). This test yields a significance test for each term that is added sequentially, to determine whether a newly added function explains a significantly larger amount of variance than the preceding lower order function (see supplementary materials for complete test results). The highest order function that explains a statistically significant amount of variance is selected as the best-fitting function (see also De keersmaecker et al., 2024).

"Bumped" items and polynomial test results

Figures 1 (AES) and 2 (ANES) contain the scatterplots for the selected items. All *y*-axis items were standardized to a 0 to 1 range, to assist visual comparisons across items.

One noticeable difference between the trend lines across the two samples is that the bumps generally appear to be larger in the AES data. This could be because the ANES survey offers participants non-scale response options (e.g., *don't know/haven't thought much about this*), which may allow non-ideologically identifying responders to opt out of the scale rather than defaulting to the midpoint. Additionally, the midpoint response option for the ANES is labeled *moderate/middle of the road*, which may dissuade some who do not identify as *moderate* from placing there. This may result in the midpoint comprising a greater proportion of so-called genuine centrists relative to the AES survey.

Tables 2 and 3 list the items inspected across both samples, the best-fitting polynomial function and variance explained (R^2), and our judgment as to whether a midpoint bump exists in the polynomial plots. We provide the complete item wording for each item in the supplementary materials (Tables S1 and S2). These judgments are naturally subjective, so we refer readers back to the plots in Figures 1 and 2 to judge for themselves. The bump appeared to occur at both the midpoint, and the point to its right in two cases in the U.S. data, which we note in parentheses. We present the full polynomial test results for each item in the supplementary materials.

TABLE 2 AES data. Items plotted against left–right item, with best-fitting model, R^2 value (in parentheses), and whether midpoint bump is visually noticeable.

Item	Best-fitting model (R^2)	Midpoint bump?
Death penalty for murder	Quartic (.12)	Yes
Immigrants good for economy	Quartic (.09)	Yes
Immigrants good for culture	Quartic (.09)	Yes
Political interest	Quartic (.07)	Yes
Voting does not make a difference	Quartic (.07)	Yes
Politicians are out of touch	Quartic (.05)	Yes
Closer relations with Asia	Quartic (.04)	Yes
People should make policy decisions	Quartic (.03)	Yes
Turn back asylum seeker boats	Quartic (.27)	No
Aboriginal land rights	Quartic (.22)	No
Income equality	Quartic (.19)	No
Reduce income differences	Quartic (.15)	No
Satisfaction with democracy	Quartic (.06)	No
Trust in politicians	Quartic (.05)	No
Global warming threat	Cubic (.24)	No
Same sex marriage	Cubic (.20)	No
Equal opportunities for women	Cubic (.15)	No
Cannabis decriminalization	Cubic (.10)	No

Note: The best-fitting model was determined in each case by the outcome of the Lagrange Multiplier test.

Polynomial tests indicated that a quartic function fits the data best in 14 out of the 18 items from the AES, and in 12 out of the 17 items from the ANES. In every case where a midpoint bump is visible in the scatterplot (except for "death penalty for murder" in the ANES data), a quartic function was best-fitting, supporting our visual inspection judgments. Based on the findings from both samples, bumps exist on items representing attitudes towards immigrants, political interest and engagement, attitudes towards politicians and government, political corruption, preference for majority rule over minority rights, and on the belief that people should make the important policy decisions rather than politicians. Our findings are broadly consistent with past research, which reported that midpoint responders appear more skeptical of politicians, elites, and institutions, relative to center-right and center-left responders (Enders et al., 2024; Toshkov, 2023). By also identifying W- or M-shaped relationships between the left–right item and responses to items measuring attitudes towards immigrants, our findings demonstrate that midpoint mean scores are not only (relatively) extreme for anti-establishment attitudes.

UNCOVERING HIDDEN POLITICAL PROFILES WITHIN THE MIDPOINT RESPONSE GROUP

To explore the possibility that an unobserved populist subgroup may be responsible for the bumps, we sought to determine whether undiscovered subgroups of midpoint responders exist and can be detected by their response patterns across bumped items. To do this, we conducted Latent Profile Analyses (LPAs) on the midpoint responders, for both samples, using selected

TABLE 3 ANES data. Items plotted against left–right item, with best-fitting model, R^2 value (in parentheses), and whether midpoint bump is visually noticeable.

Item	Best-fitting model (R^2)	Midpoint bump?
Immigrants harm culture	Quartic (.18)	Yes
Immigrants harm economy	Quartic (.14)	Yes
Majority rule over minority rights	Quartic (.08)	Yes
Corruption in politics	Quartic (.02)	Yes
Politicians are out of touch	Quartic (.02)	Yes
Secret control by powerful few	Quartic (.01)	Yes
People should make policy decisions	Quartic (.01)	Yes
Political interest	Quartic (.05)	Yes (but also center-right)
Voting does not make a difference	Quartic (.04)	Yes (but also center-right)
Deport unauthorized immigrants	Quartic (.32)	Yes
Climate change impact	Quartic (.42)	No
Satisfaction with democracy	Quartic (.03)	No
Government should help not blacks	Cubic (.39)	No
Death penalty for murder	Quadratic (.21)	Yes
Govt role in income inequality	Cubic (.36)	No
Trust in politicians	Cubic (.01)	No
International trade decreased jobs	Linear (.01)	No

Note: The best-fitting model was determined in each case by the outcome of the Lagrange Multiplier test.

bumped items identified in the above plots (see subsection below for rationale of items selected for LPAs). Based on the profiles that were identified via the pattern of responses on these items, we had the opportunity to provide a description of midpoint political heterogeneity by not only comparing the profile response patterns but also comparing the estimated mean scores on the same variables used in the scatterplots above.

Method

Item selection for LPA

To aid interpretation of the latent profiles, we selected items from the item pool that we identified as bumped and which best fit a quartic function when plotted against the left–right item. We also aimed to ensure a high level of item and response option equivalence across the AES and ANES. We included the following items: Immigrants are good for (harm) the economy, immigrants are good for (harm) culture, political interest, politicians are out of touch, voting does not make a difference, and people should make policy decisions.

Latent profile analyses

LPA is a form of finite mixture modeling that groups datapoints according to response profiles on a given set of continuous variables. LPA returns a probability with which the participant can be associated with each profile. A main challenge of conducting LPA

TABLE 4 Latent profile analysis results for the AES and ANES data.

Data	Restrictions between models	Number of profiles	LogLik	BIC	SABIC	Entropy
AES (Australian)	Variances equal Covariances equal	4	−4419.14	9146.60	8994.21	1
ANES (U.S.)	Variances equal Covariances equal	3	−12,783.4	25,869.5	25,739.25	.91

Note: The analysis found perfect entropy (=1) in the Australian data, indicating perfect profile assignment accuracy.

is identifying the number of profiles and setting up appropriate variance–covariance specifications. The number of profiles should represent the structure of the data well but should also be parsimonious enough to be interpretable (e.g., avoiding solutions with very small profiles). The variance–covariance specifications should be set with enough restrictions to the model, so that solutions converge and are reliable but do not become oversimplified (Johnson, 2021).

Based on a practical guideline for the correct model selection procedure in LPA (Johnson, 2021), we followed a stepwise approach to determine the most adequate profile solution. First, we used the six items selected above to calculate 1- to 4-profile solutions with 1000 initial random starts and 200 best sets. LPA requires restrictions on how the variances and covariances are to be calculated between profiles, a choice that can affect the results. Consistent with our exploratory approach, we explored all six available combinations of variance (equal or varying between profiles) and covariance (zero or equal or varying between profiles) restrictions for each model. This resulted in a total of 24 (4 profiles times 6 variance–covariance setups) profile solutions to be considered. In a second step, these 24 profile solutions were re-run with ten times the number of random starts. This was done to compare the loglikelihood of the recalculated models with the original models. A stable loglikelihood reduces the likelihood of any convergence issues or local maxima (i.e., a suboptimal model configuration identified as optimal). Models that did not converge or which did not replicate their loglikelihood exactly were dropped. In a third step, we evaluated the Bayesian information criterion (BIC) and the sample-adjusted BIC to determine the best model fit across the remaining models. The analysis was conducted using the R package tidyLPA (Rosenberg et al., 2019), together with MplusAutomation (Hallquist & Wiley, 2018) and Mplus 8.1 (Muthén & Muthén, 2017).

Results and discussion

Latent profile analysis results and interpretation

Table 4 provides an overview of the selected solutions in the respective data, including the specification of variance–covariance restrictions, number of profiles, model fit, entropy (a measure of accuracy of profile assignment, see Wang et al., 2017), and smallest profile proportion (for complete LPA output see https://osf.io/g3b2w/?view_only=3cf9f2ebd0d447a5840674aac3a93b23). Figures 3 and 4 provide an overview of the profile solutions based on the latent means, for the Australian and U.S. data, respectively. The discovery of multiple profiles across both samples is consistent with the midpoint heterogeneity argument, as the analysis was able to draw commonalities in responses on these items among midpoint responders and sort them into distinct groups based on this.

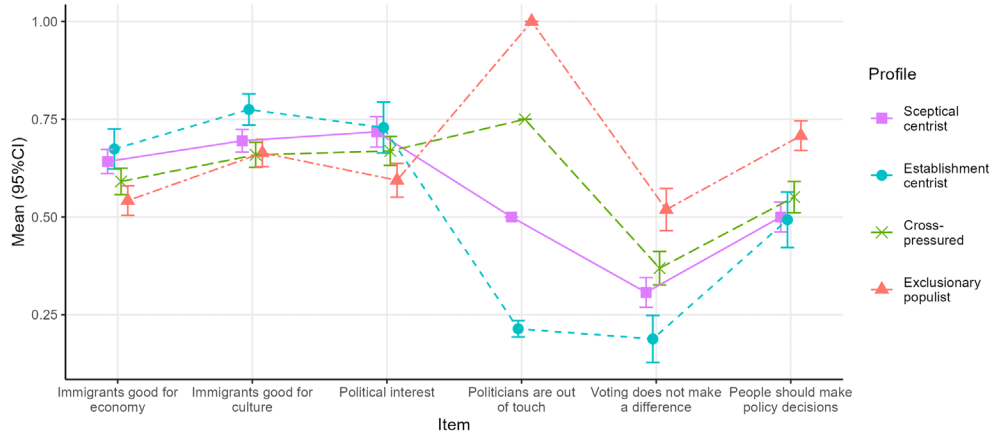

FIGURE 3 Latent profile plot for AES data.

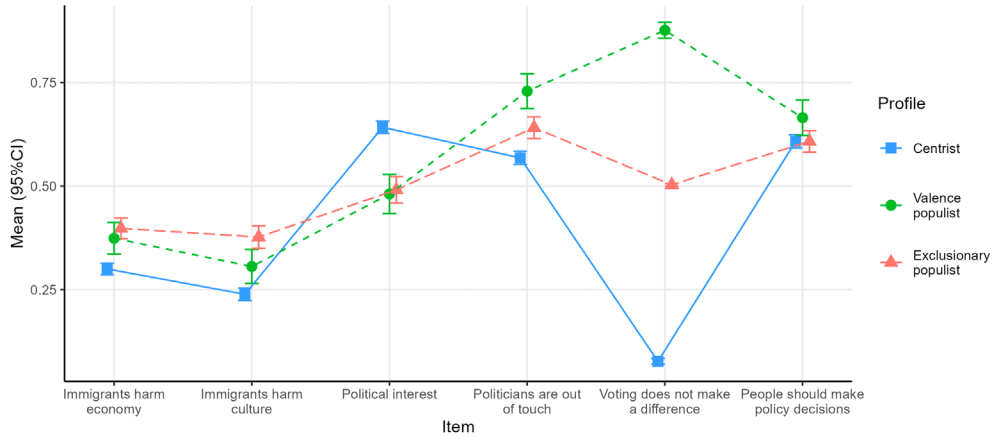

FIGURE 4 Latent profile plot for ANES data.

A four-profile solution was the most adequate for the Australian data (Figure 3) and a three-profile solution for the U.S. data (Figure 4). To assist in the interpretation of these profiles, we not only examined the patterns in the LPA profile plots but also compared the mean scores of these profiles across all political attitude items initially plotted. We conducted a series of one-way ANOVAs on the attitude items, with pairwise comparisons using Tukey's HSD. Pairwise comparison results along with the means and standard deviations for each latent profile, and corresponding Cohen's d effect sizes, are contained in the supplementary materials (Tables S3–S5, respectively). We also compared the profile means to scores across the left–right item. This helped us to identify profiles that might be genuinely centrist, such as profiles with mean attitude item scores consistently between the mean scores of responders placing at 5 and 7 (AES) and 3 and 5 (ANES), or closer to the extremes (for example, mean scores closer to scores of responders placing at 11 for the AES and 7 for the ANES). We included a comparison of the profile mean scores to the mean scores for extreme ends and either side of the midpoint in Tables S6 and S7, along with figures displaying item mean scores for all points of the left–right item as well as the midpoint profiles (Figures S1 and S2), in the supplementary materials. These profile interpretations were also guided by the theoretical perspectives on populism

(e.g., Zulianello, 2020) as well as past research on midpoint responder types (e.g., Rodon, 2015; Treier & Hillygus, 2009).

For the Australian data, the profile we labeled *Exclusionary populist* ($n = 198$, 32%) represents responders with the lowest trust in the political system and both right- and left-leaning mean scores on the issues items. This profile had the lowest scores for political interest, political efficacy (belief that voting does not matter and that politicians are out of touch), lowest democratic satisfaction and trust in politicians, and highest belief that the general public and not politicians should make important policy decisions, compared with all other profiles. These attributes, particularly that politicians are out of touch with regular people and that the public is better placed to make policy decisions (will of the people), are consistent with those of populism as defined by Mudde (2004).

For responder issues attitudes, the midpoint represents them poorly. Populist mean scores sit between mean scores of 5- and 7-point responders only for belief that global warming is a threat, support for same-sex marriage, and support for equal opportunities for women. They score close to the extreme right on belief that immigrants are good for the economy and culture, support for the death penalty, and opposition to closer ties with Asia. However, they score between the extreme left and 5-point responders on belief that income inequality should be reduced, that governments should reduce income disparities, and cannabis decriminalization. Based on these positions on the issues items, the profile does not fit a description of valence populism but rather one that has clear issues leaning away from the center. However, the low mean scores on the support for immigration items and low support for closer ties with Asia suggest that this profile may represent an exclusionary strand of populism (Mudde & Kaltwasser, 2013).

The profile we label as *Establishment centrist* ($n = 69$, 11%) scores between the 5- and 7-point means on all issue items except for cannabis legalization and opposition to closer ties with Asia. Members of this profile are the most politically engaged and trusting of the democratic system compared with the other profiles and are virtually the opposite of the exclusionary populist profile on these political system items, which is why we use the term *establishment* as a descriptor. This term also helps to distinguish this profile from the remaining profiles, which are more difficult to label based on the available data, and we stress that the fit of the labels we use is less than ideal. We elected to label one of these profiles *Cross-pressured* ($n = 181$, 29%). Profile members on average score similarly to right-wing responders on attitudes towards immigrants, support for the death penalty for murder, and opposing closer relations with Asia, yet score similarly to left-wing responders on reducing income differences, support for income equality, and cannabis legalization. These responders appear to have a mix of left and right preferences across the array of issue items and therefore may feel that the midpoint is the most logical self-placement option (Treier & Hillygus, 2009). We labeled the final profile ($n = 168$, 27%) *skeptical centrists* because they are relatively middling on most issue items yet score lower than the establishment centrists on belief that politicians know what the people want and that voting makes a difference.

Despite the larger sample size, the latent profile analysis for the U.S. data suggested one profile fewer than for the Australian data. This might be because offering a "*haven't thought about this*" response, as well as labelling the midpoint *moderate/middle of the road*, reduces the tendency for participants who do not identify as centrist or moderate to self-place on the midpoint, thereby reducing midpoint heterogeneity.

Similar to the Australian data, one profile seemed to fit the description of a *centrist* profile ($n = 1139$, 71%) because they score in-between the 3- and 5-point responders on every issue item. Like the Australian establishment centrists, they are also the most politically engaged, efficacious, and trusting of the three profiles. The profile we labeled "*Valence populist*" ($n = 165$, 10%) scores in-between 3- and 5-point responders on the vast majority of items, suggesting that this profile perhaps represents the type of populism that is focused

more on democratic system issues and elite corruption. This profile has both the lowest levels of political efficacy and the highest belief that people and not politicians should make important policy decisions. Furthermore, the "valence populist" profile mean scores are higher on conspiracy belief and that political corruption is widespread, which is consistent with populist belief in a corrupt elite (Mudde, 2004). This group is also the lowest on scores for trust in politicians and satisfaction with democracy. The profile we labeled "*exclusionary populist*" ($n = 304$, 19%) is on the whole more right-leaning, particularly on attitudes towards immigrants and minorities, yet somewhat more trusting of the political system than the valence populists. Profile members score somewhere in-between the populists and centrists on most of the political system items, but match with the centrists on corruption and conspiracy beliefs, displaying lower political skepticism compared with the populists. They tend to match with valence populists on most issue items, although they are closer to the extreme right (7-point responders) on the belief that immigrants harm culture. The exclusionary populist group also scored the highest for belief in majority rule over minority rights, perhaps indicating that they reject pluralism (Akkerman et al., 2014). In sum, the major conceptual differences between the exclusionary populist and valence populist profiles are in the levels of skepticism towards the political system and elites (valence populists being more skeptical), and the effect of immigrants on culture and belief in majority rule over minority rights (exclusionary populists being more concerned with preserving the sovereignty of the *homogeneous* people). The differences may ultimately come down to a matter of relative emphasis and importance. Valence populists are more concerned with political corruption and democratic representation, whereas exclusionary populists, in the U.S. context, may be as or more interested in preserving the relative homogeneity of the people. Indeed, this may explain why exclusionary populists do not differ from centrists on the belief that people should make more of the important policy decisions, whereas valence populists do. Valence populists, with an emphasis on elite corruption, may prefer to see decision-making out of the hands of politicians at any cost.

To further assist our profile interpretations, we examined voting intention for the 2020 Presidential election. We included intentions to vote for Joe Biden, Donald Trump, and created a combined "Other" category, given that percentage scores for any one candidate (e.g., Howie Hawkins) were too small to meaningfully compare. 46% of valence populist profile members intended to vote for Donald Trump, compared with 25% of centrists and 41% of exclusionary populist members. Valence populist members also had the highest "Other" voting intention, at 21%, compared to 12% (exclusionary populists) and 5% (centrists), which could indicate dissatisfaction with both major party candidates because of concern with corruption and integrity in the established parties. Although exclusionary populist profile members preferred Biden over Trump in this three-way race, the difference between the two Presidential candidates was only around 6%, compared with a difference of 45% for the centrists.

TREND LINES OF POLITICAL PROFILES

In order to explore whether populist profile scores on our selected items account for the midpoint bumps, we created replications of the plots displayed in Figures 1 and 2, for only those items that we used in the latent profile analyses. We provide multiple LOESS trend lines showing the effect of removing each midpoint profile one at a time on a smoothed curve estimating the relationship between the left–right item and the given political attitude, for both datasets. We removed the data points from the plots to simplify the visual presentation.

Figure 5 shows that removing the exclusionary populist profile from the midpoint reduces, but does not eliminate, the nonlinearity in the trend line for the belief that politicians are out of touch, that voting does not make a difference, and that people should make policy decisions.

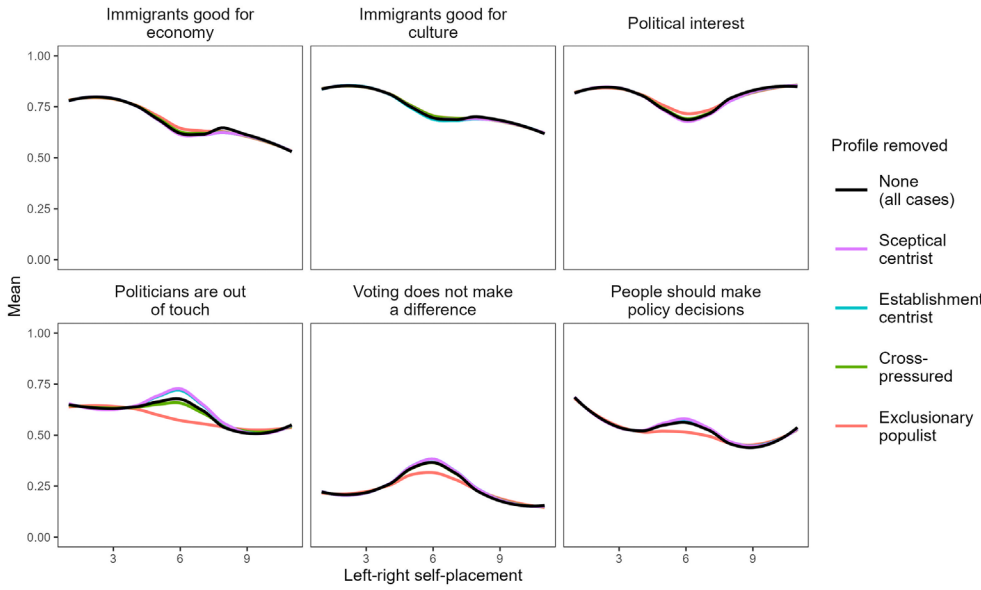

FIGURE 5 LOESS trend lines of relationships between left–right item and selected issues items, when each profile is removed from the midpoint (AES data).

In the case of the latter, the trend line looks more like a U-shape, with the highest support coming from the extreme ends of the spectrum (but more so left than right). The nonlinearity reduction is smaller for the belief that immigrants are good for the economy and for political interest. There appears to be no large effect on the trend line when removing the exclusionary populist profile for the belief that immigrants are good for culture. Interestingly, removing the establishment centrists increases the bump for the politicians are out of touch item, suggesting that the centrists provide a countering dip to the populists' bump.

In reference to Figure 6, the LOESS curves when each of the populist profiles is removed (orange and green curves) do not deviate as much from the all cases (black) curve as compared to when the centrist profile is removed (blue curve). This is because each of the populist profiles is relatively small, so they *separately* exert less influence on the curve. The only real exception is the *voting does not make a difference* item, where the size of the profile mean differences is extremely large. Furthermore, the centrist profile itself acts as a counterweight to the populist profiles' midpoint bump, in that mean scores on the *voting does not make a difference* and, to a lesser extent, *politicians are out of touch* items are lower than most or all of the mean scores at points of the liberal-conservative item (see Table S7 and Figure S2 of the supplementary materials). The centrists are creating a dip in the LOESS curve that counters the bump created by the populist profiles.

Because the populist profiles independently comprise a relatively small number of participants, their separate influence on the curve is smaller. It is easier to focus on the deviation of the line when the centrist profile is removed, which demonstrates the size of midpoint bumps caused by the populist profiles together. In every case, except for the item measuring belief that people should make policy decisions, the midpoint bump is exaggerated by eliminating the centrist profile. This shows that the relationships between the liberal-conservative item and five of the six attitude items become visually more nonlinear when the midpoint only consists of the two populist profiles, highlighting that they exert an influence on the curve consistent with a midpoint bump. The reasons for virtually no visual change when the populist profiles are each removed for the policy decisions item are that the valence populist profile is a small profile (10% of the total midpoint responder group), and it was the only profile to significantly differ from the centrist profile on

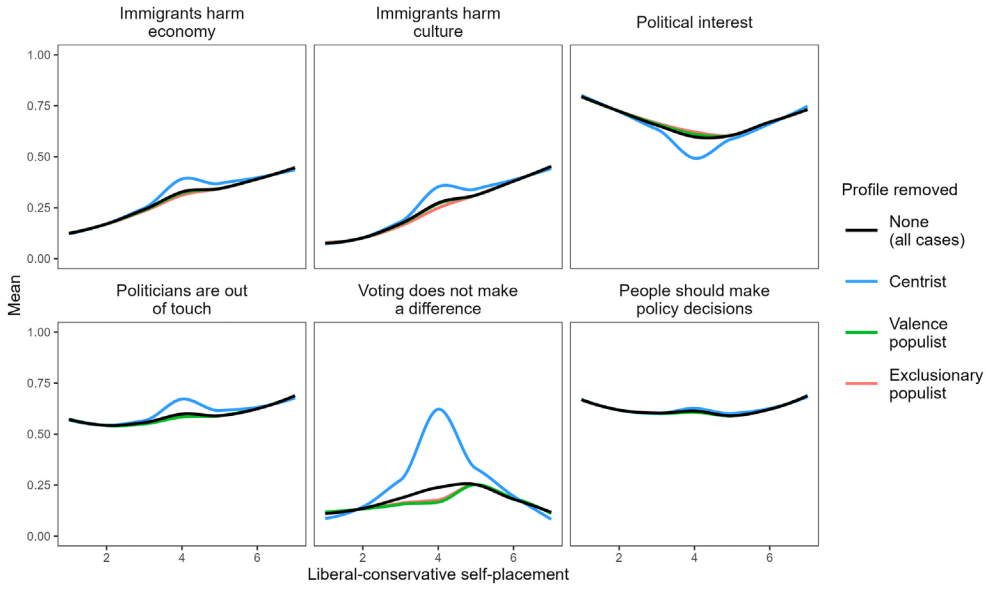

FIGURE 6 LOESS trend lines of relationships between left–right items and selected issues items, when each profile is removed from the midpoint (ANES data).

this item. Importantly, the size of the mean profile difference is small. Looking at Figure S2 in the supplementary materials, the valence populist profile in particular scores similarly to the extreme liberal and extreme conservative points of the spectrum.

The populist profiles across the two samples influenced the overall mean score of the midpoint group to result in a bump across these items, in most but not all cases. Although the effect is clearly more pronounced in the AES sample, the large centrist profile is greatly reducing the bump in the ANES sample. The centrist profiles, which based on their mean scores on many of these items, represent scores roughly consistent with linear or U-shaped trends when plotting the left–right item against these aforementioned variables. This can also be seen in Figures S1 and S2 in the supplementary materials. The centrist profiles sit somewhere between the adjacent points on the left–right spectrum, and centrists actually reject the claim that voting does not make a difference in both samples more than almost any other point. Although this profile is a particularly large proportion of the entire midpoint response group in the ANES sample, the other profiles influence the mean score on the selected items to the point that small bumps are still present.

GENERAL DISCUSSION

The left–right item receives its share of criticism, from concerns that it does not adequately represent ideologies relevant to most people (Kitchelt & Hellemans, 1990), to poor cross-national equivalence (Zuell & Scholz, 2019). Another concern is that it is orthogonal to an increasingly relevant dimension—anti-establishment attitudes (Uscinski et al., 2021). Although the extreme ends of the left–right orientation spectrum have received attention as exhibiting similarities in system-level beliefs (Krouwel et al., 2017), the midpoint has largely been ignored in this research despite evidence that valence populists in particular may see it as representative of their political views (Pellegrini, 2023).

Our research provides further reasons to consider that the left–right item is masking important political differences. We described the prevalence of extreme midpoint scores across a range of attitudes, using two large sample surveys (AES and ANES), suggesting that the

relationship between the left–right item and many anti-elite, anti-establishment, and anti-immigrant attitudes can be better described as W- or M-shaped than linear or U-shaped. Extrapolating from this collection of variables, past research on what motivates midpoint self-placement and conceptualizations of populism, we explored the possibility that populists self-place on the midpoint. We conducted latent profile analyses on midpoint responders using a smaller pool of items that were highly equivalent across the two surveys. Four latent profiles best described the midpoint responders in the Australian data and three in the U.S. data. In both samples, we uncovered profiles that, based on the LPA patterns and analyses of items not used in the LPA, could be described as populist. An exclusionary populist profile accounted for 32% of midpoint respondents in the Australian data and 19% in the U.S. data, while a valence populist profile accounted for a smaller 10% in the U.S. data.

We then generated a number of LOESS trend lines for the relationships between the left–right item and the six items used in the LPAs, each representing the effect removing a profile would have on the overall trend. In most cases, the relationships between the left–right item and our selected variables exhibiting midpoint bumps are linear or U-shaped when the populist profile mean scores are removed, demonstrating the effect of the populist profiles. The effects of midpoint populists are more pronounced in the AES data than in the ANES, where the midpoint bumps appear visually smaller.

Implications of midpoint heterogeneity

The left–right item is hiding important midpoint political diversity, and in particular, populist beliefs that have been considered characteristic of the far-left and far-right (Krouwel et al., 2017). Populists focusing almost exclusively on the core tenets of the thin-centered ideological core of populism—the belief in a corrupt elite, the will of the people, and preservation of people homogeneity do not fit neatly on the left or the right. A populist of this type self-placing on the midpoint is perhaps as rational as a genuine ideological centrist doing the same. This discovery appears especially important given the increasing presence of populism (and diverse forms of populism) in contemporary politics, which may be difficult to measure with an over-reliance on a tool that conflates the left–right spectrum with attitudes towards the political system (Uscinski et al., 2021).

Our findings are also relevant for research wishing to better understand the psychological underpinnings of ideological extremism. So far, research has highlighted psychological similarities only among extreme left and right responders, in the domains of cognitive rigidity, dogmatism, and intolerance (Brandt et al., 2014; Burger, 2024; van Prooijen & Krouwel, 2017). It may be worth applying the additive polynomial regression method in these domains when there is a sufficiently large sample to fit these functions, to determine whether a U-shape or a W-shape function better fits relationships between these and the left–right item. Indeed, it would make sense to consider nonlinear models *whenever* researchers wish to examine relationships between political orientation and other attitudes or psychological attributes.

Limitations and future directions

The aims of this research were modest, and our hope is that this formative work provides a platform for more in-depth (i.e., establishing clearer distinctions between midpoint responder classes) and broader (i.e., cross-national) research. A clear limitation of our research was its focus on two Anglophone nations. Although the left–right item is perhaps less applicable as a measure of ideology in non-Anglophonic and Western European nations broadly (e.g.,

Wojcik et al., 2021), which is a significant problem for its use, it is nonetheless important to examine midpoint heterogeneity in contexts where it is used (e.g., Europe), using nationally representative datasets.

Another limitation is that our analyses were limited by the items available in the AES, which is a relatively small survey. We are also extrapolating from single-item measures of various political and social attitudes to make claims regarding the presence of a populist supporter group. One way to further test the claim that supporters of populism are responsible for the midpoint heterogeneity is to simply use valid measures of populist beliefs to distinguish midpoint responders.

We also note that our profile labels may be overinterpreting the patterns uncovered in the LPAs. It is impossible to determine, based on group mean scores on issue items, whether many midpoint responders are, for example, cognitive don't knowers or perceive left and right as irrelevant. In particular, the AES does not offer alternative response options that may capture some of these responders. As a result, it is likely that responders who fall into these categories use the midpoint as a default position, thereby making the possibility of clear political profile interpretability more challenging. Nevertheless, we uncovered a distinct exclusionary populist profile that is particularly disaffected and affects the shape of the polynomial functions in the center of the left–right item, relative to a centrist class that scores in-between responders on the adjacent scale points. At a bare minimum, relative levels of political engagement and attitudes towards the establishment seem to vary on the midpoint considerably.

CONCLUSION

Our research posits the possibility that people with relatively anti-establishment and anti-immigrant attitudes self-place on a point along the left–right item that is considered to represent moderation. We stress the need for further research into this ideological measurement issue, specifically to examine its cross-context prevalence as well as the use of better midpoint grouping distinguishers (for instance, the use of items from a valid populism scale). Nonetheless, our research alludes to fundamental problems with ideological conceptualization and measurement. Although some of these measurement concerns are not new, and the issue of what can be assumed about midpoint response has been investigated in past research, our findings add to this list of problems. It also suggests that some people who may reject the status quo do not themselves identify with the traditionally status quo-rejecting ends of the political spectrum, whether they be progressive (left) or reactionary (right). The specific issue of midpoint heterogeneity, and specifically the presence of groups that range from pro- to anti-establishment and preference for liberal democratic systems, is of significant relevance in an era of decreasing support for old and established political parties. The left–right item is unable to measure a key dimension on which the axis of modern politics is increasingly revolving around.

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DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available from American National Election Studies and the Australian National University. Restrictions apply to the availability of these data, which were used under license for this study. Data are available from https://electionst

udies.org/data-center/2020-time-series-study/ with the permission of American National Election Studies and https://australianelectionstudy.org/ with the permission of the Australian National University.

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SUPPORTING INFORMATION

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