#### **ORIGINAL RESEARCH**



# The Meanings of Democracy among Mass Publics

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#### Abstract

In this paper, we illustrate that composite views about democracy vary significantly within and across national populations. Using World Values Survey data, we use latent class analysis to demonstrate that composite views of democracy display only modest consensus across country contexts. Although the features of procedural democracy are widely viewed as a cornerstone of democracy, their perceived importance and the way that they interact with substantive features varies considerably across and within democratic countries. These findings encourage caution when analyzing cross-national mass opinion about democracy. In particular, latent variable modeling using pooled survey data should pay careful attention to the unique permutations that democracy takes in the minds of citizens.

**Keywords** Democracy · Latent class analysis · Public opinion

#### 1 Introduction

Perhaps no question has animated contemporary political science more than how (and whether) citizens understand democracy. Historically, democracy is linked to self-determination and the "consent of the governed" (Sabine 1937). Yet, the shape that such consent takes remains contested, while the word "democracy" remains intentionally ambiguous in its public use and subject to scholarly dispute (Prothro and Grigg 1960).

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One common attempt to categorize the meanings of democracy involves accounting for its production of political goods, a blend of institutional outputs, priorities, and structures (Pennock 1966; Almond et al. 2004). "Minimalist" definitions emphasize voting, majority rule, and competitive elections with the consent of the governed rooted in the selection of competing elites (Schumpeter 1942; Dahl 1971). In minimal democracies, the public interest is theoretically secured by elite calculations that one set of ruling elites will some day be replaced another (Przeworski 1999). Substantive and deliberative democratic theorists, in contrast, include not just the consent of the governed but also condition what democratic processes must look like and what democratic outcomes must achieve. Democratic processes must be deliberative or participatory (Habermas 1989; Pateman 2012) and democratic outcomes must be democratizing, meaning that they should create the conditions for economic equality and provide democratic citizenries with basic economic necessities (Rawls 1971). Among the central questions of contemporary democratic theory are whether there is a tradeoff between liberty and equality and, within liberal democracies, how to create institutions that balance political equality (one person, one vote) with economic inequalities (Paternan 2012). For radical democratic theorists, such balancing is impossible, as the meaning of democracy is constantly in flux as is the tradeoff between liberty and equality (Laclau 2001; Laclau and Mouffe 2001).

If scholars differ widely in the meanings they assign to democracy and the weights they assign to democracy's "essential" characteristics, substantial variance in how the public understands democracy should hardly be surprising. Indeed, comparative scholars have long recognized the variance in scholarly and public understandings of democracy (Almond and Verba 1963; Dahl 1971). Yet, at the same time, they have often implicitly assumed or even explicitly argued that survey responses to questions about the quality of democracy are comparable both within and across countries despite evidence to the contrary (Ariely and Davidov 2011; Oser and Hooghe 2018b; Jacobsen and Fuchs 2020). This problem is particularly pressing in the research agenda regarding support for democracy, which assumes that citizens share common underlying views about the contours of democracy across widely varying geographic, cultural, and political contexts. What does it mean, then, to say that democratic support is backsliding (Mounk 2018; Foa and Mounk 2016)? Backsliding from what?

In this paper, we investigate how mass publics combine the essential characteristics of democracy to form composite understandings of what democracy means. Our purpose here is to reconsider how citizens think about democracy. Are "minimalist" definitions emphasizing voting, majority rule, and competitive elections adequate to describe how citizens think about democracy? What responsibility do democracies have for providing basic necessities or addressing social, economic, and political inequalities? Do citizens think about democracy through a maximalist lens that accounts for these features? If so, do individuals living in democratic states with different histories and institutions connect these ideas together in common ways?

Past research finds that there are effective "archetypes" that describe citizens' impressions of and expectations for democracy with respect to how procedural and substantive dimensions of democracy are wedded together (Oser and Hooghe 2018a, b). We illustrate that composite views of democracy vary both within and, importantly, across national

Recent research has questioned the evidence of democratic backsliding, noting that it is is often cherry-picked and does not capture the ambiguity in the term "democracy" (Wuttke et al. 2020a, b; Zilinksy 2019).



<sup>&</sup>lt;sup>1</sup> For example, well-known theorists like Habermas (1996) and Dahl (1989) depict democracy by its production of rights; freedoms of expression, association, assembly, movement, and so on giving democracy its functional meaning.

populations. In other words, constructing a universal typology of democratic meanings is not applicable. Using latent class analysis, we show that pooling respondents across democracies produces a much different picture of both the nature and prevalence of composite views toward democracy than conducting such analysis on individual countries. These findings echo other calls for renewed care when analyzing pooled, cross-national survey data regarding multi-dimensional concepts like democracy (e.g. Cutler et al. 2013; King et al. 2004; Wuttke et al. 2020a, b). In particular, we argue that latent variable modeling of democracy's attributes using such data should pay careful attention to both data generating processes and the peculiarities of the survey response.

# 2 Attitudes about democracy in the cross-national context

Scholars of comparative politics recognize that democratic values are diffused widely (e.g. Diamond and Plattner 2008; Ferrín and Kriesi 2016; Ulbricht 2018). Even in "unlikely places," Dalton et al. (2007) argue that a liberal understanding of democracy is both pervasive and associated with political freedom and civil rights. In other words, citizens seem to reliably depict democracy in terms of the production of its civil and procedural outputs. Yet, other research challenges whether citizens' reflections about the nature of democracy are shared. While individuals might well associate democracy with political freedom at an abstract level, their understanding of political freedom may also be heavily contingent upon culture and context. In other words, definitions of democracy may share terms (political freedom), but not common understandings of what those terms mean, in part because institutional contexts mediate such meanings (Bratton 2010; Ulbricht 2018; Laclau and Mouffe 2001).

Vernacular differences in how citizens understand freedom notwithstanding, a second-order concern involves how individuals think more broadly about the outputs and qualities of democracy. This involves the well-known distinction between procedural or minimal definitions of democracy (e.g. Dahl 1971) and the substantive production of welfare goods associated with democracy (e.g. Schumpeter 1942). Democracies clearly vary in the extent to which they produce welfare-maximizing goods. Social democracies with robust systems of public health, labor protections, and poverty-alleviating programs look much different from liberal democracies that have internalized the neoliberal qualities of limited state intervention in the marketplace (see Held 2006 for a compilation of models of democracy). These differences frustrate cross-national analysis of democracy to the extent that measuring and comparing democracies as a unit of analysis probably warrants a multidimensional approach (e.g. Coppedge et al. 2011; Wuttke et al. 2020a, b). In other words, the permutations that democracy takes are simply too varied to try and shoehorn democracy into a single index or indicator.

The idea that democracy is multidimensional in structure has not been lost on scholars attempting to analyze how *the public* views democratic process and institutions. Scholars routinely uncover dimensionality in public opinion data toward democracy that reveals that citizens not only distinguish procedural from substantive elements (e.g. Baviskar and Malone 2004; Ferrín and Kriesi 2016; Carlin 2018), but associate the incorporation of social benefits (Crow 2010) and social goods more broadly with democracy (Oser and Hooghe 2018a, b). Although much attention has been paid to support for democracy (e.g. Claasen 2020; Merkley et al. 2019), the characteristics citizens associate with democracy convey important information about the expectations that they have for it.



One way of making sense of this survey data has been the attempt to explore whether or not—institutional design notwithstanding—citizens from different countries share broadly similar conceptualizations of what they expect from democracy. Ferrín and Kriesi (2016), for example, illustrate that, while citizens of different European democracies vary in the extent to which they place importance on certain qualities of democracy, there appears to be shared understanding of different institutional features. Oser and Hooghe (2018a, b) take a somewhat different approach and instead sort individuals into groups or "archetypes" of democracy in both Europe and the United States and find that there is a distinct set of permutations that democracy takes in the minds of citizens (see also Hooghe et al. 2017).

This latter approach reveals a curious set of findings. On the one hand, it seems reasonable to assume that citizens living in different countries would view democracy in similar ways –European and American democracies presumably share some common epistemological footings that overlap into shared views of democracy. On the other hand, even among countries that presumably produce procedural goods in common ways, this seems to gloss over the dynamic historical movements that give these democracies their nature. In that case, it seems odd that we might find a basic or universal "menu" of democratic profiles that emerge across countries, similar though they may be. Indeed, among scholars of comparative politics and political theorists, there is no single model of democracy but rather a wide range of models capturing various "essential features" of democratic governance (Held 2006). It would be surprising then if citizen understandings of democracy were not at least as varied within and across countries.

### 3 Our contribution

We propose two extensions of this past work, which we believe have interesting implications for the broader research agenda involving citizens' appraisals of democracy. First, in their latent class analysis of the characteristics that people associate with democracy, Oser and Hooghe (2018a, b) recode the underlying instruments used to construct their typology of democracy. This decision complicates how we interpret the raw survey response, which was bivalent and symmetrical, and presents a potential problem for model-based equivalence testing. Thus, here, we leave the data in their original form and analyze responses using a latent class model that can account for the un-transformed, polytomous responses.

Second, we extend the dataset of available countries to include a richer set of democracies. Although there is the justifiable tendency to treat western and non-western democracies as categorically different with respect to public opinion on democracy (grounded in the finding that the psychometric properties of the survey data are often distinct across these contexts; Ariely 2015), we take full advantage of the coverage of survey data provided by the World Values Survey to explore the possibility that a typology of democratic meanings is portable. Although there are both substantive and methodological tensions involved in trying to field and compare survey data across consolidated, mature democracies and emerging ones (Mattes 2008), this analysis represents a unique opportunity to situate the "transformation model" of democratic public opinion (Rose et al. 1998) within the larger ecosystem of democracies worldwide.



### 4 Data and measures

The data for these analyses are drawn from the "essential characteristics of democracy" battery included in the Wave 5 (2005–2009) questionnaire of the World Values Survey (WVS). These data are now over a decade old, but they still constitute the most recent, largest and diverse sample of countries that has ever fielded these questions.<sup>3</sup> We restrict the sample to countries that score a 6 or better on the Polity Index at the time of survey fielding; this decision was made to ensure that we included a wide range of countries that are more or less "democratic," while excluding publics that live under autocracy or anocracy. While it would be interesting to explore how persons in those countries view democracy, we nevertheless restrict our sample to countries that score the "minimum" value conventionally associated with democratic states. The sample formally includes 37 countries.

The essential characteristics battery is useful for our purposes because it asks respondents to rate a wide variety of features that might ostensibly be related to or associated with democracy. These items include: whether (1) government should tax the rich to subsidize poor; (2) the economy prospers; (3) citizens receive state aid for employment; (4) people choose leaders in free elections, (5) can change laws via referendums, and (7) civil rights protect people's liberties from state oppression and (8) women have the same rights as men; (9) criminals are severely punished; (9) the army takes over when government is incompetent; (10) religious authorities interpret laws. To be sure, these characteristics of democracy cover a wide array of facets of democracy. Items one through three reflect "substantive" outputs, while items four through eight embody the types of outputs that are commonly described as "procedural" goods." Although unconventional measures of support for civil or liberty goods, items nine and ten fit within this latter category because associating democracy with either feature conveys a disregard for secular pluralism and elected self-determination—both core features of functional democracy.

While many of these instruments have been widely used in past studies (e.g. Norris 2011; Welzel 2011; Shin 2012; De Regt 2013; Ariely 2015), we remain agnostic at the extent to which they are invariant. It is possible that some instruments are understood differently across democratic contexts. In fact, we would expect this to be the case in a sample as diverse as the World Values Study. As Welzel and Inglehart (2016, pg. 1072) caution, however, psychometric tests involving individual-level attitudes often offer modest insight into "how prevalent these values are in a country." Because our analytical quantity of interest is in the prevalence of democratic groups derived from latent class models both within countries and the distribution of those groups across countries, we tend to be less concerned about invariance than other research that models the correlates of such beliefs.

<sup>&</sup>lt;sup>4</sup> In particular, army rule is sometimes asked in a different question format as a measure of *support* for democracy (Magalhaes 2014; Miller and Davis 2020). However, because it was included in the battery—and because it represents a rejection of the liberal principles that underscore virtually any reasonable definition of democracy—we retain it for analysis here. We also include *all the available items* in the World Values Survey to address criticisms that a more limited set of items would bias the results. We have run the analysis with a more limited set of items. Those results confirm the pattern of findings presented here.



<sup>&</sup>lt;sup>3</sup> At the time of writing, the Wave 7 WVS data had not been released publicly. It may provide new, contemporaneous updates to this analysis. Wave 6, in contrast, provides more limited coverage of the "essential characteristics of democracy," which limits the countries available for our sample. Analysis of Wave 6 data are comparable to the results presented here and are available upon requests from the authors. The European Social Survey, especially Round 6, provided a robust set of questions specifically on the meanings of democracy (Ferrín and Kriesi 2014). The inclusion of countries from various regions and with different cultures and political systems, however, made the World Values Survey a better choice for this analysis.

#### 5 Results

One (blunt) way of exploring differences in how individuals think about democracy's nature across democratic contexts involves simply looking at the distribution of responses to questions in the WVS battery. Although we possess ten instruments for 37 countries, depicting that amount of information visually can be unwieldy. Thus, Fig. 1 illustrates the central tendencies (mean, mode) and variance of three of the ten characteristics of democracy for five countries. Each of the countries varies with respect to historical, institutional, and social-cultural dynamics, which hopefully renders an interesting set of contexts within which to explore similarities and differences.

Panel A reveals that, while the average importance of free elections is quite high across the five countries, some modest variation is nevertheless present in Brazil, Japan, the United Kingdom and the United States. On the matter of harsh punishment for criminals in Panel B, we see significant variance across the countries. Japan is least likely to associate punitive remedies with wrongdoing; the UK and the United States score lower on these instruments, but there is significant variance in the distribution of responses in Brazil, Sweden, the UK, and the United States. Panel C illustrates a similar pattern with respect to redistribution. Across this limited sample of countries, there is much variation in the preference for the role that taxes play in generating material equality in democracy.

The descriptive data helps illustrate that there is general consensus and differences on some characteristics of democracy both within and across countries. To test how citizens connect ideas about the properties of democracy into composite views about democracy, both globally and within each country, we now turn to a series of latent class analyses (LCA). We begin by building an LCA that includes all 37 countries in our sample. To estimate the models, we use poLCA in R (Linzer and Lewis 2011) The process of fitting LCA is iterative: we fit a model with k classes and then compare the fit indices of a model with k+1 classes. The terminal or final number of classes is chosen by consulting different fit qualities. Traditionally, the solution with the lowest Bayesian Information Criterion (BIC) determines acceptable model fit (i.e. the optimal number of groups that describes the data); however, the adjusted Akaike Information Criterion (cAIC) and model entropy are also important features to consider (Nylund et al. 2007), as well as the substantive implications of the terminal solution. For example, a model that appears justifiable on the grounds of the fit indices, but that produces many classes with extremely small assignment probabilities, may actually exhibit overfitting. Fitting the optimal number of classes to the data ultimately requires the researcher to balance these considerations (Oberski 2016).

In the interest of brevity, we truncate the modeling output associated with our LCA in Table 1, such that it reports fit statistics associated only with those models near the "threshold" for appropriate class enunciation (the full modeling output is available in Tables 3 and 4 in the "Appendix"). The results produce no clearly optimal number of classes, but it is possible to converge upon a defensible solution nonetheless. First, while the BIC values objectively hit their nadir at the 22-class solution, the decrease in BIC is very marginal past the 7-class solution (Column 6), where entropy dips. Although we have sufficient data to parse additional classes, these expansive solutions create extremely small, country-specific classes that contain small numbers of persons and likely reflects overfitting by the algorithm. Thus, as a secondary criterion for model selection, we avoid models that produce classes with less than a 5% probability of assignment (details on the distribution of class prevalence is available in Table 4 in the "Appendix"). This leaves us with a seven-class model, which we present in Fig. 1.



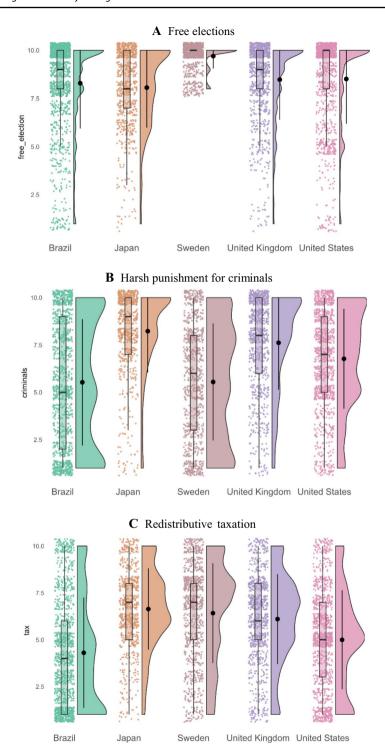


Fig. 1 Distribution of responses to free elections, gender equality, and redistributive taxation across selected democracies



Table 1 LCA output for class solutions ranging up to eight classes

# of Classes	Log-likelihood	Residual DF	BIC	Total change in BIC from baseline	Change in BIC from previous model	Change in change	LR	Entropy
(A) LCA outpu	(A) LCA output estimates associated with one- to eight-class solutions	d with one- to eigh	t-class solutions					
1	-771,758.63	40,330	1,544,471.90				735,351.17	ı
2	-717,794.15	40,239	1,437,508.19	-6.93%	-7.44%		627,422.22	0.87
3	-700,677.57	40,148	1,404,240.26	~80.6-	-2.37%	-68.16%	593,189.05	0.85
4	-692,588.25	40,057	1,389,026.86	-10.06%	-1.10%	-53.77%	577,010.40	0.83
5	-686,629.11	39,966	1,378,073.83	-10.77%	-0.79%	- 27.43%	565,092.13	0.83
9	-682,259.50	39,875	1,370,299.86	-11.28%	-0.57%	-28.62%	556,352.91	0.81
7	- 678,534.10	39,784	1,363,814.30	-11.70%	-0.48%	-16.18%	548,902.11	0.80
8	-675,486.95	39,693	1,358,685.25	-12.03%	-0.38%	-20.62%	542,807.81	0.80
# of Classes	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6	Class 7	Class 8
(B) Prevalence	(B) Prevalence of classes across full sample	l sample						
1	2%	ı	ı	1	ı	1	I	1
2	49%	51%	I	ı	I	ı	I	ı
3	42%	39%	20%	I	I	1	I	ı
4	25%	23%	15%	37%	I	I	I	1
5	25%	%9	22%	13%	34%	ı	I	ı
9	20%	21%	%9	25%	%61	%6	I	ı
7	18%	%6I	%9I	%9	14%	20%	8%	ı
~	12%	19%	18%	%6	2%	18%	5%	16%

ably thin in solutions past seven classes. Full output estimates, including aBIC and aAIC, is available in the "Appendix", which includes class solutions all the way through 25-classes Seven class solution (italics) balances both BIC-related criteria (Panel A) and class prevalence (Panel B). In particular, efficiency gains and class prevalence becomes remark-



Interpreting the results of the model is eased by visually inspecting the estimated value associated with each input item across the groups. We begin with one important observation: there are roughly three "shapes" to the classes. Class 2 comprises about 16% of all respondents and pairs relatively high values of procedural support (free elections, civil rights, referendums, general equality) with *very* low levels of support for religious authorities interpreting the law and the army taking over under conditions of instability. This is distinct from the "apathetic" or "indifferent" persons that comprise classes 3 and 7. Persons belonging to these groups—about 14% of all respondents—give relatively low rankings to all of the qualities of democracy; none of the ten items assigned a value higher than 6.0. Class 7 is more negative in its evaluation of democracy's qualities, but both classes exhibit the same rough pattern of responses.

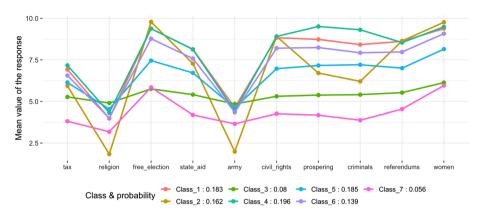
In contrast to these two patterns, Classes 1, 4, 5, and 6 exhibit high levels of support for both procedural and substantive outputs. Class 4 comprises almost 20% of respondents and assigns substantive outputs like redistributive taxation, economic prosperity, and state aid the highest levels of essentiality across the sample. Curiously, while it contains high levels of support for free elections and civil rights, it *also* exhibits high levels of punitiveness with respect to punishing criminals. Classes 1 and 5 are very similar, exhibit only modest intercept differences on substantive outputs, while Class 6 is more moderate across both dimensions.

To the extent the general *pattern* of these responses illustrates a common view of democracy, nearly 70 percent of respondents belong to one of these four groups. However, while members of these groups all concur generally about the importance of free elections, referendums, civil rights, and gender equality and seem to reject army rule, mean group values on these input items do vary in meaningful ways. For example, there is almost a three-point difference in the essentialness of civil rights between Classes 4 and 5. This finding is lost, however, on models that pool this data together as if the essential characteristics of democracy are more or less "invariant" across country contexts. Thus, while the most common vision of democracy across democracies involves connecting both economic and welfare goods together, we do see some of the classic tensions involving the distinction between social and liberal democracy present here.<sup>5</sup>

Although a 7-class solution emerges as the most reasonable, "best-fitting" depiction of how respondents connect certain facets of democracy together, it is not clear whether this set of classes spontaneously emerges within each country or whether each country possesses a more limited range of classes. Past research using European Social Survey (ESS) data conveys that a single, uniform model explains how respondents view democracy (Oser and Hooghe 2018a). In other words, a pooled model, like the one presented in Fig. 2 fully captures composite democratic beliefs within each country, and we would expect to find evidence of all seven classes within every country included in the sample. That earlier analysis involved only European countries and a different set of data, so it is possible that a more diverse sample of democracy would not produce such results although, even eyeballing the descriptive data in Fig. 1, it would seem unlikely that Sweden and the UK would contain the same number, much less type of classes of democracy.

<sup>&</sup>lt;sup>5</sup> With substantial amounts of data, LCA will pull out fine-grain distinctions that may have little substantive utility. While Classes 1 and 4 are similar, one to two-point differences are substantively significant when the modal response is one of support. Seven classes may risk cutting the data too thin, but we feel that these distinctions are nonetheless warranted given the efficiency gains in the Bayesian Information Criterion.





**Fig. 2** Latent Class Analysis pooling respondents across all countries. Input items are arrayed on the x-axis; y-axis corresponds to the predicted mean value of input item for members of a given class. Prevalence or the probability of a respondent being assigned to a given class is presented alongside class in legend. Full modeling output associated with the modeling procedure is available in the "Appendix A"

**Table 2** Number of unique classes emerging from best-fitting solution to the latent class analysis in the respective country

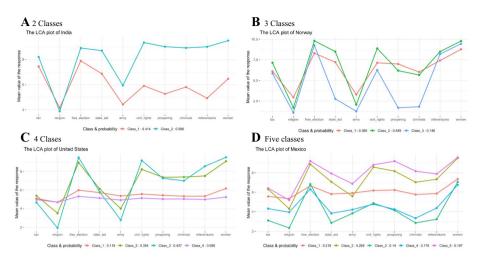
2 Classes	3 Classes		4 Classes	5 Classes	6 Classes
Argentina India Sweden Trinidad	Australia Brazil Bulgaria Canada Chile Finland France Georgia Ghana Hungary] Indonesia Japan Moldova	Netherlands Norway Peru Poland Romania Russia Slovenia Spain Switzerland Taiwan Ukraine United Kingdom	Cyprus Indonesia Mali Turkey United States Uruguay	Mexico South Africa	Thailand

Full modeling output for these outcomes is available in "Appendix B"

To test the prevalence and distribution of classes within each country, we proceed by fitting LCA models across each individual country in our sample. This approach naturally generates an enormous number of estimates. In lieu of presenting iterative BIC values in tabular form or visually via elbow-plots for each country here in the main text, we simply report the number of classes that best fit the countries in the sample (model output is available in "Appendix B"). Table 2 reveals that, while the three-class model most frequently describes the distribution of classes within a given country, almost 30% of the sample produces two, four, or five classes of democratic visions.

These results indicate that the universal model of democratic beliefs presented in Fig. 2—which illustrates that a full seven classes sufficiently describes the variation in composite views of democracy—does not fit the individual country models. However, comparing the counts of classes across countries does little to inform how these composite views of democracy vary substantively within and across geographic contexts. To





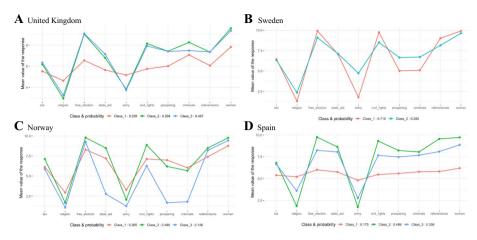
**Fig. 3** Class plots of composite views of democracy for selected countries. Classes in each panel are calculated using iterative modeling process for respective country. Full output modeling for this process for the full sample of 37 countries is available in "Appendices B and C"

investigate the distribution of the *types* of classes that encompass mass views of democracy at the country level, we again proceed using a visual portrayal of the mean values associated with the input items across classes.

Each panel of Fig. 3 illustrates such plots for India, Norway, the United States, and Mexico. The plots for every individual country are presented in "Appendix C". These plots produce a number of observations. First, each panel contains a country that has a different number of classes. India produces two classes, while Mexico produces five. Second, the substantive nature of the classes also vary across each country. In India, there are two very distinct views of democracy—one that associates democracy with both procedural and substantive goods *and* one that is quite indifferent to these qualities. In Norway, there are three classes that are all modestly distinct from each other. In contrast, in the United States and Mexico, there are four and five classes respectively, some of which are fairly similar to the other. On balance, however, the seven-class solution that best fit the pooled data in no way fits the class solution in any of the individual countries. The lack of a distinct pattern, then, implies that the efficacy of a pooled view of democracy across the world is low.

While this finding is not necessarily unexpected, perhaps we effectively "stack-the-deck" by analyzing too many diverse and disparate democracies. To investigate whether or not this is the case, we pivot next to a series of four panels in Fig. 4 that illustrates the best-fitting class solutions for several European democracies—which presumably might exhibit greater commonality with respect to how citizens define democracy. Again, it is not clear that composite views of democracy are portable even across these western democracies. Sweden produces only two classes of democracy in Panel B, and these are unlike the classes present in Spain. The United Kingdom produces three classes, but two of the three are very similar and not substantively similar to those present in Norway. Even with their common epistemological heritage, we find that mass publics view democracy in textured ways, although it is relevant to note that support for procedural goods is nearly uniformly high within these countries. To the extent that elections and civil liberties are cornerstone features of democracy, the citizens of these countries seem to recognize that democracy





**Fig. 4** Class plots of composite views of democracy for selected European countries. Classes in each panel are calculated using iterative modeling process for respective country. Full output modeling for this process for the full sample of 37 countries is available in "Appendices B and C"

involves these features, albeit to varying degrees. However, differences do exist when we wed citizens' beliefs about the procedural and substantive elements of democracy together. In some countries this produces several classes of democracy, in others only two. But under no circumstances do we ever find evidence of a standardized menu of democratic concepts that fits all countries equally. Simply put the distribution of beliefs about democracy is largely peculiar to the individual country context.

### 6 Discussion and conclusion

The extent to which public understandings of democracy are directly comparable crossnationally is important for benchmarking how we approach analyzing public opinion toward democracy. In reassessing past work on democratic typologies (e.g. Oser and Hooghe's 2018b), our latent class analysis indicates that there is neither a single, shared understanding of democracy across countries nor, for that matter, a set of shared understandings, per se. Pooling all respondents from the 37 countries together, we found that a 7-class solution best fit the data. Substantively, this finding might be odd—how would 10 items combine together to form so many permutations of democratic meanings? Looking at the individual countries' profile plots sheds some light on this result. In most of the countries included in the analysis, a three-class solution provides the best fit to the data. In a small subset set of countries, a two-class solution provides a better fit. Notably, the patterns across countries are similar, though not identical: robust support for civil rights and welfare goods in one class, and a second class where such support is usually lower. While a common set of patterns may exist with respect to the way the data fit together, the "intercepts" or the average values of the input items across many of these classes vary in modest, but important ways—an observation that is not readily apparent if the values on the input items are truncated or arbitrarily recoded (as in past research). In turn, because the data are sufficiently large, subtle, but theoretically interesting differences manifest using a semisupervised machine learning approach like LCA.



Overall, our analysis confirms recent research calling for greater sensitivity to measurement of multi-dimensional and multi-layered concepts, such as public understandings of democracy, cross-nationally (Ariely and Davidov 2011; Cutler et al. 2013; King et al. 2004; Wuttke et al. 2020c). Put simply, the meanings of democracy vary across and within countries, raising fundamental questions about what it means when scholars say that democratic support is eroding. Eroding from what? The answer to this question clearly depends on where one begins. For most scholars, this begins with an academic definition of democracy, despite the plethora of scholarly definitions noted earlier, and waning support is gauged from this pre-defined yardstick. The public may, however, have a very different idea of what democracy is supposed to entail, how its processes are supposed to work, and what outcomes it is supposed to produce. What appears as declining support may instead reflect declining support for democracy as currently practiced within a particular context. Despite measurable differences in public understandings of democracy, the vast majority of respondents across countries are "pro-democracy." The differences that emerge reflect different values respondents place on specific characteristics, e.g., free and fair elections, free speech, and economic equality. In the United States, 79 percent of respondents were assigned to two classes of democratic understanding that displayed strong support for the essential characteristics of democracy, but differed in the relative value of specific features. Approximately 21 percent, in contrast, belonged to classes of democracy that are better described as indifferent. We would not, however, describe them as "anti-democracy." This is comparable to the United Kingdom where 76 percent of respondents were assigned to pro-democracy classes while 24 percent were less supportive of democracy's essential characteristics. In Sweden, the two classes that emerge are very much pro-democracy. The classes we have developed here help us better understand where the public begins, and should subsequently enrich, rather than undermine, subsequent analyses of democratic support.

In some ways, this tells us what we already know. People think about democracy differently in the United States than in the United Kingdom, India, or Norway. We know this well, and yet in survey research we often implicitly assume these differences away or explicitly argue that there is a shared understanding of what democracy means over time and across space. The research presented in this article bridges this divide, providing quantitative classifications of the meaning of democracy while simultaneously taking seriously the unique context of each individual country. Differences in democratic meaning are observed here in two ways: The number of classes of identifiable classes (or meanings) that emerge within a specific country and the contours those classes take across countries. Countries with a three-class solution are not necessarily comparable in terms of the shape and the distribution of those classes. What does this mean for future research? We would posit that the differences across country are not just noise, but are instead the result of systematic variations in institutional design (number of parties, presidential versus parliamentary political systems, parallelism within media systems), political culture (individual versus collective), and contemporary economic and social forces (current economic conditions, the presence of right-wing populist movements). The task of modeling these differences is beyond the scope of the current analysis and the task of future research. We would note, however, that taking seriously what democracy means cross-nationally requires addressing the differences in understanding both in the terms of the number and the distribution of those differences.

A typology is ultimately an abstraction of reality. In theory, such models ought to help us make sense of the world around us in concrete ways. These findings are important as a guide to future work involving support for democracy. Research on the democratic deficit,



for example, suggests that the disconnect between what citizens want and what democracy produces is problematic (e.g. Norris 2011). This typology might be useful for contextualizing what, specifically, mass publics demand from democracy. More fundamentally, the forces that generate competing visions of democracy are not well understood. What institutional characteristics shape the number of classes of democratic meanings that are present with a system? In turn, how does a country's social-cultural or economic milieu shape the expectations that citizens have for democracy? These are important questions to answer, and, as we have shown here, answering them requires careful attention to data generating processes and the peculiarities of the survey response.

**Acknowledgement** We should acknowledge one important limitation, however. Understandings of democracy might not only reflect differences across individuals and countries, they may also reflect differences across data sets. Using the European Social Survey or any other World Barometer data might yield a different set of patterns. This, in our view, only underscores our broader point. How mass publics combine democratic features into a composite understanding of democracy is tenuous and context dependent.

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## Compliance with Ethical Standards

**Conflict of interest** The authors declare that they have no conflict of interest.

Availability of Data World Values Survey (http://www.worldvaluessurvey.org/WVSContents.jsp).

Code Availability poLCA (https://cran.r-project.org/web/packages/poLCA/poLCA.pdf).

# Appendix A: Model output for pooled Latent class Analysis of all 22 countries

See Tables 3 and 4.

# Appendix B: Model output for Latent class Analyses of individual countries

See Tables 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40 and 41.



Table 3	Table 3         Fit statistics for pooled Laten	pooled Late	ent class analysis	t class analysis of democratic meanings	neanings					
Model	Log-likelihood	resid_df	BIC	Total change in BIC from baseline	Change in BIC from previous model	Change in change	ABIC	cAIC	Likelihood-ratio	Entropy
1	-771,758.63	40,330	1,544,471.90				1,544,185.88	1,544,561.90	735,351.17	1
2	-717,794.15	40,239	1,437,508.19	-6.93%	-7.44%		1,436,932.97	1,437,689.19	627,422.22	0.87
3	-700,677.57	40,148	1,404,240.26	-9.08%	-2.37%	-68.16%	1,403,375.85	1,404,512.26	593,189.05	0.85
4	-692,588.25	40,057	1,389,026.86	-10.06%	-1.10%	-53.77%	1,387,873.25	1,389,389.86	577,010.40	0.83
5	-686,629.11	39,966	1,378,073.83	-10.77%	~6.79%	-27.43%	1,376,631.02	1,378,527.83	565,092.13	0.83
9	-682,259.50	39,875	1,370,299.86	-11.28%	-0.57%	-28.62%	1,368,567.84	1,370,844.86	556,352.91	0.81
7	-678,534.10	39,784	1,363,814.30	- 11.70%	- 0.48%	- 16.18%	1,361,793.09	1,364,450.30	548,902.11	0.80
∞	-675,486.95	39,693	1,358,685.25	-12.03%	-0.38%	-20.62%	1,356,374.84	1,359,412.25	542,807.81	0.80
6	-672,744.68	39,605	1,354,165.95	-12.32%	-0.33%	-11.59%	1,351,566.34	1,354,983.95	537,323.27	0.80
10	-671,302.55	39,511	1,352,246.94	-12.45%	-0.14%	-57.48%	1,349,358.13	1,353,155.94	534,439.02	0.79
11	-669,869.61	39,420	1,350,346.31	-12.57%	-0.14%	-0.82%	1,347,168.30	1,351,346.31	531,573.14	0.79
12	-668,582.36	39,329	1,348,737.05	-12.67%	-0.12%	-15.23%	1,345,269.85	1,349,828.05	528,998.64	0.78
13	-667,438.65	39,238	1,347,414.87	-12.76%	-0.10%	-17.76%	1,343,658.47	1,348,596.87	526,711.22	0.79
14	-666,445.00	39,147	1,346,392.81	-12.83%	-0.08%	-22.64%	1,342,347.21	1,347,665.81	524,723.91	0.76
15	-665,582.63	39,056	1,345,633.32	-12.87%	-0.06%	-25.65%	1,341,298.52	1,346,997.32	522,999.17	0.75
16	-664,688.93	38,965	1,344,811.16	-12.93%	~90.0-	8.32%	1,340,187.16	1,346,266.16	521,211.76	0.75
17	-664,043.05	38,874	1,344,484.64	-12.95%	-0.02%	-60.28%	1,339,571.44	1,346,030.64	519,920.00	0.73
18	-663,411.08	38,783	1,344,185.95	-12.97%	-0.02%	-8.50%	1,338,983.55	1,345,822.95	518,656.07	0.73
19	-662,855.79	38,692	1,344,040.62	-12.98%	-0.01%	-51.34%	1,338,549.03	1,345,768.62	517,545.49	0.81
20	-662,298.44	38,601	1,343,891.16	-12.99%	-0.01%	2.85%	1,338,110.37	1,345,710.16	516,430.79	0.75
21	-661,793.90	38,510	1,343,847.32	-12.99%	0.00%	~20.67%	1,337,777.33	1,345,757.32	515,421.70	0.76
22	-661,278.00	38,419	1,343,780.76	-12.99%	0.00%	51.81%	1,337,421.57	1,345,781.76	514,389.90	0.75
23	-660,832.34	38,328	1,343,854.70	-12.99%	0.01%	-211.08%	1,337,206.31	1,345,946.70	513,498.60	0.72
24	-660,416.00	38,237	1,343,987.26	-12.98%	0.01%	79.28%	1,337,049.68	1,346,170.26	512,665.92	0.75



	.ikelihood-ratio Entropy	937.89 0.77
	cAIC Like	.336,997.69 1.346,498.48 511,937.89
	ABIC	1.336,997.69
	Change in change	78.91%
	Change in BIC from previous model	0.02%
	Total change in BIC from baseline	-12.97%
	BIC	1.344,224.48 -12.97%
	resid_df	38.146
(continued)	Model Log-likelihood resid_df	-660.051.99
ables	Model	25

Italics profile indicates "best-fitting" solution on the basis of convergent criteria involving BIC, cAIC, and entropy

Model | Springer

 Table 4
 Profile assignment probabilities

Number	Class																								
of classes	_	2	3	4	5	9	7	· ·	6	10	11	12	13	14	15	16	17	18	19	20	21 2	22 2	23 2	24 2	25
	2%	ı	ı	ı	I	ı	ı	ı	ı	·	ı	ı	ı	ı	ı	1	ı	ı	ı			1			
2		51%	ı	ı	1	ı	I	1	ı	· 1	ı	ı	ı	ı	ı	ı	ı	ı	ı	ı	1	ļ			
3		39%	20%	ı	1	ı	1	1	ı		1	ı	ı	1	1	1	1	1	1		1				
4		23%	15%	37%	1	ı	ı	ı	ı	·	ı	ı	ı	1	ı	ı	1	1	ı		1	!			
5	25%	%9	22%	13%	34%	ı	1	1	ı	1	ı	ı	1	1	1	1	ı	1	ı			,			
9		21%	%9	25%	19%	%6	1	1	ı	· 1	ı	ı	1	1	ı	ı	1	1	1		1				
7	18%	%61	%9I	%9	14%	20%	%8	ı	1	1	1	ı	1	1	1	1	1	1	1		1				
~	12%	19%	18%	%6	2%	18%	2%	16%	ı	ı	ı	I	ı	ı	ı	ı	ı	ı	ı		- 1	ı			
6		18%	%8	%6	2%	18%	%9	2%	17%	1	1	ı	1	1	ı	1	1	1	1		1				
10	1%	18%	%9	%8	4%	2%	17%	%8	17%	. %21	1	ı	1	1	1	1	1	1	1		1				
11		4%	%8	4%	10%	1%	16%	%9	%9	15%	15%	I	ı	ı	ı	1	ı	ı	ı		- 1	1			
12	10%	4%	4%	15%	16%	4%	10%	11%	%9	2%	1%	15%	1	1	ı	1	1	1	1		1				
13		111%	2%	%9	13%	10%	2%	4%	15%	3%	15%	%6	1%	1	1	1	1	1	1		1				
14		%9	15%	3%	3%	4%	15%	11%	1%	4%	%6	3%	12%	10%	ı	1	ı	1	ı		1	'			
15		1%	11%	4%	4%	12%	%6	10%	4%		3%	2%		%6	14%	1	ı	ı	ı		ı	ı			
16	3%	3%	%6	4%	12%	3%	3%	13%	%8		1%	2%	2%	%9	%6	13%	1	ı	1		1	1			
17		4%	%8	3%	4%	3%		2%	2%		7%	1%	%8	12%	%6		2%	ı	ı		- 1	'			
18		3%	11%	2%	12%	2%	%9	4%	3%		13%	7%	4%	3%	3%		%6	1%	1	i	1	ı			
19		2%	3%	4%	4%	1%		11%	7%		%8	3%	<b>%9</b>	2%	%6		3%	10%	1%	·	-	1			
20		10%	<b>%9</b>	2%	3%	3%	%8	<b>%9</b>	22%	3%	4%	3%	1%	4%	2%	1%	12%	<i>%L</i>	%8	. %8	- 1	'			
21		1%	22%	3%	10%	12%	%8	%9	3%		1%	2%	2%	2%	%9	4%	%8	7%	2%		- %5	'			
22		2%	2%	2%	1%	3%	%6	2%	4%	1%	4%	%8	7%	7%	2%	4%	3%	%8	11%	. %/	3% 2	- %2			
23		4%	2%	2%	3%	1%	7%	%8	1%	3%	4%	1%	2%	2%	4%	%8	22%	<i>%L</i>	2%	3% (	6% 1	11% 5	- %5		
24	2%	2%	3%	1%	2%	2%	2%	11%	2%	4%	4%	1%	2%	3%	3%	%6	1%	2%	4%	1%	9 %9	6% 1	1% 8	- %8	
																									ı



(continued)	
Table 4	

Number	Class																							
OI CIASSES	1 2	3	4	5	9	7	∞	6	10	11	12	13	14	15	16	17	18	19	20 21 22	21		23	24	25
25	1% 19	% 1%	, 4%	2%	3%	3%	%9	3%	2%	%9	%L	1%	2%	2%	4%	2%	%6	2%	%L %9 %S	%9	7%	3%	%8	1%
Italics cells indicate profile for which	sindicate	profile 1	for whic	h the pr	$\tau$ the probability of assignment is less than $5\%$	ty of as:	signme	nt is les	s than	2%														



 Table 5
 Latent class model estimates for Argentina

		)										
Model	Aodel Log-likelihood Resi	Resid. DF	BIC	ABIC	cAIC	LR	Entropy	Class prevalence	valence			
								Class 1	Class 1 Class 2 Class 3 Class 4	Class3	Class4	Class5
Model 1	-10,364.72	595	21,317.09	21,031.32	21,407.09	12,461.13	ı	1	ı	ı	I	I
Model 2	- 9311.35	504	19,804.52	19,229.82	19,985.52	10,354.38	0.92	0.36	0.64	I	ı	ı
Model 3		413	19,854.63	18,991	20,126.63	9810.32	0.88	0.46	0.33	0.21	1	ı
Model 4	-8850.68	322	20,071.53	18,918.96	20,434.53	9433.04	0.82	0.21	0.28	0.29	0.22	ı
Model 5	-8717.49	231	20,399.33	18,957.82	20,853.33	9166.66	92.0	0.11	0.19	0.3	0.16	0.24

Italic row indicates best-fitting model. Data drawn from World Values Survey



Table 6 Latent class model estimates for Australia

	Class 5	l	ı	ı	ı	0.11
	Class4	ı	I	I	0.41	0.22
	Class3	ı	ı	0.31	0.24	0.19
valence	Class 1 Class 2 Class 3 Class 4 Class 5	I	0.59	0.52	0.16	0.08
Class prevalence	Class1	1.00	0.41	91.0	0.19	0.40
Entropy		ı	0.87	0.84	0.83	0.82
LR		28,540.82	25,779.49	24,890.78	24,249.28	23,884.23
cAIC		48,122.45	46,106.33	45,962.84	46,066.55	46,446.71
ABIC		47,746.56	45,350.37	44,826.82	44,550.46	44,550.56
BIC		48,032.45	45,925.33	45,690.84	45,703.55	45,992.71
Resid. DF		1235.00	1144.00	1053.00	962.00	871.00
Model Log-likelihood Resi		-23,692.71	-22,312.04	-21,867.69	-21,546.94	-21,364.42
Model		Model 1	Model 2	Model 3	Model 4	Model 5

Italics row indicates best-fitting model. Data drawn from World Values Survey



Table 7 Latent class model estimates for Brazil

	Model Log-likelihood Res	Resid. DF	BIC	ABIC	cAIC	LR	Entropy	Class prevalence	valence			
								Class1	Class 1 Class 2 Class 3 Class 4	Class3	Class4	Class5
ı	-24,749.32	1174.00	50,141.42	49,855.54	50,231.42	31,738.84	ı	1.00	I	ı	ı	1
	-22,900.87	1083.00	47,094.45		47,275.45	28,041.94	0.89	0.43	0.57	ı	ı	I
Model 3	- 22,466.90	992.00	46,876.43	46,012.43	47,148.43	27,173.99	0.85	0.35	0.34	0.32	ı	1
Model 4	-22,204.48	901.00	47,001.52		47,364.52	26,649.16	0.83	0.30	0.12	0.22	0.36	I
	-21,963.93	810.00	47,170.35	45,728.23	47,624.35	26,168.07	98.0	0.26	0.22	0.10	0.27	0.16

Italics row indicates best-fitting model. Data drawn from World Values Survey



Table 8 Latent class model estimates for Bulgaria

Model 1         L02-likelihood         Resid. DF         BIC         ABIC         cAIC         LR         Entropy         Class I         Clas			)										
-12,594.26       578.00       25,773.90       25,488.14       25,863.90       16,784.51       -         -11,551.83       487.00       24,280.94       23,706.25       24,461.94       14,699.66       0.90       0         -10,967.09       396.00       23,703.35       22,839.73       23,975.35       13,530.18       0.93       0         -10,683.61       305.00       23,728.27       22,575.72       24,091.27       12,963.21       0.90       0         -10,513.09       214.00       23,979.13       22,537.65       24,433.13       12,622.18       0.80       0	Model	Log-likelihood	Resid. DF	BIC	ABIC	cAIC	LR	Entropy	Class pre	valence			
-12,594.26         578.00         25,773.90         25,488.14         25,863.90         16,784.51         -         1.00         -         -           -11,551.83         487.00         24,280.94         23,706.25         24,461.94         14,699.66         0.90         0.47         0.53         -           -10,967.09         396.00         23,703.35         22,839.73         23,975.35         13,530.18         0.93         0.42         0.41         0.17           -10,683.61         305.00         23,728.27         22,575.72         24,091.27         12,963.21         0.90         0.15         0.41         0.35           -10,513.09         214.00         23,979.13         22,537.65         24,433.13         12,622.18         0.80         0.32         0.10         0.14									Class1	Class2	Class3	Class4	Class 5
-11,551.83         487.00         24,280.94         23,706.25         24,461.94         14,699.66         0.90         0.47         0.53         -           -10,967.09         396.00         23,703.35         22,839.73         23,975.35         13,530.18         0.93         0.42         0.41         0.17           -10,683.61         305.00         23,728.27         22,575.72         24,091.27         12,963.21         0.90         0.15         0.41         0.35           -10,513.09         214.00         23,979.13         22,537.65         24,433.13         12,622.18         0.80         0.32         0.10         0.14	Model 1		578.00	25,773.90	25,488.14	25,863.90	16,784.51	ı	1.00	ı	ı	I	ı
-10,967.09         396.00         23,703.35         22,839.73         23,975.35         13,530.18         0.93         0.42         0.41         0.17           -10,683.61         305.00         23,728.27         22,575.72         24,091.27         12,963.21         0.90         0.15         0.41         0.35           -10,513.09         214.00         23,979.13         22,537.65         24,433.13         12,622.18         0.80         0.32         0.10         0.14	Model 2	-11,551.83		24,280.94	23,706.25	24,461.94	14,699.66	06.0	0.47	0.53	ı	1	1
-10,683.61     305.00     23,728.27     22,575.72     24,091.27     12,963.21     0.90     0.15     0.41     0.35       -10,513.09     214.00     23,979.13     22,537.65     24,433.13     12,622.18     0.80     0.32     0.10     0.14	Model 3		396.00	23,703.35	22,839.73	23,975.35	13,530.18	0.93	0.42	0.41	0.17	ı	1
-10,513.09 $214.00$ $23,979.13$ $22,537.65$ $24,433.13$ $12,622.18$ $0.80$ $0.32$ $0.10$ $0.14$	Model 4		305.00	23,728.27	22,575.72	24,091.27	12,963.21	06.0	0.15	0.41	0.35	0.10	ı
	Model 5		214.00	23,979.13	22,537.65	24,433.13	12,622.18	0.80	0.32	0.10	0.14	90.0	0.39

Italics row indicates best-fitting model. Data drawn from World Values Survey



Table 9 Latent class model estimates for Canada

Italics row indicates best-fitting model. Data drawn from World Values Survey



Table 10 Latent class model estimates for Chile

Andel Loc-likelihood Besid DF BIC AF	AF	ABIC	CAIC	1.R	Fintrony	Class prevalence	valence			
	2				domin	ard com	, around			
						Class1	Dass 1 Class Class Class Class Class 5	Class3	Class4	Class 5
.00 29	29,900.75	29,614.96	29,990.75	19,345.73	ı	1.00	I	. 1	1	1
588.00 28,	28,194.94	27,620.19	28,375.94	17,035.23	0.90	0.48	0.53	ı	ı	ı
497.00 27,8	27,864.36	27,000.64	28,136.36		0.92	0.20	0.45	0.35	ı	ı
406.00 28,0	28,074.64	26,921.95	28,437.64	15,705.52	0.88	0.16	0.30	0.33	0.21	ı
315.00 28,	28,309.10	26,867.45	28,763.10		0.87	0.21	0.16	0.18	0.17	0.28

Italics row indicates best-fitting model. Data drawn from World Values Survey



 Table 11
 Latent class model estimates for Cyprus

	Aodel Log-likelihood	Resid. DF	BIC	ABIC	cAIC	LR	Entropy	Class prevalence	valence			
								Class 1	Class1 Class2 Class3 Class4	Class3	Class4	Class 5
	-18,061.69	944.00	36,748.10	36,462.24	36,838.10	22,749.52	. 1	1.00	ı	ı	ı	ı
	-16,574.24	853.00	34,404.84	33,829.96	34,585.84	19,774.61	0.88	0.42	0.58	ı	ı	1
	-15,717.72	762.00	33,323.44	32,459.54	33,595.44	18,061.57	0.87	0.41	0.43	0.16	ı	1
Model 4	- 15,324.28	00.179	33,168.20	32,015.27	33,531.20	17,274.68	0.89	0.43	0.07	0.11	0.40	1
Model 5	-15,063.69	580.00	33,278.68	31,836.72	33,732.68	16,753.50	0.91	0.12	0.05	0.21	0.34	0.29
- 1												

Italics row indicates best-fitting model. Data drawn from World Values Survey



Table 12 Latent class model estimates for Finland

	Class 5	ı	ı	ı	ı	0.05
	Class4	I	ı	I	0.11	0.38
	Class3	I	ı	0.41	0.10	0.13
valence	Class 1 Class 2 Class 3 Class 4 Class 5	ı	0.47	0.12	0.42	0.12
Class prevalence	Class1	1.00	0.53	0.47	0.37	0.32
Entropy		ı	0.84	0.82	0.84	0.82
LR		21,998.19	20,193.53	19,392.87	18,990.40	18,695.19
cAIC		35,654.96	34,565.06	34,479.14	34,791.42	35,210.95
ABIC		35,279.13	33,809.21	33,343.28	33,275.55	33,315.07
BIC		35,564.96	34,384.06	34,207.14	34,428.42	34,756.95
Resid. DF		858.00	767.00	00.929	585.00	494.00
Aodel Log-likelihood Resi		-17,474.04	-16,571.71	- 16,171.38	-15,970.14	- 15,822.54
Model		Model 1	Model 2	Model 3	Model 4	Model 5

Italics row indicates best-fitting model. Data drawn from World Values Survey



 Table 13
 Latent class model estimates for France

	Jass4 Class5	. 1	1	1	0.13 –	0.13 0.14
	Class 1 Class 2 Class 3 Class 4		1	0.31	0.23 0.	0.33 0.
Class prevalence	Class2	I	0.52	0.35	0.33	0.10
Class pre	Class 1	1.00	0.48	0.34	0.32	0.30
Entropy		. 1	0.88	98.0	0.87	0.87
LR		24,310.94	22,042.97	21,196.57	20,625.18	20,242.40
cAIC		37,862.97	36,309.65	36,177.89	36,321.16	36,653.03
ABIC		37,487.13	35,553.80	35,042.04	34,805.29	34,757.15
BIC		37,772.97	36,128.65	35,905.89	35,958.16	36,199.03
Resid. DF		857.00	766.00	675.00	584.00	493.00
Aodel Log-likelihood		-18,578.08	-17,444.10	- 17,020.90	-16,735.21	-16,543.82
Model		Model 1	Model 2	Model 3	Model 4	Model 5

Italics row indicates best-fitting model. Data drawn from World Values Survey



Table 14 Latent class model estimates for Georgia

		Class 5		ı	1	ı	0.38	
		Class4	ı	ı	1	0.27	0.15	
		Class 1 Class 2 Class 3 Class 4 Class 5	. 1	ı	0.49	0.23	0.17	
	valence	Class2	I	0.63	0.14	0.13	0.21	
	Class prevalence	Class1	1.00	0.37	0.37	0.38	0.09	
	Entropy		ı	0.93	0.91	0.95	NaN	
	LR		18,753.73	15,465.44	14,323.41	13,753.93	13,357.64	
	cAIC		32,067.16	29,495.89	29,070.89	29,218.43	29,539.16	
	ABIC		31,691.32	28,740.04	27,935.02	27,702.54	27,643.26	
0	BIC		31,977.16	29,314.89	28,798.89	28,855.43	29,085.16	
	d. DF		882.00	791.00	700.00	00.609	518.00	
	Aodel Log-likelihood Resi		-15,679.01	-14,034.86	- 13,463.85	-13,179.11	-12,980.97	
	Model		Model 1	Model 2	Model 3	Model 4	Model 5	

Italics row indicates best-fitting model. Data drawn from World Values Survey



Table 15 Latent class model estimates for Ghana

	Class4 Class5	l 1	1	1	0.11 –	0.36 0.14
	Class1 Class2 Class3 Class4	1	1	0.31	0.20 0	0.26 0
Class prevalence	Class2	I	0.58	0.26	0.43	0.19
Class pre	Class 1	1.00	0.42	0.43	0.27	0.05
Entropy		l	0.83	0.83	0.85	0.80
LR		31,691.73	29,021.91	28,025.62	27,538.12	27,114.53
cAIC		51,236.34	49,304.36	49,045.90	49,296.23	49,610.48
ABIC		50,864.63	48,556.75	47,922.41	47,796.85	47,735.20
BIC		51,147.34	49,125.36	48,776.90	48,937.23	49,161.48
Resid. DF		1248.00	1158.00	1068.00	978.00	888.00
Aodel Log-likelihood		-25,253.35	-23,918.44	- 23,420.30	-23,176.54	-22,964.75
Model		Model 1	Model 2	Model 3	Model 4	Model 5

Italics row indicates best-fitting model. Data drawn from World Values Survey



Table 16 Latent class model estimates for Hungary

		Class 5	ı	ı	ı	ı	0.05	
		Uass1 Class2 Class3 Class4	I	ı	ı	0.35	0.32	
		Class3	ı	ı	0.11	0.33	80.0	
	valence	Class2	I	0.44	0.48	0.22	0.23	
	Class prevalence	Class 1	1.00	0.57	0.42	60.0	0.32	
	Entropy		. 1	0.89	0.93	0.95	1.00	
	LR		19,684.55	17,090.69	15,879.51	15,321.27	14,978.25	
	cAIC		32,050.13	30,164.66	29,661.87	29,812.01	30,177.37	
	ABIC		31,674.31	29,408.84	28,526.05	28,296.19	28,281.56	
•	BIC		31,960.13	29,983.66	29,389.87	29,449.01	29,723.37	
	Resid. DF		794.00	703.00	612.00	521.00	430.00	
	10del Log-likelihood		-15,674.76	-14,377.84	- 13,772.25	-13,493.12	-13,321.61	
	Model		Model 1	Model 2	Model 3	Model 4	Model 5	

Italics row indicates best-fitting model. Data drawn from World Values Survey



Table 17 Latent class model estimates for India

Model	10del Log-likelihood	Resid. DF	BIC	ABIC	cAIC	LR	Entropy	Entropy Class prevalence	/alence			
								Class1	Class1 Class2	Class3	Class3 Class4	Class 5
Model 1	-9119.07	938.00	18,862.32	18,576.47	18,952.32	6667.62	I	1.00	ı	I	ı	1
Model 2	-8491.49	847.00	18,238.28	17,663.41	18,419.28	5412.46	0.75	0.59	0.4I	1	1	ı
Model 3	-8259.65	756.00	18,405.73	17,541.82	18,677.73	4948.79	0.78	0.37	0.09	0.54	1	1
Model 4	-8060.26	665.00	18,638.06	17,485.13	19,001.06	4550.00	0.81	0.50	90.0	0.05	0.39	ı
Model 5	-7916.71	574.00	18,982.07	17,540.11	19,436.07	4262.89	0.81	0.05	0.21	0.23	0.45	90.0

Italics row indicates best-fitting model. Data drawn from World Values Survey



Table 18 Latent class model estimates for Indonesia

Model	Model Log-likelihood Resid. DF	Resid. DF	BIC	ABIC	cAIC	LR	Entropy	Class prevalence	valence			
								Class 1	Llass 1 Class 2 Class 3 Class 4	Class3	Class4	Class 5
Model 1	-27,951.91	1450.00	56,564.38	56,278.47	56,654.38	34,502.36	ı	1.00	1	. 1	ı	ı
Model 2	-25,463.78	1359.00	52,256.01	51,681.02	52,437.01	29,526.09	0.91	0.45	0.55	ı	ı	I
Model 3	-24,843.85	1268.00	51,684.06	50,819.98	51,956.06	28,286.24	0.90	0.41	0.45	0.14	1	ı
Model 4		1177.00	51,601.34	50,448.17	51,964.34	27,535.62	0.87	0.35	0.09	0.21	0.35	I
Model 5	Model 5 – 24,211.21	1086.00	51,754.57	50,312.32	52,208.57	27,020.96	0.79	0.33	0.10	0.05	0.32	0.20

Italics row indicates best-fitting model. Data drawn from World Values Survey



Table 19 Latent class model estimates for Japan

	1	I										
Model	Aodel Log-likelihood	Resid. DF	BIC	ABIC	cAIC	LR	Entropy	Class prevalence	valence			
								Class 1	Class 1 Class 2 Class 3 Class 5	Class3	Class4	Class 5
Model 1	-12,695.86	612.00	25,981.57	25,695.81	26,071.57	16,323.24	ı	1.00	ı	ı	I	ı
Model 2	-11,759.24	521.00	24,704.74	24,130.03	24,885.74	14,450.00	0.90	0.49	0.51	ı	ı	ı
Model 3	- 11,452.37	430.00	24,687.42	23,823.76	24,959.42	13,836.27	0.87	0.41	0.19	0.40	ı	ı
Model 4	-11,242.89	339.00	24,864.85	23,712.25	25,227.85	13,417.29	0.83	0.12	0.20	0.36	0.32	ı
Model 5	-11,079.75	248.00	25,134.98	23,693.43	25,588.98	13,091.01	98.0	0.35	0.17	0.13	0.04	0.30

Italics row indicates best-fitting model. Data drawn from World Values Survey



Table 20 Latent class model estimates for Mali

	Class 5	l	ı	1	I	0.11
	Class3 Class4	I	I	I	0.15	0.14
	Class3	ı	ı	0.43	0.43	0.41
valence	Class 1 Class 2	I	0.46	0.33	0.20	0.25
Class prevalence	Class 1	1.00	0.54	0.24	0.23	0.10
Entropy		. 1	0.94	0.90	0.89	0.91
LR		25,785.01	20,847.93	19,585.79	18,827.36	18,195.97
cAIC		40,057.34	35,847.03	35,311.67	35,280.01	35,375.41
ABIC		39,681.48	35,091.14	34,175.74	33,764.05	33,479.41
BIC		39,967.34	35,666.03	35,039.67	34,917.01	34,921.41
Resid. DF		992.00	901.00	810.00	719.00	628.00
1odel Log-likelihood		-19,669.27	-17,200.73	-16,569.66	- 16,190.45	-15,874.75
Model		Model 1	Model 2	Model 3	Model 4	Model 5

Italics row indicates best-fitting model. Data drawn from World Values Survey



Table 21 Latent class model estimates for Mexico

	Class 5	ı	ı	ı	ı	0.27
	Class4	I	ı	1	0.27	0.14
	Class3	ı	ı	0.31	0.19	0.20
valence	Class1 Class2 Class3 Class4	I	0.61	0.37	0.24	0.18
Class prevalence	Class 1	1.00	0.39	0.32	0.30	0.21
Entropy		ı	0.94	0.91	0.93	0.91
LR		35,128.19	29,678.50	28,270.17	27,310.42	26,655.63
cAIC		53,875.67	49,169.81	48,505.31	48,289.39	48,378.43
ABIC		53,499.78	48,413.86	47,369.30	46,773.31	46,482.29
BIC		53,785.67	48,988.81	48,233.31	47,926.39	47,924.43
Resid. DF		1215.00	1124.00	1033.00	942.00	851.00
Model Log-likelihood		-26,570.01	-23,845.16	-23,141.00	-22,661.12	-22,333.73
Model		Model 1	Model 2	Model 3	Model 4	Model 5

Italics row indicates best-fitting model. Data drawn from World Values Survey



 Table 22
 Latent class model estimates for Moldova

	Class 5	1	ı	ı	ı	0.10
Class prevalence	Class3 Class4	I	ı	ı	0.20	0.41
	Class3	I	ı	0.35	0.26	0.10
	Class 1 Class 2	I	0.45	0.45	0.10	0.15
	Class 1	1.00	0.55	0.20	0.45	0.24
Entropy		ı	98.0	0.87	0.89	0.88
LR		22,609.10	20,695.82	19,721.93	19,330.69	18,936.11
cAIC		34,943.44	33,738.03	33,472.00	33,788.63	34,101.92
ABIC		34,567.62	32,982.21	32,336.19	32,272.82	32,206.12
BIC		34,853.44	33,557.03	33,200.00	33,425.63	33,647.92
Resid. DF		789.00	00.869	002.00	516.00	425.00
10del Log-likelihood		-17,121.67	-16,165.03	- 15,678.09	-15,482.47	-15,285.18
Model		Model 1	Model 2	Model 3	Model 4	Model 5

Italics row indicates best-fitting model. Data drawn from World Values Survey



 Table 23
 Latent class model estimates for Netherlands

	Class 5	ı	ı	ı	ı	0.11
	Class4	I	ı	ı	0.07	0.24
	Class3	. 1	ı	0.28	0.29	0.32
valence	Class 1 Class 2 Class 3 Class 4	1	0.49	0.29	0.41	0.13
Class prevalence	Class1	1.00	0.51	0.43	0.24	0.20
Entropy		. 1	0.90	98.0	0.85	0.84
LR		21,231.08	18,748.79	18,054.48	17,639.41	17,302.33
cAIC		34,337.83	32,567.16	32,584.48	32,881.03	33,255.57
ABIC		33,962.00	31,811.33	31,448.64	31,365.19	31,359.72
BIC		34,247.83	32,386.16	32,312.48	32,518.03	32,801.57
Resid. DF		826.00	735.00	644.00	553.00	462.00
Aodel Log-likelihood		-16,817.01	-15,575.87	- 15,228.72	-15,021.18	-14,852.64
Model		Model 1	Model 2	Model 3	Model 4	Model 5

Italics row indicates best-fitting model. Data drawn from World Values Survey



Table 24 Latent class model estimates for Norway

ABIC         CAIC         LR         Entropy         Class I           34,949.80         35,325.65         21,097.04         —         1.00         —         —         —         —           33,245.07         34,380.94         18,716.06         0.82         0.15         0.49         0.37         —         —           33,032.47         34,548.36         18,165.34         0.84         0.35         0.08         0.44         0.13         —           32,924.56         34,820.48         17,719.32         0.75         0.34         0.14         0.32         0.08         0.13												
35,325.65 21,097.04 – 1 34,562.92 19,616.18 0.81 0 34,380.94 18,716.06 0.82 0 34,548.36 18,165.34 0.84 0 34,820.48 17,719.32 0.75 0	Aodel Log-likelihood Resid. DF BIC		BIC	ABIC	cAIC	LR	Entropy	Class pre	valence			
35,325.65       21,097.04       -       1.00       -       -       -       -       -         34,562.92       19,616.18       0.81       0.34       0.66       -       <								Class 1	Class2	Class3	Class4	Class 5
34,562.92     19,616.18     0.81     0.34     0.66     -     -       34,380.94     18,716.06     0.82     0.15     0.49     0.37     -       34,548.36     18,165.34     0.84     0.35     0.08     0.44     0.13       34,820.48     17,719.32     0.75     0.34     0.14     0.32     0.08	-17,307.70 894.00 35,235.65		35,235.65	34,949.80	35,325.65	21,097.04	I	1.00	I	I	1	ı
34,380.94     18,716.06     0.82     0.15     0.49     0.37     -       34,548.36     18,165.34     0.84     0.35     0.08     0.44     0.13       34,820.48     17,719.32     0.75     0.34     0.14     0.32     0.08	-16,567.27 803.00	.,	34,381.92	33,807.06	34,562.92	19,616.18	0.81	0.34	99.0	ı	ı	ı
34,548.36     18,165.34     0.84     0.35     0.08     0.44     0.13       34,820.48     17,719.32     0.75     0.34     0.14     0.32     0.08	Model 3 - 16,117.21 712.00 34,108.94	•	34,108.94	33,245.07	34,380.94	18,716.06	0.82	0.15	0.49	0.37	ı	ı
34,820.48 17,719.32 0.75 0.34 0.14 0.32 0.08	-15,841.85 621.00 34,185.36		34,185.36	33,032.47	34,548.36	18,165.34	0.84	0.35	0.08	0.44	0.13	ı
	Model 5 -15,618.84 530.00 34,366.48	- (c)	34,366.48	32,924.56	34,820.48	17,719.32	0.75	0.34	0.14	0.32	0.08	0.13

Italics row indicates best-fitting model. Data drawn from World Values Survey



Table 25 Latent class model estimates for Peru

	Class 5	ı	I	I	I	0.20
	Class4	I	I	I	0.39	0.26
	Class3	ı	ı	0.30	0.22	0.35
valence	Class1 Class2 Class3 Class4	ı	0.48	0.27	0.29	0.10
Class prevalence	Class1	1.00	0.52	0.43	0.10	60.0
Entropy		ı	0.89	98.0	0.88	98.0
LR		30,238.32	26,649.34	25,534.09	24,938.59	24,390.69
cAIC		47,946.59	45,095.16	44,717.46	44,859.51	45,049.16
ABIC		47,570.71	44,339.23	43,581.48	43,343.47	43,153.07
BIC		47,856.59	44,914.16	44,445.46	44,496.51	44,595.16
Resid. DF		1128.00	1037.00	946.00	855.00	764.00
Model Log-likelihood		-23,608.57	-21,814.08	- 21,256.46	-20,958.70	-20,684.75
Model		Model 1	Model 2	Model 3	Model 4	Model 5

Italics row indicates best-fitting model. Data drawn from World Values Survey



 Table 26
 Latent class model estimates for Poland

	4odelLog-likelihoodResid. DF	Resid. DF	BIC	ABIC	cAIC	LR	Entropy	Class prevalence	valence			
								Class1	Class 1 Class 2 Class 4 Class 5	Class3	Class4	Class5
Aodel 1	-14,054.84	687.00	28,708.68	28,422.88	28,798.68	17,998.89	l	1.00	I	. 1	1	l
Model 2	-12,988.09	596.00	27,180.82	26,606.05	27,361.82	15,865.38	0.90	0.43	0.57	ı	ı	I
Model 3	- 12,606.98	505.00	27,024.23	26,160.50	27,296.23	15,103.15	0.90	0.17	0.46	0.37	ı	ı
Model 4	-12,388.50	414.00	27,192.92	26,040.22	27,555.92	14,666.19	0.88	0.19	0.10	0.39	0.32	ı
Model 5		323.00	27,489.71	26,048.05	27,943.71	14,357.35	98.0	0.22	0.24	0.24	0.11	0.20

Italics row indicates best-fitting model. Data drawn from World Values Survey



Table 27 Latent class model estimates for Romania

		ı										
Model	Aodel Log-likelihood	Resid. DF	BIC	ABIC	cAIC	LR	Entropy	Class prevalence	valence			
								Class1	Class1 Class2 Class3 Class4	Class3	Class4	Class 5
Model 1	-19,285.35	1250.00	39,218.74	38,932.85	39,308.74	20,679.23	. 1	1.00	ı	ı	I	1
Model 2	-17,756.30	1159.00	36,815.88	36,240.92	36,996.88	17,621.13	0.88	0.32	89.0	ı	ı	ı
Model 3	- 17,309.79	1068.00	36,578.10	35,714.08	36,850.10	16,728.11	0.84	0.33	0.58	0.10	ı	ı
Model 4	-17,061.88	977.00	36,737.52	35,584.43	37,100.52	16,232.30	0.77	0.22	0.31	0.37	0.09	ı
Model 5	-16,851.05	886.00	36,971.09	35,528.93	37,425.09	15,810.63	0.82	0.33	0.08	0.37	0.04	0.18

Italics row indicates best-fitting model. Data drawn from World Values Survey



Table 28 Latent class model estimates for Russia

	Class 5	I	ı	ı	ı	0.33
	Class3 Class4	I	ı	ı	0.57	0.16
	Class3	I	ı	0.58	90.0	90.0
valence	Class 1 Class 2	I	0.33	0.28	0.26	0.11
Class prevalence	Class1	1.00	19.0	0.15	0.11	0.35
Entropy		I	0.88	98.0	0.85	0.82
LR		24,581.95	20,919.39	19,997.14	19,462.44	19,144.05
cAIC		44,910.02	42,003.18	41,836.64	42,057.65	42,494.97
ABIC		44,534.12	41,247.19	40,700.57	40,541.51	40,598.74
BIC		44,820.02	41,822.18	41,564.64	41,694.65	42,040.97
Resid. DF		1397.00	1306.00	1215.00	1124.00	1033.00
Aodel Log-likelihood		-22,081.31	-20,250.03	- 19,788.91	-19,521.56	- 19,362.36
Model		Model 1	Model 2	Model 3	Model 4	Model 5

Italics row indicates best-fitting model. Data drawn from World Values Survey



Table 29 Latent class model estimates for Slovenia

Model	10del Log-likelihood	Resid. DF	BIC	ABIC	cAIC	LR	Entropy	Class prevalence	valence			
								Class1	Class1 Class2 Class3 Class4	Class3	Class4	Class 5
Model 1	-14,435.79	702.00	29,472.29	29,186.49	29,562.29	18,445.86	ı	1.00	ı	I	I	ı
Model 2	-13,445.73	611.00	28,099.55	27,524.78	28,280.55	16,465.73	0.87	0.49	0.52	ı	ı	ı
Model 3	- 13,068.64	520.00	27,952.76	27,089.02	28,224.76	15,711.56	98.0	0.24	0.40	0.36	ı	ı
Model 4	-12,875.42	429.00	28,173.70	27,020.98	28,536.70	15,325.11	0.88	0.21	0.41	0.13	0.25	ı
Model 5	-12,683.87	338.00	28,398.00	26,956.30	28,852.00	14,942.02	0.88	0.14	0.22	60.0	0.25	0.30

Italics row indicates best-fitting model. Data drawn from World Values Survey



Table 30 Latent class model estimates for South Africa

	Class 5	ı	ı	1	ı	0.36
	Class4	I	ı	1	0.20	0.18
	Class3	1	ı	0.40	0.28	0.20
valence	Class 1 Class 2	I	0.49	0.30	0.40	0.12
Class prevalence	Class1	1.00	0.51	0.30	0.12	0.15
Entropy		ı	0.87	98.0	98.0	0.85
LR		60,059.77	54,052.78	51,459.66	50,309.53	49,581.24
cAIC		97,406.84	92,199.01	90,405.05	90,054.08	90,124.95
ABIC		97,030.89	91,442.93	89,268.85	88,537.75	88,228.49
BIC		97,316.84	92,018.01	90,133.05	89,691.08	89,670.95
Resid. DF		2307.00	2216.00	2125.00	2034.00	1943.00
4odel Log-likelihood		-48,308.23	-45,304.74	-44,008.18	-43,433.11	- 43,068.97
Model		Model 1	Model 2	Model 3	Model 4	Model 5

Italics row indicates best-fitting model. Data drawn from World Values Survey



Table 31 Latent class model estimates for Spain

ABIC cAIC LR Entropy Class prevalence  20 34,943.36 35,319.20 21,866.26 - 1.00  31,631.90 32,387.76 18,217.14 0.93 0.55 0.45  30,320.17 31,836.06 16,230.10 0.90 0.16 0.07 0.32 0.44  49 30,208.03 32,103.94 15,780.31 0.87 0.24 0.24 0.17 0.29 0.06											
34,943.36       35,319.20       21,866.26       -       1.00       - <th< th=""><th>esid. DF BIC</th><th></th><th>ABIC</th><th>cAIC</th><th>LR</th><th>Entropy</th><th>Class pre</th><th>valence</th><th></th><th></th><th></th></th<>	esid. DF BIC		ABIC	cAIC	LR	Entropy	Class pre	valence			
34,943.36       35,319.20       21,866.26       -       1.00       - <td< th=""><th></th><th></th><th></th><th></th><th></th><th></th><th>Class1</th><th>Class2</th><th>Class3</th><th>Class4</th><th></th></td<>							Class1	Class2	Class3	Class4	
31,631.90     32,387.76     18,217.14     0.93     0.55     0.45     -     -     -       30,344.75     31,680.63     16,792.34     0.91     0.18     0.49     0.34     -     -       30,320.17     31,836.06     16,230.10     0.90     0.16     0.07     0.32     0.44     -       30,208.03     32,103.94     15,780.31     0.87     0.24     0.24     0.17     0.29     0	889.00 35,229.20	9.20	34,943.36	35,319.20	21,866.26	ı	1.00	ı	. 1	ı	ı
30,544.75 31,680.63 16,792.34 0.91 0.18 0.49 0.34 – 30,320.17 31,836.06 16,230.10 0.90 0.16 0.07 0.32 0.44 - 30,208.03 32,103.94 15,780.31 0.87 0.24 0.24 0.17 0.29 0	798.00 32,206.76	92:	31,631.90	32,387.76	18,217.14	0.93	0.55	0.45	ı	ı	I
30,208.03 32,103.94 15,780.31 0.87 0.24 0.24 0.17 0.29 0	707.00 31,408.63	.63	30,544.75	31,680.63	16,792.34	0.91	0.18	0.49	0.34	ı	I
30,208.03 32,103.94 15,780.31 0.87 0.24 0.24 0.17 0.29	516.00 31,473.06	90.	30,320.17	31,836.06	16,230.10	0.90	0.16	0.07	0.32	4.0	ı
	525.00 31,649.94	.94	30,208.03	32,103.94	15,780.31	0.87	0.24	0.24	0.17	0.29	90.0

Italics row indicates best-fitting model. Data drawn from World Values Survey



Table 32 Latent class model estimates for Sweden

Italics row indicates best-fitting model. Data drawn from World Values Survey



Table 33 Latent class model estimates for Switzerland

	Class5	ı	I	ı	I	0.25
	Class4	I	ı	ı	0.32	0.05
	Class3	ı	ı	0.08	0.23	0.15
valence	Class 1 Class 2 Class 3 Class 4	I	0.62	0.58	0.40	0.13
Class prevalence	Class 1	1.00	0.38	0.35	0.05	0.42
Entropy		. 1	98.0	0.84	08.0	0.76
LR		19,979.35	17,829.87	17,117.22	16,637.03	16,324.10
cAIC		35,534.79	34,112.17	34,126.37	34,373.05	34,786.98
ABIC		35,158.93	33,356.28	32,990.44	32,857.09	32,890.98
BIC		35,444.79	33,931.17	33,854.37	34,010.05	34,332.98
Resid. DF		993.00	902.00	811.00	720.00	629.00
Aodel Log-likelihood		-17,407.96	-16,333.22	- 15,976.89	-15,736.80	-15,580.33
Model		Model 1	Model 2	Model 3	Model 4	Model 5

Italics row indicates best-fitting model. Data drawn from World Values Survey



Table 34 Latent class model estimates for Taiwan

Aodel Log-likelihood Resi	Resid. DF	BIC	ABIC	cAIC	LR	Entropy	Class prevalence	valence			
							Class1	Class1 Class2 Class3 Class4	Class3	Class4	Class 5
-20,705.59	1099.00	42,048.45	41,762.58	42,138.45	24,840.98	1	1.00	1	1	ı	ı
-18,986.35	1008.00	39,254.33	38,679.40	39,435.33	21,402.50	0.91	0.49	0.51	1	I	I
- 18,528.26	917.00	38,982.51	38,118.54	39,254.51	20,486.32	0.60	0.12	0.51	0.38	1	ı
-18,288.32	826.00	39,147.00	37,993.97	39,510.00	20,006.45	0.88	0.49	0.13	0.28	0.10	ı
-18,088.61	735.00	39,391.94	37,949.87	39,845.94	19,607.03	0.85	0.21	0.15	60.0	0.22	0.33

Italics row indicates best-fitting model. Data drawn from World Values Survey



Table 35 Latent class model estimates for Thailand

								Class pre	lass prevalence			
Model	Model Log-likelihood	Resid. DF	BIC	ABIC	cAIC	LR	Entropy	Class1	Class1 Class2 Class3 Class4	Class3	Class4	Class 5
Model 1	Model 1 -31,613.61	1408.00	63,885.28	63,599.38	63,975.28	41,739.07	ı	1.00	ı	. 1	I	ı
model 2	-28,891.30	1317.00	59,106.05	58,531.06	59,287.05	36,294.45	0.93	0.35	0.65	ı	ı	ı
Model 3	-27,713.14	1226.00	57,415.11	56,551.04	57,687.11	33,938.13	0.92	0.28	0.56	0.17	1	ı
Model 4	-27,070.33	1135.00	56,794.87	55,641.72	57,157.87	32,652.51	0.91	0.28	0.13	0.35	0.25	ı
Model 5	Model 5 – 26,634.79	1044.00	56,589.17	55,146.94	57,043.17	31,781.43	0.94	0.11	0.26	0.26	0.23	0.15

Italics row indicates best-fitting model. Data drawn from World Values Survey



Table 36 Latent class model estimates for Trinidad

	Class 5	ı	ı	I	ı	0.26
	Class4	I	ı	1	0.28	0.28
	Class3	. 1	ı	0.43	0.19	0.13
valence	Class1 Class2 Class3 Class4	ı	0.41	0.28	0.26	0.23
Class prevalence	Class1	1.00	0.59	0.28	0.27	0.11
Entropy		ı	0.60	98.0	0.85	0.81
LR		22,114.25	19,699.68	19,129.63	18,712.45	18,430.98
cAIC		35,066.77	33,363.73	33,505.20	33,799.55	34,229.60
ABIC		34,690.95	32,607.90	32,369.36	32,283.71	32,333.75
BIC		34,976.77	33,182.73	33,233.20	33,436.55	33,775.60
Resid. DF		825.00	734.00	643.00	552.00	461.00
4odel Log-likelihood		-17,181.54	- 15,974.25	-15,689.23	-15,480.64	-15,339.90
Model		Model 1	Model 2	Model 3	Model 4	Model 5

Italics row indicates best-fitting model. Data drawn from World Values Survey



Table 37 Latent class model estimates for Turkey

Model	10del Log-likelihood	Resid. DF	BIC	ABIC	cAIC	LR	Entropy	Class prevalence	valence			
								Class1	Class 1 Class 2 Class 4	Class3	Class4	Class 5
Model 1	-21,575.87	1109.00	43,789.76	43,503.89	43,879.76	27,144.56	ı	1.00	ı	ı	ı	ı
Model 2	-19,265.26	1018.00	39,813.67	39,238.74	39,994.67	22,523.34	0.94	0.52	0.48	ı	ı	ı
Model 3	-18,589.80	927.00	39,107.88	38,243.91	39,379.88	21,172.44	0.90	0.11	0.42	0.47	ı	ı
Model 4	- 18,254.37	836.00	39,082.14	37,929.11	39,445.14	20,501.57	0.88	0.29	0.10	0.36	0.25	ı
Model 5	-18,032.99	745.00	39,284.49	37,842.41	39,738.49	20,058.81	98.0	0.19	0.30	80.0	0.29	0.13

Italics row indicates best-fitting model. Data drawn from World Values Survey



Table 38 Latent class model estimates for Ukraine

	Aodel Log-likelihood Resid. DF	Resid. DF	BIC	ABIC	cAIC	LR	Entropy	Class prevalence	valence			
								Class1	Dass 1 Class Class Class Class Class 5	Class3	Class4	Class 5
Model 1	-13,200.33	587.00	26,987.24	26,701.48	27,077.24	17,772.25	ı	1.00	ı	ı	I	1
Model 2	-12,060.85	496.00	25,301.39	24,726.70	25,482.39	15,493.29	0.95	0.65	0.35	1	ı	1
Model 3	- 11,604.61	405.00	24,982.03	24,118.40	25,254.03	14,580.83	0.92	0.30	0.29	0.41	ı	1
Model 4	-11,414.08	314.00	25,194.07	24,041.50	25,557.07	14,199.75	0.89	0.28	0.13	0.31	0.27	ı
10	Model 5 - 11,252.15	223.00	25,463.33	24,021.83	25,917.33	13,875.91	0.91	0.25	0.18	0.24	0.25	0.09

Italics row indicates best-fitting model. Data drawn from World Values Survey



Table 39 Latent class model estimates for United Kingdom

		Class 5	ı	ı	ı	ı	0.14
		Class4	I	ı	1	0.33	0.11
		Class3	. 1	ı	0.29	0.22	0.28
	valence	Class1 Class2 Class3 Class4	I	0.51	0.47	0.26	0.17
	Class prevalence	Class1	1.00	0.49	0.24	0.19	0.30
	Entropy		. 1	0.85	0.82	0.78	0.79
	LR		22,041.76	20,418.48	19,740.93	19,381.60	19,066.75
	cAIC		34,403.13	33,486.05	33,514.69	33,861.57	34,252.91
	ABIC		34,027.31	32,730.24	32,378.89	32,345.77	32,357.13
)	BIC		34,313.13	33,305.05	33,242.69	33,498.57	33,798.91
	Resid. DF		773.00	682.00	591.00	500.00	409.00
	Aodel Log-likelihood		-16,852.34	-16,040.71	- 15,701.93	-15,522.27	-15,364.84
	Model		Model 1	Model 2	Model 3	Model 4	Model 5

Italics row indicates best-fitting model. Data drawn from World Values Survey



Table 40 Latent class model estimates for United States

0.00		1	0.10	7			5				
	Model Log-likelihood Resid. DF	BIC	ABIC	cAIC	LK	Entropy	Class prevalence	valence			
							Class 1	Class 1 Class 2 Class 4	Class3	Class4	Class 5
1	081.00	45,138.27	44,852.40	45,228.27	28,510.75	. 1	1.00	I	ı	I	ı
	00.066	42,601.31	42,026.39	42,782.31	25,330.83	0.91	0.30	0.70	ı	ı	ı
	899.00	41,571.87	40,707.90	41,843.87	23,658.41	0.90	0.36	0.49	0.15	ı	I
•	808.00	41,407.14	40,254.12	41,770.14	22,850.71	0.89	0.12	0.44	0.09	0.35	ı
	717.00	41,453.49	40,011.43	41,907.49	22,254.10	0.95	0.07	0.11	0.43	0.05	0.33

Italics row indicates best-fitting model. Data drawn from World Values Survey



 Table 41
 Latent class model estimates for Uruguay

			1							
id. DF BIC	- \	ABIC	cAIC	LR	Entropy	Class prevalence	valence			
						Class1	Class 1 Class Class Class Class 6	Class3	Class4	CIE
810.00 33	33,405.33	33,119.51	33,495.33	20,840.10	ı	1.00	I	. 1	I	ı
719.00 31,	31,125.87	30,551.04	31,306.87	17,941.62	0.93	09.0	0.40	ı	ı	Ţ
628.00 30,5	30,590.04	29,726.21	30,862.04	16,786.77	0.92	0.43	0.41	0.16	1	1
537.00 30,5	10,583.84	29,431.02	30,946.84	16,161.56	0.60	0.39	0.22	0.22	0.17	ı
446.00 30,7	30,728.95	29,287.12	31,182.95	15,687.64	96.0	0.21	0.32	0.11	0.20	0.16

Italics row indicates best-fitting model. Data drawn from World Values Survey



## **Appendix C: Country-specific class plots**

See Figs. 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40 and 41.

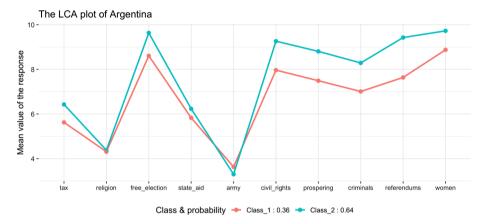


Fig. 5 Mean input values across classes for Argentina. *Notes*: Class solution corresponds to output estimates in Appendix Table 5

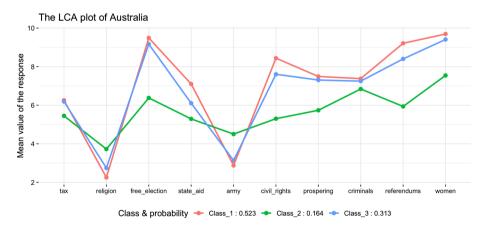


Fig. 6 Mean input values across classes for Australia. *Notes*: Class solution corresponds to output estimates in Appendix Table 6



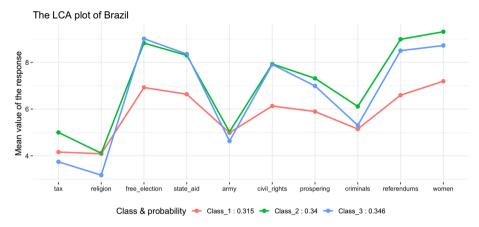
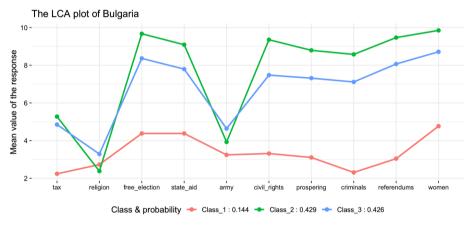
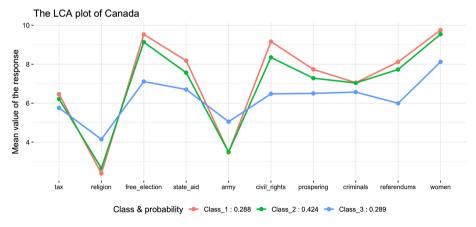


Fig. 7 Mean input values across classes for Brazil. *Notes*: Class solution corresponds to output estimates in Appendix Table 7





**Fig. 9** Mean input values across classes for Canada. *Notes*: Class solution corresponds to output estimates in Appendix Table 9



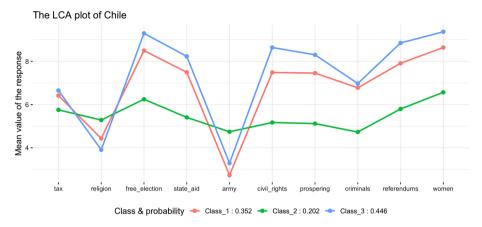


Fig. 10 Mean input values across classes for Chile. *Notes*: Class solution corresponds to output estimates in Appendix Table 10

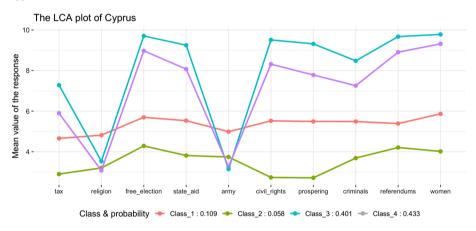


Fig. 11 Mean input values across classes for Cyprus. *Notes*: Class solution corresponds to output estimates in Appendix Table 11

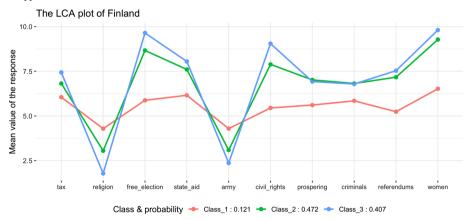


Fig. 12 Mean input values across classes for Finland. *Notes*: Class solution corresponds to output estimates in Appendix Table 12



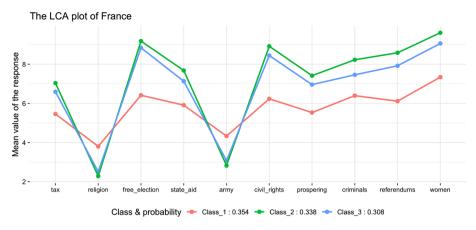


Fig. 13 Mean input values across classes for France. *Notes*: Class solution corresponds to output estimates in Appendix Table 13

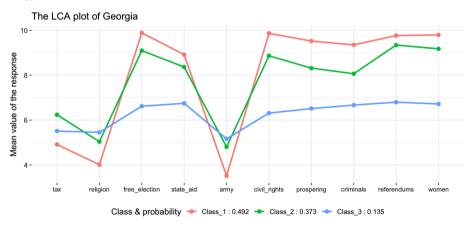


Fig. 14 Mean input values across classes for Georgia. *Notes*: Class solution corresponds to output estimates in Appendix Table 14

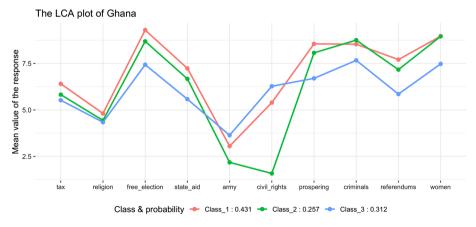


Fig. 15 Mean input values across classes for Ghana. *Notes*: Class solution corresponds to output estimates in Appendix Table 15



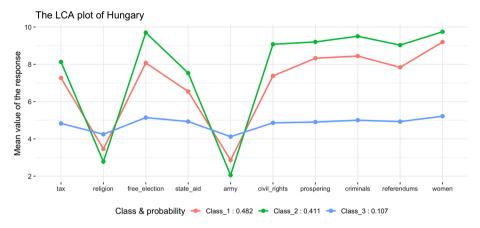


Fig. 16 Mean input values across classes for Hungary. *Notes*: Class solution corresponds to output estimates in Appendix Table 16

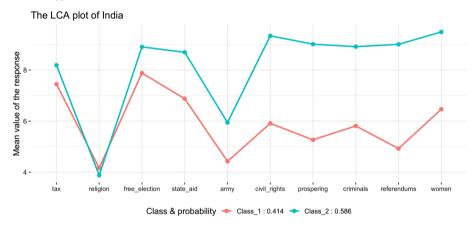


Fig. 17 Mean input values across classes for India. *Notes*: Class solution corresponds to output estimates in Appendix Table 17

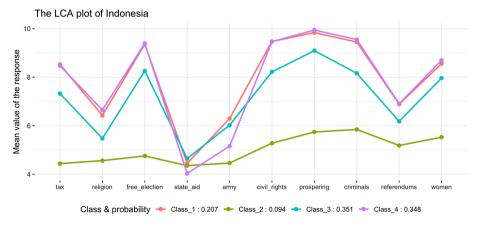


Fig. 18 Mean input values across classes for Indonesia. *Notes*: Class solution corresponds to output estimates in Appendix Table 18



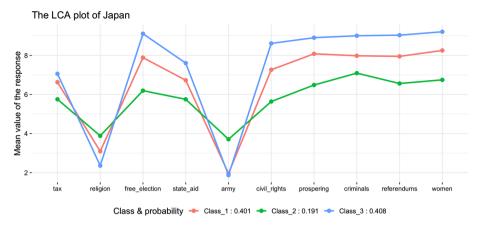


Fig. 19 Mean input values across classes for Japan. *Notes*: Class solution corresponds to output estimates in Appendix Table 19

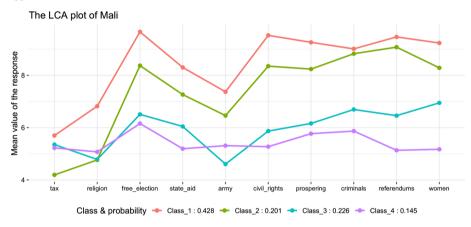


Fig. 20 Mean input values across classes for Mali. *Notes*: Class solution corresponds to output estimates in Appendix Table 20

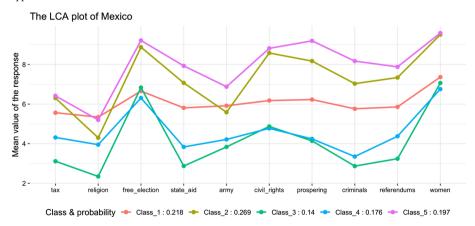


Fig. 21 Mean input values across classes for Mexico. *Notes*: Class solution corresponds to output estimates in Appendix Table 21



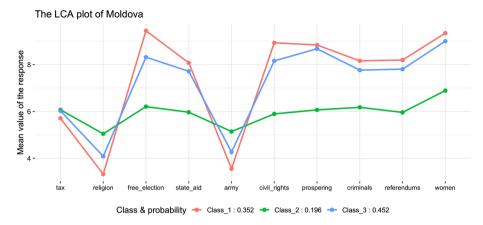


Fig. 22 Mean input values across classes for Moldova. *Notes*: Class solution corresponds to output estimates in Appendix Table 22

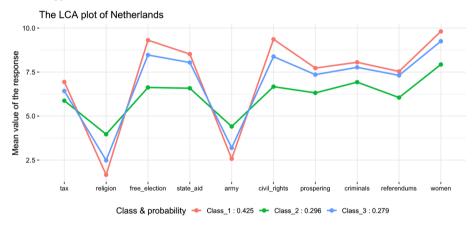


Fig. 23 Mean input values across classes for Netherlands. *Notes*: Class solution corresponds to output estimates in Appendix Table 23

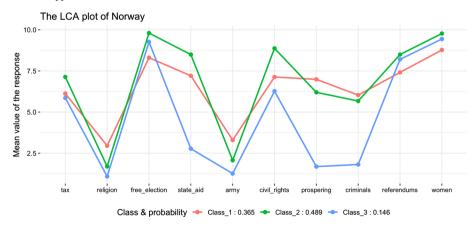


Fig. 24 Mean input values across classes for Norway. *Notes*: Class solution corresponds to output estimates in Appendix Table 24



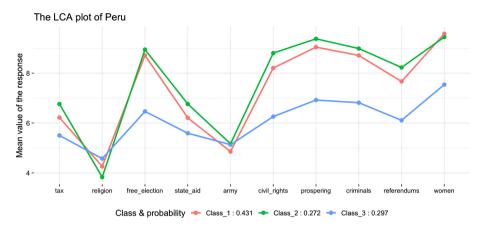


Fig. 25 Mean input values across classes for Peru. *Notes*: Class solution corresponds to output estimates in Appendix Table 25

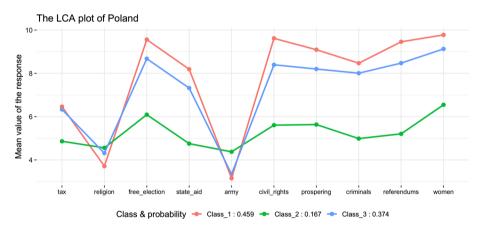


Fig. 26 Mean input values across classes for Poland. *Notes*: Class solution corresponds to output estimates in Appendix Table 26



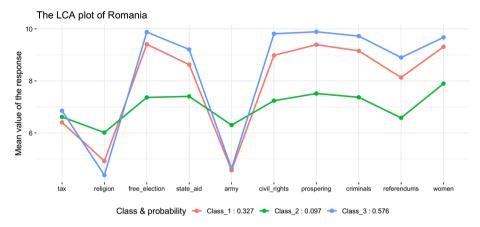


Fig. 27 Mean input values across classes for Romania. *Notes*: Class solution corresponds to output estimates in Appendix Table 27

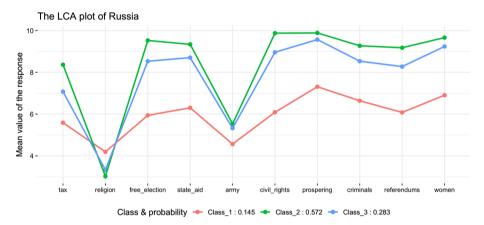


Fig. 28 Mean input values across classes for Russia. *Notes*: Class solution corresponds to output estimates in Appendix Table 28



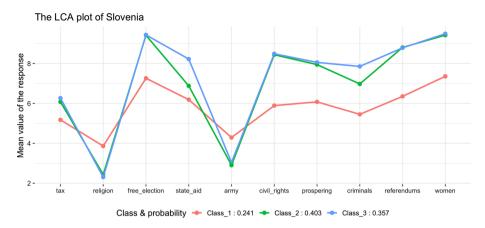


Fig. 29 Mean input values across classes for Slovenia. *Notes*: Class solution corresponds to output estimates in Appendix Table 29

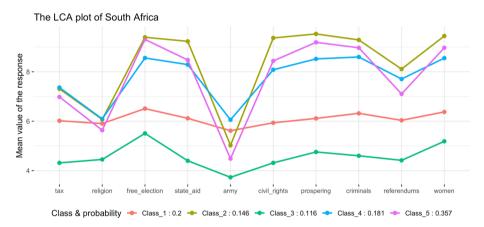


Fig. 30 Mean input values across classes for South Africa. *Notes*: Class solution corresponds to output estimates in Appendix Table 30





Fig. 31 Mean input values across classes for Spain. *Notes*: Class solution corresponds to output estimates in Appendix Table 31



Fig. 32 Mean input values across classes for Sweden. *Notes*: Class solution corresponds to output estimates in Appendix Table 32



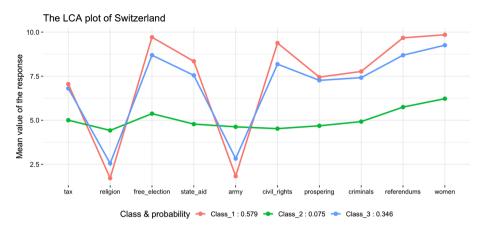


Fig. 33 Mean input values across classes for Switzerland. *Notes*: Class solution corresponds to output estimates in Appendix Table 33

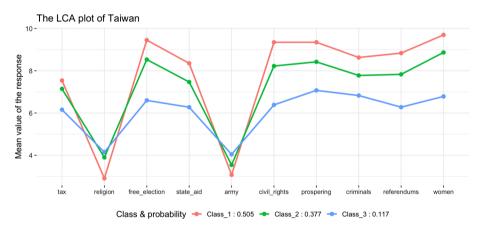


Fig. 34 Mean input values across classes for Taiwan. *Notes*: Class solution corresponds to output estimates in Appendix Table 34



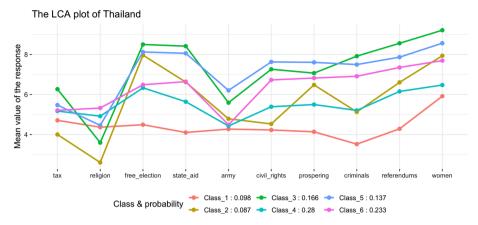


Fig. 35 Mean input values across classes for Thailand. *Notes*: Class solution corresponds to output estimates in Appendix Table 35

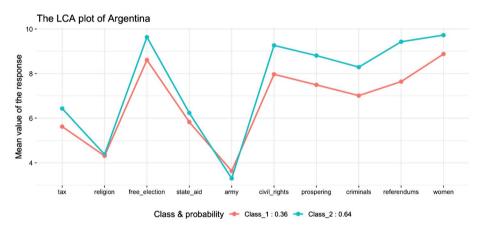


Fig. 36 Mean input values across classes for Trinidad and Tobago. *Notes*: Class solution corresponds to output estimates in Appendix Table 36



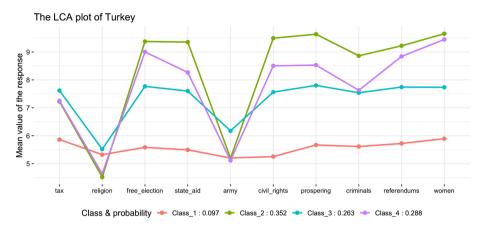


Fig. 37 Mean input values across classes for Turkey. *Notes*: Class solution corresponds to output estimates in Appendix Table 37

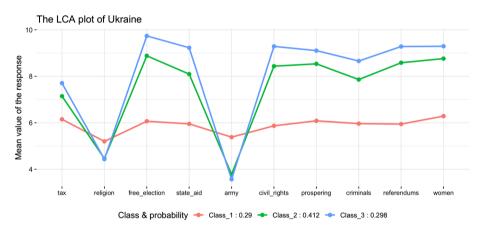
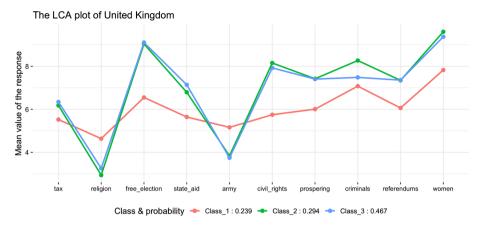


Fig. 38 Mean input values across classes for Ukraine. *Notes*: Class solution corresponds to output estimates in Appendix Table 38





 $\textbf{Fig. 39} \ \ \text{Mean input values across classes for United Kingdom.} \ \textit{Notes} \ : \ \text{Class solution corresponds to output estimates in Appendix Table 38}$ 

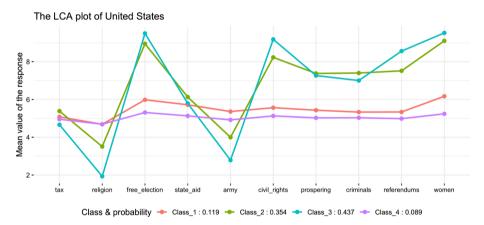


Fig. 40 Mean input values across classes for United States. *Notes*: Class solution corresponds to output estimates in Appendix Table 39



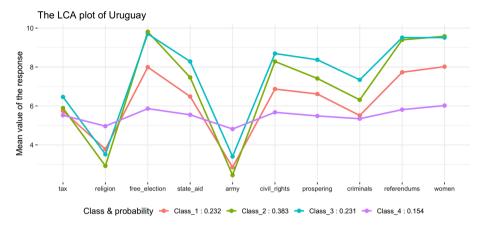


Fig. 41 Mean input values across classes for Uruguay. *Notes*: Class solution corresponds to output estimates in Appendix Table 40

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