



Measuring populism in Europe. Comparison and validation in the European Social Survey

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Abstract

Populism has become a defining feature of European democracies, prompting extensive scholarly debate about its impact on political processes. This study refines the measurement of populist attitudes in Europe by using data from Round 10 of the European Social Survey. Through Confirmatory Factor Analysis, Measurement Invariance testing, and Regression Modelling, the study develops and validates scales grounded in the core dimensions of populism: Anti-Elitism and People-Centrism. The findings confirm the conceptual distinction between these subdimensions and establish the cross-national validity and comparability of the proposed measures. The analysis further explores the associations between populist attitudes, socio-demographic characteristics, and political behaviour, thereby establishing the criterion validity of the scales. The validated measures provide a valuable tool for studying populism at the individual level and for analysing its broader implications for democratic politics across diverse contexts. By offering a robust, theory-driven, and replicable methodological framework, this research enhances the reliability of comparative studies and contributes to ongoing efforts to address the replication crisis in the social sciences.

Keywords Populist attitudes · Measurement · Validation · Structural equation modelling · Europe · European social survey · Open science

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1 Introduction

Populism is a prominent feature of European democracies, and its impact on democratic processes has long been a subject of scholarly debate. While some scholars have raised concerns regarding its implications for democratic regimes (Taggart 2002), others have emphasised its capacity to mobilise people (Anduiza et al. 2019; Canovan 1999; Mouffe 2005). The rise of populist parties has allowed old and new social cleavages to emerge and deepen, reshaping the political landscape (Bischof and Wagner 2019; Kwon and Martin 2023). Consequently, populism poses significant challenges to established mechanisms of representation in contemporary democracies, making its empirical investigation a central concern within political sociology and political science.

Despite its prominence, there is still no consensus on the optimal way to operationalise populism, particularly at the individual level. In addition, the construction and validation of populist attitude scales typically rely on ad hoc surveys conducted in a limited number of countries (e.g., Akkerman et al. 2014), which restricts the scope for detailed cross-country comparisons. No comparative dataset systematically incorporates a validated scale of populist attitudes, with the exception of the Comparative Study of Electoral Systems (CSES 2023). However, as the CSES primarily focuses on voting behaviour, its utility for broader analysis of populist attitudes remains limited.

This paper aims to assess and validate the measurement of populist attitudes in Europe. Using data from the European Social Survey Round 10 (2020), a publicly available comparative dataset, we develop and validate multiple populism scales to provide researchers with a reliable tool for analysis across a range of academic disciplines. Grounded in established theoretical frameworks, the study evaluates relevant ESS survey items and operationalises indices that capture core dimensions of populism.

To determine whether populist attitudes are best conceptualised as a unidimensional or multidimensional concept, we conduct Confirmatory Factor Analyses (CFAs). To assess the cross-national comparability of the resulting scales, we implement Measurement Invariance tests using Structural Equation Modelling (SEM). Criterion validity is then examined through the application of Fractional Logit and Logistic Regression models, which test the associations between the constructed indices and a range of socio-demographic characteristics, political attitudes, and support for populist parties. In addition, we compare the ESS-based populist attitudes scales with those derived from the Comparative Study of Electoral Systems (CSES 2023) to evaluate the external validity of the ESS-based measure.

The findings indicate that a robust and reliable measure of individual-level populism can be constructed using data from wave 10 of the European Social Survey. This approach opens up new research opportunities and enables a more comprehensive analysis of the dimensions and consequences of populism. Moreover, the paper advocates an open and replicable methodological approach to the study of political attitudes, offering a potential solution to the replication crisis in the social sciences.

1.1 Populism, populist attitudes, and their sub-dimensions

Populism is often viewed as a macro-level phenomenon, influencing both political parties and social groups. At the micro level, the term ‘populist attitudes’ refers to individuals’ adherence to populist ideas. The prevailing conceptualisation of populist attitudes derives

from the ideational approach to populism (Hawkins & Kaltwasser, 2017; Mudde 2004), which frames populism as a thin ideology that divides society into two antagonistic groups: the virtuous, culturally homogeneous people, who demand greater participation in governance, and a corrupt elite, which excludes the citizenry from power while protecting its own interests. At the individual level, populist attitudes are characterised by resentment towards established political elites and a demand for direct involvement in decision-making. Schimpf and colleagues (2023) note that populist attitudes are a relatively stable aspect of individual political preferences, though their stability over time may vary across individuals.

Populist attitudes are most effectively conceptualised as a multifaceted construct, encompassing several interrelated sub-dimensions that, while central to populism, are not exclusive to it. Among these, *Anti-Elitism* and *People-Centrism* are the most consistently identified in populist attitudes scales (Akkerman et al. 2014; Castanho Silva et al. 2018; Elchardus and Spruyt 2016; Gidengil and Stolle 2022; Hawkins et al. 2012; Schulz et al. 2018) and are also included in other approaches to populism (e.g., Katsambekis 2022). Anti-Elitism denotes feelings of resentment and distrust towards social and political elites in representative democracies (Urbinati 2019). In contrast, People-Centrism reflects the belief that ‘the people’ should play a central role in decision-making processes, with their collective will prevailing over that of the elites.

As wave 10 of the ESS primarily includes items addressing Anti-Elitism and People-Centrism, this study focuses exclusively on these two subdimensions. While acknowledging that other elements, such as a Manichean worldview and Anti-Pluralism, also contribute to the assessment of populist attitudes, they fall beyond the scope of this analysis.

2 How to operationalise populist attitudes?

There is still no consensus regarding the best practices for operationalising populist attitudes scales. Operationalisation is not merely a mathematical process for constructing variables; it is fundamentally tied to the precise concept researchers seek to investigate. Wuttke et al. (2020) have made a significant contribution to this debate by distinguishing between two primary approaches to constructing indices for measuring latent variables: compensatory and non-compensatory.

The *Bollen* compensatory approach (Bollen & Richard, 1991) involves calculating the mean of the items, thereby allowing lower values in one dimension to be offset by higher values in another. This method has been widely adopted in existing populist attitudes scales (Akkerman et al. 2014; Elchardus and Spruyt 2016; Hawkins et al. 2012). In contrast, non-compensatory approaches, as proposed by Goertz (2006) and Sartori (1984), assert that concepts are composed of distinct dimensions that cannot substitute for one another. Sartori’s approach treats concepts as dichotomous properties, requiring a specific threshold for classification. For instance, an individual may be classified as populist if their scores exceed the 75th percentile of the population across all dimensions. Goertz (2006) builds upon Sartori’s dichotomous approach by integrating continuous variables. A straightforward method under this approach involves taking the minimum value across all dimensions to represent the overall concept, rather than summing the constituent values (Wuttke et al. 2020). The non-compensatory approach thus maintains that the presence of Anti-Elitism

or People-Centrism alone is insufficient to define populism; both subdimensions must be simultaneously present.¹

As this study does not seek to determine which theoretical approach is most appropriate, the analysis incorporates all three types of scales - *Bollen*, *Sartori*, and *Goertz* - allowing researchers to identify the approach best suited to their research questions and objectives.

3 Data and methods

The ESS is widely used in sociological research, as it facilitates cross-national comparisons across European countries. Since 2002, the ESS provided new data biennially, supporting repeated cross-sectional analysis. However, the variables required for a robust theoretical validation of populist attitudes are only available in Wave 10, covering the period 2020–2022. Consequently, the analysis will focus exclusively on this wave.

3.1 Variables

As discussed in the theoretical section, the operationalisation of populist attitudes relies on two sub-dimensions: Anti-Elitism and People-Centrism. The selected variables reflect these concepts, with the wording and scale ranges outlined in Table 1, and their comparison with other established scales presented in Table 2.

Concerning Anti-Elitism, three variables from the dataset are of particular relevance. The first variable is trust in politicians, which, although not commonly included in established populist attitudes scales, captures the perceived distance between the elite and the people, a core aspect of Anti-Elitism (Geurkink et al. 2020). While items such as “Politicians talk too much and take too little action” focus on the behaviour of politicians rather than trust

Table 1 Operationalisation of populist subdimension in the European social survey

Populist Attitudes Subdimensions	Range
Anti-Elitism	
How much do you trust politicians?	0 (High) – 10 (Low)
How much would you say the political system in [country] allows people like you to have a say in what the government does?	1 (A great deal) – 5 (Not at all)
How much would you say that the political system in [country] allows people like you to have an influence on politics?	1 (A great deal) – 5 (Not at all)
People-Centrism	
How important do you think it is for democracy in general that citizens have the final say on the most important political issues by voting on them directly in referendums?	0 (Not at all important) – 10 (Extremely important)
How important do you think it is for democracy in general that the views of ordinary people prevail over the views of the political elite?	0 (Not at all important) – 10 (Extremely important)
How important do you think it is for democracy in general that the will of the people cannot be stopped?	0 (Not at all important) – 10 (Extremely important)

Note: European Social Survey Round 10 Data (2020)

¹ For a comprehensive discussion of these approaches, see Wuttke et al. (2020).

Table 2 Comparison of the ESS items with the items included in existing populist attitudes scales

ESS item	Similar Items in Populist Attitudes Scales	Original Dimension	Authors
How much do you trust politicians?	Quite a few of the people running the government are crooked.	Anti-Elitism	Castanho Silva et al. 2018
	Elected officials talk too much and take too little action.	Populism (unidimensional scale)	Akkerman et al. 2014
	Elected officials would help the country more if they would stop talking and just take action on important problems.	Populism	Hawkins et al. 2012
	Politicians talk too much and take too little action.	Anti-Elitism	Schulz et al. 2018
How much would you say that the political system in [country] allows people like you to have a say in what the government does?	People like me have no influence on what the government does	Anti-Elitism	Schulz et al. 2018
How much would you say that the political system in [country] allows people like you to have an influence in politics?			
How important do you think it is for democracy in general that citizens have the final say on the most important political issues by voting on them directly in referendums?	The people should have the final say on the most important political issues by voting on them directly in referendums.	People-Centrism	Schulz et al. 2018
How important do you think it is for democracy in general that the views of ordinary people prevail over the views of the political elite?	The people, not the politicians, should make the most important policy decisions.	Populism (unidimensional scale)	Akkerman et al. 2014 ; Hawkins et al. 2012 ; Schulz et al. 2018
	The opinion of ordinary people is worth more than that of experts and politicians	People-Centrism	Elchardus and Spruyt 2016
How important do you think it is for democracy in general that the will of the people cannot be stopped?	The will of the people should be the highest principle in this country's politics.	People-Centrism	Castanho Silva et al. 2018

per se, this item aligns conceptually with the underlying concept of trust by reflecting public disillusionment with political elites. Given the conceptual overlap, the inclusion of trust in politicians resonates theoretically with existing scales and the theoretical understanding of Anti-Elitism.

The second variable measures perceived influence on the country's government, reflecting the extent to which respondents believe the political system allows them a voice in government decision-making processes. This aligns with other populist attitudes scales (e.g., Schulz et al. [2018](#)), which often emphasise citizens' perceived exclusion from political processes, as reported in Table 2. Similarly, the third variable gauges the perceived influence of ordinary citizens on politics, providing insights into respondents' views of their agency within the political system. For the last two variables, it could be argued that a lack

of perceived influence on politics or government may not necessarily indicate anti-elitist sentiments. Respondents may view such exclusion as appropriate, believing political decision-making should rightly be the domain of elected officials and professional politicians. Nevertheless, these variables together remain effective measures of Anti-Elitism for several reasons. A key aspect of Anti-Elitism is the belief that political elites are detached from the voices and needs of ordinary people. Respondents who perceive themselves as excluded from political influence are likely to attribute this to elite dominance over decision-making processes. Furthermore, the phrasing of these items, particularly the use of “people like you”, encourages respondents to identify with “the people.” Responses indicating a lack of influence are then likely to implicitly critique the political system. Finally, similar items are included in the Anti-Elitism dimension in previous research, such as Schulz et al. (2018), underscoring their validity.

For People-Centrism, three variables from Wave 10 of the ESS effectively capture this concept. These variables are part of a broader battery of questions on democracy. The first measures support for direct democracy, a hallmark of populism (Schulz et al. 2018), by assessing respondents’ views on the extent to which it is important for democracy that citizens have the final say on major political matters through referenda. The second variable evaluates the perceived importance of ensuring that the views of ordinary people prevail over those of the political elite, a widely used indicator of People-Centrism and populist attitudes (e.g., Akkerman et al. 2014). The third variable measures the perceived importance for democracy that the will of the general population is not stopped, another common indicator of populist attitudes (e.g., Castanho Silva et al. 2018).

The ESS provides symmetrical questions for each selected variable related to People-Centrism. Specifically, respondents are first asked to express their opinion on the *importance* of these democratic principles (the type of item included in our analysis), and then to *evaluate* the extent to which these principles are actually upheld in their country. We opted for *importance* items, as variables used in the construction of populist attitude scales typically assess citizens’ opinions rather than their perceptions.

3.2 Analytical strategy

This study has four main goals. First, to determine whether the selected variables capture distinct subdimensions of populism. Second, to assess whether a potential bidimensional structure is consistently conceived across countries, allowing for meaningful cross-national comparison. Third, to construct scales using the three abovementioned approaches (Bollen, Goertz, Sartori) and evaluate the differences. Fourth, to establish criterion validity of these scales.

Accordingly, the analytical strategy is organised into four stages. First, Confirmatory Factor Analysis (CFA) will be conducted to evaluate the empirical validity of a theoretically grounded two-dimensional construct of populist attitudes within each country, and to compare this with a unidimensional alternative. Second, Measurement Invariance Analysis, implemented through Structural Equation Modelling (SEM) will assess the cross-national comparability of the two-dimensional structure by testing three levels of equivalence: configural (equal factor structure), metric (equal factor loadings), and scalar (equal intercepts) (Ariely and Davidov 2012; Leitgöb et al. 2023; Meitinger et al. 2020). Third, descriptive statistics and correlation analyses will be used to explore the relationships among scales con-

structured using the three different approaches. Fourth, regression models will be employed to assess the criterion validity of these scales by examining their associations with socio-demographic characteristics, political attitudes, and electoral behaviour.²

When populist attitudes will be treated as the dependent variable – that is, when testing their association with socio-demographic and political attitudes – Fractional Logit regression models will be employed (Papke and Wooldridge 1996). Unlike linear regression models, which assumes a continuous and unbounded outcome and may yield inadmissible predicted values, the Fractional Logit regression model will ensure that all predictions lie within the $[0, 1]$ interval, reflecting the bounded nature of the dependent variable. To satisfy the model's assumptions, the populist attitudes index will be linearly rescaled by subtracting its minimum observed value and dividing by the observed range, thereby normalising it to the unit interval.

When populist attitudes will serve as the independent variable – specifically, in analyses of their relationship with electoral behaviour – Logistic Regression models will be employed, as the dependent variable will be dichotomous and indicate support for populist parties. Party classification will be based on the PopuList dataset (Rooduijn et al. 2023), integrated with party identifiers from the ParlGov dataset (Döring and Manow 2024).

Fractional Logit and Logistic Regression models are preferred over simple correlation analysis, as they will allow for more rigorous and robust analyses. In particular, they will allow for the inclusion of categorical variables, cluster-robust standard errors, country fixed effects, and a binary indicator distinguishing Eastern and Western European countries, thereby accounting for national and regional heterogeneity.

Finally, to further assess the robustness of the findings, a comparative analysis will be conducted using data from CSES Module 5 (2023), which includes a validated measure of populist attitudes (CSES 2023; Hobolt et al. 2016). First, the distribution of populist attitude scales constructed from the ESS and the CSES will be compared. Then, where comparable variables are available, the main regression models will be replicated using the CSES data. This benchmarking exercise will allow for the validation of the proposed measure against an established standard and will help determine whether the observed relationships in the ESS data hold across different survey contexts.

Through these steps, this study aims to provide a comprehensive assessment of the cross-country comparability and validity of various operationalisations of populist attitudes in Europe, underpinned by rigorous statistical methods and a sound theoretical grounding. The analytical sample consists of respondents aged 18 and older. Due to the low number of missing values in the variables measuring populist attitudes (ranging from 1 to 4%), listwise deletion was applied. The final sample size comprises 53,521 observations,³ and descriptive statistics of the variables included in the analysis are reported in Appendix A.

² Further details on these variables are provided in Appendix A, together with descriptive statistics.

³ Appendix B details the sample sizes for the thirty-one countries included in the analysis.

4 Analysis

4.1 Two-Dimensional vs. One-Dimensional structure

As outlined, the CFA aims to evaluate the validity of a two-dimensional structure of populist attitudes in comparison to a one-dimensional alternative. Model validity is assessed using both absolute values of Goodness-of-Fit and Badness-of-Fit indicators, as well as the differences in these scores between the two models.⁴ Fig. 1 presents a graphical representation of the two-dimensional and one-dimensional structures, facilitating a visual understanding of the alternative models.

The global fit indices for the unidimensional structure (Panel B of Fig. 1), as reported in Table 3, consistently exceed the thresholds for acceptable fit, indicating poor model performance. Conversely, the two-dimensional structure (Panel A of Fig. 1) demonstrates a superior fit with all tests falling within acceptable ranges and reliable factor loadings (Appendix C). These findings support the validity of a two-dimensional conceptualisation of populist attitudes, incorporating three variables for Anti-Elitism and three for People-Centrism, across all countries.⁵

To further assess the applicability of the two-dimensional model, we conducted separate analyses for each country. The results, presented in Appendix C, confirm the reliability of this model across national contexts. These findings provide empirical support for our theoretical conceptualisation of populist attitudes, reinforcing the notion that they comprise distinct and analytically separable dimensions that should not be conflated.

4.2 Assessing comparability across countries

The assessment of comparability across countries relies on tests of measurement invariance, which evaluate whether a construct retains the same meaning across different groups (Chen 2007; Leitgöb et al. 2023; Meitinger et al. 2020). Invariance can be assessed at different levels. *Configural invariance* indicates that the same items are associated with the same factors in each group, even if factor loadings differ. This suggests that the patterns derived from

⁴ A common measure of the Goodness-of-Fit of a model is chi-squared. Nevertheless, more appropriate measures have been suggested, as 'chi-square tests are sensitive to sample size and the normality assumption, and thus a trivial discrepancy may lead to the rejection of a model' (Chen, 2007, p. 465). The Comparative Fit Index (CFI) is an indicator of the goodness of the model, is not sensitive to sample numerosity but penalises for model complexity (Bentler, 1990). It represents a comparison of the model with a null model. Theoretically, it ranges from 0 to 1, and its usual cut-off point criterion is ≥ 0.95 . The Root Mean Standard Error of Approximation (RMSEA) is an indicator of the badness of the model, is sensitive to small sample numerosity and penalises model complexity (Steiger, 2016). It measures the discrepancy of the model to a saturated model. Its common cut-off point criterion is ≤ 0.05 . The Standardised Root Mean Square Residual (SRMR) is an indicator of the badness of the model, is sensitive to sample size but does not penalise for model complexity. It captures the discrepancy due to overall error. Its common cut-off point criterion is < 0.08 .

⁵ A second-order model was also conducted, modelling Populist Attitudes as a higher-order latent variable. Due to the limited number of first-order latent variables which can hinder convergence in higher-order models, we estimated the model by fixing the factor loading of the Anti-Elitism dimension to 1. This specification further reinforces the robustness of our conceptual framework, as it shows good fit. Moreover, Anti-Elitism appears to account for more variance in populist attitudes than People-Centrism. However, given the theoretical distinctiveness of the two dimensions and the non-compensatory logic underlying Goertzian and Sartorian measurement, we rely on the two-dimensional model to compute the two dimensions and construct the final index.

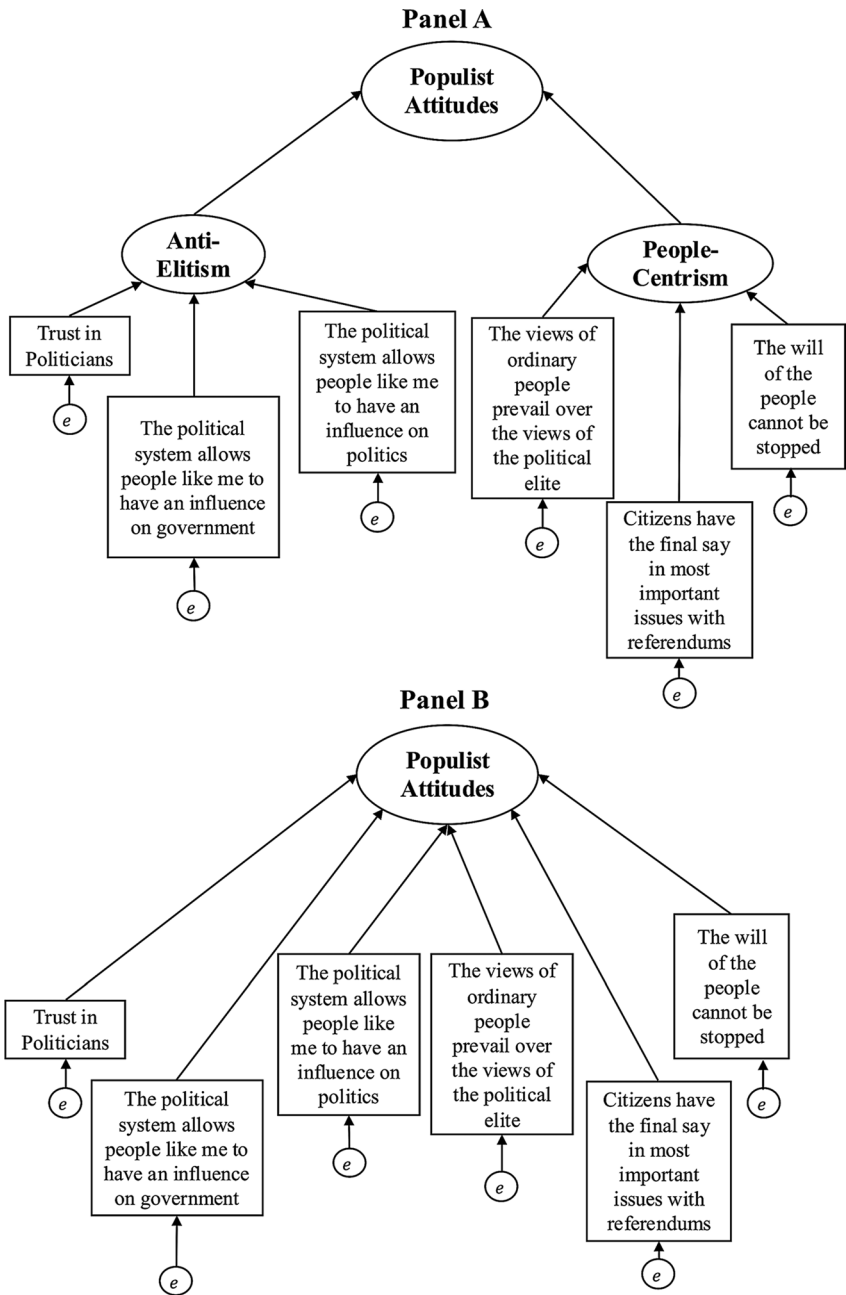


Fig. 1 Two-dimensional vs. one-dimensional structure

Table 3 Global Goodness- and Badness-of-Fit indices for the whole sample in the analysis of one- and two-dimensions structures

	CFI	SRMR	RMSEA
<i>One dimension</i>	0.588	0.176	0.270
<i>Two dimensions</i>	0.995*	0.022*	0.033*

Note: European Social Survey Round 10 Data (2020). CFI Comparative Fit Index; RMSEA Root Mean Standard Error of Approximation; SRMR Standardised Root Mean Square Residual. * Good fit (Acock 2013; Chen 2007; Rutkowski and Svetina 2014). $N=53,521$

Table 4 Results of measurement invariance analysis

	χ^2	p -value	CFI	Δ CFI	SRMR	Δ SRMR	RMSEA	Δ RMSEA
<i>Configural Invariance</i>	1378.419	0.000	0.986*		0.032*		0.051	
<i>Metric Invariance</i>	2894.487	0.000	0.969*	-0.017*	0.056*	0.024*	0.063	0.012*
<i>Scalar Invariance</i>	23458.546	0.000	0.719	-0.267	0.195	0.163	0.156	0.105

Note: European Social Survey Round 10 Data (2020). CFI Comparative Fit Index; RMSEA Root Mean Standard Error of Approximation; SRMR Standardised Root Mean Square Residual. *Good fit (Acock 2013; Chen 2007; Rutkowski and Svetina 2014). Δ s are computed from the model where configural invariance is tested. $N=53,521$

factor analyses are consistent across groups, allowing for valid comparisons of estimates. *Metric invariance* extends this by requiring that items exhibit the same structure and factor loadings across groups, ensuring that respondents assign the same meaning to the construct. This allows for valid comparisons of regression coefficients, correlations, and variances. *Scalar invariance*, the most stringent level, ensures not only identical factor loadings, but also consistent intercepts, thereby validating comparisons of latent means across groups are also valid.

Table 4 summarises the scores of the Goodness- and Badness-of-fit indicators of our nested models, which incorporate the subdimensions within the same model to assess whether the two-dimensional construct is comparably conceived across countries. To achieve convergence, the means of both latent variables are fixed at zero (Acock 2013). The same cut-off criteria outlined in the CFA section are applied. In addition, the deterioration of indices is considered as the model progresses from configural to metric and scalar invariance. Chen (2007) proposed relative thresholds to assess non-invariance: for metric invariance, a change in CFI should not exceed 0.010, in SRMR 0.030, and in RMSEA 0.015; for scalar invariance, the respective thresholds are 0.010 for CFI, 0.010 for SRMR, and 0.015 for RMSEA. However, in the case of a large number of groups, as in this analysis, the acceptable relative decline in CFI can be relaxed to 0.020, and in RMSEA to 0.10 for metric invariance (Rutkowski and Svetina 2014), while thresholds for scalar invariance should remain consistent with those suggested by Chen (2007).

Results for configural invariance indicated that both CFI and SRMR fall within acceptable thresholds. Although the RMSEA slightly exceeds the recommended limit, it remains within the range of a 'reasonably close fit' (Acock 2013, p. 26). Configural equivalence is thus established, affirming that the basic factor structure holds across countries.

Metric invariance tests also show good model fit. The CFI remains within acceptable limits, with a decrease of -0.017 compared to the configural model. Similarly, RMSEA values remain consistent. Although SRMR shows a slight deterioration, the relative decrease remains within the acceptable threshold. These results indicate that metric invariance is

present, confirming that the structure and factor loadings of the items are equivalent across countries, allowing for valid comparisons of regression coefficients, variances, and correlations. Conversely, scalar invariance is not established, as all fit indicators show significant declines beyond acceptable thresholds. This suggests that while the construct's measurement unit is consistent across groups, the intercepts differ, preventing valid comparisons of latent means.

In summary, the Measurement Invariance analysis confirms that individuals across the included countries consistently ascribe the same meaning to both subdimensions of populism and can reliably differentiate between them. This validation supports cross-country comparisons of regression and correlation coefficients, aligning with the intended objectives of this paper.

4.3 Development of populist attitudes scales

The construction of populist attitudes scales follows a systematic approach. As a preliminary step, individual scores for each respondent are calculated on both sub-dimensions by predicting factor scores derived from the confirmatory factor analysis (CFA) conducted across all countries, given that metric equivalence was achieved. These scores serve as the basis for operationalising populist attitudes using the Bollen, Goertz, and Sartori approaches (Wuttke et al. 2020).

The Bollen scale, which does not account for the non-compensatory nature of populist attitudes, computes the mean of the two sub-dimensions for each respondent. The Bollen score is calculated as the average of the Anti-Elitism and People-Centrism sub-dimensions, as outlined in Eq. 1.

$$Bollen := \left(\sum_{i=1}^n Subdimension \right) / n \quad (1)$$

The Goertz scale, on the other hand, conceptualises populist attitudes as non-compensatory while maintaining a continuous operationalisation. In this approach, the minimum value of the two sub-dimensions is taken as the respondent's overall score, as indicated in Eq. 2.

$$Goertz := \min |Subdimension_1, \dots, Subdimension_i| \quad (2)$$

The Sartori scale takes a non-compensatory, binary approach to the operationalisation of populist attitudes. Respondents are classified as either populist or non-populist based on whether their scores exceed a predefined threshold in both dimensions, as reported in Eq. 3. Following Wuttke and colleagues (2020), the threshold is set at the 75th percentile of each country's distribution for both sub-dimensions. This country-specific threshold accounts for contextual variations across nations. A respondent must simultaneously exceed this threshold in both dimensions to be classified as populist.

$$Sartori := \begin{cases} 1 & \text{if } Subdimension_1, \dots, Subdimension_n > Threshold; \\ 0 & \text{else} \end{cases} \quad (3)$$

Figure 2 presents the correlation matrix between the Anti-Elitism and People-Centrism sub-dimensions and the final populism scores, alongside univariate descriptive graphs and bivariate relationships. The results indicate a high correlation between the Goertz and Bollen scores, suggesting similar outcomes despite their differing theoretical foundations.

Importantly, the relatively low correlation between the Anti-Elitism and People-Centrism sub-dimensions reinforces the validity of their theoretical distinction, as established by the CFA. Overall, the data show a strong alignment between the sub-dimensions and the populism scores. Furthermore, individuals classified as populists using the Sartori method consistently fall within the highest quartile of scores for both sub-dimensions, providing additional validation for the operationalisation of the scales.

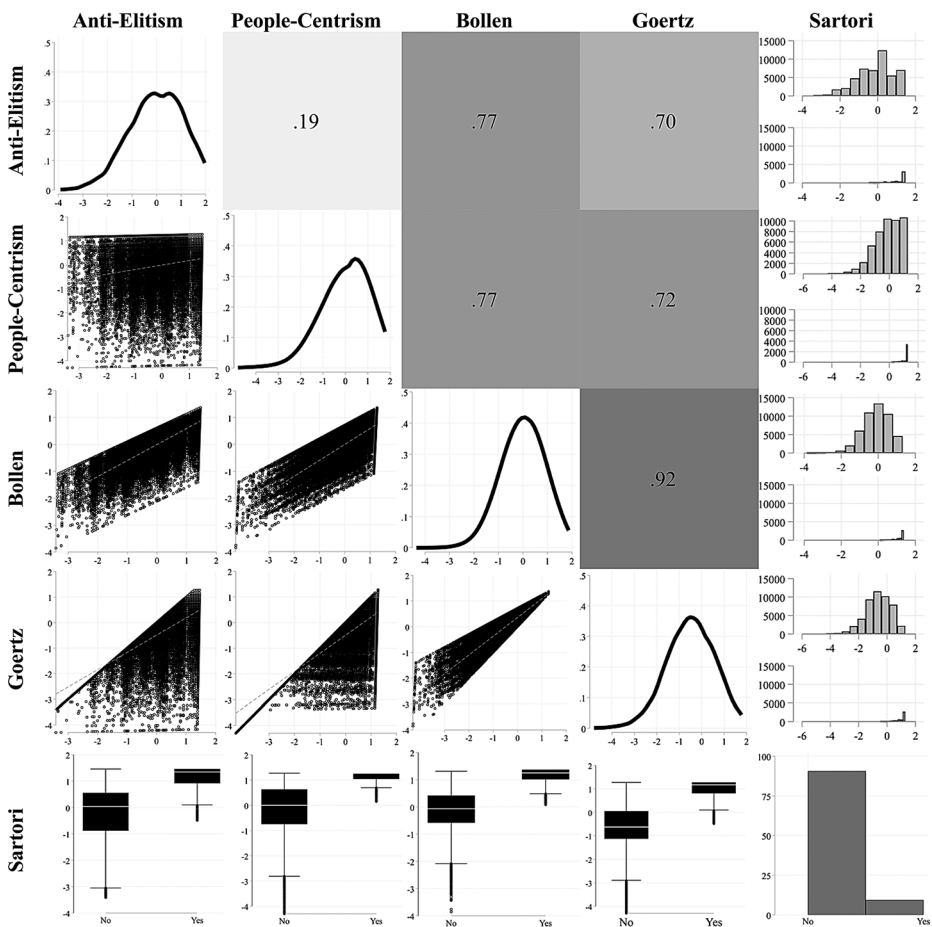


Fig. 2 Distributions and correlations of populist subdimensions and populist attitudes scales. *Note:* European Social Survey Round 10 Data (2020). Univariate distributions with kernel epanechnikov and bandwidth 0.5. $N = 53,521$. Numbers represent correlation coefficients

4.4 Criterion validity

The final stage of our analytical strategy examines the relationship between populist attitudes scales and individual socio-demographic characteristics, political attitudes, and electoral behaviour. Figure 3 presents the results of Fractional Logistic Regression models for each scale of Populist Attitudes. The analysis includes key socio-demographic variables, including social class, level of education, age, and gender, which are frequently included in studies on populist attitudes (Gidengil and Stolle 2022). Consistent with prior research, individuals from lower social classes and those with lower education levels tend to exhibit stronger populist attitudes, and they are commonly characterised as the ‘losers of globalisation’ (Kriesi et al. 2006, 2008, 2012). This group experiences heightened economic and cultural insecurity, which contributes to their populist leanings. The influence of age and gender, however, remains less clear, as previous findings have been mixed (Ivaldi 2021).

Bivariate regression analyses were conducted for each independent variable, to assess the direction and statistical significance of these relationships. The results indicate that individuals from lower social classes consistently score higher on populist attitudes compared to higher social classes across all scales. Similarly, lower levels of education are associated with higher populist attitudes. Age is positively associated with all scales. Gender differences emerge in the Bollen and Goertz scales, where women tend to score higher on populist attitudes than men. However, the Sartori scale does not indicate statistically significant gender differences. Overall, the findings confirm that all scales consistently identify stronger populist attitudes among individuals from lower social classes and those with lower educational attainment, aligning with established literature.

The integration-demarcation cleavage theory (Kriesi et al. 2006, 2008, 2012) provides a useful theoretical lens to interpret these findings, positing that the ‘losers of globalisation’ – those negatively affected by the increasing influence of supranational institutions at the expense of nation-states – are more likely to exhibit stronger populist attitudes. To explore these theoretical expectations empirically, additional models incorporate variables mea-

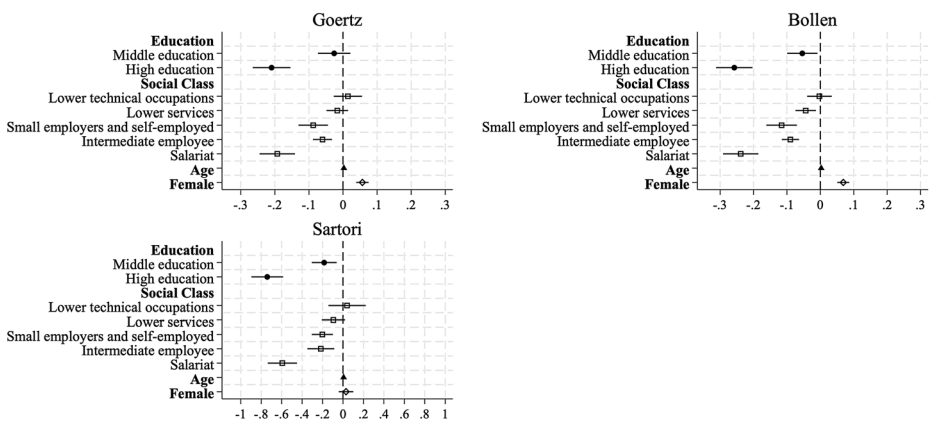


Fig. 3 Populist attitudes scales as a function of socio-demographic characteristics. *Note:* European Social Survey Round 10 Data (2020). Fractional Logit Regression models when Goertz and Bollen are considered. Logistic Regressions models when Sartori is analysed, with coefficients expressed in odds ratios. Results reported in Appendix D. All models include cluster-robust standard error at the country level and country fixed effects. $N=47,800$

asuring political interest, attitudes towards immigration, support for European integration, and endorsement of income redistribution. Figure 4 illustrates the bivariate relationships between the populist attitude scales and these political orientations, employing Fractional Logit and Logistic Regression models.

The results show consistent patterns that align with the integration-demarcation framework. Individuals with a higher score in the populist attitudes scales exhibit lower political interest, stronger anti-immigration sentiments, reduced support for European integration, and greater endorsement of income redistribution. These associations reveal how populist attitudes capture the broader institutional distrust and political dissatisfaction characteristic of those who feel marginalised by globalisation processes, thereby validating the theoretical expectations of the integration-demarcation cleavage.

Lastly, the analysis explores the relationship between populist attitudes and support for populist parties. Prior research has shown that individuals with higher levels of populist attitudes are more likely to vote for such parties (Akkerman et al. 2014). Table 5 displays the results of Logit models in which support for populist parties serves as the dependent variable, and the scales of populist attitudes are included as independent variables. Overall, the results indicate a consistent positive association between populist attitudes and support for populist parties across all three measures, in line with previous findings. Specifically, a one-unit increase in the Goertz Populist Attitudes Scale is associated with a 3.71% point increase in the predicted probability of voting for a populist party. Similarly, a one-unit increase in the Bollen Populist Attitudes Scale is associated with a 5.72% point increase in the likelihood of populist voting. Individuals classified as populist by the Sartori Populist Scale, that is, those scoring at or above the 75th percentile on both sub-dimensions, are 9.84% points more likely to support a populist party than their non-populist counterparts. The models control for regional variation (Western vs. Eastern Europe) and incorporate country fixed effects to account for unobserved national-level heterogeneity.

As a robustness check, additional regression models were estimated using alternative thresholds for the Sartori scale (median and mean instead of the 75th percentile), as well as

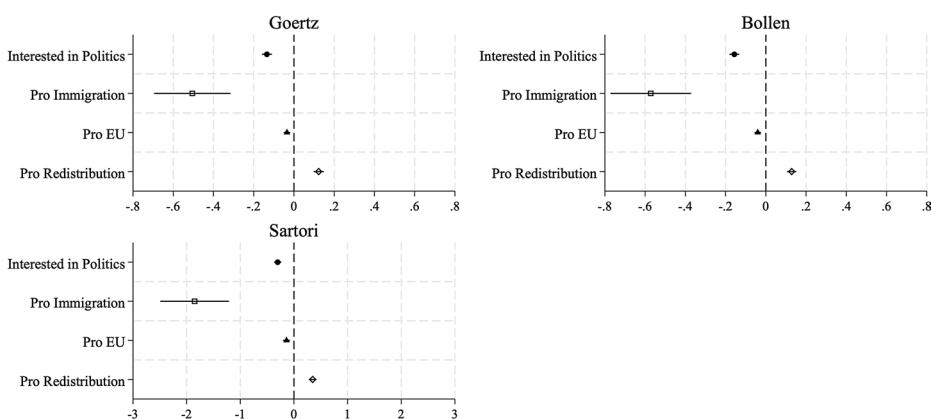


Fig. 4 Populist attitudes scales as a function of political attitudes. *Note:* European Social Survey Round 10 Data (2020). Fractional Logit Regression models when Goertz and Bollen Index are considered, Logistic Regression models when Sartori is analysed, with coefficients expressed in odds ratios. Results reported in Appendix D. All models include cluster-robust standard error at the country level and country fixed effects. $N=47,800$

Table 5 Populist attitudes scales as predictors of support for populist parties

Variables	(1) Odds Ratios	(2) Odds Ratios	(3) Odds Ratios
Goertz	1.276* (0.134)		
Bollen		1.456** (0.200)	
Sartori (75th percentile)			1.890** (0.430)
Constant	1.935*** (0.074)	1.667*** (0.036)	1.700*** (0.025)
Country Fixed Effects	Yes	Yes	Yes
Dummy East/West	Yes	Yes	Yes
Observations	32,013	32,013	32,013

Note: European Social Survey Round 10 Data (2020). Israel, Montenegro, North Macedonia, and Serbia are excluded as not part of the PopuList (Rooduijn et al. 2023). Standard error in parenthesis. Significance levels: *** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$

alternative estimation techniques, including OLS regressions and Linear Probability Models.⁶ The results are largely consistent with those from the main analysis.

Finally, the populist attitude scales constructed using the ESS data are compared with those derived from validated items in the CSES (Hobolt et al. 2016; CSES 2023). Within the CSES framework, two versions of the populist attitudes index were developed: one based on five items capturing the two dimensions examined in this study - Anti-Elitism and People-Centrism - and an extended version incorporating two additional items relating to support for strong leadership and Manichean worldviews. The comparison was restricted to the Goertz and Bollen indices, given that the Sartori-threshold approach would impose identical cut-off points on both datasets.

As shown in Fig. 5, the distribution of the ESS-based populist attitudes index closely resembles that of the validated CSES scale, in both its full and abbreviated forms. This pattern holds across both aggregation logics: the non-compensatory (Goertz) and the compensatory (Bollen) approaches. Furthermore, bivariate analyses, presented in Appendix H, reveal similar associations with relevant variables, thereby providing additional support for the external validity of the populist attitudes scale constructed from ESS data.

5 Discussion and conclusions

The growing prominence of populism in European democracies has prompted extensive academic debate, with scholars divided over its implications for democratic processes (Laclau 2005; Kaltwasser 2012; Taggart 2002; Urbinati 2019). This paper makes a significant contribution to the study of populism by refining the methodological tools for assessing populist attitudes at the individual level. Building on recent advancements in populist attitudes scale construction (Wuttke et al. 2020), the research develops and validates measurement scales based on the two core subdimensions of populism: Anti-Elitism and People-Centrism. By employing data from the European Social Survey Round 10 (2020), this research has pro-

⁶ The full set of robustness models can be found in Appendix E and F.

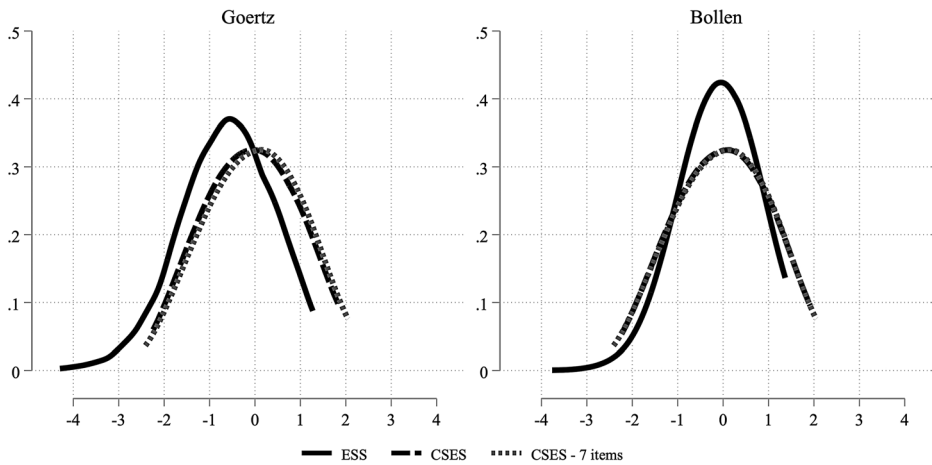


Fig. 5 Distribution of populist attitudes index in ESS and CSES. *Note:* European Social Survey Round 10 Data (2020), CSES (2023). The analysis includes only countries present in both datasets. See Appendix G for country-level comparison

vided a robust framework for measuring populist attitudes across European democracies, allowing for cross-national comparison, and enhancing our understanding of how populism manifests across different contexts and social groups. Our study significantly extends the geographical and methodological scope of populism measurement research. While most studies in the field have been conducted in specific national contexts with limited samples, our work provides a comprehensive validation across 31 European countries using standardised survey data.

The findings provide robust empirical evidence supporting three key conclusions. First, they confirm the conceptual distinction between Anti-Elitism and People-Centrism as independent constructs. Second, they establish the cross-country comparability of the proposed measures, ensuring their applicability across diverse national contexts. Third, they validate the criterion validity of these scales, providing a reliable framework for examining the broader implications of populist attitudes for political behaviour and democratic processes.

This study offers a validated tool for analysing populism at the individual level, facilitating a deeper understanding of the phenomenon. Our approach extends beyond existing research in the field, which has predominantly focused on single European countries. Additionally, it opens new avenues for comparative research, enabling scholars to explore how populist attitudes manifest across different European countries and social groups. The findings corroborate the feasibility of using the European Social Survey to derive valid and reliable measures of populist attitudes. Specifically, populist attitudes as captured in ESS Round 10 emerge as a two-dimensional construct that is consistent and comparable across countries. Additionally, these scales exhibit anticipated correlations with other relevant factors. In line with globalisation theory (Kriesi et al. 2006, 2008, 2012), which associates populist attitudes with the ‘losers of globalisation’ owing to the erosion of material and cultural securities, our analysis reveals that individuals from lower social strata and with fewer educational qualifications are associated with higher populist attitudes. Furthermore, these attitudes are more pronounced among those who oppose immigration, are critical of European integration, and support income redistribution.

A key limitation of this study is that the relevant survey items are only available in ESS Round 10, limiting the scope for analysis over time. It is our hope that by validating and highlighting the importance of this scale, future rounds of the ESS will include these items, recognising their crucial role in understanding democratic dynamics and political attitudes.

Given the continued influence of populism in European democracies, this research is both timely and relevant. By providing empirical evidence and methodological advancements, it enhances the ability to analyse the complexities of populism. The validated scales developed in this paper will assist both scholars and policymakers in gaining a deeper understanding of the factors driving populist sentiments and their effects on political behaviour and engagement. While populism poses potential challenges to democratic institutions, it may also foster greater political participation by amplifying the voices of individuals who feel politically marginalised. By offering a rigorous framework for measuring these attitudes, this study lays a crucial foundation for future research on the role of populism in contemporary politics.

Supplementary Information The online version contains supplementary material available at <https://doi.org/10.1007/s11135-025-02301-9>.

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Data availability Data is available in open access upon registration on the website of the European Social Survey (<https://www.europeansocialsurvey.org/data-portal/>) and the Comparative Study of Electoral System (<https://cses.org/>). Replication files available here: <https://doi.org/10.17605/OSF.IO/U FK85>.

Declarations

Competing interests The authors have no relevant financial or non-financial interests to disclose.

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