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POLITICAL PARTICIPATION: A LATENT VARIABLE APPROACH TESTING MEASUREMENT EQUIVALENCE OF POLITICAL PARTICIPATION USING ESS DATA†

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Abstract

Theoretical definitions refer to political participation as multi-faceted. While some authors introduce up to twenty different kinds of behavior to measure political action, political participation is measured in surveys like ESS, WVS or EVS by a limited number of activities. Most of the researchers of political participation use composite scores for measuring political participation. The main aim of this research was to test (i) "whether political participation can be measured as a latent construct?" and (ii) "is this construct measurement equivalent across different countries or different time points?" Using the 5th round of ESS data and the alignment procedure, I measured cross-country comparability of political participation as a bi-dimensional construct with 2 latent factors: institutional and non-institutional participation. Results showed that for the vast majority of ESS countries, the data reflect the theoretical construct of political participation. Furthermore, I compared between the time points within each country and I found that, with few exceptions, the ESS countries show temporal invariance regarding the political participation construct. Both results suggest that political participation can be treated as latent variable and allow us further cross-cultural comparisons.

Keywords: Political Participation, Institutionalized Political Action, Non-Institutionalized Protest, Measurement Equivalence

1. Introduction

Review of the literature and research papers on political participation reveals that there is a misfit between theoretical definition of political participation and the way it measured in surveys. While theoretical definitions refer to political participation as multi-faceted phenomenon (see, for example, Norris, 2002; Teorell *et al.* 2007) and while some authors introduce up to twenty different kinds of behavior to measure political action (see, for example, Stolle *et al.* 2005; Soper and Trentmann, 2008), political participation is measured in surveys like ESS, WVS or EVS by a limited number of activities.

This misfit between theoretical definition of political participation and its measurement instruments raises a question of content validity of these instruments. It becomes more sever in light of the fact that in the vast majority of studies, political participation is measured as an observed variable – by computing a composite score of different kinds of political activities for each subject in the sample. An underlying assumption of using composite score is that a

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phenomenon of our interest is measured perfectly, with no measurement errors, and it does not seem the case for the political participation.

All these lead to an intriguing: Can we measure political participation as a latent construct or is using composite score the only and the best way to measure political participation? Considering the fact that most of the studies treat political participation as an observed variable, I find it valuable to pay special attention to the question of political participation measurement. Therefore, the current paper is dedicated to the methodological issue of the measurement of political participation.

2. Literature Review

2.1. Political Participation: Why Should It Be Studied?

Political participation can broadly be defined as an "action by ordinary citizens directed towards influencing some political outcomes" (Brady, 1999,p.737). The active involvement of the public in the process of democracy helps to establish and keep legitimacy and trust in the political system. Citizens in any democratically based political system place a lot of value on the right to have the democratic freedom to help decide their own future.

Traditional acts of political participation, such as voting, have been a subject of a long tradition of research (Dahl, 1989; Putnam, 2000; Verba and Nie, 1972). However, in the last decades, electoral participation has indeed been falling (Blais *et al.* 2004; Phelps, 2004; Putnam, 2000). Voter turnout has declined in all Western European countries between 1980 and 2002. The most significant numbers are Portugal with a decline of 15% in its Lower House election, from 78% to 63%, France with 13% (73% to 60%) and Great Britain with 15% again (74% to 59%) (LeDuc, 2003). At the same time, recent research has shown that the level of participation beyond voting has risen over the last decades. Statistical evidences reveal that across Western Europe as a whole the percentage of citizens who have engaged in at least one type of political activity beyond voting has increased from 45% in 1980 to 63% in 1999. Great Britain has witnessed a 15% rise from 66% to 81%, which is the highest score in whole West Europe. Similarly, French citizens' participation beyond voting has increased by 21% from 1980 to 1999 (52% to 73%) (Kouki and Romanos, 2011).

These findings show that political participation nowadays is much more than just voting, and in order to understand it, one needs to look far beyond the voting behavior. They also support the idea that political participation is a complex, multidimensional concept (Dalton, 2002; Norris, 2002).

2.2. Political Participation: Evolution of the Concept

Verba and Nie (1972) provided one of the first definitions of political participation. They argued that it refers to "those activities by private citizens that are more or less directly aimed at influencing the selection of governmental personnel and/or the actions they take" (p.2). This definition was too narrow, because it focused only on actions that are targeted toward the government (Milbrath and Goel, 1977). In fact, by that time political participation substantially meant voting, and the activities related to institutionalized politics. Until the end of the 1970s, other forms of political engagement that addressed other issues or targets were considered irrational or infrequent behavior (Gurr, 1970; Rucht, 2007).

Over time, the concept of political participation has evolved from "a relatively straightforward concept" (Barnes and Kaase, 1979) to becoming a multifaceted phenomenon. Accordingly, more and more authors went beyond this narrow definition and added other modes of participation to their analysis. The most common classifications distinguished between conventional and unconventional activities (Barnes and Kaase, 1979), direct and indirect, legitimate and non-legitimate, legal and illegal (Opp *et al.* 1981), aggressive and non-aggressive (Muller, 1982) types of actions. In all these classifications, the first type of action embraced institutionalized modes of participation, such as reading about politics, discussion of politics, contacting officials, work for a party and other activities concerning the electoral process, while the second type dealt with such forms of protest behavior as signing petitions, demonstrations,

boycotts, rent or tax strikes, unofficial industrial strikes, occupations of buildings, blocking of traffic, damage to property, and personal violence (Marsh and Kaase, 1979).

Two major changes in people's political engagement have been recently recorded: 1) the traditional distinction between conventional and unconventional participation is obsolete (Teorell *et al.* 2007), since involvement in what was considered unconventional or elite challenging political actions is now common place in European democracies (Topf, 1995); 2) emerging forms of political participation have been identified, such as political consumerism and the use of new technologies with political purposes (Micheletti *et al.* 2004). Considering the fact that the multidimensionality of political participation is not questioned in the nowadays literature (Norris, 2002) and that the differentiation between conventional and unconventional political participation seems no longer relevant, for the purposes of the current research I will use the terminology of institutionalized and non-institutionalized (or protest) political participation.

2.3. Measuring Political Participation in European Social Survey (ESS)

The multidimensionality of political participation is not questioned in the nowadays literature and as Dalton (2002, p.33) stated, "a person who performs one act from a particular cluster is likely to perform other acts from the same cluster, but not necessarily activities from another cluster". Thus, political engagement includes a wide range of activities that represent different modes of engagement and it is measured by number of questions tapping into various activities. The ESS questionnaire refers to two dimensions of political participation. The institutionalized dimension is measured by the following items: contacting politician, working for political party, working for another organization or association and displaying a campaign badge/sticker. For the purposes of the present research, I used only the first three items. The last item was excluded, because the item does not formulate clearly whether the activity takes place within the formal political system or not. The non-institutionalized dimension is measured by the items: signing petitions, boycotting products, taking part in lawful demonstration (see Appendix Table A1 for the exact question wording). Each item is dichotomous: the subject should mark whether he/she took (or not) part in each type of activity.

A comparison between theoretical definitions of political participation and its measurement instruments raises questions about content validity of the lasts. This question becomes more of the problem in light of the methods by which researchers, who work on the ESS data, construct the political participation variable. This is usually done by summing up a number of times that participant replied "yes" on each item. The higher the score is, the higher the level of subject's participation is (see Dubrow *et al.* 2008; Newton and Giebler, 2008). Using composite scores of items has some serious disadvantages. First, it assumes that there is a perfect fit between theoretical concept and its measurement instrument, and that there are no measurement errors. Second, it ascribes equal weights to different items that are included in index. Third, it leads to attenuation of correlation coefficients (Kline, 2011).

Considering all these, the following question arises: Can we measure political participation as a latent construct? Or, is using a composite score the only and best way to measure political participation? The current research is aimed to reply on these questions. Accordingly, the main goals of the present research are:

1. To test whether the bi-dimensional structure of political participation holds for the European countries.
2. To evaluate cross-national invariance of political participation and to determine its level: lack of invariance, configural, metric or scalar equivalence.
3. To examine the structure of political participation concepts in multi-level framework: what are the constructs of political participation at the individual and at the country level?

3. Data and Methods

3.1. Data

To examine measurement characteristics of political participation, I used data from the 5th round of the ESS (2010). The data are consisted of representative samples from 26 countries with a total number of 50781 respondents. The participating countries were Belgium (N=1704), Bulgaria (N=2434), Switzerland (N=1506), Cyprus (N=1083), Czech Republic (N=2386), Germany (N=3031), Denmark (N=1576), Estonia (N=1793), Spain (N=1885), Finland (N=1878), France (N=1728), United Kingdom (N=2422), Greece (N=2715), Croatia (N=1649), Hungary (N=1561), Ireland (N=2576), Israel (N=2294), Netherlands (N=1829), Norway (N=1548), Poland (N=1751), Portugal (N=2150), Russia (N=2595), Sweden (N=1497), Slovenia (N=1403), Slovakia (N=1856) and Ukraine (N=1931) as seen in Table 1.

Table 1. Political participation rates, by country (%)

			Institutionalized				Non-institutionalized			
Country Code	Country name	N	contplt	wrkprty	wrkorg	**Total**	sgnptit	pbldmn	bctprd	**Total**
2	BE	1704	11.7	4.6	19.6	**36.0**	20.6	6.4	9.2	**36.2**
3	BG	2434	5.3	2.7	1.4	**9.3**	6.4	2.6	3.6	**12.7**
4	CH	1506	15.7	5.8	13.6	**35.1**	31.8	3.9	27.4	**63.0**
5	CY	1083	18.7	4.3	6.4	**29.4**	7.2	4.1	5.4	**16.7**
6	CZ	2386	14.2	2.4	7.5	**24.1**	16.1	4.6	10.2	**30.9**
7	DE	3031	15.4	3.9	25.6	**44.9**	30.2	8.3	27.8	**66.3**
8	DK	1576	17.9	4.1	25.0	**47.0**	29.3	7.7	21.9	**58.9**
9	EE	1793	13.9	3.5	5.9	**23.2**	7.8	2.0	9.1	**18.8**
10	ES	1885	13.5	7.0	17.6	**38.1**	26.2	18.2	11.5	**55.9**
11	FI	1878	20.8	3.4	38.8	**63.0**	27.6	1.4	33.1	**62.0**
12	FR	1728	13.8	3.4	16.1	**33.2**	28.9	17.1	28.8	**74.8**
13	GB	2422	14.8	1.7	6.3	**22.7**	28.1	2.4	19.6	**50.0**
14	GR	2715	8.6	2.9	4.7	**16.2**	5.1	10.3	11.9	**27.3**
15	HR	1649	6.1	3.5	4.8	**14.4**	21.9	7.7	9.8	**39.4**
16	HU	1561	11.9	2.6	6.6	**21.1**	2.8	2.7	6.1	**11.6**
17	IE	2576	13.8	3.0	8.2	**24.9**	14.4	6.5	8.9	**29.8**
18	IL	2294	9.4	2.6	3.5	**15.5**	12.6	7.1	6.5	**26.2**
21	NL	1829	17.3	3.7	23.5	**44.5**	25.9	2.5	10.1	**38.5**
22	NO	1548	22.2	5.9	29.1	**57.1**	36.1	9.6	19.5	**65.3**
23	PL	1751	8.6	2.3	7.1	**18.0**	11.1	2.1	5.1	**18.3**
24	PT	2150	5.0	1.8	4.0	**10.8**	5.8	3.0	2.2	**10.9**
25	RU	2595	8.2	5.5	4.4	**18.1**	6.1	3.7	2.3	**12.0**
26	SE	1497	16.3	3.6	28.3	**48.2**	37.2	4.9	35.6	**77.7**
27	SI	1403	9.1	2.9	1.7	**13.8**	8.6	2.2	5.7	**16.5**
28	SK	1856	9.6	2.0	6.0	**17.6**	20.8	1.9	6.9	**29.6**
30	UA	1931	8.8	3.7	1.4	**13.9**	2.6	3.6	1.1	**7.3**
	Total	**50781**	**11.7**	**4.6**	**19.6**	**36.0**	**17.4**	**5.6**	**12.5**	**35.5**

Notes: contplt: contacted politician or government official last 12 months; wrkprty: worked in political party or action group last 12 months; wrkorg: worked in another organization or association last 12 months; sgnptit: signed petition last 12 months; pbldmn: taken part in lawful public demonstration last 12 months; bctprd: boycotted certain products last 12 months.

The data on Table 1 shows that in Western countries (Switzerland, Germany, Denmark, Spain, France, Great Britain and Sweden) the non-institutionalized forms of political participation are more popular than institutionalized. This confirms the claims about decline in conventional forms of participation that were mentioned in the literature review. However, Scandinavian countries (Finland, Norway) are characterized by high levels of both types of participation and, on the other hand, there are ex-socialist countries which can be described as having low levels of both types of participation. These country differences imply that political participation, as a concept, should be modeled not only on individual, but also on country level.

3.2. Methods

Conducting cross-national analysis requires from the researcher to establish measurement invariance. If there is no invariance or if the invariance is not tested explicitly by the researcher, comparisons of structural relationships or mean levels are problematic, and results are unreliable and biased (Cheung and Rensvold, 2002).

In order to test the dimensionality and the composition of political participation as a latent construct, and its measurement equivalence across European countries, I followed three main steps. First, I tested whether a bi-dimensional model participation (institutionalized and non-institutionalized) of political fits for each country. Second, I performed multiple group confirmatory factor analysis using alignment procedure. Third, I examined the measurement invariance through multiple group confirmatory factor analysis.

Measurement invariance is defined as "whether or not, under different conditions of observing and studying phenomena, measurement operations yield measures of the same attribute" (Horn and McArdle, 1992, p.117). Measurement invariance is important when one applies a theory or an instrument in different countries or at different time-points (Cheung and Rensvold, 2002; Harkness *et al.* 2003). If invariance is not tested, it is problematic to interpret and compare results across groups. The lowest level of invariance is configural invariance. It requires that the items in the measuring construct have the same patterns of factor loadings for each group (Horn and McArdle, 1992). That is, the confirmatory factor analysis should thus confirm that the same items measure construct in different groups. Configural invariance exists if (a) a single model specifying the items that measure each construct fits the data well, (b) all item loadings are substantial and significant, and (c) the correlations between the factors are less than one (Cheung and Rensvold, 2002). A next, higher level, of invariance is metric invariance, which requires that the factor loadings between items and constructs are invariant across groups (Rock *et al.* 1978). A third level of invariance, scalar invariance, is necessary to allow mean comparison of the underlying constructs across groups (Steenkamp and Baumgartner, 1998). In addition, in order to examine the factorial structure of political participation on individual and on country level, I performed multilevel exploratory factor and afterwards, I implemented multilevel confirmatory factor analysis for establishing measurement invariance at the "within" (individual) and "between" (country) level simultaneously.

The following findings section describes the results of the analysis of each of the mentioned above steps.

4. Findings

4.1. Testing Invariance

4.1.1. Single-Country Analyses

I start with 26 separate Confirmatory Factor Analyzes (CFAs) for each country (see Figure 1).

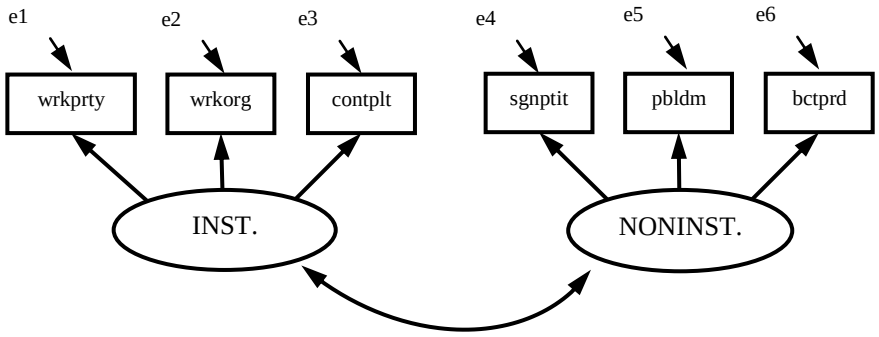

Figure 1. Hypothesized factorial structure of political participation

Byrne (2013) emphasized the importance of conducting single-group analyses prior to multi-group comparisons. Taking into consideration the categorical nature of political participation items, I used MPLUS7.11 software package (Muthen and Muthen, 2012) with weighted least squares means and variance adjusted (WLSMV) estimation.

Table 2 shows the global fit measures of the model with a bi-dimensional structure of political participation: institutionalized (with three indicators: working for political party, working for other organization and contacting politician) and non-institutionalized (with three indicators: signing petition, boycotting products and joining lawful public demonstrations as indicators) forms of participation. The parameters of global fit are used to differentiate between well-fitting and poorly-fitting models (Billiet and McClendon, 2000). When the RMSEA value is smaller than 0.05 and the P close value is larger than 0.5, one can assume the model has a good fit to the data (Browne and Cudeck, 1993). CFI and TLI (value larger than 0.95) provide further indications of an acceptable model fit (Hu and Bentler, 1999).

Table 2. Single country analyses: Global fit measures

Country Code	Country name	$\chi^2_{(7)}$	p	RMSEA	P close	CFI	TLI
2	BE	19.67	0.01	0.03	0.98	0.99	0.98
3	BG	24.08	0.00	0.03	1.00	0.98	0.97
4	CH	21.63	0.01	0.03	0.94	0.99	0.98
5	CY	8.03	0.43	0.00	1.00	1.00	1.00
6	CZ	14.75	0.06	0.02	1.00	1.00	0.99
7	DE	19.20	0.01	0.02	1.00	0.99	0.99
8	DK	25.89	0.00	0.04	0.88	0.97	0.94
9	EE	11.27	0.19	0.02	1.00	1.00	0.99
10	ES	17.63	0.02	0.03	1.00	1.00	0.99
11	FI	22.90	0.00	0.03	0.98	0.97	0.95
12	FR	22.46	0.00	0.03	0.97	0.99	0.98
13	GB	16.88	0.03	0.02	1.00	0.99	0.99
14	GR	50.67	0.00	0.04	0.77	0.99	0.98
15	HR	18.61	0.02	0.03	0.98	0.99	0.99
16	HU	9.08	0.34	0.01	1.00	1.00	1.00
17	IE	14.10	0.08	0.02	1.00	1.00	1.00
18	IL	42.45	0.00	0.04	0.78	0.99	0.97
21	NL	15.17	0.06	0.02	1.00	0.99	0.98
22	NO	7.90	0.44	0.00	1.00	1.00	1.00
23	PL	11.66	0.17	0.02	1.00	1.00	0.99
24	PT	20.67	0.01	0.03	1.00	0.99	0.98
25	RU	28.50	0.00	0.03	0.99	0.98	0.97
26	SE	17.88	0.02	0.03	0.98	0.99	0.97
27	SI	5.93	0.66	0.00	1.00	1.00	1.00
28	SK	18.40	0.02	0.03	0.99	0.99	0.98
30	UA	5.15	0.74	0.00	1.00	1.00	1.00

Notes: BE: Belgium, BG: Bulgaria, CH: Switzerland, CY: Cyprus, CZ: Czech Republic, DE: Germany, DK: Denmark, EE: Estonia, ES: Spain, FI: Finland, FR: France, GB: Great Britain, GR: Greece, HR: Croatia, HU: Hungary, IE: Ireland, IL: Israel, NL: Netherlands, NO: Norway, PL: Poland, PT: Portugal, RU: Russia, SE: Sweden, SI: Slovenia, SK: Slovakia, UA: Ukraine. RMSEA: root mean square error of approximation, P close: probability of close fit, CFI: comparative fit index, TLI: Tucker-Lewis index.

As Table 2 shows, all the single-country models revealed a good fit to the data. For 7 out of 26 countries (Spain, France, Hungary, Portugal, Russia, Slovakia and Ukraine), the correlation coefficients between institutionalized and non-institutionalized participation were higher than .80, suggesting that for these countries the structure of political participation might be uni-dimensional rather bi-dimensional. For these countries I compared between model fits of uni- and bi-dimentional solutions, and for 6 out of 7 of them, the bi-dimensional solution had a better fit. Only for Ukraine both solutions fitted equally well (see Appendix Table A2). According to the results of single-country analysis, we can conclude that the bi-dimensional structure of political participation, with institutionalized and non-institutionalized dimensions, hold for all the 26 countries of interest.

4.1.2. Multi-Group Confirmatory Factor Analysis Using Alignment Optimization Procedure

Working with categorical data imposes some restrictions on the methods of data analysis. For instance, in multiple group factor analysis, if one wants to apply the "bottom-up" strategy and start the analysis from the less restricted (configural invariance), and then move to more restricted models, he or she will need to skip the metric invariance test. That is due to the fact that for the categorical data, the metric invariance model, in which factor loadings are equal between countries and item mean are estimated freely, will not be identified. So basically, in that way it is impossible to establish metric invariance and only configural and then scalar invariance can be tested.

The alignment optimization procedure allows testing both types of invariance (metric and scalar) for the categorical data (Asparouhov and Muthen, 2014). I applied this method in the case of political participation. Results show that all the countries have equal factor loadings for the following items: working for political party, signing petition, taking part in public demonstration and boycotting products. Ireland and Israel were not invariant according to the item of contacting politician, and Russia was not invariant in the item of working for organization or association (see Table 3).

Table 3. Multiple groups CFA using alignment optimization procedure (BG fixed)

	Metric invariance		Scalar invariance	
	Invariant countries	Non-invariant countries	Invariant countries	Non-invariant countries
Institutionalized				
contplt	BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, NL, NO, PL, PT, RU, SE, SI, SK, UA	IE, IL	BE, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IL, NL, NO, PL, PT, RU, SE, SI, SK, UA	BG
wrkprty	BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IL, NL, NO, PL, PT, RU, SE, SI, SK, UA	--	BE, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IL, NL, NO, PL, PT, SE, SI, SK, UA	BG, HR, RU
wrkorg	BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IL, NL, NO, PL, PT, SE, SI, SK, UA	RU	CH, CY, CZ, EE, ES, GB, GR, HR, HU, IE, IL, PL, PT, RU, SK, UA	BE, BG, DE, DK, FI, FR, NL, NO, SE, SI
Non-institutionalized				
sgnptit	BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IL, NL, NO, PL, PT, RU, SE, SI, SK, UA		BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, HR, HU, IE, IL, NL, NO, PL, PT, RU, SE, SI, SK, UA	GR
pbldmn	BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IL, NL, NO, PL, PT, RU, SE, SI, SK, UA		BE, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, HR, HU, IE, IL, NL, NO, PL, PT, RU, SE, SI, SK	BG, GR, UA

bctprd	BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IL, NL, NO, PL, PT, RU, SE, SI, SK, UA	BE, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IL, NL, NO, PL, PT, RU, SE, SI, SK, UA	BG

Notes: contplt: contacted politician or government official; wrkprty: worked in political party or action group; wrkorg: worked in another organization or association; sgnptit: signed petition; pbldmn: taken part in lawful public demonstration; bctprd: boycotted certain products. BE: Belgium, BG: Bulgaria, CH: Switzerland, CY: Cyprus, CZ: Czech Republic, DE: Germany, DK: Denmark, EE: Estonia, ES: Spain, FI: Finland, FR: France, GB: Great Britain, GR: Greece, HR: Croatia, HU: Hungary, IE: Ireland, IL: Israel, NL: Netherlands, NO: Norway, PL: Poland, PT: Portugal, RU: Russia, SE: Sweden, SI: Slovenia, SK: Slovakia, UA: Ukraine.

Based on these results, we can conclude that, with very minor exceptions, the countries of the 5th round of ESS have equal factor loadings with respect to political participation constructs.

Testing scalar invariance through the alignment procedure showed that in contacting politician item Belgium showed non-invariance, in working for political party, Belgium, Croatia and Russia were not invariant, in working for organization, Belgium, Bulgaria, Germany, Denmark, Finland, France, Netherlands, Norway, Sweden and Slovenia revealed non-invariance. In addition, in signing petition Greece was not invariant, in public demonstrations – Bulgaria, Greece and Ukraine and in boycotting products – Bulgaria only. These results imply that there is a partial scalar invariance of the political participation items. This was confirmed at the next step using multiple groups CFA (see Table 4).

Table 4. Comparison between configural, full scalar and partial scalar invariance models

	χ^2	df	p	RMSEA	P close	CFI	TLI	CFI diff	Difftest	χ^2	difftestdf	p
Configural invariance	482.59	208	0	0.03	1.00	0.99	0.99					
Full scalar invariance	1335.87	258	0	0.05	0.99	0.97	0.95	-0.02	678.47	50		0.00
Partial* scalar invariance	553.70	238	0	0.03	1.00	0.99	0.98		71.11	20		0.11

Notes: *wrkorgbctprd estimated freely.

First, I tested configural invariance model and then examined full scalar invariance model. The results showed that the last model is significantly worse indicating that there is no full measurement invariance. Then, I estimated thresholds of working for organization and boycotting products freely, and the results showed that this model is not significantly worse than the configural invariance model, indicating existence of partial scalar invariance. To conclude, due to metric invariance, it will be possible to compare correlation or causal relationships later on, and due to partial scalar invariance, it will be possible to compare between latent means of political participation constructs (institutionalized and non-institutionalized).

4.2. Multilevel Exploratory and Confirmatory Factor Analysis

At the last step of the analysis and in order to examine the factorial structure of political participation on individual and on country level, I performed multilevel exploratory factor and afterwards, I implemented multilevel confirmatory factor analysis for establishing measurement invariance at the "within" (individual) and "between" (country) level simultaneously. Looking at the correlation matrices between political participation items on individual level reveals that the items of institutionalized and non-institutionalized forms of participation correlate with each other, within each construct, more strongly than between constructs, suggesting that there are two distinct forms of political participation, as I already showed in multiple group analysis. However, on the country level, the items are mixing up and do not congregate into two separate constructs, implying that at the country level there might be only one factor instead of two (see Table 5).

Table 5. Correlation matrix of political participation items (individual and country level)

		Individual level (*n*=50781)						Country level (*n*=26)					
		1	2	3	4	5	6	1	2	3	4	5	6
1	contplt	--						--					
2	wrkprty	.63						.45					
3	wrkorg	.52	.63					.80	.54				
4	sgnptit	.40	.43	.43				.62	.39	.80			
5	bctprd	.33	.32	.33	.52			.71	.29	.81	.84		
6	pbldmn	.36	.52	.44	.62	.47	--	.16	.50	.33	.38	.34	
ICC								.05	.02	.23	.20	.19	.11

Notes: contplt: contacted politician or government official; wrkprty: worked in political party or action group; wrkorg: worked in another organization or association; sgnptit: signed petition; pbldmn: taken part in lawful public demonstration; bctprd: boycotted certain products; ICC: intraclass correlation.

This is supported by the results of multilevel exploratory factor analysis that showed that at the country level, uni-dimensional structure of political participation fits as well as bi-dimensional structure (see Table 6).

Table 6. Global model fit indices of multilevel exploratory factor analysis

#B factors	#W factors	χ^2	df	p	RMSEA	PClose	CFI	TLI	$SRMR_W$	$SRMR_B$
1	1	264.30	18	0.00	0.02	1.00	0.97	0.94	0.08	0.09
1	2	13.83	13	0.39	0.00	1.00	1.00	1.00	0.03	0.09
2	1	270.16	13	0.00	0.02	1.00	0.97	0.92	0.08	0.06
2	2	10.39	8	0.24	0.00	1.00	1.00	1.00	0.03	0.06

Notes: #B factors – number of between factors, #W factors – number of within factors. RMSEA - root mean square error of approximation, Pclose - probability of close fit, CFI - comparative fit index, TLI - Tucker-Lewis index, SRMR - standardized root mean square residual.

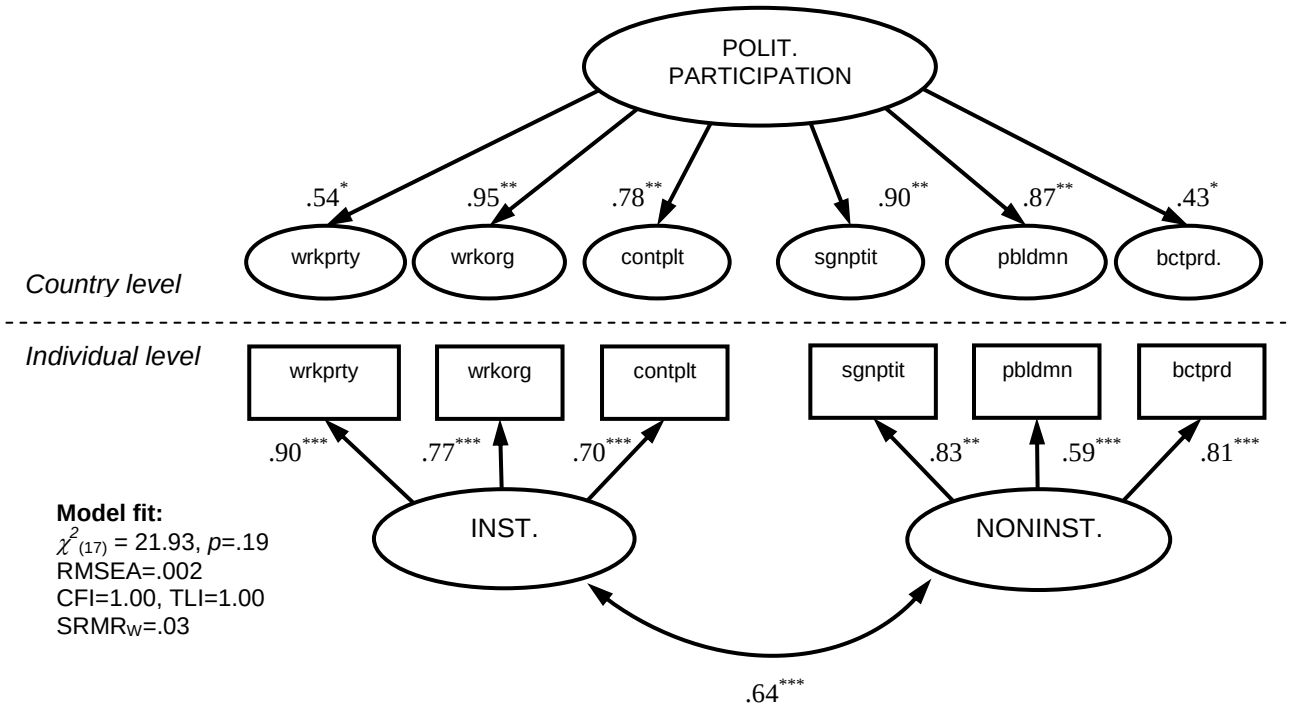

Figure 2. Multilevel CFA of political participation (with standardized factor loadings)

Notes: contplt: contacted politician or government official; wrkprty: worked in political party or action group; wrkorg: worked in another organization or association; sgnptit: signed petition; pbldmn: taken part in lawful public demonstration; bctprd: boycotted certain products.

For the purposes of the present research and taking into account the fact that there are only 26 units of analysis at the country level, I will treat political participation at the "between" (country) level as uni-dimensional construct, while at the "within" level I will distinguish between institutionalized and non-institutionalized participation. Confirmatory factor analysis of the proposed structure revealed a good fit (see Figure 2).

5. Conclusions

The vast majority of studies that deal with the issue of political participation and work with ESS data treat this concept as an observed variable and construct it by summing up the "yes" answers on different political activity items. The main goal of the present paper was to propose a different way of looking at the concept of political participation and treat it as bi-dimensional latent construct. The possibility of doing so was tested using several techniques. First, I fitted a bi-dimensional model of political participation to each country. Results showed that this structure holds for all the countries in the dataset. Second, I tested configural, metric and scalar invariance through alignment optimization procedure and then using multiple group confirmatory factor analysis. Results revealed a partial scalar invariance of political participation construct.

Finally, I tested the factorial structure of political participation on individual and on country level simultaneously using multilevel exploratory and then confirmatory factor analysis. Results showed that on the individual level there are two separate constructs of political participation, while at the country level both structures (uni- and bi-dimensional) are valid.

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Appendix

Table A1. Political participation question wording in 5th round of ESS

ASK ALL

There are different ways of trying to improve things in [country] or help prevent[9] things from going wrong. During the last 12 months, have you done any of the following?

Have you…**READ OUT…**

		Yes	No	(Don't know)
B13	…contacted a politician, government or local government official?	1	2	8
B14	…worked in a political party or action group?	1	2	8
B15	…worked in another organisation or association?	1	2	8
B16	…worn or displayed a campaign badge/sticker?	1	2	8
B17	…signed a petition?	1	2	8
B18	…taken part in a lawful public demonstration?	1	2	8
B19	…boycotted certain products?	1	2	8

Table A2. Global fit measures of uni- and bi-dimensional factorial structures of political participation for countries with high (≥ .80) correlation coefficients between institutionalized and non-institutionalized participation

		Bi-dimensional structure (2 factors)						Uni-dimensional structure (1 factor)					
Country Code	Country name	$\chi^2_{(8)}$	p	RMSEA	P close	CFI	TLI	$\chi^2_{(9)}$	p	RMSEA	P close	CFI	TLI
10	ES	17.63	0.02	0.03	1.00	1.00	0.99	44.02	0.00	0.05	0.69	0.99	0.98
12	FR	22.46	0.00	0.03	0.97	0.99	0.98	41.37	0.00	0.05	0.67	0.97	0.96
16	HU	9.08	0.34	0.01	1.00	1.00	1.00	32.45	0.00	0.04	0.82	0.99	0.98
24	PT	20.67	0.01	0.03	1.00	0.99	0.98	29.67	0.00	0.03	0.99	0.99	0.98
25	RU	28.50	0.00	0.03	0.99	0.98	0.97	42.98	0.00	0.04	0.95	0.97	0.96
28	SK	18.40	0.02	0.03	0.99	0.99	0.98	22.30	0.01	0.03	0.99	0.98	0.97
30	UA	5.15	0.74	0.00	1.00	1.00	1.00	7.48	0.59	0.00	1.00	1.00	1.00

Notes: ES – Spain, FR – France, HU – Hungary, PT – Portugal, RU – Russia, SK – Slovakia, UA – Ukraine. RMSEA - root mean square error of approximation, Pclose - probability of close fit, CFI - comparative fit index, TLI - Tucker-Lewis index.