



Spanish adaptation of the Participatory Behaviors Scale (PBS)



Alejandro Magallares^{a,*}, Cosimo Talò^b

^a School of Psychology, Social Psychology Department, Spanish Open University (UNED), Madrid, Spain

^b Department of History, Society and Human Studies, University of Salento, Lecce, Italy

ARTICLE INFO

Article history:

Received 28 May 2015

Accepted 19 September 2015

Available online 31 October 2015

Keywords:

Participatory Behaviors Scale

Sense of community

Belief in a just world

Machiavellianism

Confirmatory factor analysis

ABSTRACT

The aim of this study was to adapt the Participatory Behaviors Scale (PBS) and validate the results for use among the Spanish population. Using snowball sampling methodology, 501 individuals from all areas of Spain were selected to participate in the study. The Participatory Behaviors Scale (PBS) and questionnaires that measure a sense of community, belief in a just world and Machiavellianism were used to analyze the criterion validity of the adapted scale. A confirmatory factor analysis indicated that the items on the questionnaire fit a second-order model with four factors, which corresponded to the four dimensions proposed by the original authors, namely, disengagement, civil participation, formal political participation and activism. Additionally, it has been found that the scale is related to a sense of community, belief in a just world and Machiavellianism. In light of these results, we concluded that the questionnaire is methodologically valid and can be used by the scientific community to measure participatory behavior.

© 2015 Colegio Oficial de Psicólogos de Madrid. Published by Elsevier España, S.L.U. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

Adaptación al castellano de la Escala de Comportamiento Participativo (PBS)

RESUMEN

El objetivo del estudio es adaptar y de obtener evidencias de validación al castellano de la Escala de Comportamiento Participativo (PBS). Los participantes fueron 501 individuos de todo el territorio español obtenidos mediante un muestreo de bola de nieve. La Escala de Comportamiento Participativo (PBS) y los cuestionarios de sentido de la comunidad, creencia en un mundo justo y maquiavelismo fueron utilizados para analizar la validez de criterio. El análisis factorial confirmatorio puso de manifiesto la existencia de un modelo de segundo orden con 4 factores, correspondientes a las 4 dimensiones propuestas por los autores originales del estudio (desvinculación, participación civil, participación política formal y activismo). Además, se halló que la escala se relacionaba con las medidas de sentido de la comunidad, creencia en el mundo justo y maquiavelismo. A la luz de los resultados, se concluye que el cuestionario es metodológicamente válido y que puede ser usado en la comunidad científica para medir comportamiento participativo.

© 2015 Colegio Oficial de Psicólogos de Madrid. Publicado por Elsevier España, S.L.U. Este es un artículo Open Access bajo la licencia CC BY-NC-ND (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

Palabras clave:

Escala de Comportamiento Participativo

Sentido de la comunidad

Creencia en un mundo justo

Maquiavelismo

Análisis factorial confirmatorio

Introduction

Participation can be defined as taking part in an event of public interest (Talò & Mannarini, 2014). Political participation is generally referred to as an interest in political life (Rollero, Tartaglia, De

Piccoli, & Ceccarini, 2009). In addition to voting, political participation includes, for example, actions such as joining a political party or a non-governmental advocacy group, campaigning, and running as an electoral candidate.

In many cases, political participation has been measured by asking participants whether they voted in the last local and/or national elections (see, for example, Rollero et al., 2009) or by asking them to evaluate, through a single item, their level of involvement in community activities (see, for example, Liu & Besser, 2003). Other

* Corresponding author.

E-mail address: amagallares@psi.uned.es (A. Magallares).

common measures include the political participation index (PPAR) of Davidson and Cotter (1989) and the scale developed by Peterson, Speer and Hughey (2006) that was used to assess civic involvement and participatory behaviors in community action activities. However, these scales do not include different aspects of political participation, according to the taxonomy suggested by Ekman and Amnå (2012).

These authors have developed a typology that intersects two forms of participation, manifest and latent, with two levels of political behavior, individual and collective. In their taxonomy, manifest political behaviors include all actions, either individual or collective, aimed at influencing government decisions and political outcomes, including aim-oriented, rational, observable and measurable actions. Even contact activities, such as writing politicians or officials to report or obtain intervention, are considered forms of formal political participation. At the collective level, a typical example of this category is membership in a political party, trade union or non-governmental organization (NGO). In addition to formal political participation, as they call it, the authors also included extra-parliamentary actions. In the literature, these behaviors are often identified as non-conventional, but Ekman and Amnå (2012) consider the term 'formal political participation' obsolete and have replaced it with the term 'activism' instead. In fact, some of the actions that were previously considered non-conventional, such as strikes and petitions, have become very common among citizens. Hence, the authors prefer the term 'extra-parliamentary' and distinguish between legal and illegal forms. The former include participation in demonstrations and strikes or militancy in feminist organizations and environmental groups, etc. all as examples of collective participation. At the individual level, actions of this type include signing petitions, distributing flyers and boycotting or buying certain products for ideological, ethical or environmental reasons. Other forms of extra-parliamentary actions, however, are illegal, such as violent manifestations, unauthorized demonstrations or riots triggered by ideological reasons, such as racism or extremism. Other examples include irruptions caused by environmentalists in fur stores or in laboratories that test on animals, attacks by Greenpeace on whaling ships, the Pussy Riot protest in Russia and even the hacker attacks by organized groups such as anonymous. An example of individual illegal forms of extra-parliamentary political participation is not paying for a subway ticket to protest against public transportation policy. Ekman and Amnå (2012) also include in their classification latent forms of political participation, labeled by them as 'civil participation', in which the psychological aspect represented by attention and interest in political and societal issues, what they call social involvement, corresponds to, and somehow precedes, the behavioral aspect, which may be referred to as 'disengagement'.

Based on this proposal, Talò and Mannarini (2014) recently developed the Participatory Behaviors Scale (PBS) to measure political participation. This scale includes all the aspects mentioned by Ekman and Amnå (2012): disengagement, civil participation, formal political participation and activism. The authors began with a 28-item baseline model from which they obtained a 16-item scale that maintained a 4:1 ratio between the observed and latent variables. Items were excluded either because of a non-significant factor loading, a low factor loading or low communalities or because they were transversal to other factors or redundant. Only the 16-item version showed good indices of fit.

Political participation is related to other social variables, as the reviewed literature suggests. For example, a sense of community and political participation are positively related, as found by a recent meta-analysis (Talò, Mannarini & Rochira, 2014). Additionally, belief in a just world is related to disaffection and abstention from voting (Echebarria, 2014). Finally, it has been determined

that Machiavellianism is a significant predictor of political participation (O'Connor & Morrison, 2001), and it has been shown that people who preferred a society with more possibilities of participation had lower scores on a Machiavellianism scale (Franco, 1980).

In Spain, there has been, to date, no Spanish-language adaptation of the scale. For this reason, the goal of this research is to obtain evidence of construct validity of a Spanish-language version of the PBS (Talò & Mannarini, 2014). To do so, we first conducted a confirmatory factor analysis (CFA) to verify the factorial structure proposed by Talò and Mannarini (2014) and then established the psychometric criteria of the PBS to validate the use of this instrument in the Spanish-speaking scholarly community. It is important to note that when there are plausible hypotheses regarding the structure of a model, as in our case, experts recommend the use of confirmatory factor analysis rather than exploratory analysis (Bollen, 1989). We then determined whether any relationships exist between PBS and sense of community, belief in a just world and Machiavellianism.

Snowball sampling was used to complete the sample. Snowball sampling uses a small pool of initial informants, in our case, students from the Spanish Open University (UNED), to nominate, from their social networks, other participants (Atkinson & Flint, 2004). The reason behind this decision is that with snowball sampling, we can reach not only students but also participants from other social strata and with lower educational levels. Snowball sampling allows us to obtain a sample that is as heterogeneous as possible.

Method

Participants

The participants consisted of 501 individuals (56.5% female) aged between 18 and 80 years (mean = 38.62, SD = 12.54). All participants voluntarily agreed to participate in the study. With respect to education, 54.1% of the sample had a university degree and 25.3% were high school graduates. Regarding employment status, 51.5% were employed, 18.2% were students and 14.6% were unemployed.

Procedure

Information about the study was posted on the virtual courses taught by the researchers of this study wherein they requested participation of interested students from the Spanish Open University (UNED). The students in the final sample completed the questionnaires online. The students were then asked to recruit participants from among their acquaintances.

Instruments

The PBS (Talò & Mannarini, 2014) was adapted to Spanish using the translation/back-translation methodology, as stipulated by many authors (Gudmundsson, 2009), and the norms of the International Test Commission (Hambleton, 2005).

The first Spanish translation of the original scale was performed by one of the authors. This Spanish translation was independently reviewed by an additional evaluator who worked with the main translator to reach an agreed-upon translation of the items, especially those that posed the most difficulty from a semantic and/or grammatical standpoint. Subsequently, a bilingual Italian translator back-translated the agreed-upon Spanish-to-Italian translation with no knowledge of the original Italian scales to preserve the reliability of the back-translation. The scale translated into Italian and the original scale reached 100% grammatical agreement. Items are presented in Table 1.

Table 1
Items of the Participatory Behaviors Scale: English and Spanish version.

Item	Disengagement	Desvinculación
1	Does not vote in local or national elections	No votar en las elecciones (administrativas y/o políticas)
6	Does not read newspapers or watch TV programs that address political issues ^a	Evitar leer periódicos o ver la televisión sobre asuntos políticos ^a
7	Feels that politics is uninteresting and useless ^a	Considerar la política poco interesante y útil
11	Refrains from talking about politics ^a	Evitar hablar de política ^a
12	Is unconcerned with politics ^a	Ser indiferente a la política ^a
16	Is disgusted by politics	Estar disgustado con la política
19	Is disillusioned with politics	Estar desilusionado sobre los asuntos políticos
	Civil participation	Participación civil
2	Is interested in political issues and events	Interesarse en hechos y temas políticos
3	Writes to the newspaper editor ^a	Escribir a la redacción de periódicos ^a
8	Donates money to charity	Donar dinero a la beneficencia
13	Discusses politics with friends and/or on the Internet ^a	Discutir de política con amigos y/o en internet ^a
17	Buys newspapers or watch TV programs that address political themes ^a	Comprar periódicos o encender la televisión cuando se habla sobre asuntos políticos ^a
20	Recycles or separately collects rubbish	Hacer la recogida de basura diferenciada y reciclar
23	Volunteers in a social/civic/religious organization ^a	Hacer voluntariado en una organización social/cívica/religiosa ^a
28	Adopts a lifestyle with a clear social orientation (e.g., vegetarianism, anti-consumerism, punk subculture, etc.)	Adoptar un estilo de vida con una clara orientación social (ej., vegetariano, anticonsumismo, movimientos punk, etc.)
	Formal political participation	Participación política formal
4	Votes in elections or referenda	Votar en elecciones o en referendums
9	Does not vote for protest or abstains from voting	No votar por protesta o votar en blanco
14	Contacts political representatives	Contactar con representantes políticos
18	Runs for public office ^a	Presentar una candidatura para un cargo político ^a
21	Donates money to a party or a political organization ^a	Donar dinero a un partido o a una organización política ^a
24	Is a member of a party, syndicate or political organization ^a	Formar parte de un partido/sindicato o de una organización política ^a
26	Undertakes activities in a party/syndicate/political group ^a	Desarrollar una actividad en un partido/sindicato/organización política ^a
	Activism	Activismo
5	Boycotts products (for ethical or ideological reasons) ^a	Boicotear productos (por razones éticas, ideológicas) ^a
10	Signs petitions ^a	Firmar peticiones ^a
15	Distributes political materials	Distribuir material de propaganda política
22	Writes political slogans or draws graffiti on the walls of buildings	Escribir slogans políticos o hacer graffiti en las paredes
25	Is active in a movement/forum ^a	Ser activo en algún movimiento/forum ^a
27	Participates in strikes, protests, demonstrations ^a	Participar en huelgas, protestas o manifestaciones ^a

^a Items of the short version (PBS-16).

The Participatory Behaviors Scale (PBS) developed by Talò and Mannarini (2014) was used to measure political participation. This scale is based on the work of Ekman and Amnå (2012) and measures four types of political behavior (first-order factors): disengagement, civil participation, formal political participation and activism. In this research, we used the full version that includes 28 items. The items were preceded by the following introductory statement: “The following list includes a list of behaviors characterizing civic and political engagement. Please indicate to what extent you recognize these behaviors as representative of your behaviors?” The responses were “not at all”, “not much”, “quite”, “strongly”, “totally”.

To measure sense of community, we used the questionnaire developed by Sanchez-Vidal (2009). This scale ($\alpha = .72$) consists of four items scored on a 5-point Likert scale ranging from “strongly disagree” (1) to “strongly agree” (5). Higher scores on this scale reflect a greater sense of community.

To measure a belief in a just world, we used the questionnaire developed by Lipkus (1991) (Spanish version: Barreiro, Etchezahar & Prado-Gasco, 2014). This scale ($\alpha = .84$) consists of seven items scored on a 5-point Likert scale ranging from “strongly disagree” (1) to “strongly agree” (5). Higher scores on this scale reflect a greater belief in a just world.

To measure Machiavellianism, we used the questionnaire developed by Christie and Geis (1970) (Spanish version: Corral & Calvete, 2000). This scale ($\alpha = .71$) consists of six items scored on a 5-point Likert scale ranging from “strongly disagree” (1) to

“strongly agree” (5). Higher scores on this scale reflect greater Machiavellianism.

Finally, participants were asked to indicate their gender, age, level of studies and political orientation

Data analysis

First, we conducted a confirmatory factor analysis (CFA) of the Spanish version of the PBS to assess the fit of the factor structure proposed by the authors of the original scale, Talò and Mannarini (2014). The following fit indices were used. (a) The chi-square test of model fit, which measures the difference between the covariance matrix for the observed data and the covariance matrix from a theoretically specified structure/model. Non-significant chi-square values suggest a good fit of the model. However because the chi-square index is affected by the size of the correlations in the model (i.e., the more correlations, the poorer the fit), alternative and additive measures of fit were developed and used. (b) The comparative fit index (CFI) (Bentler, 1990) is based on the comparison of the χ^2 for the implied matrix with the χ^2 for the matrix of a null-model (all variables are uncorrelated). Values greater than .90 indicate an acceptable fit, and those greater than .95 indicate an excellent fit. (c) The Tucker Lewis index (TLI), also known as the non-normed fit index (NNFI), is based on the comparison of the chi-square for the implied matrix with the chi-square for the matrix of the null-model. Values greater than .90 indicate an acceptable fit, and those greater than .95 indicate an excellent fit (Marsh, Hau & Wen, 2004). The

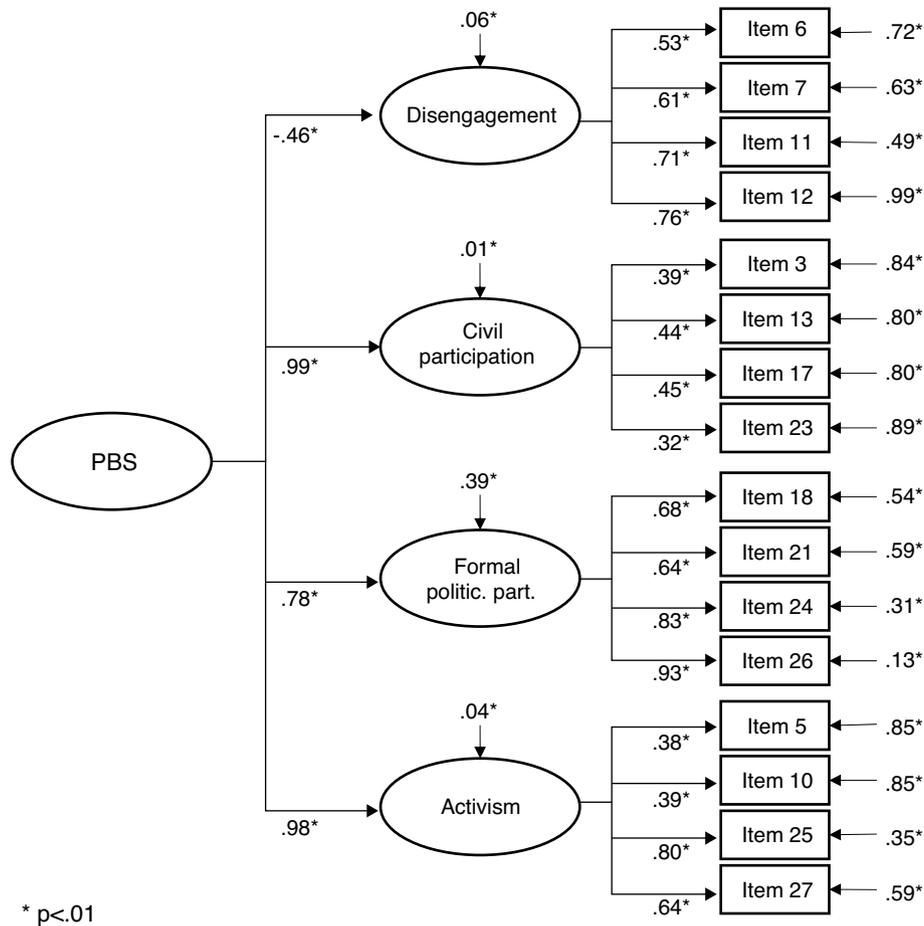


Fig. 1. Model of the Participatory Behaviors Scale.

most important difference between the CFI and the TLI is that the TLI expresses fit per degree of freedom, thus imposing a penalty for estimating less parsimonious models. This may be important when comparing models of different complexity (Baumgartner & Homburg, 1996). (d) The most important index after the chi-square is the root mean square error of approximation (RMSEA), which represents the average of the residual correlation. MacCallum, Browne and Sugawara (1996) have used .01, .05 and .08 as thresholds to indicate excellent, good, and mediocre fit, respectively. In addition, the RMSEA can be evaluated in terms of probability (test of close fit) because it is accompanied by limits for the confidence interval where $p = .10$ (Hu & Bentler, 1999). (e) Finally, the standardized root mean square residual (SRMSR, Jöreskog & Sörbom, 1988) is an absolute measure of fit that is defined as the standardized difference between the observed correlation and the predicted correlation. A value of 0 indicates perfect fit. Hu and Bentler (1999) indicate a cut-off value of $\leq .08$ for good fit.

The convergent and discriminant validity and the reliability of PBS were tested using Cronbach's alpha, composite reliability (CR), average variance extracted (AVE), maximum shared squared variance (MSV) and average shared squared variance (ASV) (Fornell & Larcker, 1981; Hair, Black, Babin, & Anderson, 2010). Based on Hair et al. (2010), the CR value must be above .70 for acceptable reliability. For convergent validity, the AVE value must be above .50 and be less than the value of the CR. For discriminant validity, both the MSV and the ASV values must be less than the value of the AVE. In addition, the risk of multicollinearity among the PBS factors was controlled.

Finally, correlations between the variables of the study were estimated.

The Mplus® program (v. 6.11, Muthén & Muthén, 1998–2010) was used for the CFAs, and the SPSS® (v. 22.0, SPSS Inc., Chicago, IL, USA) was used for the remaining analyses.

Results

Confirmatory factor analyses

Of the 28 items on the PBS, 10 items indicate a skewness just outside the thresholds (between |1.0| and |1.3|), and 11 items exhibited a kurtosis slightly beyond the thresholds (between |1.0| and |1.8|).

We tested a model with four first-order factors, namely, disengagement, civil participation, formal political participation and activism, and one second-order factor for the 28-item version and the 16-item version. The WLSMV estimator (weighted least squares mean and variance adjusted) was used. With respect to the 28-item version, the data do not reflect an acceptable fit ($\chi^2 [501, 346] = 1935.94$; sig. = .00; CFI = .67; TLI = .64; RMSEA = .10 [.09; .10], sig. = .00; SRMR = .10). On the other hand, and consistent with the original research of Talò and Mannarini (2014), the 28-item version exhibits inadequate indices while the 16-item version exhibits acceptable fit indices ($\chi^2 [501, 100] = 517.25$; sig. = .00; CFI = .94; TLI = .91; RMSEA = .06 [.05; .09], sig. = .00; SRMR = .05). Fig. 1 presents the model parameters. The structure of the 16-item scale mirrors the version proposed by Talò and Mannarini (2014).

The alternative models do not show acceptable fit. In fact, the model with one first-order factor reveals the following indexes: $\chi^2 [501, 104] = 1035.02$; sig. = .00; CFI = .65; TLI = .60; RMSEA = .13 [.12; .14], sig. = .00; SRMR = .11. The model with four first-order correlated factors shows the following indexes:

Table 2
Convergent, discriminant and validity tests.

Thresholds	CR >0.7	AVE >0.5	MSV MSV < AVE	ASV ASV < AVE
<i>Factor</i>				
Disengagement	.82	.50	.36	.26
Civ. Part.	.83	.53	.37	.36
For. Pol. Part.	.81	.51	.39	.33
Activism	.78	.54	.31	.30
PBS-16	.82	.56	.38	.32

CR, composite reliability; AVE, average variance extracted; MSV, maximum shared squared variance; ASV, average shared squared variance; Civ. Part., civil participation; For. Pol. Part., formal political participation.

Table 3
Collinearity statistics of the four PBS-16 dimensions.

	Tolerance	VIF
Disengagement	.82	1.22
Civ. Part.	.59	1.69
For. Pol. Part.	.67	1.49
Activism	.61	1.63

VIF, variance inflation factor; Civ. Part., civil participation; For. Pol. Part., formal political participation.

χ^2 [501,98] = 446.23; sig. = .00; CFI = .77; TLI = .74; RMSEA = .10 [.08; .11], sig. = .00; SRMR = .07.

Reliability and validity analyses

According to the estimates provided in Table 2, each factor sufficiently differs from the others. Table 3 displays the values of the tolerance index and of the variance inflation factor (VIF) used to analyze the presence of multicollinearity. Both the tolerance index and the VIF exclude the presence of relevant multicollinearity among the four first-order factors analyzed, that is, disengagement, civil participation, formal political participation and activism (Pedhazur, 1997).

Correlation analyses

Table 4 shows the correlations between the four first-order factors. Disengagement exhibits negative correlations with civic participation ($r = -.42$), formal participation ($r = -.24$) and activism ($r = -.28$). Civic participation, formal participation and activism reveal correlations between .47 and .54.

Table 5 displays the correlations between the factors and the overall score as well as the socio-demographic factors, namely, gender, age, education and political orientation, and the psychosocial variables, namely, sense of community, belief in a just world and Machiavellianism.

Disengagement is positively correlated with political orientation (as determined by increases with shifts to the right) ($r = .20$),

Table 5
Correlations among the four dimensions and the total score of PBS, gender (1 = female; 2 = male), age, education, political orientation (1 = left; 10 = right), sense of community, belief in a just word and Machiavellianism.

	Disen.	Civ. Part.	For. Part.	Activ.	PBS-16	Mean	Std. dev.
Gender	-.10*	.10*	.20**	.09*	.17**	1.43	.50
Age (18–80 years)	-.00	.17**	.28**	.18**	.22**	38.62	12.54
Education	-.07	.03	-.00	.04	-.04	2.96	.82
Political orientation	.20**	-.10*	-.18**	-.40**	-.30**	3.66	1.65
Sense of community	-.13**	.25**	.13**	.20**	.23**	17.90	2.14
Belief in a just word	.20**	-.10*	-.06	-.24**	-.20**	13.34	4.66
Machiavellianism	.19**	-.12**	-.04	-.15**	-.16**	12.25	4.34

Disen., disengagement; Civ. Part., civil participation; For. Part., formal political participation; Activ., activism.

* $p < .05$.

** $p < .01$.

Table 4
Correlation, mean and standard deviation of the four PBS-16 dimensions.

	Disengagement	Civ. Part.	For. Pol. Part.	Activism
Disengagement	–			
Civ. Part.	-.42**	–		
For. Pol. Part.	-.24**	.47**	–	
Activism	-.28**	.54**	.52**	–
Mean	7.73	11.20	7.19	12.07
Std. dev.	3.50	3.12	4.15	3.85

Civ. Part., civil participation; For. Pol. Part., formal political participation.

** $p < .01$.

a belief in a just world ($r = .20$) and Machiavellianism ($r = .19$). However, it is negatively correlated with gender (more female) ($r = -.10$) and sense of community ($r = -.13$). Civic participation is positively correlated with gender ($r = .10$), age ($r = .17$) and sense of community, and it is negatively correlated with political orientation ($r = -.10$), belief in a just world ($r = -.10$) and Machiavellianism ($r = -.12$). Formal political participation is positively correlated with gender ($r = .20$), age ($r = .28$) and sense of community ($r = .13$) and negatively correlated with political orientation ($r = -.18$). Activism is positively correlated with gender ($r = .09$), age ($r = .18$) and sense of community ($r = .20$) and negatively correlated with political orientation ($r = -.40$), belief in a just world ($r = -.24$) and Machiavellianism ($r = -.15$). Finally, the overall score (items of disengagement were reversed) is positively correlated with gender ($r = .17$), age ($r = .22$) and sense of community ($r = .23$), while it is negatively correlated with political orientation ($r = -.30$), belief in a just world ($r = -.20$) and Machiavellianism ($r = -.16$). Thus, it can be concluded that the participant appears to be a male adult who is progressive and noncompetitive and seeks social acceptance and belonging.

Discussion

This article reveals that the Participatory Behaviors Scale (PBS) is a questionnaire that can be used in the Spanish-speaking community to measure political participation. Judging from the results, this scale has a factorial structure of four subscales, as indicated by the confirmatory factor analysis. Our results suggest that the PBS with 16 items was best characterized by the second-order factor model, in which participation was saturated by four first-order latent variables, specifically, disengagement, civil participation, formal political participation and activism.

Given these results, the goals of this study, to obtain evidence of construct and criterion validity, were fulfilled. As was noted herein, the factorial structure of Talò and Mannarini (2014) was confirmed. Additionally, it was determined that PBS is related to a sense of community, a belief in a just world and Machiavellianism. For these reasons, we propose, based on the information and data presented

herein, that the PBS questionnaire can be safely used to measure political participation.

One of the most controversial aspects of the **Ekman and Amnå model (2012)** is to consider disengagement as a form of participation. According to the theory of these authors, disengagement is a form of active protest that is intended to send a message of change to politicians. Political discussions are actively avoided, and on Election Day, citizens with this orientation make a demonstrative show of not voting. The fact that the empirical model is confirmed in a second cultural context reinforces this perspective of disengagement.

It has been showed that participation allows individuals to access to a greater number of sources of social support, which in turn increases their well-being (**Gil, Pons, Grande, & Marín, 1996**). For this reason, being able to assess political participation is an important necessity of psychosocial interventions which aims to help citizens taking control over their lives.

This study has at least three limitations. First, snowball sampling was used to recruit participants. According to experts, this method may be biased (**Atkinson & Flint, 2004**). In fact, it is possible that the participants in research on political issues are quite well-disposed to policy and civic engagement. Furthermore, although the above presented findings suggest that common method variance was not of great concern, we emphasize the use of alternative techniques for controlling common method effects. In fact, method effects might be interpreted as response biases, such as social desirability of individuals who participate in research projects (**Bagozzi & Yi, 1991**). Accordingly, we suspect that socially desirable responses may influence the real answers. However, the fact that the Spanish model shows parameters similar to those of the Italian model is reassuring with respect to this problem. Second, only the PBS with 16 items was significant. Furthermore, the 16-item model of **Talò and Mannarini (2014)** showed a better fit than the 28-item model, so much so that the authors proposed using the scale with 16 items in their analyses. However, future research should explore why the model with 28 items did not fit as expected. Third, social scientists usually rely on self-reports when investigating political participation. However, some authors claim that there are great differences between measuring real political participation and political participation self-reports (**Vavreck, 2008**). Despite the existence of this potential bias, it is important to note that self-reports are frequently used when researching political behaviors.

We are aware that civic involvement is a culturally specific behavior and that data are highly situational in that they are linked to the condition of the country at that particular historical, economic and social moment. Consequently, a measurement model of participation must be modified as times change. Despite these limitations, we contend that the PBS is an appropriate tool for measuring political participation. We further posit that this instrument is useful for all researchers in the Spanish-speaking community who are interested in studying political participation.

Conflict of interest

The authors have no conflict of interest to declare.

References

- Atkinson, R., & Flint, J. (2004). *Encyclopedia of social science research methods*. London: SAGE Publications.
- Bagozzi, R. P., & Yi, Y. (1991). Multitrait-multimethod matrices in consumer research. *Journal of Consumer Research*, 17, 426–439. <http://dx.doi.org/10.1086/208568>
- Barreiro, A., Etchezahar, E., & Prado-Gascó, V. (2014). Creencia global en un mundo justo: validación de la escala de Lipkus en estudiantes universitarios de la ciudad de Buenos Aires [Global belief in a just world: Validation of the Lipkus scale in university students from city of Buenos Aires]. *Interdisciplinaria*, 31, 57–71.
- Baumgartner, H., & Homburg, C. (1996). Applications of structural equation modeling in marketing and consumer research: A review. *International Journal of Research in Marketing*, 13(1), 139–161.
- Bentler, P. M. (1990). Comparative fit indexes in structural models. *Psychological Bulletin*, 107, 238–246. <http://dx.doi.org/10.1037/0033-2909.107.2.238>
- Bollen, K. (1989). *Structural equations with latent variables*. Nueva York: Wiley.
- Christie, R., & Geis, F. L. (1970). *Studies in Machiavellianism*. New York: Academic.
- Corral, S., & Calvete, E. (2000). Machiavellianism: Dimensionality of the Mach IV and its relation to self-monitoring in a Spanish sample. *Spanish Journal of Psychology*, 3, 3–13. <http://dx.doi.org/10.1017/S1138741600005497>
- Davidson, W. B., & Cotter, P. R. (1989). Sense of community and political participation. *Journal of Community Psychology*, 17, 119–125. doi:10.1002/1520-6629(198904)17:2<119::AID-JCOP2290170203>3.0.CO;2-C.
- Echebarria, A. (2014). System-justifying beliefs and political disaffection. *Journal of Applied Social Psychology*, 44, 234–240. <http://dx.doi.org/10.1111/jasp.12218>
- Ekman, J., & Amnå, E. (2012). Political participation and civic engagement: Towards a new typology. *Human Affairs*, 22, 283–300. <http://dx.doi.org/10.2478/s13374-012-0024-1>
- Fornell, C., & Larcker, D. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, 18, 39–50. <http://dx.doi.org/10.2307/3151312>
- Franco, C. (1980). Image of society, value of political participation and personality. *Revista Latinoamericana de Psicología*, 12, 277–292.
- Gil, M., Pons, J., Grande, J. M., & Marín, M. (1996). Aproximación operativa a los conceptos de participación y sentimiento de pertenencia: Estrategias en la comunidad [Operational approach to the concepts of participation and sense of belonging: Strategies in the community]. *Intervención Psicosocial*, 5, 21–30.
- Gudmundsson, E. (2009). Guidelines for translating and adapting psychological instruments. *Nordic Psychology*, 61, 29–45. <http://dx.doi.org/10.1027/1901-2276.61.2.29>
- Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2010). *Multivariate data analysis* (7th ed.). Englewood Cliffs: Prentice-Hall.
- Hambleton, R. K. (2005). Issues, designs and technical guidelines for adapting tests into multiple languages and cultures. In R. K. Hambleton, P. F. Merenda, & C. D. Spielberger (Eds.), *Adapting psychological, and educational tests for cross-cultural assessment*. New Jersey: Lawrence Erlbaum.
- Hu, L. T., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling*, 6, 1–55. <http://dx.doi.org/10.1080/1070519909540118>
- Jöreskog, K. G., & Sörbom, D. (1988). *PRELIS a program for multivariate data screening and data summarization. A preprocessor for LISREL*. Mooresville: Scientific Software, Inc.
- Lipkus, I. (1991). The construction and preliminary validation of a global belief in a just worlds scale and the exploratory analysis of the multi-dimensional belief in a just world scale. *Personality and Individual Differences*, 12, 1171–1178. [http://dx.doi.org/10.1016/0191-8869\(91\)90081-L](http://dx.doi.org/10.1016/0191-8869(91)90081-L)
- Liu, A. Q., & Besser, T. (2003). Social capital and participation in community improvement activities by elderly residents in small towns and rural communities. *Rural Sociology*, 68, 343–365. <http://dx.doi.org/10.1111/j.1549-0831.2003.tb00141.x>
- MacCallum, R. C., Browne, M. W., & Sugawara, H. M. (1996). Power analysis and determination of sample size for covariance structure modeling. *Psychological Methods*, 1, 130–149. <http://dx.doi.org/10.1037/1082-989X.1.2.130>
- Marsh, H. W., Hau, K. T., & Wen, Z. (2004). In search of golden rules: Comment on hypothesis testing approaches to setting cutoff values for fit indexes and dangers in overgeneralising Hu & Bentler's (1999) findings. *Structural Equation Modelling*, 11, 320–341.
- Muthén, L. K., & Muthén, B. O. (1998–2010). *Mplus user's guide* (6th ed.). Los Angeles, CA: Muthén & Muthén.
- O'Connor, W., & Morrison, T. (2001). A comparison of situational and dispositional predictors of perceptions of organizational politics. *The Journal of Psychology: Interdisciplinary and Applied*, 135, 301–312. <http://dx.doi.org/10.1080/00223980109603700>
- Pedhazur, E. J. (1997). *Multiple regression in behavioral research* (3rd ed.). Orlando: Harcourt Brace.
- Peterson, N. A., Speer, P. W., & Hughey, J. (2006). Measuring sense of community: A methodological interpretation of the factor structure debate. *Journal of Community Psychology*, 34, 453–469. <http://dx.doi.org/10.1002/jcop.20109>
- Rollero, C., Tartaglia, S., De Piccoli, N., & Ceccarini, L. (2009). Sociopolitical control and sense of community. A study on political participation. *Psicologia Politica*, 39, 7–18.
- Sanchez-Vidal, A. (2009). Validación discriminante de una escala de sentimiento de comunidad: análisis comparativo de dos comunidades [Discriminative validity of an scale of sense of community in two urban communities]. *International Journal of Psychology and Psychological Therapy*, 9, 161–176.
- Talò, C., & Mannarini, T. (2014). Measuring participation: Development and validation the Participatory Behaviors Scale. *Social Indicators Research*, <http://dx.doi.org/10.1007/s11205-014-0761-0>
- Talò, C., Mannarini, T., & Rochira, A. (2014). Sense of community and community participation: A meta-analytic review. *Social Indicators Research*, 117, 1–28. <http://dx.doi.org/10.1007/s11205-014-0761-0>
- Vavreck, L. (2008). The exaggerated effects of advertising on turnout: The dangers of self-reports. *Quarterly Journal of Political Science*, 2, 325–343. <http://dx.doi.org/10.1561/100.00006005>