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Including Political Context in the Psychological Analysis of Collective Action: Development and Validation of a Measurement Scale for Subjective Political Openness

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Abstract

Sociological and Political Science research has argued that political conditions affect both the occurrence of protests and the actions protesters choose. However, an approach that considers people's perceptions on these conditions is still absent in the social psychological literature. Subjective Political Openness (SPO) is a new construct which fills this gap by incorporating features of political context into the psychological analysis of protests. We propose that SPO comprises perceptions relating to three dimensions: government actions to allow/restrict protests, police measures to actively prevent them, and the extent that public opinion legitimizes protests. We conducted two studies in the UK and Chile to validate scales created for each proposed dimension, test their measurement invariance, establish SPO's configuration, and demonstrate its convergent validity. Participants in Study 1 were university students (n UK = 203; n Chile = 237), whereas in Study 2 a general population sample from both countries was included (n UK = 377; n Chile = 309) with the purpose of generalizing the results. Both studies consistently showed that SPO is a multidimensional construct configured as a bifactor model comprising the dimensions associated with perceptions of the government and police actions to confront protests. Although we tested two different measurement scales for the perceived legitimacy given by public opinion to protests, results demonstrated this dimension is not part of SPO. The SPO configuration has implications for both our understanding of collective action and how we study it.

Keywords: Subjective Political Openness, protests, political context, legitimacy of protests, measurement invariance, bifactor model

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In this paper, we describe the development of *SPO* (*Subjective Political Openness*), a new construct aimed to incorporate subjective views about political conditions for protests into the study of collective action. SPO draws on three main ideas. First, political conditions affect the development of collective action. Second, the psychological literature has barely included analysis of political conditions in the study of collective action. Third, people actively build and interpret these conditions according to the interactions they have had with the authorities in relation to protests (Drury & Reicher, 2000; Reicher, 1996).

Political conditions that make collective action possible (e.g., through the use of repression against protesters) have been widely studied in sociology and political science, either through case studies (e.g., Brockett, 1991; Della Porta, 1995; Kurzman, 1996) or quantitative analyses based on macro-level measures (e.g., Davenport, 1995; Regan & Henderson, 2002; Shadmehr, 2014), under the umbrella of Political Opportunity Structures (e.g., Brockett, 1991; Kriesi, 2007; Kurzman, 1996; Meyer, 2004; Tilly, 1978). The Political Opportunity Structures approach suggests that the conditions of a particular political context influence the emergence and development of social movements (Meyer & Minkoff, 2004; Shadmehr, 2014). One of the key dimensions identified under this framework is *Political Openness* (Tarrow, 1994). Political Openness refers to the extent to which political institutions set up the political context to allow protesters to express their concerns and criticisms without fear of being repressed or persecuted (Dalton, Van Sickle, & Weldon, 2009). According to Tarrow (1994), an open political system is correlated with a higher presence of protests in the streets, whereas the opposite situation would make the task more difficult for protestersⁱ.

Along with Political Openness, scholars have argued that the *Presence of Repression* is another significant aspect that should be considered when assessing Political Opportunities Structures (see Della Porta, 1995; Earl, 2011 for a review; McAdam, 1999; Tilly, 1978). Specifically, repression can be considered as "the cost of collective action to the contender resulting from interaction with other groups; as a process, any action by another group which raises the contender's cost of collective action..." (Tilly, 1978, p. 55). Following this definition, we can recognize two main characteristics of repression. First, repression is inherently aversive to protesters because it entails costs and negative effects for them (Opp & Roehl, 1990). Second, governments might threaten collective action through the mobilization of different groups (e.g., counter-protesters, riot police, or informers for infiltration) which can act directly or indirectly on protesters (Tilly, 1978). However, despite the fact that a large body of literature in sociology and political science has addressed the presence of repression, most of this work has analysed it at a macro-level (e.g., by country) and only a few studies have considered how repression might affect individuals (micro-level) (see Earl, 2011, for a review). This is important because objective repression carried out by state agents (at the macro-level) might not necessarily match with people's evaluations of repression, and they can even be unrelated (Kurzman, 1996). In line with this, Honari (2017, 2018) has argued that social movement research should consider a subjective approach to explore people's responses to repression, whilst it is also necessary to distinguish between the actual experience of repression (experienced repression), and how state agents are perceived as threats or obstacles for political participation (*perceived repression*).

Although Political Opportunity Structures goes further than a mere bipolar conceptualization of social movements (mobilized people vs the state), the role that other actors within a society can play in social movements' dynamics has been neglected by the sociological literature (cf. Gamson, 2007; Jenkins & Perrow, 2015; Neidhardt & Rucht, 1991; Rucht, 2007). One exception is the work of Rucht (2007) which has considered the public (i.e., sympathizers, bystanders, and counter movements), control agencies, interest groups, and mass media as reference groupsⁱⁱ (in the political context) from which social movements can gain support and legitimacy, as well as opposition to their aims, activities, and goals. However, despite the important inputs provided by all these accounts, the literature has barely included an analysis of either people's *perceptions* of those political conditions under which social movements take place (i.e., Political Openness and Repression) (see Honari, 2018; Kurzman, 1996) or the legitimacy public opinion can give to protests.

With respect to the analysis of political conditions of protest in the psychological literature, two approaches should be mentioned: Social Identity Theory (SIT; Tajfel & Turner, 1979) and the Elaborated Social Identity Model (ESIM;

Drury & Reicher, 2000; Drury, Reicher, & Stott, 2012 for a review). The first has addressed the influence of certain key social structural variables that shape intergroup relations: permeability of group boundaries, status (il)legitimacy, and status stability on the occurrence of collective action (see Ellemers, 2001; Turner & Brown, 1978). Moreover, ESIM proposes that people interpret their own context (including the extent to which protest is possible and legitimate) based on previous interactions with other groups (e.g., the police). However, neither of these approaches have addressed the impact that the broader political context or other groups beyond those groups directly in conflict (e.g., political authorities, public opinion, and laws) might have on protests. Therefore, despite the conditions described in SIT as optimal for collective action being met (illegitimate and unstable intergroup status differential) and the important inputs ESIM gives us in understanding the intergroup dynamics during protests, we think the analysis might be incomplete if we exclude the reactions the political authorities and public opinion might have regarding the occurrence of protests. This argument is in line with the need to consider advances in the analysis of social movements carried out in other social sciences (e.g., sociology and political science) in the psychological study of collective action (see van Zomeren, 2016).

With the aim of developing a measure able to capture people's insights into the reactions from the government, the police, and public opinion regarding protests, we created and validated a scale for Subjective Political Openness (SPO) in two studies carried out in the UK and Chile. In Study 1 a set of items was used to measure each proposed dimension, test their measurement invariance, and establish SPO as a multidimensional construct (using a bifactor configuration) in a sample of students. In Study 2 we aimed to increase the generalisability of our results using a sample from the general population of each country, while a set of new items was introduced to improve the configuration of the SPO scale. Moreover, in both studies we established the convergent validity of SPO with a pre-existing scale associated with the evaluation of the police behaviour, *trust in police procedural justice*.

Before describing the studies and their implications, it is necessarily to clarify three aspects. First, how public opinion can grant legitimacy to protests. Second, the theoretical definition of SPO and its dimensions. Third, the relevance of construct validity and measurement invariance in the development of SPO. Fourth, what a bifactor model means. Fifth, the conceptualization of trust in police procedural justice and its relationship to SPO.

Legitimacy of Protest

Public opinion is one of the actors able to give legitimacy to social movements (Neidhardt & Rucht, 1991). This might be especially relevant in advanced democracies where different forms of protest have been routinized and accepted as a permanent element of modern life (Meyer & Tarrow, 1998; Tarrow, 1994). Within public opinion, sympathizers have received a lot of attention in the psychological literature mainly through the study of the role of sympathizers in collective action (see Blackwood, Terry, & Duck, 2015; Chayinska, Minescu, & McGarty, 2017; Klandermans & Oegema, 1987; Subašić, Reynolds, & Turner, 2008; Thomas & Louis, 2014; van Stekelenburg & Klandermans, 2013). However, both the sociological and psychological literature have barely explored the role of public opinion in the legitimization of protests as valued activities (cf. Crozat, 1998; Jiménez-Moya, Miranda, Drury, Saavedra, & González, 2019).

But what is legitimacy? From common sense, legitimacy can be defined simply as "what is right" in term of actions (e.g., protesting or beliefs within a specific context). In line with this, it is necessary to stress that the (de)legitimization of specific social norms (e.g., the use of violence to bring about social change) is a dynamic process through which a community might accept certain actions previously considered illegitimate. Therefore, we agree with Kelman (2001) in relation to the argument that social norms and legitimacy should not be confounded in the

analysis of social psychological processes. In addition, it is necessary to point out that people, organizations, policies, and entire social systems can also be invested with legitimacy that is supported by legal systems, conventions, and other people's behaviour (Tyler, 2001; Weber, 1918/1968).

In relation to who invests people, norms, or actions like protests with legitimacy, we suggest that recent psychological research on collective action has confounded the legitimacy given to protests by society with the legitimacy individuals might grant to these activities (e.g., Chayinska et al., 2017). Here, we want to make the case that these two levels of legitimacy (collective and individual) are different, taking into account that some aspects of social behaviour are collectively determined by rights and obligations rather than by personal preferences (Kelman, 2001). This is in line with Weber's multilevel approach to legitimacy, where the legitimacy of a social order ('validity') is given by convention or by law (thus at a collective level) through a process independent of personal acts and beliefs (individual level) (Weber, 1918/1968). In practice, this means that, at least, in democratic societies the right to protest exists and guides people's behaviour independently of individual personal agreement with specific protests. A psychological parallel for this multilevel approach to legitimacy can be found in the theory of planned behaviour (Ajzen, 1991), where people's attitude (individual level) and subjective norms (collective level) to a specific behaviour (e.g., protesting) are considered as two independent inputs people process to evaluate and carrying out that behaviour.

Subjective Political Openness (SPO)

SPO is proposed as a novel construct for measuring individual evaluations of the (in)tolerance levels shown by the political system and public opinion towards protests, based on the notions of political openness, perceived repression, and the multilevel approach to the legitimacy given to protests. Thereby, SPO encompasses three dimensions related to different political actors: the government (government openness), the police (perceived repression), and public opinion (legitimacy of protests). The first of these, government openness, indicates the perceived extent to which the government allows the occurrence of protests. Low scores on this measure mean that people perceive more reluctance from the political authorities to accept protests, whereas higher scores imply people think the government accepts protests. The second dimension, perceived repression, is in line with Honari's (2017) conceptualization of the same construct, but it is limited to protests as a specific form of collective action and is focused on police actions. Despite Honari's original definition of this construct considering "the state" as a general agent of repression, we decided to delimit our understanding of repression to police actions. We take into account that the level of dependency and accountability between different agents of the state (e.g., the police and government officers) might change by country. Thus, from our perspective, perceived repression is defined by police transgressions (e.g., excessive use of force) that civilians perceive as existing in their immediate political setting in relation to protests. Here, the term 'repression' is focused on the perceived frequency that police officers act against people, rather than their capability in terms of equipment (see Brockett, 1991). Higher scores on this scale suggest that people perceive a more frequent use of indiscriminate force against protesters by the police. The third component of SPO, legitimacy of protests, incorporates the role of public opinion as a source of legitimacy and support for protests. Accordingly, this dimension indicates the extent to which people perceive that public opinion validates protests (legitimacy at a collective level) rather than referring to their personal preferences (legitimacy at an individual level) (cf. Chayinska et al., 2017; Jiménez-Moya et al., 2019). Higher scores here indicate that people think that public opinion legitimizes protest.

Measurement Invariance

Measurement invariance is an important property of psychological instruments, checking that a proposed configuration of indicators associated with a construct and their meaning are invariant throughout time, groups, culture, or tasks (see Messick, 1989, as cited in [Dimitrov, 2010](#)). Thus, measurement invariance can be tested at successive levels of complexity: configural, weak, strong, and strict ([Brown, 2015](#); [Dimitrov, 2010](#)). The configural level can be established if a construct maintains the same factorial structure (numbers of factors and pattern of indicators) across groups or conditions, while the equality of factor loadings implies reaching the next level of invariance (weak). Moreover, strict level of invariance can be assumed if both the intercepts (strong level) and the residual variance demonstrate to be equal.

Bifactor Model

In recent years, bifactor models have been rediscovered by researchers to test multidimensional constructs where a general factor and a set of specific subdomains coexist under some basic rules: (1) each indicator shares variance with a general factor and with only one subscale at the same time; (2) the subscales are orthogonal; and (3) a zero correlation exists between the general factor and each subdomain ([Chen, West, & Sousa, 2006](#); [Reise, 2012](#)). One of the main advantages of this type of model is the capacity to distinguish between the variance indicators share with a common factor, and the amount they share with a specific subscale ([Reise, Morizot, & Hays, 2007](#)). On the one hand, this capacity allows researchers to get less ambiguous interpretations of the results and scores of their constructs. On the other hand, the effects of a bifactor model on an outcome variable can be disaggregated and considered as a consequence of either the general factor or one specific subscale ([Chen et al., 2012](#)). Despite these advantages, bifactor models are not very well established in psychology for two reasons. First, their use has been almost exclusively associated with research on intelligence. Second, researchers have preferred higher-order models to test constructs that include a general factor in their structure ([Chen, Hayes, Carver, Laurenceau, & Zhang, 2012](#); [Reeve & Blacksmith, 2009](#)).

Trust in Police Procedural Justice

According to the literature, the legitimacy of authorities can be focused on outcomes (e.g., effectiveness to prevent crime) or on procedures (e.g., fair treatment by police officers). In line with the latter, [Jackson, Huq, Bradford, and Tyler \(2013\)](#) developed the trust in police procedural justice scale to evaluate if police treatment and decision-making are perceived as fair, impartial, and adjusted to the law (see [Gau, 2014](#), for a review). Subsequent research has demonstrated that higher levels of trust in the procedures carried out by the police are positively associated with the legitimacy given to them ([Gau, 2014](#); [Hough, Jackson, Bradford, Myhill, & Quinton, 2010](#); [Jackson et al., 2013](#); [Sunshine & Tyler, 2003](#)), compliance with authorities ([Bradford, Hohl, Jackson, & MacQueen, 2015](#)), and the support for the use of violence by the police in a context of intergroup conflict ([Gerber et al., 2018](#)).

Although Procedural Justice Theory has inspired a substantial amount of research in different fields and scenarios, its applicability to policing of protest is still undeveloped (cf. [Radburn, Stott, Bradford, & Robinson, 2018](#)). Since there are no other validated scales to assess the perceived (in)tolerance of the political context in relation to protests, we adapted some of the items created by [Jackson et al. \(2013\)](#) to measure trust in police procedural justice during protests as a proxy for people's perceptions of the police behaviour before demonstrations. Therefore, we expect these adapted items to maintain at least a medium correlation with SPO as a general construct as well as with perceived repression as a dimension specifically oriented to assess police conduct during protests.

Overview of Studies

With the aim of creating and validating the SPO scale, we carried out two studies using different samples from the UK and Chile. These countries were chosen mainly because of their history; both have experienced massive protests where their political context played a crucial role in the development of the events. Thus, in the last decade the UK has seen events such as 2010 student protests (Lewis, Vasagar, Williams, & Taylor, 2010) where police actions against protesters were associated with the legitimization of violent tactics by protesters. However, most protests in the UK are not violent. Chile faced a harsh and violent dictatorship, leading people to use violence during some protests to confront the military junta (Salazar, 2006). The protesters experienced a demobilisation process in which people were forced by political elites to put aside their rights to protest on behalf of maintaining a weak democracy based on technocracy and the negotiations between political parties and armed forces (see Cummings, 2015; Hipsher, 1998; Mayol, 2012). However, since the early 2000s Chileans returned to the streets to claim their rights and demonstrate their discontent with the political elites (see Salazar, 2012; Somma & Medel, 2017). Thus, Chileans have transformed protests and demonstrations into routine political acts throughout the country to complain about diverse issues (e.g., quality of education, reforms to the political system, indigenous people's rights) using different tactics (e.g., peaceful or violent) (Garretón, Joignant, Somma, & Campos, 2017).

It is worth noting that despite the UK and Chile being democratic countries with similar legal contexts, restraints, and planning procedures in relation to protests (e.g., protesters need to give notice in advance including details about the time and route of the protest), they present substantive differences regarding policing protest. British police are well-known by their "friendly" approach to protests management mainly based on cooperation and communication with protesters (see Della Porta, Fillieule, & Reiter, 1998), restrictions on the number of police officers authorized to carry firearms, and the rare use of tear gas during protests. Conversely, the approach of the Chilean police (Carabineros) is guided by an intimidation strategy. Thus, Carabineros have become notorious for deploying riot police during peaceful protests, their indiscriminate use of water cannons, tear gas, and excessive force against protesters. Because of this, human rights organizations have condemned police brutality in Chile in successive years (Amnesty International, 2016; Human Rights Watch, 2017).

Another comparison between the UK and Chile is how police forces are organised and the status of their relationships with political authorities. While Carabineros are a national force with a centralized chain of command whose lead authority (General Director) is directly answerable to a government minister (Minister of the Interior), British police are organized in autonomous regional police services and keep some independence from the Home Office.

Bearing these antecedents in mind, we designed two cross-sectional studies to elaborate and validate a scale of measurement for SPO considering the main three components or phases (substantive, structural, and external) identified by Loevinger (1957) and then updated by Flake, Pek, and Hehman (2017) in relation to construct validation. Thus, Study 1 was conceived to carry out a literature review, elaborate a theoretical definition for SPO, government openness, perceived repression, and legitimacy of protests at a collective level, as well as to create a set of items for each of these dimensions (substantive phase). In Study 1, we also analysed the designed items, tested the configuration of each proposed dimension, tested their measurement invariance, and established the structural configuration of SPO as a bifactor model (structural phase). Moreover, Study 2 aimed to replicate and generalize the results from the first study (structural phase) using samples from the general population of the UK and Chile. Furthermore, this study sought to confirm the convergent validity between SPO and trust in police procedural justice scale (External phase) and to compare those items created to measure legitimacy of protests in Study 1 with a new set of items using different wording.

Study 1

Method

Participants

Two different samples of undergraduate students from the UK and Chile participated in the study. The sample size was based on the rule of thumb of getting at least 200 observations to run a Confirmatory Factor Analysis (CFA). In addition, a Monte Carlo simulation determined 200 as the minimum sample size to get a statistical power of .80 and unbiased parameters in a bifactor model with three dimensions assuming non-missing data, a normal distribution of the variables, and factor loadings equal to .65 for the general factor and .45 in each sub dimension (see Muthén & Muthén, 2002; Wolf, Harrington, Clark, & Miller, 2015).

From the total of participants recruited, 39 cases were removed because they completed less than 50% of the survey. Thus, the final samples size were 247 British students (68% Female; Age: $M = 19.81$, $SD = 3.30$), and 219 Chilean students (73% Female; Age: $M = 19.00$, $SD = 2.85$). Regarding previous participation in protests, only a few participants (UK = 15%; Chile = 30%) reported having taken part in any protest during the 12 months prior to the date they filled in the questionnaire.

Procedure

First, sets of at least eight items were created to measure each of these dimensions (see all the items in [Appendix A](#)). Afterwards, the match between the theoretical definitions and the items were assessed by a panel of experts comprised of our Chilean collaborators (named in the acknowledgements). Once we received the feedback from the panel, we assembled a questionnaire including all the items for SPO dimensions, an adapted version of the trust in police procedural justice scale (see [Jackson et al., 2013](#)), and a set of items to measure general political attitudes and demographics from the participants. All the mentioned items were in English, so a back-translation process (English-Spanish-English) was carried out by native speakers to check out possible divergence and get a Spanish version of our instrument. As a result, we obtained two comparable questionnaires.

With respect to the data collection process, in both countries the participants filled in an online version of the questionnaire after being invited during classes. A small portion of British students opted to use a paper and pencil version of the questionnaire.

Measures

Participants responded on Likert-type scales ranging from 1 (strongly disagree) to 5 (strongly agree) for the 12 items measuring perceived government openness (e.g., 'this government hinders participation in marches and protests'). For the eight items measuring perceived repression (e.g., 'in this country, the protests are dispersed using violent methods') a frequency scale was utilized (1 = never, 2 = rarely, 3 = sometimes, 4 = often, 5 = always). The 10 items for legitimacy of protests at a collective level (e.g., 'people of my country think that participating in protests is a valid political action') were evaluated using a scale of typicality from 1 (very untypical) to 5 (very typical).

In addition, we adapted three items from the trust in police procedural justice scale ([Jackson et al., 2013](#)) to a scenario of protest. For this, we included the phrases 'in a protest' or 'during a protest' before each original item of the scale mentioned above (e.g., 'In a protest the police always use procedures that are fair for everyone').

These items were assessed using a Likert-type ranging from 1 (strongly disagree) to 5 (strongly agree) (see all items in [Appendix A](#)).

Analysis

We carried out CFA in MPLUS 7 using Maximum Likelihood Robust (MLR) as the estimator to select the best indicators for each dimension and estimate the structure of SPO by country. The internal consistency and reliability of each dimension was calculated using the Omega coefficient (ω), an indicator recommended by the specialist literature on latent variables when the main assumptions of traditional Cronbach's alpha (unidimensionality and tau-equivalence) cannot be adopted (Dunn, Baguley, & Brunson, 2014; Gignac, 2014; Widhiarso & Ravand, 2014).

In a subsequent step, we evaluated the configuration of each SPO dimension in both countries (measurement invariance) following the guidelines of Dimitrov (2010) and Hoffman (2014). Thus, the resultant models were contrasted against nested models using a Chi-squared difference test to specify their corresponding levels of invariance. After finishing the analyses by dimension, we assessed if SPO actually was a multidimensional construct by including a first-order general factor (SPO) and three orthogonal dimensions: government openness, perceived repression, and legitimacy of protests at a collective level (see [Figure 1](#)).

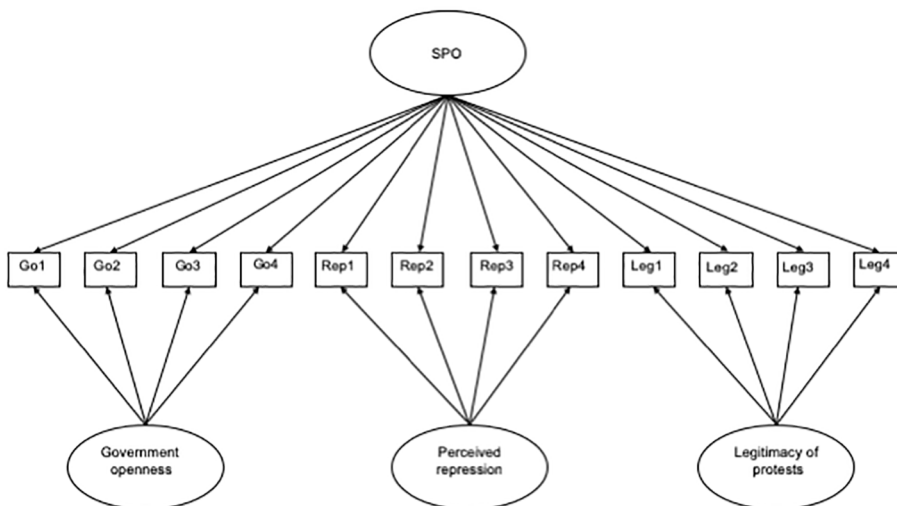


Figure 1. Original bifactor model (1 general factor + 3 subscales).

Once we demonstrated that in both countries SPO was a multidimensional construct in a bifactor model configuration, we used extensions of the Omega coefficient to measure the internal consistency of SPO as a general factor (Omega hierarchical; ω_h), the proportion of true score variance derived from the general factor and the specific dimensions (Omega total, ω_t), and the unique internal reliability associated with each dimension (Omega subscale, ω_s) (see Gignac, 2014; Gignac & Watkins, 2013). Then, we proceeded to test the measurement invariance of SPO using multi-group analysis.

Finally, to assess the convergent validity of SPO and its dimensions, we correlated the adapted version of the trust in police procedural justice scale with both the SPO as a general factor and the perceived repression as a specific dimension aimed to evaluate perceptions of police suppression of protests.

Results

The CFA demonstrated that each proposed dimension for SPO was formed by four items (the rest were not considered further due to their low factor loadings). The items for each dimension, their respective descriptive statistics and standardised factor loadings by country are reported in Table 1. The internal consistency reliability and fit indices obtained for the dimensions in each country are detailed in Table 2.

Table 1

Descriptive Statistics and Standardised Factor Loadings of Items per Scale

Dimension / Code		Items	UK (n = 247)			Chile (n = 219)		
			M	SD	Factor Loadings	M	SD	Factor Loadings
Government openness								
Go1		The government restricts political expressions involving participation in protests	3.06	0.97	.71	3.14	1.12	.73
Go2		This government hinders participation in marches and protests	3.14	0.96	.80	3.28	1.15	.84
Go3		The government is against people expressing their discontent by participating in protests	3.18	1.04	.62	2.79	1.16	.70
Go4		Those who participate in protests are labelled as criminals by this government	2.60	1.12	.58	3.26	1.24	.56
Perceived repression								
Rep1		In this country, the protests are dispersed using violent methods	2.72	0.80	.64	3.74	0.81	.77
Rep2		The police use an indiscriminate violence against the protesters	2.82	0.90	.76	3.45	1.05	.90
Rep3		Carrying out protests in this country is difficult because these are immediately attacked by the police	2.66	1.04	.61	3.05	1.02	.73
Rep4		In my country, those who participate in protests may end up injured by the disproportionate violence used by the police	2.75	1.06	.66	3.51	0.97	.80
Legitimacy of protests								
Leg1		People of my country think that participating in protests is a valid political action	3.61	0.87	.76	3.52	0.89	.63
Leg2		Citizens are of the opinion that carrying out protests is fine even when not sharing the protesters' concerns	3.23	0.98	.63	3.13	1.02	.78
Leg3		People think that taking part in protests is legitimate in spite of the fact these can be inconvenient	3.48	0.92	.74	2.75	1.10	.65
Leg4		The people of my country think that demonstrations are an important activity in a democratic system	3.47	0.88	.62	2.95	0.97	.53

Table 2

Internal Consistency Reliability Indices and Model Fit Statistics for Each Subscale by Country

Subscale	ω	χ^2	df	CFI	TLI	SRMR	RMSEA	90% CI for RMSEA	
								LL	UL
UK									
Government openness	.77	1.80	2	1.00	1.00	.01	.00	.00	.12
Perceived repression	.76	1.71	2	1.00	1.00	.01	.00	.00	.12
Legitimacy of protests	.78	3.94	2	.99	.96	.01	.06	.00	.15
Chile									
Government openness	.80	2.48	2	.99	.99	.01	.00	.00	.14
Perceived repression	.84	4.60	2	.99	.97	.01	.07	.00	.17
Legitimacy of protests	.75	0.70	2	1.00	1.00	.01	.00	.00	.09

The results showed that in both samples all the scales achieved an acceptable level of internal consistency reliability ($\omega > .70$) and reached a good fit with the data according to [Brown's \(2015\)](#) recommendations. In terms of the scales' content, we need to highlight that the government openness scale comprises only reversed items. This means the selected items capture the extent to which people perceived the government try to hinder protests. Thus, as perceived repression, those items associated with government openness are reporting negative attitudes and actions from the political authorities towards protests.

Once the structure of each subscale was established, we tested their measurement invariance at successive levels of complexity (the results in detail can be found in [Appendix B](#)). Thus, the government openness scale obtained total weak invariance (equal factor loadings). However, because equality between all indicators means (intercepts) could not be assumed, an alternative model where the intercepts of items 'go3' ('the government is against people expressing their discontent by participating in protests') and 'go4' ('those who participate in protests are labelled as criminals by this government') were calculated as free parameters. This alternative model fitted well to the data, reaching partial strong invariance, and, in a subsequent step, the partial strict invariance for this subscale. Moreover, we carried out the same procedures to test partial strong and partial strict invariance in the scale for perceived repression where only the factor loadings were equal across countries (weak level of invariance).

Regarding legitimacy of protests at a collective level, it reached total weak invariance. Although the equality of the factors loadings across samples was demonstrated, the fit of the model diminished when we tried to constrain all the intercepts simultaneously. An alternative model where the intercepts of items 'leg3' ('people think that taking part in protests is legitimate in spite of the fact these can be inconvenient') and 'leg4' ('the people of my country think that demonstrations are an important activity in a democratic system') were calculated as free parameters demonstrated partial strong invariance. Subsequently, a set of new models showed partial strict invariance, and partial structural invariance equalizing the latent factor variances and means of this dimension respectively.

Once the measuring invariance was tested for each proposed SPO dimension, the next task was to determine the relation between the three proposed dimensions and SPO as a general factor. For this, we tested four possible configurations: three independent first order factors; a hierarchical model with three dimensions and SPO as a second order factor; a bifactor model with three dimensions (the original bifactor model); and a bifactor model with two dimensions (alternative bifactor model). Apart from the hierarchical model which did not converge in any sample, a summary of the fit indices obtained for each configuration is reported in [Table 3](#).

Table 3

Model Fit Statistics and Close-Fit Indices Associated With CFA Models by Countries

Model	χ^2	df	CFI	TLI	SRMR	RMSEA	90% CI for RMSEA	
							LL	UL
UK								
Three first order factors	96.28	51	.93	.91	.05	.06	.04	.07
Original bifactor model	65.27	43	.96	.95	.04	.04	.02	.06
Alternative bifactor model	19.21	13	.98	.97	.03	.04	.00	.08
Chile								
Three first order factors	70.03	51	.97	.97	.05	.04	.01	.06
Original bifactor model	40.20	43	1.00	1.00	.03	.00	.00	.04
Alternative bifactor model	17.81	13	.99	.98	.01	.02	.00	.08

The results demonstrated that the original bifactor model fitted the data better than the three first order factors in both countries. However, despite its good global fit indices, the main issue with the former model was that the items for legitimacy of protests did not load onto the general factor (SPO). The latter involves breaking a basic assumption of bifactor models, that indicators must share variance with a general factor and with only one subscale, as well indicating that the legitimacy of protests scale might not be part of SPO. This problem was also reflected in two issues regarding the reliability coefficients obtained for the original bifactor model. First, despite the consistency of the SPO scale considering all the sources of variance were acceptable in both samples (UK: $\omega_t = .77$, 95% CI [0.70, 0.81]; Chile: $\omega_t = .88$, 95% CI [0.84, 0.90]), the internal consistency for SPO as a general factor was low (UK: $\omega_h = .51$, 95% CI [0.41, 0.59]; Chile: $\omega_h = .65$, 95% CI [0.57, 0.71]). Second, the high proportion of unique internal consistency associated with legitimacy of protests (but not with SPO) in both the UK ($\omega_s = .77$, 95% CI [0.69, 0.82]) and the Chilean sample ($\omega_s = .71$, 95% CI [0.64, 0.77]), while government openness (UK: $\omega_s = .19$, 95% CI [0.09, 0.30]; Chile: $\omega_s = .14$, 95% CI [0.07, 0.24]), and perceived repression (UK: $\omega_s = .48$, 95% CI [0.36, 0.61]; Chile: $\omega_s = .39$, 95% CI [0.22, 0.53]) shared their loadings and most of their variance with the general factor (SPO).

Considering the results described above, the alternative bifactor model (see Figure 2) was tested excluding the items for legitimacy of protests. In addition, since the item 'go4' ('those who participate in protests are labelled as criminals by this government') only loaded on the general factor in both samples, we set it as a SPO indicator without being associated with any specific subscale.

The analyses demonstrated that in both countries the alternative bifactor model fitted better in comparison to other alternative models (see Table 3). Moreover, it is important to stress that multi-group analyses were conducted to test measurement invariance across samples using the alternative bifactor model. These analyses compared the model without restrictions as a baseline, $\chi^2(26) = 36.984$; $p = .075$; CFI = .99; TLI = .98; RMSEA = .04; SRMR = .02, against successive constraints. The obtained results suggested that only equal factor loadings of the indicators over the general factor and on their respective subscales (weak level of invariance) can be assumed when SPO is used in the UK and Chile.

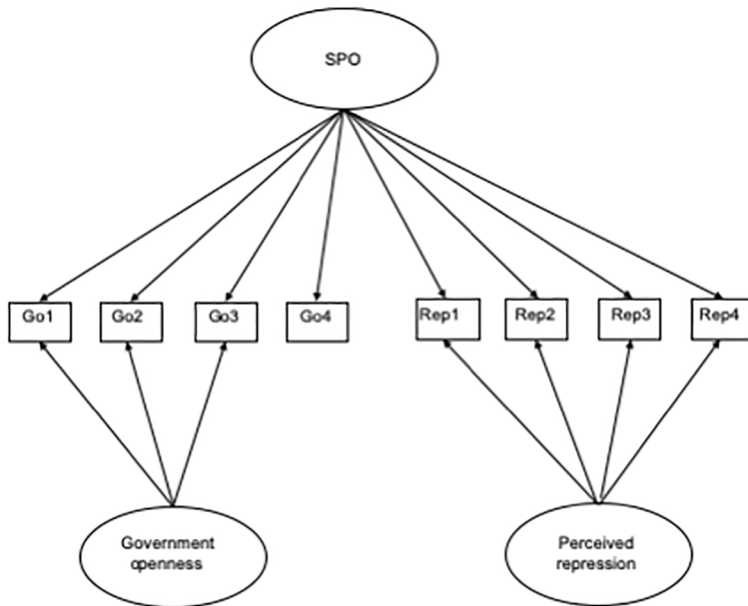


Figure 2. Alternative bifactor model (1 general factor + 2 subscales).

In terms of the interpretation of SPO, it is worth noting again that the items selected for government openness are reversed and indicate the extent that the political authorities are perceived as hindering protests instead of supporting or facilitating these activities. Thus, the original valence of this construct is similar to perceived repression. Therefore, to correctly interpret the scores of these dimensions and SPO as general factor we want to introduce two practical suggestions. First, to ensure that the scores are coherent all the items should be reversed. This means that higher scores in SPO would be associated with more perceived openness to protests, understanding openness as the absence of repression against protests. Second, the current version of SPO should be named SPO-R (i.e., SPO-Repression version) to take into account that the proposed items refer to measures the government and the police can take to repress protests.

Finally, we found that trust in police procedural justice during protests maintained a positive medium correlation with SPO-R as a general factor in both countries (UK: $r = .26$, $p = .008$; Chile: $r = .54$, $p < .001$), as well as negative medium-high correlation with perceived repression (UK: $r = -.34$, $p = .001$; Chile: $r = -.59$, $p < .001$). Although the direction of the correlations is a factor should be taken into account when we test construct validity (Swank & Mullen, 2017), we expected a negative relationship between trust in police procedural justice and perceived repression considering the valence of the wording used for each of them (positive for the former and negative for the latter).

Discussion

Study 1 demonstrated evidence for the substantive and structural phases of construct validation (see Flake et al., 2017). Thus, we created theoretical definitions for SPO, government openness, perceived repression, and legitimacy of protests at collective level. Then, a panel of experts assessed these conceptualizations and the items developed to measure each proposed dimension. In a subsequent step, we carried out quantitative analyses to explore the psychometric properties of each dimension (factor structure, internal consistency, and measurement invariance) as well as the configuration of SPO as a bifactor model comprising only two dimensions, government

openness and perceived repression. Moreover, we suggested that considering the valence and the content of the items related to these two dimensions (absence of repression), henceforth, this version of the construct should be called SPO-R (i.e., SPO-Repression).

Trust in police procedural justice during protests correlated with both SPO-R and perceived repression (external phase). However, an unresolved issue is the relation between SPO-R and legitimacy of protests. For this, two different hypotheses should be considered. First, the items' wording (i.e., length and redundancy of information between the anchors and the items) for legitimacy of protests at collective level might affect the results for this scale and its relationship with SPO-R. Second, SPO-R and legitimacy of protests might be unrelated because people might consider what public opinion has to say about protests and the behaviour of political authorities at different levels of analysis. We tested both hypotheses in Study 2.

Study 2

Method

Participants

We recruited general population samples from the UK and Chile. Two Monte Carlo simulation studies based on the results of Study 1 (assuming normal distribution of the variables and the same pattern of missing values) determined that 300 observations was the optimal sample size to replicate the bifactor model with two dimensions, or to calculate the original factor model with three dimensions if the legitimacy of protests indicators had factor loadings equal or greater than .60 for the general factor (SPO-R), and equal or greater than .45 for the specific dimension. A total of 377 British (59.69% Female; Age: $M = 34.82$, $SD = 11.89$), and 309 Chilean (64.72% Female; Age: $M = 27.33$, $SD = 11.06$) adults comprised the final sample of this replication study. Unlike in Study 1, most Chilean participants (54%) reported having participated in protests during the twelve months previous to the data collection, although the percentage of British adults that had taken part in protests (11%) remained more or less the same as those in the first study.

Procedure

Participants completed a modified version of the questionnaire used in Study 1. This instrument included wording amendments to some items, a set of new items aimed to increase the number of indicators available for each SPO-R dimension, as well as a simplified version of the scale created for legitimacy of protests at a collective level in Study 1 (see all the items in [Appendix C](#)). Furthermore, to make the new items comparable between samples, we carried out a back-translation process following the same procedures as in Study 1.

We used different methods in each country for data collection. All UK participants completed a version of the questionnaire hosted on Prolific (a paid online platform). In Chile, data gathering followed quota requirements based on the economic structure and gender composition of Santiago de Chile. There, participants were recruited through social media (Facebook and Twitter) or by a research assistant. In both cases, Chilean participants could choose between filling in the paper-and-pencil or the online version of the questionnaire. However, no statistical control was carried out to compare both versions due to the fact that only 15 participants completed the paper-and-pencil questionnaire.

Measures

As in Study 1, participants responded on a Likert-type scale (1 = strongly disagree to 5 = strongly agree) for the 10 items (five used in Study 1 and five new) associated with government openness (e.g., 'the government is against people expressing their discontent by participating in protests'); on a frequency scale (1 = never, 2 = rarely, 3 = sometimes, 4 = often, 5 = always) for those items (seven items; five used in Study 1 and 2 new items) which measured perceived repression (e.g., 'one of the primary objectives of the police is to prevent the development of any political demonstrations'); and on a typicality scale (1 = very untypical to 5 = very typical) for the seven items for legitimacy of protests at a collective level (e.g., 'citizens are of the opinion that carrying out protests is fine even when not sharing the protesters' concerns'). A typicality scale was also used to evaluate the six statements included in the simplified version of the scale to measure legitimacy of protests at a collective level (e.g., 'protests are a valid action'). Moreover, we included the same three items we adapted from the trust in police procedural justice scale in Study 1.

Analysis

After testing the factor configurations obtained in Study 1, alternative models including previous and new items proposed for each dimension were compared. In addition, CFAs using Maximum Likelihood Robust (MLR) were carried out to estimate the configuration of the simplified version of the legitimacy of protests scale and test its relationship with SPO-R.

Once the previous and new scales were configured, we calculated their internal reliability using Omega coefficients and tested their levels of measurement invariance using multi-group analyses. Then, as in Study 1, we compared four types of models (SPO-R dimensions as independent first-order factors; SPO-R as a second order factor; SPO-R as a bifactor model with three dimensions; SPO-R as a bifactor model with two dimensions) to confirm the SPO-R configuration. We also contrasted those models which included the original scale of legitimacy of protests at collective level against those which used the simplified scale for the same construct. Finally, we used bi-variate correlations to examine evidence for convergent validity of SPO-R and perceived repression with the trust in police procedures scale in both samples.

Results

As in Study 1, each proposed dimension was made up of four items in both samples. The items associated with each dimension, their respective descriptive statistics by country, and standardised factor loadings are reported in [Table 4](#).

While the government openness and legitimacy of protests factors consisted of the same items as in the previous study, perceived repression maintained just three of its original items including a new one for both samples (see [Table 4](#)). This new item ('to disperse a protest, police officers commonly hit demonstrators') was introduced in the questionnaire as an improved version of 'in this country, the protests are dispersed using violent methods'.

Table 4

Descriptive Statistics and Standardised Factor Loadings of Items per Scale

Dimension / Code	Items	UK (n = 337)			Chile (n = 310)		
		M	SD	Factor Loadings	M	SD	Factor Loadings
Government openness							
Go1	The government restricts political expressions involving participation in protests	2.42	1.11	.84	2.95	1.25	.77
Go2	This government hinders participation in marches and protests	2.55	1.11	.85	3.21	1.30	.81
Go3	The government is against people expressing their discontent by participating in protests	2.69	1.21	.83	2.92	1.33	.80
Go4	Those who participate in protests are labelled as criminals by this government	2.15	1.22	.70	3.03	1.33	.64
Perceived repression							
Rep2	The police use an indiscriminate violence against the protesters	2.34	0.86	.80	3.62	1.11	.89
Rep3	Carrying out protests in this country is difficult because these are immediately attacked by the police	2.07	0.92	.74	3.16	1.14	.77
Rep4	In my country, those who participate in protests may end up injured by the disproportionate violence used by the police	2.31	0.87	.79	3.44	1.18	.84
Rep5	To disperse a protest, police officers commonly hit demonstrators	2.42	0.89	.76	3.55	1.11	.91
Legitimacy of protests (original scale)							
Leg1	People of my country think that participating in protests is a valid political action	3.84	0.89	.78	3.64	1.10	.70
Leg2	Citizens are of the opinion that carrying out protests is fine even when not sharing the protesters' concerns	3.48	1.00	.76	3.32	1.12	.73
Leg3	People think that taking part in protests is legitimate in spite of the fact these can be inconvenient	3.62	0.91	.77	2.97	1.16	.78
Leg4	The people of my country think that demonstrations are an important activity in a democratic system	3.67	0.97	.67	3.17	1.11	.60
Legitimacy of protests (simplified scale)							
Pleg1	Protests are a valid action	3.91	0.89	.87	3.58	1.08	.72
Pleg2	Demonstrations are fine even if they are inconvenient	3.42	1.07	.78	2.94	1.13	.70
Pleg3	Demonstrators are threat to public order	2.49	1.02	-.58	2.98	1.17	-.50
Pleg4	Protests are an important part of our democratic system	3.61	0.98	.74	3.24	1.13	.83

In terms of the adjustment to the data, each proposed dimension reached acceptable fit indices in both samples (see Table 5). An exception to this is the RMSEA obtained for legitimacy of protests (original scale) which was higher than the recommended threshold (.08) in the Chilean sample. However, we decided to maintain the config-

uration of this construct following the recommendations of [Kenny, Kaniskan, and McCoach \(2015\)](#) on the artificial overestimation of RMSEA in models with small sample size and low degrees of freedom.

Table 5

Internal Consistency Reliability Indices and Model Fit Statistics for Each Subscale by Country

Subscale	ω	χ^2	df	CFI	TLI	SRMR	RMSEA	90% CI for RMSEA	
								LL	UL
UK									
Government openness	.88	3.14	2	.99	.99	.01	.03	.00	.11
Perceived repression	.85	2.30	2	.99	.99	.01	.02	.00	.10
Legitimacy of protests (original scale)	.83	5.13	2	.99	.97	.01	.06	.00	.13
Legitimacy of protests (simplified scale)	.63	2.17	2	1.00	.99	.01	.01	.00	.10
Chile									
Government openness	.85	5.48	2	.98	.96	.01	.07	.03	.15
Perceived repression	.92	6.73	2	.99	.97	.01	.08	.02	.16
Legitimacy of protests (original scale)	.80	8.57	2	.96	.90	.03	.10	.04	.17
Legitimacy of protests (simplified scale)	.58	5.31	2	.98	.94	.02	.07	.00	.15

Turning now to measurement invariance testing by dimension, results suggested that government openness just reached a partial strict invariance (the detailed results of each dimension can be found in [Appendix D](#)). As in Study 1, model fit indices became weaker when all intercepts were assumed to be equal, but their values were acceptable when the intercepts and the residual variance of two of the items were unconstrained.

Having determined the level of invariance showed by government openness across samples, it is now necessary to discuss the other dimensions. According to the results, equal factor loadings, intercepts, and residual variance could be assumed for perceived repression. With respect to legitimacy of protests at a collective level, both versions of the scale reached different levels of invariance. First, the original scale had equal factor loadings across samples. Second, we demonstrated that only items 'leg2' ('citizens are of the opinion that carrying out protests is fine even when not sharing the protesters' concerns') and 'leg4' ('the people of my country think that demonstrations are an important activity in a democratic system') had equal intercepts (partial strong variance) and residual variances (partial strict variance) across countries. Moreover, the simplified version of the legitimacy of protests scale reached a full strong level of invariance, which implies that the factor loadings and intercepts of all its indicators were equal across samples.

Regarding the structural configuration of SPO-R, all the models tested in both countries fitted to the data apart from the hierarchical models (SPO-R as a second order factor) which did not converge (as in Study 1). Nevertheless, despite the good results demonstrated by almost all the alternative models, the bifactor model including just two sub-dimensions - (UK: $\omega_h = .83$, 95% CI [0.80, 0.86]; Chile: $\omega_h = .76$, 95% CI [0.70, 0.81]), government openness (UK: $\omega_s = .07$, 95% CI [0.23, 0.42]; Chile: $\omega_s = .12$, 95% CI [0.32, 0.52]) and perceived repression (UK: $\omega_s = .12$, 95% CI [0.08, 0.31]; Chile: $\omega_s = .41$, 95% CI [0.06, 0.19]) - was always the better alternative (see model 5 in [Table 6](#)).

Table 6

Model Fit Statistics and Close-Fit Indices Associated with CFA Models by Countries

Model	χ^2	df	CFI	TLI	SRMR	RMSEA	90% CI for RMSEA	
							LL	UL
UK								
1) Three first order factors (legitimacy of protest based on meta-perceptions)	74.12	51	.98	.98	.03	.03	.01	.05
2) Three first order factors (legitimacy of protest based on perceptions)	80.05	51	.98	.97	.04	.03	.02	.05
3) Bifactor model (three dimensions) using legitimacy of protest based on meta-perceptions	54.34	43	.99	.99	.03	.02	.00	.04
4) Bifactor model (three dimensions) using legitimacy of protest based on perceptions	54.92	43	.99	.99	.02	.02	.00	.04
5) Alternative bifactor model (two dimensions)	13.23	13	1.00	1.00	.01	.00	.00	.05
Chile								
1) Three first order factors (legitimacy of protest based on meta-perceptions)	111.17	51	.96	.95	.04	.06	.04	.07
2) Three first order factors (legitimacy of protest based on perceptions)	118.88	51	.95	.94	.04	.06	.05	.08
3) Bifactor model (three dimensions) using legitimacy of protest based on meta-perceptions	89.19	43	.97	.95	.03	.05	.04	.07
4) Bifactor model (three dimensions) using legitimacy of protest based on perceptions	94.85	43	.97	.95	.03	.06	.04	.07
5) Alternative bifactor model (two dimensions)	27.42	13	.98	.97	.02	.06	.02	.09

With respect to the role of legitimacy of protests in SPO-R, those bifactor models which included the original version of the legitimacy of protests scale in the Chilean sample and those that used the simplified version of the latter construct (in both samples) demonstrated a good fit (see models 2 and 3 in Table 6). However, these models were rejected because the items in both versions of the legitimacy of protests at a collective level scale (original and simplified) presented high factor loadings for the subscale but very low loadings ($\leq .20$) for the general dimension (SPO-R). Considering these results, we suggest that legitimacy of protests at collective level does not belong to SPO-R and the latter is a multidimensional construct comprising two dimensions that refer to the extent to which people perceive government (government openness) and police openness (perceived repression) in relation to protests. However, as mentioned in Study 1, this openness should be understood and interpreted in terms of the absence of repression against protesters rather than authorities' willingness to allow or facilitate protesters actions. Accordingly, the version of the scale tested in this study should be named SPO-R.

With respect to SPO-R's measurement invariance in a bifactor model configuration, multi-group analyses demonstrated that equal factor loadings (weak level of invariance) in relation to the general factor (SPO-R) and its dimensions (government openness and perceived repression) can be assumed. These results confirm those obtained in Study 1, where SPO-R intercepts and residual variances differed between samples.

Finally, we found evidentiary support for the claim that SPO-R correlates well in both countries with trust in police procedural justice during protest (UK: $r = .62, p < .001$; Chile: $r = .42, p < .001$), while the perceived repression shows at least a negative medium size correlation with the latter construct in the UK ($r = -.27, p < .002$), and a medium-high correlation in the Chilean sample ($r = -.61, p < .001$).

Discussion

The results of Study 2 confirm that government openness, perceived repression, and legitimacy of protests reach different levels of measurement invariance across the UK and Chile. This is an important finding for two reasons. First, items are highly correlated with their respective factor, no matter the specific political context that participants come from. Second, and the results are replicable independent of the specific characteristics of the samples. However, the fact that neither all intercepts nor residual variances were equal in both studies suggests that at some level the hypothesised dimensions might be affected by specific phenomena associated with each country involved in the project. Thus, we can suggest that further research should explore the role of police brutality against protesters in Chile (Cummings, 2015; Human Rights Watch, 2017), as well as the routinization of protests and the disconnection of political elites with social movements in this country (Somma & Bargsted, 2015) as potential antecedents that might help to explain the differences.

Moreover, Study 2 confirms that government openness and perceived repression are components of the same general dimension (SPO-R). This suggests that alongside the ‘objective’ facts associated with statistics, macro-economic drivers, laws, or some political measures, researchers should give heed to people’s perceptions regarding authorities’ behaviour (the government and the police) in the evaluation of political context openness in relation to collective action. Despite these results, we need to reaffirm that in our current work the term “openness” exclusively referred to the perceived lack of repression against protesters’ actions. We believe that the scale should be developed in the future to also measure the perceived extent to which the political context supports protests, and the extent people perceive the authorities carry out specific actions to facilitate protests. Thus, we think there should be different versions of the SPO scale according to the three main possible actions authorities may carry out in relation to protests: SPO-R (repression); SPO-C (consent); SPO-F (facilitation).

Regarding the relation between the legitimacy of protests and SPO-R, we confirm that none of the versions of the scale (original and simplified) elaborated to measure the former construct can be considered part of the SPO-R as a general factor. This means that when people evaluate the attitudes and behaviour of other political actors regarding protests, public opinion and authorities might be considered separately without a continuum or correspondence existing between them.

General Discussion

The contribution of the studies reported in this paper to the fields of collective action and social movement studies is two-fold. First, theoretically, this paper contributes the subjective or psychological counterpart to the social structural affordances regarded as key predictors of social movement activity by Political Opportunities Structures theorists. In the last 20 years, social movement theories have moved to an increased recognition of the role of the subjective and psychological points of view (e.g., Honari, 2017, 2018; Jasper, 2017; Kurzman, 1996; van Stekelenburg & Klandermans, 2013, 2018). The present work is part of this development, and as such it builds a

bridge between sociological social movements approaches and psychological collective action approaches (see [Simon & Klandermans, 2001](#); [van Zomeren, 2016](#)).

The second contribution is practical, as this study has served to produce an instrument that can be used by different researchers and which we believe will enhance future empirical work on social movements and collective action. Instead of having to elaborate ad hoc measures for the subjective perception of political conditions in relation to protests, future researchers can draw upon a validated measurement scale: the SPO. In terms of their practical use and in consideration of its multidimensionality, we recommend that those who want to use the current version of the scale (SPO-R) should incorporate the eight items (i.e., four for each dimension) we reported in this paper into their questionnaires to obtain and interpret the scores accurately.

Researchers can use any version of our scale to measure the legitimacy of protests because this construct does not belong to SPO-R. We think a possible explanation for the latter might be that people consider the opinion of authorities and other citizens at different levels of analysis and importance. This is in line with [Rucht's \(2007\)](#) conceptualization about social movements' groups of reference, where in spite of being part of the same political context, the politico-administrative system and general public appear as different players that can establish unique and particular relations with social movements. Certainly, the clarification of the role of public opinion in the evaluation of political conditions is a relevant topic that should be considered in further research.

Finally, we want to highlight three main points that future research should address to develop the current version of SPO and extend its scope. First, despite SPO's contributions to the field of collective action, it is essentially limited to the perceptions of actors that are usually directly exposed to public scrutiny (the government and police). Due to this, new research should make efforts to incorporate perceptions of other actors are not so visible to public opinion (e.g., law or courts of justice) but still might impact people's evaluation of their political context. Second, as discussed above, we think different versions of the SPO scale need to be developed according the dimension of "openness" researchers want to assess. Specifically, we called our version SPO-R because our items specifically address the (lack of) repression against protesters, instead of the mere authorization (SPO-C, consent) or the active facilitation of protests by authorities (SPO-F, facilitation). Last but not least, new studies should provide more evidence for the external phase of construct validation (see [Flake et al., 2017](#)). This means researchers need to test if SPO-R and its dimensions are capable of predicting relevant attitudes (e.g., willingness to take part in protests) or (actual) behaviours in relation to collective action. Furthermore, future research should explore the convergent/divergent validity between SPO-R's dimensions and other constructs that have been used in recent literature to assess the political context where protests take place, such as perceived political cynicism, external efficacy, and political trust (see [Lee, 2010](#); [Lee & Chan, 2018](#); [Sabucedo, Gómez-Román, Alzate, van Stekelenburg, & Klandermans, 2017](#); [van Stekelenburg & Klandermans, 2018](#)).

Notes

i) [Tarrow \(1994\)](#) also proposed three other dimensions: stability of political alignments, presence or absence of elite allies, and division within allies. These refer to factors that are not necessary directly involved in the movements, but surround them giving support, and/or acting as facilitators to mobilize people into action.

ii) [Rucht \(2007\)](#) also includes the politico-administrative system as part of social movements' reference groups. However, we think that dimension is already addressed by [Tarrow \(1994\)](#) through Political Openness.

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Competing Interests

The authors have declared that no competing interests exist.

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Appendices

Appendix A: List of All Items Created for Each SPO Dimension in Study 1

Table A.1

Items Created to Measure Government Openness

Thinking about the current government of your country, please indicate your agreement with each of the statements below

1. The government allows people to protest in the street freely
 2. The government values the fact that people express their opinion by participating in marches or protests
 3. The government believes that the protests are a legitimate act of political expression
 4. The government restricts political expressions involving participation in protests
 5. This government hinders participation in marches and protests
 6. The government is against people expressing their discontent by participating in protests
 7. Protests are constantly delegitimised by the current government
 8. The protests are respected and their concerns listened by the government authorities
 9. The government is concerned to guarantee that people can participate in marches and protests without problems
 10. Citizens' participation in protests is considered as a problem by this government
 11. Those who participate in protests are labelled as criminals by this government
 12. This government considers protests as a threat to its political stability
-

Table A.2

Items Created to Measure Perceived Repression

Thinking about the protests and demonstrations that are carried out in the streets of the UK/Chile, please indicate how common are the following situations

1. The people always should be able to protest itself in the street freely
 2. I positively value the fact that people express their opinion by participating in marches or protests
 3. I think that the protests are a legitimate act of political expression
 4. Political expressions involving participation in protests should be restricted
 5. The government should hinder participation in marches and protests
 6. I am against that people express their discontent by participating in protests
 7. From my perspective the protests are not legitimate in a democratic system
 8. I respect that social movements conduct public activities to express their concerns
-

Table A.3

Items Created to Measure Legitimacy of Protests (Original Scale)

Taking into account what people of your country think about the presence of social movements and protests, please indicate how typical the following statements are of public opinion

1. People of my country think that participating in protests is a valid political action
2. Citizens are of the opinion that carrying out protests is fine even when not sharing the protesters' concerns
3. People think that taking part in protests is legitimate in spite of the fact these can be inconvenient
4. The people of my country agree that those whose rights are violated can protest
5. Citizens of my country believe that those who participate in protests are simply criminals whose objective is to destabilise the country
6. For the people of my country, those who participate in protests just try to alter the public order
7. The people of my country think that demonstrations are an important activity in a democratic system
8. Citizens of my country conceive that participating in marches and protests is a right that all of us have
9. People of my country positively value that citizens express their concerns organizing marches and protests
10. The people of my country think that demonstrations are a necessary activity in a democratic system

Table A.4

Items Adapted to Measure Trust in Police Procedural Justice (Adapted From Jackson, Huq, Bradford, & Tyler, 2013)

Thinking about the police of your country, please indicate your agreement with each of the following statements

1. In a protest the police always use procedures that are fair for everyone
2. During a protest the police always clearly explain the reasons behind their actions
3. Generally, the police make decisions based in facts, non in personal opinions

Appendix B: Overview of Cross Cultural Invariance Tests by Each SPO Dimension in Study 1

Table B.1

Goodness-of-fit Indices and Comparison of Models Testing Measurement Invariance for Government Openness

Model	χ^2	df	$\Delta\chi^2$	Δdf	CFI	TLI	SRMR	RMSEA	90% CI for RMSEA		Model Comparison
									LL	UL	
M0	4.28	4			.99	.99	.01	.01	.00	.10	
M1	5.03	7	.74	3	1.00	1.00	.02	.00	.00	.06	$\Delta\chi^2$ M1-M0
M2	77.92	10	72.89	3	.82	.79	.10	.17	.13	.20	$\Delta\chi^2$ M2-M1
M2P	5.10	8	.07	1	1.00	1.01	.02	.00	.00	.05	$\Delta\chi^2$ M2P-M1
M3P	7.19	10	2.09	2	1.00	1.00	.03	.00	.00	.05	$\Delta\chi^2$ M3P-M2P
M4P	14.77	11	7.57	1	.99	.99	.12	.03	.00	.08	$\Delta\chi^2$ M4P-M3P

Note. M0 corresponds to the baseline model without any restricted parameter; M1 to the model testing weak invariance; M2 to the model testing strong invariance, M2P to the model testing partial strong invariance; M3P to the model testing partial strict invariance; and M4P to the model testing the invariance of latent factor (variance).

Table B.2

Goodness-of-fit Indices and Comparison of Models Testing Measurement Invariance for Perceived Repression

Model	χ^2	df	$\Delta\chi^2$	Δdf	CFI	TLI	SRMR	RMSEA	90% CI for RMSEA		Model Comparison
									LL	UL	
M0	5.97	4			.99	.98	.01	.04	.00	.11	
M1	7.78	7	1.81	3	.99	.99	.02	.02	.00	.08	$\Delta\chi^2$ M1-M0
M2	87.54	10	79.75	3	.85	.82	.15	.18	.14	.21	$\Delta\chi^2$ M2-M1
M2P	9.81	8	2.02	1	.99	.99	.03	.03	.00	.08	$\Delta\chi^2$ M2P-M1
M3P	16.45	10	6.64	2	.98	.98	.04	.05	.01	.09	$\Delta\chi^2$ M3P-M2P

Note. M0 corresponds to the baseline model without any restricted parameter; M1 to the model testing weak invariance; M2 to the model testing strong invariance, M2P to the model testing partial strong invariance; and M3P to the model testing partial strict invariance.

Table B.3

Goodness-of-fit Indices and Comparison of Models Testing Measurement Invariance for Legitimacy of Protests (Original Scale)

Model	χ^2	df	$\Delta\chi^2$	Δdf	CFI	TLI	SRMR	RMSEA	90% CI for RMSEA		Model Comparison
									LL	UL	
M0	4.26	4			.99	.99	.01	.01	.00	.10	
M1	9.87	7	5.62	3	.99	.98	.05	.04	.00	.09	$\Delta\chi^2$ M1-M0
M2	66.73	10	56.85	3	.82	.78	.10	.15	.12	.19	$\Delta\chi^2$ M2-M1
M2P	10.02	8	.14	1	.99	.99	.05	.03	.00	.08	$\Delta\chi^2$ M2P-M1
M3P	12.32	10	2.29	2	.99	.99	.03	.03	.00	.08	$\Delta\chi^2$ M3P-M2P
M4P	12.60	11	.27	1	.99	.99	.03	.02	.00	.07	$\Delta\chi^2$ M4P-M3P
M5P	14.06	12	1.46	1	.99	.99	.05	.02	.00	.07	$\Delta\chi^2$ M5P-M4P

Note. M0 corresponds to the baseline model without any restricted parameter; M1 to the model testing weak invariance; M2 to the model testing strong invariance, M2P to the model testing partial strong invariance; M3P to the model testing partial strict invariance; M4P to the model testing the invariance of latent factor (variance); and M5P to the model testing the invariance of latent factor (mean).

Appendix C: List of All Items Created for Each SPO Dimensions in Study 2

Table C.1

Items Created to Measure Government Openness

Thinking about the current government of your country, please indicate your agreement with each of the statements below

1. The government allows people to protest in the street freely
2. The government restricts political expressions involving participation in protests
3. This government hinders participation in marches and protests
4. The government is against people expressing their discontent by participating in protests
5. Citizens' participation in protests is considered as a problem by this government
6. Those who participate in protests are labelled as criminals by this government
7. This government considers protests as a threat to its political stability
8. This government uses the law to stop protests taking place
9. The government openly threatens all those who takes parts in a protests
10. This government considers those who participate in protests as enemies of the state

Table C.2

Items Created to Measure Perceived Repression

Thinking about the protests and demonstrations that are carried out in the streets of the UK/Chile, please indicate how common are the following situations

1. In this country, the protests are dispersed using violent methods
 2. The police uses an indiscriminate violence against the protesters
 3. Carrying out protests in this country is difficult because these are immediately attacked by the police
 4. In my country, those who participate in protests may end up injured by the disproportionate violence used by the police
 5. Usually in this country, some people are arrested without any more justification than having participated in a protest
 6. To disperse a protest, police officers commonly hit demonstrators
 7. In my country, people are afraid to participate in protests because of police behaviour
-

Table C.3

Items Created to Measure Legitimacy of Protests (Original Scale)

Taking into account what people of your country think about the presence of social movements and protests, please indicate how typical the following statements are of public opinion

1. People of my country think that participating in protests is a valid political action
 2. Citizens are of the opinion that carrying out protests is fine even when not sharing the protesters' concerns
 3. People think that taking part in protests is legitimate in spite of the fact these can be inconvenient
 4. Citizens of my country believe that those who participate in protests are simply criminals whose objective is to destabilise the country
 5. For the people of my country, those who participate in protests just try to alter the public order
 6. The people of my country think that demonstrations are an important activity in a democratic system
 7. The people of my country think that demonstrations are a necessary activity in a democratic system
-

Table C.4

Items Created to Measure Legitimacy of Protests (Simplified Scale)

Taking into account what people of your country think about the presence of social movements and protests, please indicate how typical the following statements are of public opinion

1. Protests are a valid action
 2. Demonstrations are fine even if they are inconvenient
 3. Protesters are simply criminals who threaten the stability of this country
 4. Demonstrators are threat to public order
 5. Protests are an important part of our democratic system
 6. Protest are a necessary feature of our democratic system
-

Table C.5

Items Adapted to Measure Trust in Police Procedural Justice (Adapted From Jackson, Huq, Bradford, & Tyler, 2013)

Thinking about the police of your country, please indicate your agreement with each of the following statements

1. In a protest the police always use procedures that are fair for everyone
 2. During a protest the police always clearly explain the reasons behind their actions
 3. Generally, the police make decisions based in facts, non in personal opinions
-

Appendix D: Overview of Cross Cultural Invariance Tests by Each SPO Dimension in Study 2

Table D.1

Goodness-of-fit Indices and Comparison of Models Testing Measurement Invariance for Government Openness

Model	χ^2	df	$\Delta\chi^2$	Δdf	CFI	TLI	SRMR	RMSEA	90% CI for RMSEA		Model Comparison
									LL	UL	
M0	8.32	4			.99	.98	.01	.05	.00	.11	
M1	10.91	7	2.59	3	.99	.99	.01	.04	.00	.08	$\Delta\chi^2$ M1-M0
M2	67.59	10	56.67	3	.92	.91	.07	.12	.10	.16	$\Delta\chi^2$ M2-M1
M2P	12.87	8	1.95	1	.99	.99	.02	.04	.00	.08	$\Delta\chi^2$ M2P-M1
M3P	35.07	10	22.20	2	.96	.96	.06	.08	.05	.11	$\Delta\chi^2$ M3P-M2P

Note. M0 corresponds to the baseline model without any restricted parameter; M1 to the model testing weak invariance; M2 to the model testing strong invariance, M2P to the model testing partial strong invariance; and M3P to the model testing partial strict invariance.

Table D.2

Goodness-of-fit Indices and Comparison of Models Testing Measurement Invariance for Perceived Repression

Model	χ^2	df	$\Delta\chi^2$	Δdf	CFI	TLI	SRMR	RMSEA	90% CI for RMSEA		Model Comparison
									LL	UL	
M0	8.08	4			.99	.98	.01	.05	.00	.10	
M1	10.71	7	2.63	3	.99	.99	.02	.03	.00	.08	$\Delta\chi^2$ M1-M0
M2	20.16	10	9.44	3	.99	.98	.04	.05	.17	.89	$\Delta\chi^2$ M2-M1
M3	26.69	14	15.98	7	.98	.99	.05	.05	.02	.08	$\Delta\chi^2$ M3-M2
M4	55.92	15	29.22	1	.96	.97	.24	.08	.08	.11	$\Delta\chi^2$ M4-M3

Note. M0 corresponds to the baseline model without any restricted parameter; M1 to the model testing weak invariance; M2 to the model testing strong invariance, M3 to the model testing partial strict invariance; and M4 to the model testing the invariance of latent factor (variance).

Table D.3

Goodness-of-fit Indices and Comparison of Models Testing Measurement Invariance for Legitimacy of Protests (Original Scale)

Model	χ^2	df	$\Delta\chi^2$	Δdf	CFI	TLI	SRMR	RMSEA	90% CI for RMSEA		Model Comparison
									LL	UL	
M0	14.15	4			.98	.94	.02	.08	.04	.13	
M1	19.67	7	5.52	3	.97	.96	.04	.07	.03	.11	$\Delta\chi^2$ M1-M0
M2	61.34	10	41.66	3	.90	.88	.08	.12	.09	.15	$\Delta\chi^2$ M2-M1
M2P	34.48	8	14.81	1	.95	.92	.05	.09	.06	.13	$\Delta\chi^2$ M2P-M1
M3P	38.02	9	3.53	1	.94	.92	.04	.09	.06	.13	$\Delta\chi^2$ M3P-M2P

Note. M0 corresponds to the baseline model without any restricted parameter; M1 to the model testing weak invariance; M2 to the model testing strong invariance, M2P to the model testing partial strong invariance; and M3P to the model testing partial strict invariance.

Table D.4

Goodness-of-fit Indices and Comparison of Models Testing Measurement Invariance for Legitimacy of Protests (Simplified Scale)

Model	χ^2	df	$\Delta\chi^2$	Δdf	CFI	TLI	SRMR	RMSEA	90% CI for RMSEA		Model Comparison
									LL	UL	
M0	7.88	4			.99	.97	.01	.05	.00	.10	
M1	15.04	7	7.16	3	.98	.97	.04	.05	.01	.09	$\Delta\chi^2$ M1-M0
M2	24.51	10	9.46	3	.97	.96	.05	.06	.03	.09	$\Delta\chi^2$ M2-M1
M3	75.12	14	60.08	7	.88	.90	.09	.11	.08	.13	$\Delta\chi^2$ M3-M2
M3P	38.77	13	14.26	-1	.95	.95	.07	.07	.04	.10	$\Delta\chi^2$ M3P-M2

Note. M0 corresponds to the baseline model without any restricted parameter; M1 to the model testing weak invariance; M2 to the model testing strong invariance, M3 to the model testing strict invariance; and M3P to the model testing partial strict invariance.