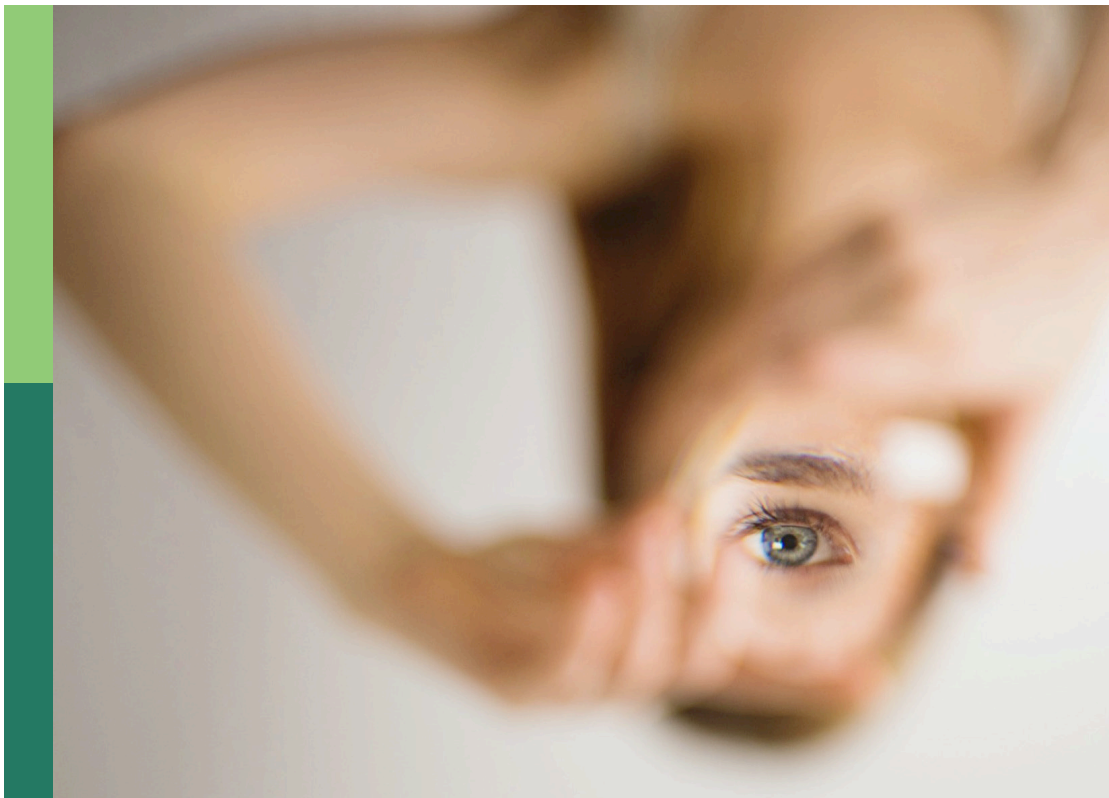
frontiers | Research Topics

Collective behavior and social movements: Socio-psychological perspectives

Edited by
Juan Carlos Oyanedel, Agustin Espinosa, Huseyin Çakal and Dario Paez

Published in
Frontiers in Psychology



ISSN 1664-8714
ISBN 978-2-8325-3426-7
DOI 10.3389/978-2-8325-3426-7

About Frontiers

Frontiers is more than just an open access publisher of scholarly articles: it is a pioneering approach to the world of academia, radically improving the way scholarly research is managed. The grand vision of Frontiers is a world where all people have an equal opportunity to seek, share and generate knowledge. Frontiers provides immediate and permanent online open access to all its publications, but this alone is not enough to realize our grand goals.

Frontiers journal series

The Frontiers journal series is a multi-tier and interdisciplinary set of open-access, online journals, promising a paradigm shift from the current review, selection and dissemination processes in academic publishing. All Frontiers journals are driven by researchers for researchers; therefore, they constitute a service to the scholarly community. At the same time, the *Frontiers journal series* operates on a revolutionary invention, the tiered publishing system, initially addressing specific communities of scholars, and gradually climbing up to broader public understanding, thus serving the interests of the lay society, too.

Dedication to quality

Each Frontiers article is a landmark of the highest quality, thanks to genuinely collaborative interactions between authors and review editors, who include some of the world's best academicians. Research must be certified by peers before entering a stream of knowledge that may eventually reach the public - and shape society; therefore, Frontiers only applies the most rigorous and unbiased reviews. Frontiers revolutionizes research publishing by freely delivering the most outstanding research, evaluated with no bias from both the academic and social point of view. By applying the most advanced information technologies, Frontiers is catapulting scholarly publishing into a new generation.

What are Frontiers Research Topics?

Frontiers Research Topics are very popular trademarks of the *Frontiers journals series*: they are collections of at least ten articles, all centered on a particular subject. With their unique mix of varied contributions from Original Research to Review Articles, Frontiers Research Topics unify the most influential researchers, the latest key findings and historical advances in a hot research area.

Find out more on how to host your own Frontiers Research Topic or contribute to one as an author by contacting the Frontiers editorial office: frontiersin.org/about/contact

Collective behavior and social movements: Socio-psychological perspectives

Topic editors

Juan Carlos Oyanedel — Andres Bello University, Chile
Agustin Espinosa — Pontifical Catholic University of Peru, Peru
Huseyin Çakal — Keele University, United Kingdom
Dario Paez — Andres Bello University, Chile

Citation

Oyanedel, J. C., Espinosa, A., Çakal, H., Paez, D., eds. (2023). *Collective behavior and social movements: Socio-psychological perspectives*. Lausanne: Frontiers Media SA. doi: 10.3389/978-2-8325-3426-7

Table of contents

frontiers | Frontiers in Psychology

TYPE Editorial
PUBLISHED 22 August 2023
DOI 10.3389/fpsyg.2023.1266567

OPEN ACCESS

EDITED AND REVIEWED BY
Gerald Matthews,
George Mason University, United States

*CORRESPONDENCE
Juan Carlos Oyanedel
✉ juan.oyanedel@unab.cl

RECEIVED 25 July 2023
ACCEPTED 07 August 2023
PUBLISHED 22 August 2023

CITATION
Oyanedel JC, Espinosa A, Çakal H and Paez D (2023) Editorial: Socio-psychological perspectives on collective behavior and social movements. *Front. Psychol.* 14:1266567. doi: 10.3389/fpsyg.2023.1266567

Editorial: Socio-psychological perspectives on collective behavior and social movements

Juan Carlos Oyanedel[1]*, Agustin Espinosa[2], Huseyin Çakal[3] and Dario Paez[1]

[1]Faculty of Social Sciences and Education, Andres Bello University, Santiago, Chile, [2]Department of Psychology, Pontifical Catholic University of Peru, Lima, Peru, [3]School of Psychology, Keele University, Newcastle-under-Lyme, United Kingdom

KEYWORDS

social psychology, wellbeing, social movements, collective behavior, social identity

Editorial on the Research Topic
Collective behavior and social movements: socio-psychological perspectives

This Research Topic seeks to examine antecedents and effects of participation in collective behavior (CB) and social movements (SM). The scholars participating on it come from different regions of the world and examine different scenarios of political action and reasons for CB. Let's start for da Costa et al., whose systematic review helps outlining the field. The authors conclude that participation in CB and SMs was associated with conflict over resource allocation, intergroup dynamics, and realistic threats. Karataş et al. paper describes a reliable measure to study positive and negative intergroup contact between minority and majority ethnic youth, a relevant factor for understanding SM. Estela-Delgado et al. examine the role of economic crises, an important factor in SM, showing that personal wellbeing is positively associated with financial wellbeing, which, in turn, is negatively associated with financial threats.

da Costa et al. also found that participation in CB and SM was explained by relative deprivation (RD), identity and collective efficacy, marking another path to explore their relationship. Peng and Wu illustrate the importance of RD for wellbeing, showing how in China relative individual income deprivation decreases sleep duration, mediated by a decrease in social trust. Wu et al. show how differential leadership, mediated by RD, reinforces deviant innovation behaviors—a phenomenon close to the mobilization of social change.

da Costa et al. systematic review also showed that affective relative deprivation and emotions like anger favor participation in SM, as well as ideological factors such as moral commitment and perceived threat to moral values and disagreement with system justification beliefs. Villagrán et al. findings support the importance of emotions in SM, in the context of the 2019 social outbreaks in Chile and Ecuador: people who are more interested in politics are more likely to experience anger with the social situation, and people who showed greater concern about the impacts of the COVID-19 pandemic and feel anger report higher conventional and online participation in SM. Analyzing the social outbreak in Chile, Hatibovic et al., confirm that emotions like anger toward police and positive emotions toward demonstrators predict the disposition to participate in conventional and unconventional CB. Carrasco Paillamilla and Disi Pavlic study on social outbreak in Chile found that participation in demonstrations and proximity to violent

protests have ideological effects, being associated with the perception that security forces frequently violated human rights during the outburst. Moyano-Díaz et al. examine a state of anomie as an explanatory factor for the Chilean social outbreak, since a perception of high anomie dominated. The perception of the rupture of the social fabric was related to believing that the governments of both the right and left are impotent to fight crime. Leadership breakdown was negatively related to political interest. Espinosa et al. examine similar phenomena in a Peruvian sample. Attitudes toward populist social movements were related to cynicism or political mistrust, and negatively to the perception of change in the political system, suggesting that populist attitudes arise in the context of political mistrust and express an ambivalent relationship with democracy. On the other hand, Ballesteros-Quilez et al. systematically review the literature on the squatter SM and conclude that it is based on collective actions with a political role of resistance to neoliberalism and the inequalities related to it, and of response to the needs of the communities through self-management. Kim and Lee examine how a power or control approach underlies the US capitol occupation report, which emphasizes policing deficits. They propose a more complex psychosocial approach that considers the processes of legitimacy, procedural justice, the evolution of collective identity, and negotiation can contribute to a more efficient and rational police action. Wang and Ren, in a study that examines a distal factor of SM, show that processes of social mobilization and migration reinforce cultural individualism. Pizarro et al. meta-analysis showed that the collective effervescence or perceived emotional synchrony, experienced while participating in collective gatherings, reinforces and modifies personal and collective emotions, identity and social integration, self-efficacy and individual and collective esteem, as well as the agreement with ideological values. Zabala et al. confirms the positive effect of participation on collective gatherings on social wellbeing and its maintenance through

TABLE 1 Potential motives related to participation in successful CB and positive effects on wellbeing.

Psychological needs (Sheldon et al., 2001)	Values motivational goals (Schwartz, 1999)	Reasons or motives to participate in collective leisure and recreational gatherings (da Costa et al.)	Motivation for participation in all types of CB	Dimensions subjective and psychological wellbeing (Oyanedel and Paez, 2021)
Thriving		Thriving: improve physical fitness	Thriving	Vitality
Pleasure	Hedonism	Hedonic: have fun	Pleasure	Emotional wellbeing
	Stimulation	Stimulation: obtaining excitement	Stimulation	
		Aesthetic: enjoy scenery, nature	Aesthetic	
		Affect regulation: rest relax; recover from stress	Coping and change emotions	
Money			Instrumental for individual	
Self determination Competence	Self-direction Achievement	Competence: developing/evaluating their competences; increasing self-confidence	Competence	Mastery
Autonomy Self determination	Autonomy Self-direction	Autonomy: satisfy need for independence; freedom make your decisions;	Autonomy	Autonomy
Self-esteem		Self-esteem: creating a good impression in front of other people	Self-esteem	Acceptance
Popularity influence	Power	Power: experiencing leadership; be able to control	Power	
Self-actualization		Self-actualization: develop values; grow spiritually	Self- actualization	Personal growth
		Learning, expanding knowledge	Knowledge	
		Creativity, do creative things; Live new experiences	Creativity	
Security	Security	Security: to be near considerate people, risk reduction and avoidance	Security	
	Tradition Conformism		Meaning attribution	Purpose in life
Relatedness	Benevolence	Affiliation: do things with family and acquaintances; being with people who do the same things and have the same values; social sharing	Relatedness	Positive relationships with others
	Universalism	Express collective identity relive the history of the community	Instrumental to change society	Self-transcendence

collective effervescence for at least 6–7 weeks after the event. It also shows that self-transcendence emotions like *Kama muta* are relevant during collective gatherings. Finally, Carvacho et al. show that the failure of the SM, leads the participants to increase their willingness to participate in the future, compared to non-participants, who decrease it. In another study, failure increases the perception of efficacy, in people with a history of non-conventional or non-normative participation. These results are consistent with those reported in the systematic review by da Costa et al. on the medium-term effects of participation in SM and show that their failure does not automatically lead to disempowerment of those who participate in it.

In this introduction, we also want to reflect, based on the studies examined, on why people participate in CB and SM—particularly recreational or not linked to processes that directly seek social changes. The review of the explanatory theories of SM and of the reasons for participating in collective gatherings (see da Costa et al.), as well as the theories of motivations (Sheldon et al., 2001) and of motivational purposes or values (Schwartz, 1999) suggest that participation in CB and SM can satisfy 17 different motives.

CB can satisfy needs or motives linked to physical adaptation, stimulation, hedonism, and aesthetic pleasure, as well as emotion regulation—these reasons are more relevant in festivals and playful encounters, although the last three probably plays a role in the CBs linked to SM. Material motives or incentives can play a role in some cases. Olson (1971), in his classic text on why people did not participate in SM, argued that only specific incentives led to abandoning the logic of the free rider. Studies show that this motive is not very relevant for participation in SM, although both the attainment of money and expression of wealth may play a role in ludic CB. Another set of motives is linked to empowerment (self-direction, self-efficacy and self-esteem), both individual and collective, as well as to the motivation of power and influence—this motive will be relevant for leaders and militants above all. Another group of motives is linked to self-realization, learning and creativity. Motives like search of or attribution of meaning, maintaining a tradition and social norms, as well as satisfying the need for security are also relevant. Affiliation and relational motives are also relevant for CC related to SM. Finally, motives of self-transcendence or collective motives, related to fighting to change society for the better are relevant—particularly for religious and ideological SM.

These motives highlight the role that social identity, in its different configurations, has for both CB and particularly for SM participation. While relative deprivation continues to be a relevant factor for identity creation and mobilization, elements such as recognition by the authorities and the perception of their efficacy can also affect the self-image of actors and their willingness to engage either in CB or SM.

Finally, it is also important to see what happens the other way around, and to examine how successful participation in CB and SM can reinforce all aspects of wellbeing, as is shown in Table 1 (Oyanedel and Paez, 2021).

Author contributions

JO: Conceptualization, Funding acquisition, Writing—original draft, Writing—review and editing. AE: Conceptualization, Validation, Writing—review and editing. HÇ: Conceptualization, Validation, Writing—review and editing. DP: Conceptualization, Writing—original draft, Writing—review and editing.

Funding

This study was supported by SCIA ANID CIE160009.

Conflict of interest

The authors declare that the introduction was written in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

Publisher's note

References

Olson, M. (1971). *The Logic of Collective Action. Public Goods and the Theory of Groups*. Cambridge, MA: Harvard University Press.

Oyanedel, J. C., and Paez, D. (2021). Editorial: social belongingness and well-being: international perspectives. *Front. Psychol.* 12, 735507. doi: 10.3389/fpsyg.2021.735507

Schwartz, S. H. (1999). A theory of cultural values and some implications for work. *Appl. Psychol.* 48, 23–47. doi: 10.1111/j.1464-0597.1999.tb00047.x

Sheldon, K. M., Elliot, A. J., Kasser, T., and Kim, Y. (2001). What is satisfying about satisfying events? Testing 10 candidate psychological needs. *J. Person. Soc. Psychol.* 80, 325–339. doi: 10.1037/0022-3514.80.2.325

frontiers | Frontiers in Psychology

TYPE Review
PUBLISHED 31 August 2022
DOI 10.3389/fpsyg.2022.974683

OPEN ACCESS

EDITED BY
R. David Hayward,
Ascension St. John Hospital,
United States

REVIEWED BY
Ramon Arce,
University of Santiago de Compostela, Spain
Stephen Turner,
University of South Florida,
United States

*CORRESPONDENCE
José J. Pizarro
jose.pizarro@ehu.eus

SPECIALTY SECTION
This article was submitted to Personality and Social Psychology, a section of the journal Frontiers in Psychology

RECEIVED 21 June 2022
ACCEPTED 01 August 2022
PUBLISHED 31 August 2022

CITATION
Pizarro JJ, Zumeta LN, Bouchat P, Włodarczyk A, Rimé B, Basabe N, Amutio A and Páez D (2022) Emotional processes, collective behavior, and social movements: A meta-analytic review of collective effervescence outcomes during collective gatherings and demonstrations. *Front. Psychol.* 13:974683. doi: 10.3389/fpsyg.2022.974683

Emotional processes, collective behavior, and social movements: A meta-analytic review of collective effervescence outcomes during collective gatherings and demonstrations

José J. Pizarro[1,2]*, Larraitz N. Zumeta[1], Pierre Bouchat[3], Anna Włodarczyk[2], Bernard Rimé[4], Nekane Basabe[1], Alberto Amutio[1,5] and Darío Páez[1,5]

[1]Faculty of Psychology, University of the Basque Country, San Sebastian, Spain, [2]Escuela de Psicología, Universidad Católica del Norte, Antofagasta, Chile, [3]Université de Lorraine, Équipe PerSEUS (EA 7312), Metz, France, [4]Department of Psychology, Université catholique de Louvain, Ottignies-Louvain-la-Neuve, Belgium, [5]Facultad de Educación y Ciencias Sociales, Universidad Andrés Bello, Santiago, Chile

In this article, we review the conceptions of Collective Effervescence (CE) –a state of intense shared emotional activation and sense of unison that emerges during instances of collective behavior, like demonstrations, rituals, ceremonies, celebrations, and others– and empirical approaches oriented at measuring it. The first section starts examining Émile Durkheim's classical conception on CE, and then, the integrative one proposed by the sociologist Randall Collins, leading to a multi-faceted experience of synchronization. Then, we analyze the construct as a process emerging in collective encounters when individuals contact with social ideal and values, referring to the classical work of Serge Moscovici as well as those more recent empirical approaches. Third, we consider CE as a set of intense positive emotions linked to processes of group identification, as proposed by authors of the Social Identity Theory tradition. Finally, we describe CE from the perspective of self-transcendence (e.g., emotions, experiences), and propose a unified description of this construct. The second section shows the results of a meta-analytical integration ($k = 50$, $N = 182{,}738$) aimed at analyzing CE's proximal effects or construct validity (i.e., Individual Emotions and Communal Sharing) as well as its association with more distal variables, such as Collective Emotions, Social Integration, Social Values and Beliefs and Empowerment. Results indicate that CE strongly associates with Individual Emotions –in particular, Self-Transcendent Emotions– and Communal Sharing constructs (e.g., Group Identity, Fusion of Identity), providing construct validity. Among the distal effects of CE, it is associated with Collective Positive Emotions, long-term Social Integration (e.g., Ingroup Commitment), Social Values and Beliefs and Empowerment-related variables (e.g., Wellbeing, Collective Efficacy, Collective Self-Esteem). Among the moderation analyses carried out (e.g., study design,

CE scale, type of collective gathering), the effects of CE in demonstrations are noticeable, where this variable is a factor that favors other variables that make collective action possible, such as Group Identity ($r_{pooled} = 0.52$), Collective Efficacy ($r_{pooled} = 0.37$), Negative and Self-Transcendent Emotions ($r_{pooled} = 0.14$ and 0.58), and Morality-related beliefs ($r_{pooled} = 0.43$).

KEYWORDS

collective effervescence, Durkheim, emotions, social integration, social values and beliefs, empowerment, collective rituals and gatherings

Introduction

Different approaches to collective effervescence

At the dawn of the twentieth century, a series of researchers and theorists tried to understand and explain the human experience in social rituals and gatherings (e.g., Freud, 1922; Le Bon, 2002). Since then, their work inspired significant lines of research including—among others—the creation of common identities (e.g., Tajfel and Turner, 1979) and even the birth of modern societies (e.g., Whitehouse et al., 2019; Henrich, 2020). Among this body of research, the work of Émile Durkheim has sketched the basis of a functional perspective of rituals and gatherings and, particularly, of a mechanism that produces psychosocial effects at different levels of analysis.

In his famous book, *Elementary forms of Religious Life* (1912/1915)—based on the ethnographies conducted by Spencer and Gillen (1898) with native tribes of Australia—Durkheim proposed an emotion-based mechanism capable of facilitating a series of social effects. As he conceived it (for a well-detailed analysis of his work, see Maryanski, 2018), this mechanism was key to understanding the evolution of social groups and the development of societies. Now, more than 100 years after this influential book, we present a review of theoretical models and empirical studies that have employed Durkheim's theoretical advances. In the following sections, we describe what they are, how they differ across theoretical perspectives, and present a meta-analysis of empirical studies that analyze the role of Durkheim's proposed mechanism and its effects on various psychosocial variables.

Durkheim's view of collective effervescence as intense shared emotions

For Durkheim (1912/1915), Collective Effervescence (hereafter, CE) was a process of synchronization and intensification of emotions among individuals that occurs during participation in collective rituals, and he considered it as a central component of collective behavior by which society empowers individuals to cope with the vicissitudes of life. In his view, if left alone, individuals would be unable to face existence and its intellectual challenges. CE thus starts with the effects of the mere gathering which brings individuals closer together, multiplies contacts between them, and makes them more intimate.

> (…) their first effect is to bring individuals together, to multiply the relations between them, and to make them more intimate with one another. By this very fact, the contents of their consciousnesses are changed. (p. 348)

Under these conditions, the utilitarian and individual preoccupations that dominate in profane life are eclipsed and the parcel of social being that each person carries within is revived and emerges to the forefront of consciousness. Thoughts focus on common beliefs, common traditions, and collective ideals. Homogeneous manifestations then develop in the assembly. By uttering the same cries, the same words, and the same gestures, individuals nourish the group feeling. Strong emotional experiences arise because every feeling expressed resounds in other consciences. Each of them echoes the others and vice versa, resulting in a reciprocal amplification. Progressively, participants enter into communion and CE takes place. Durkheim argued that once individuals are assembled, a "sort of electricity is formed by their collecting which quickly transports them to an extraordinary degree of exaltation" (p. 212). He insisted that the CE is independent of the type of emotion involved. Whatever the emotion, the key point is that it has to be shared. The social sharing of emotions in itself represents the decisive condition for a state of effervescence to arise. This point is made particularly clear in the author's descriptions of mourning rituals which are framed around negative emotions (see also Turner and Stets, 2006). Durkheim described a social dynamic developing when individuals come together. First, participants' co-presence and interaction generate a cognitive change in which the individual consciousness gives way to group consciousness. Next, gestures, actions, and movements become homogeneous feeding up collective feelings. Third, the reciprocal amplification of expressed feelings yields emotional communion and collective

effervescence. Participation in a collective gathering enhances participants' sense of social belonging.

The reciprocal stimulation of their emotions and the homogeneity of their gestures and movements lead them to feel in unison. Durkheim proposes four main outcomes of CE: first, CE is intrinsically related to the intensification and convergence of emotions and the creation of an emotional atmosphere or collective mood and emotions. Second, participation in a collective gathering enhances participants' sense of social belonging and by this token social cohesion. The reciprocal stimulation of their emotions and the homogeneity of their gestures and movements lead them to feel in unison. Third, by acting together, participants thus recreate the group consciousness. It brings common beliefs and collective representations to the foreground of thoughts. Fourth, the gathering of individuals entails exceptionally energizing effects, empowers them, and reinforces vital energy. Collective gatherings revitalize a collective part of consciousness that is latent in ordinary life. This part is made of shared representations. Their reactivation recreates the unity of participants' consciousness.

As is seen in the following sections, Durkheim's work can be taken as the starting point and inspiration for many theorists and researchers who have tested and expanded his conceptions of CE. While his views could be considered generic and even poetic at times, further developments have greatly extended the theoretical conception of CE and its social effects.

Approaches to collective effervescence

Collins' interaction ritual theory

Collins' (2004) developed an interaction ritual theory inspired by Goffman's (1959) study of interaction rituals and then, extended his perspective to larger groups as explored by Durkheim's (1912/1915) theory of collective rituals. For Collins (2004), the development of social life rests on two preconditions. First, human bodies need to be assembled in the same place and affect one another and next, their mere co-presence should be converted into focused interactions. Once a mutual focus of attention develops, a "shared reality" becomes effective among coparticipants. Indeed, once the bodies are together, there may take place a process of intensification of shared experience which Durkheim called CE, and the formation of a collective conscience or consciousness. We might refer to it as a condition of heightened intersubjectivity, which, according to Collins, rests on two mutually reinforcing elements: shared actions and shared emotion.

Collins described CE as a transitory state with sustained effects. Four outcomes result from the experience of heightened mutual awareness and emotional arousal. First, group emblems, the markers of group identity, are shaped. Durkheim (1912/1915) argued that devoid of symbols, sentiments have only a precarious existence. Second, ideals and values are consecrated. Rituals thus charge symbolic objects with new significance or recharge them with renewed sentiments of respect. Third, as individual participants are also recharged in this process, individual energy is produced named by Collins "emotional energy". The final effect of rituals' outcomes is morality. When people act under the energy derived from the heightened experience of intersubjectivity and emotional strength, they feel moral: "It is a morally suffused energy; it makes the individual feel not only good but exalted, with the sense of doing what is most important and most valuable" (p. 39).[1]

Contact with values and self-transcendent beliefs

Serge Moscovici (1988/1993) shared Durkheim's view that individuals in isolation lack vital energy. Recent empirical evidence largely supports this view by documenting relationships linking social isolation, poor health, and low wellbeing (e.g., Larson, 1990; Holt-Lunstad et al., 2015; Liu et al., 2018). These new data give particular significance to the view that people replenish themselves when members of a society are in communion in feeling, thought, and action. Moscovici (1988/1993) argued that when in groups and collective situations, individuals converge and polarize their beliefs, emotions and behaviors. Individual borders are then blurred and participants let their emotions flow but they do not lose their capacity to reason. Collective gatherings prompt a shift from an initial state in which individuals are turned inward to a subsequent state in which they communicate and merge. They harmonize their feelings and representations with those of their coparticipants.

Durkheim (1912/1915) contended that *Homo sapiens* is a *Homo duplex*, or a creature living on two levels, with

1 It is important to point that Collins' approach is convergent with the fact that Durkheim agrees with Le Bon (2002) and Freud (1922) that, in a crowd or mass or collective gathering, the person acquires new qualities. These authors share that collective encounters, and crowds, transform people to think and act in ways they otherwise would not. During these states of collective encounters, beliefs, behaviors, and emotions become polarized, much more extreme, and much more similar (Moscovici, 1988/1993). Le Bon asserts that crowds, although they do not profess conventional morality, are capable of moral acts -sacrificial and selfless- far superior to those of the individual person. Freud asserts a similar idea. Durkheim will insist that collective encounters will affectively recharge moral ideals and norms. That is, all these authors agree that people in collective rituals and manifestations may act in more extreme and idealistic or moral ways-showing extreme altruism and sacrifice, but also extreme violence (Moscovici, 1988/1993).

an individual and a part of the broader society. Moscovici (1988/1993) viewed this dual nature of human beings as essential. Taking part in a ceremony makes people realize that each of them represents both an individual and a collective being. They live in two worlds, the profane—or world of daily life—and the sacred—or world of ideal values. CE is what brings these two worlds together. Other psychologists also conceive CE as a positive emotional experience generated during collective gatherings, resulting from a feeling of sacredness arising from participating in them (Gabriel et al., 2020) and of a motivational disposition to enjoy participating (Gabriel et al., 2017). Thus, Gabriel et al. (2020) operationalized CE as a sense of connectedness—assessed through items such as "I felt connected to others who were present at the event", "the event made me feel closer to the people who were there")—associated with a feeling of sacredness (e.g., "I felt as if there was something sacred about the event").

Perceived emotional synchrony

In line with Durkheim's views on the contribution of participants' synchronicity to the emergence of CE, Páez et al. (2015) stressed that in a mass event, people experience a multifaceted synchronization with co-participants. They share time and place, concerns (e.g., shared intentions, goals, purposes), attentional focus (e.g., podium, stage, altar, speaker, leader, priest), actions (e.g., gestures, movements, marching), expression (e.g., singing, yelling, repeating sentences, playing music, dancing), as well as emotional responses to the shared situation. The combined effects of these various elements of synchronicity stimulate participants' experience and enactment of similar emotional states, thus fueling an experience of fusion or unison, which Durkheim often referred to as emotional communion. Páez et al. (2015) considered that assessing participants' subjective experience of these combined components would provide an empirical proxy for the Durkheimian notion of CE. The proposed variable was labeled Perceived Emotional Synchrony (hereafter, PES) and defined as an emotional experience felt by participants during group gatherings and involving a sense of togetherness. It addresses not only the experience of emotions felt together but also the collective synchronization of all the various facets of the emotional experience. Example items used were "We felt more sensitive to emotions and feelings that others feel," "We felt a strong-shared emotion," or "We performed as one, like a single person" (see Wlodarczyk et al., 2020). Different studies examined the effects of participation in different types of collective gatherings. Participation and specifically PES strengthened social integration, self-esteem, positive affect, and socially shared beliefs (Páez et al., 2015; Pelletier, 2018; Bouchat et al., 2020; Wlodarczyk et al., 2020, 2021; Zumeta et al., 2020; Kettner et al., 2021).

Positive emotions stemming from shared social identity

CE has also been conceptualized and empirically measured by several social psychologists working within the framework of Social Identity Theory (Tajfel and Turner, 1979) and its development in Self-Categorization Theory (Turner et al., 1987)—hereafter, the Social Identity Perspective (SIP, see Hornsey, 2008). They suggest (e.g., Hopkins et al., 2016) that CE corresponds to a feeling of strong positive emotions that potentially follows once a sense of shared identity develops amongst participants at meetings, demonstrations, or collective rituals. First, in a cognitive change, individuals stop thinking of themselves in terms of their personal identities and start viewing themselves as members of a common category. Values and beliefs associated with the social identity salient at the time become the keys to appraising their current situation. Secondly, a relational change arises as participants develop a sense of connection and intimacy with co-participants (Neville and Reicher, 2011). Third, an affective change develops, as emotions are no longer based upon personal considerations but upon social identity-related ones. These include appraisals of stimuli and the experience of relational intimacy described above. Additionally, the sense of empowerment felt in crowds and the consequent ability to achieve group goals may be a basis for the strong positive emotions often found in crowds (Drury and Reicher, 2005; Hopkins et al., 2016; Stott et al., 2018). These strong positive emotions are viewed by these authors as being similar to the concept of CE (e.g., Hopkins et al., 2016). This line of research empirically assessed CE through participants' ratings of how positive their collective experience was (e.g., "In the period of pilgrimage, to what extent have you felt fulfilled, happy, and so on?"), or in terms of the experience of positive emotions (e.g., "I felt excited and I felt cheerful at …") (Novelli et al., 2013). In rituals, demonstrations, or meetings, different studies recorded positive and significant associations between identity-related processes and intense positive emotions—or, in their view, CE—(Novelli et al., 2013; Hopkins et al., 2016; Alnabulsi et al., 2020).

Self-transcendent emotions

In CE, several elements contribute to bringing participants beyond the world of their ordinary experience. For instance, people perceive that they share emotions with others, which reinforces their collective identity and empathy with group members, and attention is thus directed outwards so that self-absorption drops. In addition, stimuli arising out of other-focused appraisals or other-directed attention (e.g., others' suffering, virtues, love, or closeness) as theorized above (i.e., Collins, 2004; Páez et al., 2015; Hopkins et al., 2016) are common elicitors of a subset of positive emotions, referred to as "moral emotions," "other-praising emotions," or "self-transcendent emotions." They include elevation, compassion,

admiration, gratitude, love, and awe (Haidt, 2003a,b; Algoe and Haidt, 2009; Haidt and Morris, 2009; Van Cappellen and Rimé, 2014).

These emotions decrease the salience of the individual self and promote union with other people and social groups (Haidt, 2003b; Van Cappellen and Rimé, 2014; Stellar et al., 2017). They mobilize people to connect with those around them or with society and thus foster episodes of self-transcendence. Such episodes involve not only a decrease in self-absorption, but also the blurring of the boundaries separating the individual from the environment, the interpenetration of the individual self and the group, and a broader connection with the world (Van Cappellen and Rimé, 2014; Yaden et al., 2017; Hanley and Garland, 2019). Therefore, CE could be viewed as a self-transcendent emotion (Haidt et al., 2008), or as a manifestation of a mode of sociality that represents union (e.g., Fiske, 1992).

Indeed, the latter is what Fiske et al. (2017) proposed, suggesting that Durkheim's CE is a manifestation of the mode of relationship Communal Sharing (i.e., horizontal and egalitarian social relationships based on strong bonds; see Fiske, 1992). In addition, and when communal sharing relationships suddenly intensify, they produce an analog of a strong emotional state, which they term *kama muta* (in Sanskrit meaning "moved by love"). In their view, cultural practices such as collective gatherings and rituals can evoke in witnesses and participants the sudden intensification and salience of the Communal Sharing mode. In turn, this triggers kama muta, characterized by feeling moved or touched, positive affect, bodily responses such as tears, chills, or warmth, and action tendencies such as approach behavior, affiliation, prosocial behavior, and social bonding (Zickfeld et al., 2019a,b). Supporting this, there are different studies showing strong positive correlations between with self-transcendent emotions (Zumeta et al., 2020; Wlodarczyk et al., 2021).

Toward a working definition of collective effervescence

After this review, we propose CE as a state of intense and joint emotional activation, which can potentially emerge in instances of collective behavior and can generate a series of effects at the individual (e.g., wellbeing) and collective (e.g., collective identity and values) levels. It is a process that implies attentional (i.e., shared focus of attention) and behavioral (i.e., coordination of movements and gestures) convergence and, above all, emotional synchronization (i.e., a convergence of different emotional components). When these criteria are met, CE usually implies a beyond-normal emotional intensification or emotional feedback. In other words, after the convergence of attention, as well as that behavioral and emotional, participants of a collective gathering will feel emotions of greater-than-normal intensity and an enhanced sense of unison with others.

Outcomes of collective effervescence

Here, we briefly summarize the major effects of CE that recur among authors (e.g., Durkheim, 1912/1915; Collins, 2004; Páez et al., 2015; Hopkins et al., 2016; Zumeta et al., 2020). In addition, the effects listed here will then be adopted as criterion variables in our meta-analytic review of studies, which assessed the experience of collective effervescence in collective events. While the dimensions of the variables included here are six (see below), we organize them into proximal and distal outcomes (see Section Method):

Proximal outcomes of CE include:

(1) Affective reactions or the emotions felt by participants as individuals during collective gatherings. These emotions—which are proximal from a time perspective—include (a) general activation or emotional arousal; (b) negative emotions in negatively valenced events; (c) positive emotions, which are often reported when individuals come together even when their meeting involves negative emotions (e.g., funerals); (d) self-transcendent positive emotions which include elevation, compassion, admiration, gratitude, kama muta or moved by love, and social awe;
(2) Communal sharing. These proximal effects refer to the individual relationship with her co-participants of the collective gatherings and includes (a) social identification or self-categorization as a member of the group or collective; (b) feeling the individual self as less important than the collective self, or feeling that the individual self and the collective overlap, merge, or are fused into one; and (c) an increased sensation of social support with the group.

Outcomes that are more distal may include:

(3) Collective emotions or emotions perceived as dominant in the group during a given period, and organized broadly into negative or positive climate.
(4) Social integration. This group of outcomes consists on those variables that reflect a psychological connection with those represented in the gathering but not necessarily present. It includes: (a) an enhanced feeling of commitment toward the group, and (b) an identification with those that are not in the gathering (e.g., with the whole movement of women and not only with co-participants in the 8M demonstrations; see below).
(5) Social values and beliefs. According to what is being enacted, represented, celebrated, etc., in the collective gathering, CE can facilitate greater agreement with (a) social values (e.g., self-transcendent values such as universalism) and (b)

self-transcendent beliefs, spirituality- and religion-related beliefs, as well as those related to purpose or meaning of life.

(6) Empowerment among those who participate. Finally, CE can boost the subjective perception of (a) vitality and wellbeing among those who take part in the collective event, as well as (b) self-esteem and efficacy. The latter, could be related to co-participants (e.g., women who attend to 8M demonstrations) or to an extended group (e.g., all women in the world).

Demonstrations, collective effervescence and social movements

Specifically, in order to analyze the role of CE in the fueling of social movements, we will examine its association with factors that are both conducive and explanatory of the participation in collective action or social movements. Demonstrations as a protest ritual are not only aimed to change the social milieu, but are also symbolic performance with an expressive purpose. Demonstrations "provide participants with the sense of being engaged in a common cause with a large number of like-minded people who share similar feelings about an issue, mass gatherings also work as opportunities to cement a given social group" (Casquete in Filleule and Tartakowski, 2013). "In the midst of an assembly" Durkheim (1912/1915) writes, "we become capable of feelings and conduct of which we are incapable when left to our individual resources." "[…] For this reason all parties—be they political, economic, or denominational—see to it that periodic conventions are held, at which their followers can renew their common faith by making a public demonstration of it together." (p. 212).

Demonstrations, therefore, are opportunities for constructing or reinforcing group solidarity and identity as well as ritual occasions with socializing effects. As Filleule and Tartakowski (2013) posit, participation in demonstrations are opportunities for constructing or reinforcing solidarity and collective identity as well as ritual occasions with socializing effects, and should reinforce factors conducive to collective action. Meta-analytical reviews support that factors conducive to collective action are social or collective identification (i.e., identification with an extended group; van Zomeren et al., 2008; Agostini and van Zomeren, 2021; Akfirat et al., 2021), collective efficacy (van Zomeren et al., 2008; Agostini and van Zomeren, 2021), negative emotions related to affective fraternal or collective deprivation (van Zomeren et al., 2008; Smith et al., 2012), agreement with self-trascendence values, that could reinforce moral conviction supportive of collective action (Sabucedo et al., 2018; Agostini and van Zomeren, 2021) as well as moral, positive and self-transcendent emotions like hope, that gave motivational support to the previous factors (Agostini and van Zomeren, 2021). Therefore, a clear hypothesis is that the participation in social and political collective protests should increase the level of these factors favorable to collective action.

Differentiation with related constructs: Collective emotions and co-experienced emotions

As it can result evident, the presented definition of CE can overlap or be similar to other affective phenomena. Therefore, the following lines will attempt to differentiate CE from similar constructs, such as collective emotions, or co-experienced emotions.

One of the effects that can result from CE over time is the creation of a collective affective state or collective emotion (Collins and Hanneman, 1998; von Scheve, 2011; see also Thonhauser, 2022). Collective emotions are the convergence of an affective response felt by two or more people (i.e., a collective) toward a specific event or object (von Scheve, 2011). Thus, participation and interaction in collective events have a large implication (e.g., through CE), but collective emotions correspond to a larger phenomenon than CE. Collective emotions are not just a convergence of affect or shared emotions. Rather, they are the result of a series of characteristics and involve—to varying degrees—a culture of emotional norms, being shared by a large proportion of people, being "distributed" in collective gatherings, and more (see von Scheve, 2011; Basabe and Paez, 2017). Because they originate from cultural values and norms of a collective (e.g., a common evaluative perspective, based on a history of previous interactions; see Thonhauser, 2022), these can have a normative and prescriptive value, and can impose on individuals what is socially desirable (von Scheve, 2011; Menges and Kilduff, 2015; Basabe and Paez, 2017). As an example, one group of people celebrating the origins of a national celebration could, through joint emotional activation and synchronization during the event (i.e., CE), experience intense proud and joy in front of the national symbols. In turn, and over time, these experiences can boost a common and shared interpretation of what should be enacted and felt during a national celebration and thus, national institutions (e.g., government, schools) can further "teach" what is supposed to be felt during a national celebrations (i.e., collective emotion). As it can be seen, collective emotions imply top-down dynamics, are larger in scope, and can be the cause or result of CE, which in turn, in comparison, corresponds to a smaller-in-scope process.

On the other hand, emerging research argues that co-experienced positive affect is centered on "love-the-emotion" (Fredrickson, 2016). This proposal aims at defining a social emotion (i.e., different from love-the-sentiment or love-the-attitude) and presents the criteria that produce it: rapport or mutual awareness of the shared positive emotion and bio-behavioral synchronization. In other words, Fredrickson (2016) proposes that this emotion is felt in any instance of shared positive emotion when the above criteria are met (Fredrickson, 2016; Brown and Fredrickson, 2021). In addition to this view, CE can be also thought of as a manifestation of the communal sharing mode of social relationships (Fiske, 1992). According

to this theory, however, when this mode of sociality suddenly intensifies (e.g., a reunion of a couple of lovers after being separated) produces a social emotion called kama muta (see Fiske et al., 2017).

Our conceptualization of CE greatly overlaps with these two. However, it is important to clarify that CE is not a particular emotion (i.e., neither love-the-emotion nor kama muta), but rather an emotional phenomenon that implies jointly experienced affect. In addition, it is not subjected to positive affect solely; rather, it can also be the result from negatively valenced emotions, such as the common pain, sadness and grief present at a funerary ritual.

Overview of the present meta-analysis

So far, we have reviewed theories and research related to CE. We will now consider available empirical studies and datasets addressing collective events and report a meta-analytic examination of the relationship between their various measures and operationalizations of this construct, as well as its relationship with several criterion variables. For the latter, we considered variables that came up repeatedly throughout the review of the theoretical and empirical literature. The meta-analytic review will allow an accurate assessment of the association of each of these variables with measures of CE.

Accordingly, we organize the associations of CE with a series of dependent variables from empirical studies, similarly as presented above (i.e., affective responses, communal sharing, values and beliefs, and empowerment) and in two levels of analyses: proximal and distal outcomes (see Section Procedure). In further detail, we examine the effects of participation in demonstrations to examine whether they reinforce explanatory principles of social movements, such as collective or social identity, social efficacy, negative emotions linked to relative deprivation and injustice, as well as positive moral emotions.

Method

Procedure

Following the American Psychological Association (APA) Meta-Analysis Reporting Standards (MARS) and more biological related PRISMA guidelines (Moher et al., 2015), we conducted several searches between December 2019 and March 2022 in PsycINFO, WoS, SCOPUS (all in English) and Google Scholar (in English, French, Italian, Portuguese, and Spanish). The key search terms were: "Collective Effervescence," "Effervescence and Durkheim," "Emotional Effervescence," "Emotional Synchrony and Collective," and "Collective Emotions" (and equivalent terms in languages other than English). A final search was conducted in Google Scholar using the same terms, always including the word "Durkheim". Full datasets, R-code syntax, and Supplementary material (i.e., including further moderation analyses) can be freely accessed at our project's online repository of Open Science Framework: https://osf.io/wb8c5/?view_only=~da9c179483f64d229a29ff5397bb9930.

Inclusion criteria

We considered studies eligible for inclusion published studies at the moment of conducting the analyses and when they fulfilled the following criteria: studies had to include (a) quantitative measurement of CE, (b) at least one criterion variable, (c) individual-level responses or aggregated data, and (d) report at least one correlation or beta coefficient between (a) and (b) (see Figure 1).

The final selection comprised 41 articles encompassing 50 studies that have included in total 182,738 participants ($Mage = 30.8$, $SD = 9.15$; 58.8% female) (see Table 1). These studies covered a wide variety of collective events: community celebrations ($N = 10$), demonstrations ($N = 15$), religious events ($N = 10$), sports gatherings ($N = 4$), music festivals ($N = 3$), others (e.g., recalling an experience of mass event; $N = 12$). The studies involved various designs (cross-sectional and longitudinal), types of collective gatherings (religious events, celebrations, and demonstrations), and measurements of collective effervescence [positive emotional intensity; PES; Tendency for Effervescence Assembly Measure (TEAM); among others; see below].

Coding of the studies

Following Lipsey and Wilson's (2001) guidelines, we elaborated a coding scheme to register key information of the selected articles. It was used to record authors' names, years of publication, sample size, study design, measurement of collective effervescence, type of collective event, measures of dependent variables, and effect sizes (Supplementary Table S1). Moderators were also coded as categorical variables, and this task was performed by two investigators independently. The moderators were independently categorized by three judges with a total agreement index of 98%. Disagreements were discussed among the three judges until a consensus was reached.

Measurement of collective effervescence

One widely-used measure of CE consisted of scales comprising from 5 to 18 items inspired by the concept of PES described earlier in this article. These items assess mutual entrainment of intense emotions, their coordination and sharing with others, and feelings of unity with others (e.g., "We felt that we were one", "We felt more sensitive to emotions and feelings that others feel"; Páez et al., 2015; Pelletier, 2018; Bouchat et al.,

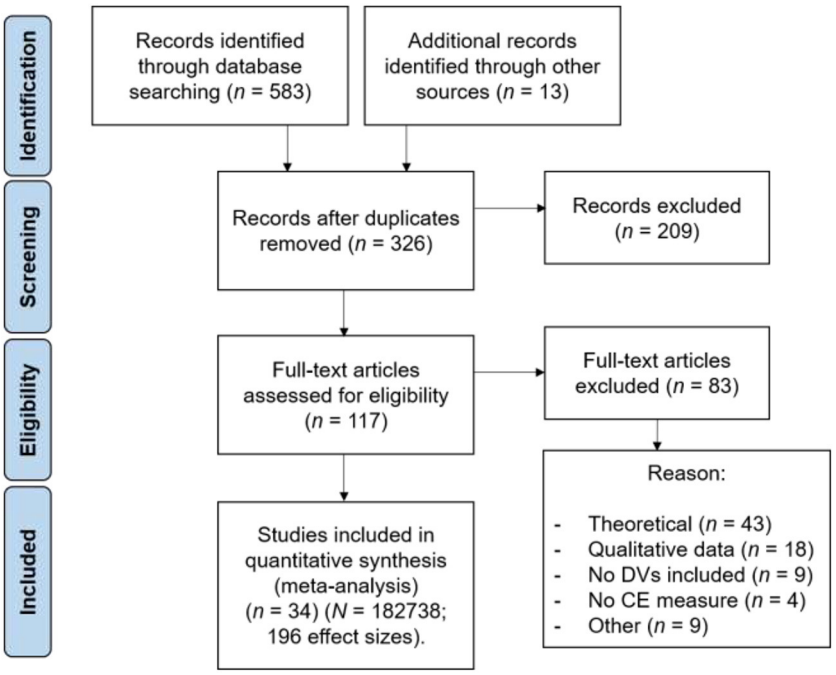


FIGURE 1
Flow chart of the studies identified and selected, following the PRISMA guidelines.

2020; Wlodarczyk et al., 2020). Another frequently used measure assessed the level intensity of affective experience or positive emotions and is generally associated with SIP-based studies, for instance, "My experiences in the crowd at the .... demonstration have been emotionally intense" (Neville and Reicher, 2011), "In the period of pilgrimage, to what extent have you felt fulfilled, happy, alive and so on?" (Hopkins et al., 2016). Other measures of effervescence focused solely on emotional entrainment (e.g., "How emotional have you felt about the…?", "How much have you let yourself be carried away by the mood of other fans?") (von Scheve et al., 2017), or on a combined connection with others and to the sacred (e.g., "I felt connected to others who were present at the event", "I felt as if almost everyone there felt the same emotions") (Gabriel et al., 2020). In the latter case, we only considered items assessing the connection with others. All information can be seen in Table 2.

Criterion variables

Our list of criterion variables is the result of a compromise between the outcomes of collective events that have emerged from our literature review and the variables available in the studies included in this meta-analysis. We have organized these variables into two categories, according to a time- and scope-related approach thus, creating proximal and distal outcomes. The list of variables are thus organized in (1) individual emotions felt by participants, (2) communal sharing or immediate social integration, (3) collective emotions, (4) social integration, (5) social values and beliefs, and (6) empowerment. We made a distinction between immediate effects (i.e., what happens during the collective gathering itself) and more or less long term effects (i.e., what individuals or publics retain from their participation in the demonstration, collective ritual, etc.). In addition, immediate effects represent facets or features that conform the construct of CE.

Proximal outcomes

In this category, we included variables addressing either the participants' own states and feelings, or how they feel with regard to co-present participants. Such effects can therefore directly affect the course of the collective situation namely, by intensifying emotional arousal and positive emotions or by feeding up an experience of self-transcendence. Other proximal variables are related to situated or immediate social integration, like altering the perception of individual boundaries, enhancing openness to others. In all, these variables also serve as construct validity criteria, since they are constructs that cover the two essential elements of CE found in the literature review: emotional reactions and a sense of union with others. The variables included here (i.e., emotional arousal, positive emotions and self-transcendent emotions, and a sense of unison with others) are considered by scholars as criteria or indexes of a state of CE (Draper, 2014; von Scheve et al., 2014; Páez et al., 2015; Hopkins et al., 2016; Fiske et al., 2017; Gabriel et al., 2020;

TABLE 1 Summary of approaches of empirical research on collective effervescence.

Theoretical background	References	Items (examples)	Attributes of the scales		
			Common emotional experience	Valid for positive and negative affect	Valid for religious and secular rituals and gatherings
Collective gatherings and *Homo duplex* and related to sacred or transcendent beliefs and values.	Moscovici, 1988/1993; Gabriel et al., 2017, 2020	"I felt as if almost everyone there felt the same emotions" "I felt as if there was a greater purpose to the event".	X		X
CE as perceived emotional synchrony.	Páez et al., 2015; Wlodarczyk et al., 2020	"We performed as one, like a single person" "We felt stronger emotions than those we normally feel"	X	X	X
CE as emotional entrainment.	von Scheve et al., 2014; Ismer et al., 2017	"How emotionally interested have you been in…?", "How much you have been carried away by the mood of other fans?"	X		X
CE as intense positive emotions related to social identification.	Novelli et al., 2013; Hopkins et al., 2016	"In the period of pilgrimage, to what extent have you felt alive" "I felt joyful during the demonstration"	X		X
CE related to feeling self-transcendent emotions.	Draper, 2014	"I felt awe, moral inspiration, moved by love of others/closeness or kama muta during the demonstration" "participants felt awe, inspiration and/or a sense of God's presence during religious ceremonies"	X		X

CE, Collective Effervescence. An "X" indicates whether the approach/scale has the indicated attribute for measurement.

Wlodarczyk et al., 2020). Variables considered in this category are as follows (see Figure 2).

Individual emotions

This class comprised self-reported individually-felt emotional states (e.g., DESm, Fredrickson, 2009) including negative emotions (e.g., "How sad, discouraged, or unhappy have you felt?"), positive emotions (e.g., "What was the most joyful, glad, or happy you felt?"), and self-transcendent positive emotions (e.g., "What is the most inspired, uplifted, or elevated you felt during the event?") related to participation in the collective gathering. When possible, we additionally computed an indicator of general arousal (i.e., averaging absolute values of positive and negative emotions).

Communal sharing or immediate social integration

This class gathered variables assessing the activation of the communal sharing mode (i.e., intensification of horizontal relationships, see Fiske, 1992). It included indexes of self-categorization as a member of the group, or feeling that the individual and collectives selves overlap or merge. For instance, activation of a proximal social identity (e.g., "It is nice to be part of my group") (e.g., Leach et al., 2008), verbal (e.g.; "I am one with my group") and pictorial expressions of identity fusion (Swann et al., 2009; Gómez et al., 2011, respectively), and the perception of support (Social Support-related scales like Richer and Vallerand's (1998); see (Drury et al., 2016); e.g., "If I need help, other pilgrims would help me"). Of particular importance, we only considered cases where the identification explicitly referred to co-participants in the collective event.

Distal outcomes

This second class of outcome variables gathered effects that extend beyond the collective situation itself. Some of these variables were assessed immediately after the collective situation but their target extends beyond this situation (e.g., unison felt beyond co-present participants—with the whole community, or with a broad social movement; e.g., a positive emotional atmosphere felt beyond the punctual climate). Other distal outcome variables were assessed in follow-up measurements and

TABLE 2 Descriptions and characteristics of studies included in the meta-analysis.

ID	References	Description	*N*	Age *M* (*SD*)	% of women	Collective event type	CE scale
S1	Alnabulsi et al., 2020	Examination of the emotional effects of participating in the *Hajj* (an annual Muslim pilgrimage to Mecca). The cross-sectional study was conducted using a convenience sample.	1,176	–	35.5	Religious event	Intensity of Positive Emotional Experience
S2	Bouchat et al., 2020	Examination of short- and long-term psychosocial consequences of participation in a major scouting event in Belgium, in 2018. The study was conducted with a convenience sample using a longitudinal design.	313	23.0 (7.5)	53.7	Community celebration	PES
S3	Carlton-Ford, 1992, S1	Study of a sample of 44 different urban communes from 7 large US cities, and their group rituals ($k = 15$) without the presence of a charismatic leader (e.g., group meditation, yoga, praying and singing). It used a convenience and hierarchical sample with a cross-sectional design.	142	–	–	Religious events	Involvement in Collective Effervescence (ICE)
S4	Carlton-Ford, 1992, S2	US urban commune rituals (see description of S5) with the presence of a charismatic leader.	144	–	–	Religious events	Involvement in Collective Effervescence (ICE)
S5	Castro-Abril et al., 2021, S1.1	Study exploring participation in the political demonstrations and social movements that started in Chile in October 2019. It was conducted with a convenience sample of participants using a cross-sectional design.	186	34.8 (12.1)	65.5	Demonstration	PES
S6	Castro-Abril et al., 2021, S1.2	Exploration of Chilean social movements (see description of S7). This study used a convenience sample of spectators who followed the movements live or in a mediated fashion (e.g., online, on TV).	65	38.5 (12.7)	65.7	Demonstration	PES
S7	Corcoran, 2015	Cross-sectional study using data (aggregated level) from the 2001 US Congregational Life Survey (USCLS), which analyzed 344 religious congregations (e.g., Pentecostal, Black Protestant and Catholic) and attendees at collective religious rituals. Hyper-network sampling was used to gather a random sample of congregations.	46,571	48.5 (15.2)	–	Religious event	Perception of CE
S8	Corcoran, 2020	Cross-sectional study conducted with the 2001 US Congregational Life Survey (USCLS) (see S9).	49,360	48.80 (15.35)	60.1	Religious event	Emotional Energy Index
S9	Cusi et al., 2022	Cross-sectional study that assesses (through recall of a past experience) participation in past collective events. Specifically, the type of event (e.g., family reunions, concerts, etc.) and the frequency of participation are evaluated.	372	23.36 (6.85)	67.2	Other type	PES
S10	Draper, 2014	Study using data (aggregated level) from the 2001 US Congregational Life Survey (USCLS) (see S9). This study used a cross-sectional design.	73,196	–	62.0	Religious event	CE Index

(Continued)

10.3389/fpsyg.2022.974683

TABLE 2 (Continued)

ID	References	Description	*N*	Age *M* (*SD*)	% of women	Collective event type	CE scale
S11	Drengner et al., 2012	Study exploring participation in Europe's biggest hip-hop festival in Germany. Mainly designed as a music festival, it also includes different aspects of hip-hop culture (e.g., graffiti, breakdancing) and is attended by up to 20000 visitors. The study was carried out using a cross-sectional design with a convenience sample.	409	21.5 (3.1)	33.0	Music festival	Intensity of Positive Emotional Experience
S12	Fischer et al., 2014	Measurement of quantified physiological fluctuations (heart rates) and self-reported affective states at the *Thimithi* festival in a Hindi community in Mauritius. The 10-day festival ends with a procession and subsequent fire-walking ritual. The final sample included fire-walkers (of whom 13 participated in body piercing) and spectators who were evaluated pre- and post-event.	70	32.6 (14.9)	49.0	Religious event	Involvement in the Ritual
S13	Gabriel et al., 2017, S1	Cross-sectional study using the Tendency for Effervescent Assembly Measure (TEAM scale) with an undergraduate student sample (University at Buffalo, US).	117	19.0 (3.4)	53.0	Other type	TEAM
S14	Gabriel et al., 2017, S2	Exploration of the Tendency for Effervescent Assembly Measure (TEAM; see S16). This study included data from a second undergraduate student sample.	163	18.9 (1.4)	52.8	Other type	TEAM
S15	Gabriel et al., 2017, S3	Evaluation of the Tendency for Effervescent Assembly Measure (TEAM; see S16). This study included data from a community sample.	405	35.4 (12.4)	43.7	Other type	TEAM
S16	Gabriel et al., 2017, S5	Study evaluating past experiences of collective effervescence with an undergraduate student sample from the University at Buffalo (US). It explores the role of social needs fulfillment in effervescent assembly, as well as the relationship of the scale with recent collective effervescence experiences using a cross-sectional design.	150	19.4 (5.3)	52.6	Other type	TEAM
S17	Gabriel et al., 2020, S3a	In this study, recruited participants (university students from a large US city) recalled recent collective effervescence experiences in a large crowd of people. The design used was cross-sectional.	273	19.0 (1.2)	33.3	Other type	State Collective Effervescence
S18	Gabriel et al., 2020, S3b	Cross-sectional study measuring previous experiences in a big crowd during some kind of gathering. Participants were recruited through a US online site.	239	51.2 (17.6)	74.0	Other type	State Collective Effervescence
S19	Hopkins et al., 2016	Study conducted on the *Magh Mela* pilgrimage (annual event that attracts millions of pilgrims to the banks of the Ganges at Prayag). Many participants (known as *kalpwasis*) commit to staying for a full month and to participating for 12 consecutive years, and subject themselves to a distinctive routine of religious devotion (e.g., bathing in the Ganges, praying). The study was carried out with a convenience sample of *kalpwasis* using a cross-sectional design.	416	64.4 (9.3)	57.0	Religious event	Intensity of Positive Emotional Experience
S20	Jiménez et al., 2005	Longitudinal study evaluating emotional mechanisms (e.g., social sharing) in the context of demonstrations against terrorism following the 2004 Madrid train bombings (11-M). The study was carried out with a convenience sample of university students from 8 Spanish universities and their acquaintances.	675	27.6 (11.7)	71.0	Demonstration	Intensity of Positive Emotional Experience

(Continued)

10.3389/fpsyg.2022.974683

TABLE 2 (Continued)

ID	References	Description	*N*	Age *M* (*SD*)	% of women	Collective event type	CE scale
S21	Kettner et al., 2021	Longitudinal study evaluating perceived emotional synchrony during psychedelic rituals and prediction of fusion of identity, psychological wellbeing and social connectedness 4 weeks after.	495	44.3 (12.2)	44.0	Other type	PES
S22	Naidu et al., 2022, S2	Recollection of past online experiences of collective effervescence. Participants were instructed on different types of experiences in the context of the COVID-19 pandemic and were asked to describe one.	353	19.27 (1.6)	43.3	Other type	Collective Effervescence Experiences
S23	Neville and Reicher, 2011, S3	Study exploring the experience of participation in the three-day Rock Ness festival (2009, UK), an event held on an annual basis (until 2013) featuring a mixture of rock and dance acts that was attended by approx. 30000 participants. The study was carried out with a convenience sample using a cross-sectional design.	98	26.6 (–)	49.0	Music festival	Intensity of Positive Emotional Experience
S24	Novelli et al., 2013, S1	Cross-sectional exploration of the effects of participation in a free outdoor music event featuring DJ Fatboy Slim, in 2002 (Brighton, UK). It was a very crowded event ($N \approx 250{,}000$) and respondents (convenience sample) received £5 for participating.	48	35.9 (7.5)	67.0	Music festival	Intensity of Positive Emotional Experience
S25	Páez et al., 2013	Studying exploring demonstrations in the context of an important large-scale social protest movement in Spain during May 2011 (also known as the 15-M movement), triggered by declining economic and social conditions. The convenience sample included participants in several cities (e.g., Madrid, Barcelona) and the design used was cross-sectional.	213	29.4 (11.8)	55.6	Demonstration	PES
S26	Páez et al., 2015, S1	Cross-sectional study evaluating participation in annual pseudo-military folkloric marches in Belgium. This ritual includes dressing up in historical military uniforms and bearing old weapons while marching in synchrony. Participants were recruited at a rehearsal meeting and were all from the same town.	93	32.6 (12.9)	19.4	Community celebration	PES
S27	Páez et al., 2015, S4.1	Study of an experimentally-induced demonstration in which participants (university students from the UPV/EHU, Spain) were asked to create banners with antiracist slogans in support of a local NGO (*SOS Racism*). The data focus on the experimental condition, i.e., the collective creation of slogans, and the study used a longitudinal design.	35	21.7 (4.1)	91.4	Demonstration	PES
S28	Páez et al., 2015, S4.2	Study of an experimentally-induced demonstration (see S30). This study includes data from participants in the control condition (i.e., individual banner creation in the presence of others) and used a longitudinal design.	40	20.7 (1.2)	82.5	Demonstration	PES

(Continued)

10.3389/fpsyg.2022.974683

TABLE 2 (Continued)

ID	References	Description	*N*	Age *M* (*SD*)	% of women	Collective event type	CE scale
S29	Parveen and Khan, 2020	Correlational study assessing the participation of religious devotees to a visit to Banner Sharif and Piran Kalyar mausoleums.	100	–	39	Other type	PES
S30	Pelletier, 2018	Belgian citizens were recruited through a probability sampling procedure in Bourse Square in Brussels (Belgium), during the spontaneous collective gatherings that followed the March 22 (2016) terrorist attacks. The study used a cross-sectional design.	198	34.9 (15.2)	49.5	Demonstration	PES
S31	Pizarro et al., 2017, S1.1	Study of an experimentally-induced collective demonstration in favor of immigrants from the Maghreb (also known as Northwest Africa), supported by a local NGO (*SOS Racismo*). The sample comprised university students studying Social Work (UPV/EHU, Spain) divided into different conditions in accordance with the information they were given to create the banners and subsequently engage in the demonstration. This study focuses on the first experimental condition, which used exclusively human information (i.e., traits and characteristics that are uniquely human) and had a longitudinal design.	24	20.0 (1.3)	70.8	Demonstration	PES
S32	Pizarro et al., 2017, S1.2	Study of an experimentally-induced collective demonstration (see S34). This study included participants randomized to the second experimental condition, using non-exclusively human information (i.e., traits and characteristics that are shared with other animal species) to create the banners.	30	21.9 (6.7)	80.0	Demonstration	PES
S33	Pizarro et al., 2017, S1.3	Study of an experimentally-induced collective demonstration (see S34). This study included participants randomized to the control condition, using utilitarian information (i.e., information centered on the economic gains of receiving immigrants) to create the banners.	29	20.2 (1.8)	79.3	Demonstration	PES
S34	Pizarro et al., 2020	Quasi-experiment centered on the effects of a mindful dancing program lasting 45 min, consisting of a guided mindfulness meditation carried out while performing a series of synchronous movements, guided by a professional. Participants were university students (UPV/EHU, Spain) and this study focuses on the intervention group, using a longitudinal design.	67	20.3 (1.9)	82.1	Sports gathering	PES
S35	Pizarro et al., 2021, S1.1	Using a cross-sectional design, this study evaluates the effects of past participation in collective rituals and gatherings (recall approach) on global identity and prosocial intentions. This study was carried out with a convenience sample of participants from Mexico.	373	23.4 (6.9)	68.1	Other type	PES
S36	Pizarro et al., 2021, S1.2	Study evaluating past participation in collective rituals and gatherings, with a sample of participants from Mexico and the Basque Country (Spain).	145	27.9 (10.5)	64.1	Other type	PES

(Continued)

10.3389/fpsyg.2022.974683

TABLE 2 (Continued)

ID	References	Description	*N*	Age *M* (*SD*)	% of women	Collective event type	CE scale
S37	von Scheve et al., 2014	Naturalistic study of participation in the 2010 Football World Cup that evaluates the effects of emotional entrainment and collective emotions. It used a longitudinal design with a convenience sample.	98	28.4 (11.4)	37.0	Sports gathering	Experience of Emotional Entrainment
S38	von Scheve et al., 2017	This study measures the effects of participation in a mega-sporting event (the UEFA championship) in 2012 and includes participants from Germany ($n = 302$), the UK ($n = 144$) and Poland ($n = 61$). It used a longitudinal design with convenience samples.	507	37.22 (13.89); 45.28 (15.02); 28.28 (8.37)	55.0; 48.6; 59.0	Sports gathering	Experience of Emotional Entrainment
S39	Wlodarczyk et al., 2020, S1	Study conducted in the context of the *Tamborrada*, an annual ritual held in Donostia-San Sebastián (northern Spain), which involves large groups of drummers who invade the city for a 24-hour-long celebration. The groups march and play folk songs in exact or complementary synchrony and costumes include barrel-holders, cooks, and Napoleonic-style military personnel. The study was carried out with a convenience sample using a longitudinal design.	550	42.7 (13.9)	47.8	Community celebration	PES
S40	Wlodarczyk et al., 2020, S2.1	Study of participation in a patriotic paramilitary parade held annually in Chile (May 21 Iquique Naval Combat). Data were gathered from high-school students who participated in a synchronous march accompanied by marching bands. The study was carried out with a convenience sample using a longitudinal design.	151	16.4 (16.4)	37.7	Demonstration	PES
S41	Wlodarczyk et al., 2020, S2.2	Study of the effect of participating in newcomer hazing rituals on the University of Louvain campus (Belgium). This tradition involves enacting costly rituals (e.g., disgusting stimuli, humiliations) with first-year students, and is frequently practiced in different sororities and fraternities, etc. The study used a longitudinal design with a convenience sample.	120	19.5 (3.0)	74.0	Community celebration	PES
S42	Wlodarczyk, Zumeta et al., 2021	Longitudinal study comparing participants in Sunday Mass with participants in secular Sunday group activities (e.g., family lunch, sporting activities). The study was carried out with a convenience sample.	110	53.9 (18.2)	61.8	Religious event	PES
S43	Xygalatas et al., 2013	Cross-sectional study of the effects of two rituals which form part of *Thaipusam*, an important religious Hindu festival in Mauritius. One of the rituals consisted of singing and collective prayer, and the other of body piercing and other painful actions. All participants took part in both rituals and were randomized to be tested in only one.	86	32.6 (14.9)	49.0	Religious event	Involvement in the Ritual
S44	Zlobina and Celeste, 2022, S1	Correlational study studying participation in applause rituals (i.e., collective displays of gratitude directed at healthcare personnel working in the COVID-19 pandemic in Spain) during confinement.	528	42.85 (14.55)	69	Demonstration	PES

(Continued)

10.3389/fpsyg.2022.974683

TABLE 2 (Continued)

ID	References	Description	*N*	Age *M* (*SD*)	% of women	Collective event type	CE scale
S45	Zlobina and Celeste, 2022, S2	Correlational study of the participation in an applause ritual (see S53).	292	21.13 (2.45)	78	Demonstration	PES
S46	Zumeta et al., 2016	Study evaluating the effects of engaging in different collectively-performed physical and sporting activities (e.g., football, volleyball, aerobics, dancing, hiking, etc.). It used a recall of event approach with a convenience sample and a cross-sectional design.	276	21.6 (4.1)	72.0	Sports gathering	PES
S47	Zumeta et al., 2020	Cross-sectional study in the context of marches for women's rights in 9 countries. The demonstrations were mass gatherings during the 8th of March, 2019 and the participants were recruited through convenience samples.	2,843	30.55 (11.66)	83.8	Demonstration	PES
S48	Zumeta et al., 2020, S1	Study exploring the effects of participating in *Bizilagunak*, an intercultural family lunch promoted by a local NGO (*SOS Racism*). The event consisted of more than 200 meals occurring simultaneously, in which participants were divided into hosts and attendees with the intention of promoting interaction between Basque natives and immigrants. The study used a longitudinal approach and a convenience sample.	196	38.1 (13.1)	75.5	Community celebration	PES
S49	Zumeta et al., 2020, S2	Study of a communal celebration entitled Rices of the World, consisting of a community lunch held in a public area using rice as the common thread linking different cultures. The study was carried out with a convenience sample and used a cross-sectional design.	107	37.8 (12.7)	50.5	Community celebration	PES
S50	Zumeta et al., 2020, S3	Cross-sectional study on the 16th and 17th demonstrations against racism and xenophobia, held in Donostia-San Sebastián (Spain). These marches are held annually and are attended by between 600 and 700 people. The study was carried out using a convenience sample.	91	45.8 (11.5)	52.7	Demonstration	PES

ref. indicates the study reference. *M*(*SD*) indicates the mean and standard deviation, respectively. An uppercase "S" followed by a number indicates the study as it is presented in the corresponding article. Dashes (–) indicate that the information is not reported. CE, Collective Effervescence; PES, Perceived Emotional Synchrony; TEAM, Tendency for Effervescent Assembly Measure.

10.3389/fpsyg.2022.974683

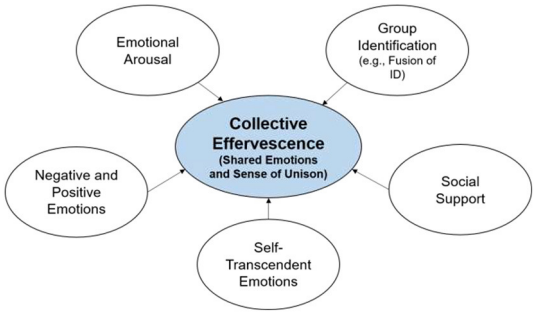


FIGURE 2
Proximal outcomes-construct validity criteria of collective effervescence.

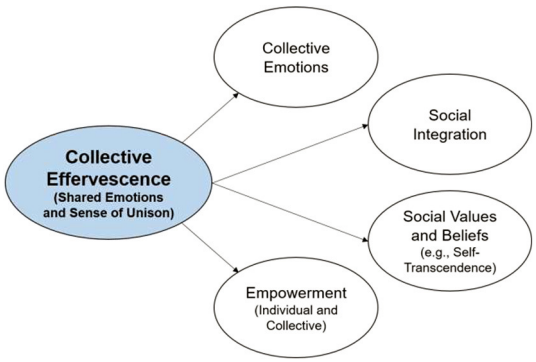


FIGURE 3
Distal outcomes of collective effervescence.

thus regarded effects that participants carry with them in the period after the collective event. The following variables were considered under this second category (see Figure 3).

Collective emotions

Several studies included a Perceived Emotional Climate scale assessing the emotional atmosphere as currently perceived by respondents [i.e., CEP-N or CD-24, by de Rivera and Páez, 2007; e.g., "The general mood or social climate is: (a) Hopeful, (b) anger, hostility, aggressiveness among people"]. This scale involves two dimensions: negative perceived emotional climate and positive perceived emotional climate. Therefore, it provides indicators of what conceptually represents the shared moods and emotions of a group—or collective emotions (see von Scheve and Salmela, 2014).

Social integration

Variables included in this class assessed the extent to which participants commit to the group or event (e.g., "I intend to visit [name of the event] in the future", as in Drengner et al., 2012) or identify with an extended group (e.g., "Do you have a strong sense of belonging to this congregation", as in Draper, 2014; or a sense of ingroup solidarity using the city as a target, as in Pizarro, 2019). In all cases, the measures considered in this class were not strictly targeted at co-participants in the collective gatherings.

Social values and beliefs

This class included Self-Transcendent Beliefs [e.g., "I have had moments of great joy in having strong feelings of unity"] of Cloninger et al. (1994) scale, as in Zumeta et al. (2016) and Values (e.g., "It's very important to her to help the people around her. She wants to care for their wellbeing", from Schwartz, 2007). The class also comprised other forms of self-transcendent beliefs such as Purpose in Life (e.g., Meaning in Life Questionnaire, used in Gabriel et al., 2017) and Spirituality [Piedmont's ASPIRES scale (Piedmont, 2004), used in Pizarro et al., 2021].

Empowerment

This class included a measure of perceived vitality (e.g., Ware and Sherbourne's, 1992 SF-36, used in Zumeta et al., 2016) and variables tapping a sense of empowerment measured at both individual and collective levels. The latter comprised measures of wellbeing (e.g., Satisfaction with Life Scale, as in Gabriel et al., 2020; or Pemberton's Happiness Index, as in Pizarro et al., 2017), Self-esteem (e.g., Rosenberg's individual self-esteem (Rosenberg, 1965); e.g., "Overall, I am satisfied with myself"; Luthanen and Crocker's collective self-esteem, 1992; e.g., "I am a worthy member of the social groups I belong to"), and of Collective Efficacy (van Zomeren et al., 2010; e.g., "I believe that together we can change the current situation" or "We realized we were perfectly capable of achieving our aims").

Moderators

In a subsequent set of analyses, we examined the effects of collective effervescence on the criterion variables across several potential moderators. We only conducted moderation analyses when there were at least two levels of the moderator with a representation of at least $k = 3$. The present article only includes the moderation of type of event, but all analyses can be seen on Supplementary material online.

Type of collective gathering or event

Effect sizes were therefore compared for studies featuring demonstrations (i.e., high in negative emotions = 1), celebrations (i.e., high in positive emotions = 2) and religious events (=3). This distinction allows a more-grained exploration of effects depending on the actual content of gatherings.

Study design

Effect sizes observed for cross-sectional (1) and longitudinal (2) designs were compared. Significantly larger effect size in

longitudinal studies can strengthen its interpretation in terms of causal link.

Type of CE scale

This moderator took into consideration the distinction between the different types of measurements of collective effervescence mentioned above. Thus, a distinction was made between collective effervescence measured (1) as PES ($k = 28$), (2) as an experience of intense and positive affect ($k = 6$), and (3) using other scales that focus on mutual emotional entrainment or connection with others ($k = 16$)—the limited number of studies identified prevented us from differentiating between these last two. In addition, we compared the effect sizes for the short (1) and long (2) forms of the PES scale, expecting that the short form would prove as valid as the long one.

Demographics and cultural values

Finally, we explored the possible moderating effects of age, gender, on the one side, and national levels of Power Distance Index and Individualism-Collectivism, on the other. The latter, were conducted using the national level (i.e., using the country where the ritual was enacted) value of Hofstede's (2015) cultural dimensions, as in Agostini and van Zomeren (2021).

Data analyses

The analyses were carried out using R (version 4.0.4) (R Core Team, 2020) and the *metafor* package (version 3.0.2) (Viechtbauer, 2021). We applied random-effects models to fit the relations between CE and the criterion variables, following the guidelines proposed by Rosenthal (1979), Hunter and Schmidt (2004) and Cumming (2013).

Effect sizes and correction for attenuation

We used Pearson's *r* as a measure of effect size given both its simplicity and the fact that this statistic is commonly employed in most studies. When correlations were not available—neither in the full text nor in subsequent requests to authors—, we computed them from regression coefficients according to Peterson and Brown's (2005) instructions. However, and since this procedure tends to inflate correlations, we deliberately removed those larger than 0.90. Since some studies could report several effect sizes for a single construct, some effects are likely nested and thus, independence assumptions of the observations cannot be met (Lipsey and Wilson, 2001). For this reason, such a dependency problem needs to be compensated for to reduce the bias of estimates. We dealt with this problem by including only one selected effect size from each study, for a given dependent variable.

When the reliability index of the CEe scale and a given criterion measure were known for each study, then the individual effect sizes can be corrected for attenuation due to unreliability before conducting the meta-analysis. This was conducted by dividing direct *r*s by the square root product of Cronbach's alphas of the two measures (i.e., rho values). These provide an estimation of the effect sizes corrected by the reliability of the scales used (see Hunter and Schmidt, 2004) and we used them to accompany all main results.

Publication bias and robustness of effects

Publication bias refers to the fact that studies with statistically significant effects are more likely to be published than studies with null effects, meaning that the published literature will be skewed toward positive effects, which will in turn bias meta-analyses. We explored this through a series of analyses. We did not include a funnel plot test in our study, as funnel plots do not provide valid estimates of publication bias when fewer than 30 studies are included (Lau et al., 2006). In this study, we employed rank correlation test (Begg and Mazumdar, 1994) and the regression test (Sterne and Egger, 2005) which use the standard error of observed outcomes as predictor to check funnel plot asymmetry. We considered absence of publication bias when these two tests are non-significant; possible publication bias when at least one is significant, and a high possibility of publication bias when both are significant. In addition, we conducted an examination of the studentized residuals and Cook's distances (Cook and Weisberg, 1982). These analyses provide empirical tests to explore whether any given study should be considered an outlier (i.e., studentized residual larger than ± 2.914) or overly influential (i.e., a proportion of Cook's distance and *k*, calculated with and without a given observation). We considered that a given study might be influential when any of these two conditions are fulfilled and a high possibility when these two criteria are met (for more details about possibly influential studies, see Viechtbauer, 2021).

Regarding robustness of the effects, we used fail-safe *N* tests (Rosenthal, 1979) (see Rubio-Aparicio et al., 2018) which represent how many new—or missing—studies with a zero-effect size would be needed to transform a significant *p*-value into a non-significant one. Should it emerge that only a few studies—say five or ten—were necessary to "nullify" the effect, then we would be concerned that the true effect was indeed zero (Borenstein et al., 2009). Rosenthal (1979) suggested a fail-safe *N* value above 5; $k + 10$ reflects results that are tolerant to contradicting studies, where *k* is the number of studies included in the meta-analysis. Rosenthal noted this is a conservative threshold, meaning that if the fail-safe *N* is well above this value, there is increased confidence that the observed effect size estimate is trustworthy.

Heterogeneity analyses

To analyze possible heterogeneity, we used several indicators including the *Q* test of heterogeneity (Cochran, 1954) the I^2 statistic (Higgins and Thompson, 2002) and the τ^2. The *Q* test evaluates whether the distribution of effect sizes around the mean is broader than predicted based on sampling error alone

(i.e., presence-absence of heterogeneity), and thus it suggests that a random model is more suitable. The I^2 statistic, on the other hand, describes the percentage of variation across studies that is due to heterogeneity rather than change (i.e., percentage of real variability). Finally, τ^2 along its standard error, indicates absolute value of the true variance (i.e., heterogeneity) and is considered as the real importance of variability since it presents the value in terms of the scale of the effect size.

Comparison of reported effects

Finally, in order to establish comparable criteria of the reported effects, we adopted the following standards: effects of up to $r < 0.18$ were considered small, effects of $r = 0.18$–0.32 were considered medium and $r > 0.32$ was considered indicative of a large effect. These criteria were adopted because they avoid the limitations faced by Cohen's (1977) qualitative guidelines (see Hunter and Schmidt, 2004; Funder and Ozer, 2019; Correll et al., 2020). (Gignac and Szodorai, 2016) found that a low or lower quartile effect is $r = 0.11$ or less, between 0.12 and 0.19 is a lower-middle quartile, between 0.20 and 0.29 is an upper-middle quartile and above 0.29 is high. The equivalents for the correlation corrected for attenuation or measurement error (i.e., the real correlation) were, respectively, rho = 0.16 or less, 0.17–0.25, 0.26–0.37, and 0.38 or more (Lipsey and Wilson, 2001; Gignac and Szodorai, 2016). Overall, they are considered more realistic according to meta-analytical reviews.

Results

Associations with proximal or construct validity outcomes

Individual emotions

As displayed in Table 3, CE was significantly associated with individual emotional activation, regardless of emotional valence. The Q test was significant and the I^2 squared shows that the percentage of variation between studies due to heterogeneity is significant, presenting 95.42% (above the mean of 71–74% that is common in meta-analyses, see Stanley et al., 2018). The randomized model, better suited by the high heterogeneity, and by the fact that the studies have been conducted in different countries, shows a significant effect [$r = 0.44$, 95% CI (0.32, 0.56)].[2] This effect is high, above the median of social and organizational psychology studies (i.e., $r = 0.18$ and 0.16), and included in the fourth or highest quartile (Richard et al., 2003; Bosco et al., 2015; Gignac and Szodorai, 2016). Rosenthal's fail-safe N analysis ($N_{fs} = 22{,}003$) brought a much robust result and neither the rank correlation nor the regression test indicated any funnel plot asymmetry ($p = 0.914$ and $p = 0.702$, respectively).

CE was also significantly associated with individual Positive Emotions, $r = 0.55$, and with Self-Transcendent Emotions, $r = 0.58$. Fail-safe N tests returned values of 28,425 and 21,636, respectively. For the association with Positive Emotions, Egger's regression test showed a significant value ($p = 0.016$ and 0.060, for Self-Transcendent Emotions), but no the rank correlation test ($p = 0.129$ and 0.393). In the case of negative emotions, CE was not significantly associated with negative affect.

Communal sharing

CE was significantly and positively associated with every measure of social integration that involved a relationship between the participant and their ingroup or people participating in the collective gathering, with large effect-size correlations ranging from $r_{pooled} = 0.33$–0.69. Specifically, it was associated with every form of ingroup identification, namely with Ingroup Identity ($r = 0.47$) as well as with the verbal ($r = 0.69$) and pictorial measures of Fusion of Identity ($r = 0.35$). In all cases, fail-safe N tests (N_{fs}s = 4,773, 2,607, and 794, respectively), and regarding asymmetry of the funnel plot, neither the rank correlation nor the regression test indicated asymmetry for Ingroup Identity ($p = 0.233$ and $p = 0.364$, respectively), for the verbal measure ($p = 0.817$ and $p = 0.956$, respectively) of for the pictorial measure of Fusion of Identity ($p = 0.197$ and $p = 0.275$, respectively).

Finally, CE was also associated with the perception of receiving social support from ingroup members, $r = 0.33$, with a large fail-safe N and a non-significant rank correlation nor the Egger's regression ($N_{fs} = 2{,}198$; $p = 0.197$, and $p = 0.275$, respectively).

Associations with distal outcomes

Collective emotions

CE was associated with Positive Emotional Climate ($r = 0.25$), or the perception that people feel shared positive emotions for a given period. The fail-safe N test (Nfs = 99) and a non-significant rank correlation and Egger's regression ($p = 1.000$ and $p = 0.759$, respectively) indicated robust effects and absence of publication bias. Pooled rs revealed that collective effervescence was not significantly associated with Negative Emotional Climate.

Social integration

CE correlates with self-reported participants' investment in the group (i.e., Ingroup Commitment) with $r = 0.37$, as well as with the identification with an extended ingroup $r = 0.32$. For both cases, subsequent analyses showed robust effects and

2 The r represents pooled Pearson's correlation from random-model meta-analysis.

TABLE 3 Pooled correlations between collective effervescence and criterion variables.

Criterion Variables				Effect sizes		Heterogeneity			(80% CI Pred. Intv.)
Dimension	**Variable**	***k***	***N***	***r* (95% CI)**	**rho (95% CI)**	***Q*(*df*)**	I^2	τ^2 (SE)	
Proximal outcomes									
Individual emotions	Arousal	14	48,316	0.443 (0.322, 0.564)	0.506 (0.367, 0.646)	$Q(13) = 180.020^{***}$	95.42	0.046 (0.020)	(0.158, 728)
	Negative emotions	14	2,028	0.047 (−0.053, 0.147)	0.056 (−0.057, 0.168)	$Q(13) = 71.198^{***}$	78.23	0.025 (0.013)	(−0.166, 260)
	Positive emotions	22	5,834	0.547 (0.468, 0.625)	0.608 (0.526, 0.690)	$Q(21) = 239.707^{***}$	94.30	0.030 (0.011)	(0.318, 0.775)
	ST emotions	17	5,340	0.577 (0.500, 0.653)	0.641 (0.559, 0.723)	$Q(16) = 171.312^{***}$	92.90	0.021 (0.009)	(0.385, 0.769)
Communal sharing	Ingroup ID	14	3,253	0.456 (0.351, 0.562)	0.498 (0.389, 0.608)	$Q(13) = 302.072^{***}$	92.69	0.034 (0.015)	(0.211, 0.702)
	FI Verbal	5	1,031	0.694 (0.660, 0.729)	0.734 (0.686, 0.781)	$Q(4) = 6.958$	6.94	0.000 (0.001)	(0.668, 0.721)
	FI Pictorial	11	1,504	0.347 (0.250, 0.444)	0.364 (0.262, 0.466)	$Q(10) = 48.937^{***}$	71.66	0.016 (0.011)	(0.173, 0.521)
	Social Support	12	4,135	0.334 (0.247, 0.421)	0.376 (0.278, 0.473)	$Q(11) = 181.691^{***}$	89.64	0.020 (0.010)	(0.143, 0.526)
Distal outcomes									
Collective emotions	Negative climate	5	1,357	0.017 (−0.105, 0.138)	0.026 (−0.118, 0.170)	$Q(4) = 19.967^{***}$	77.81	0.015 (0.012)	(−0.157, 0.190)
	Positive climate	4	1,159	0.248 (0.089, 0.406)	0.328 (0.095, 0.562)	$Q(3) = 25.025^{***}$	86.13	0.022 (0.019)	(0.030, 0.465)
Social integration	Ingroup commitment	7	123,962	0.372 (0.288, 0.456)	0.418 (0.326, 0.510)	$Q(6) = 1484.496^{***}$	99.24	0.011 (0.007)	(0.229, 0.515)
	Ingroup ID (extended)	8	75,139	0.320 (0.205, 0.435)	0.368 (0.230, 0.505)	$Q(7) = 150.888^{***}$	94.23	0.024 (0.014)	(0.106, 0.534)
Social values and beliefs	ST beliefs	5	4,231	0.435 (0.278, 0.592)	0.484 (0.319, 0.650)	$Q(4) = 126.216^{***}$	96.51	0.030 (0.020)	(0.192, 0.678)
	ST values	4	1,103	0.335 (0.282, 0.387)	0.379 (0.329, 0.430)	$Q(3) = 2.699$	0.06	0.000 (0.002)	(0.300, 0.369)
	Purpose in life	8	4,478	0.358 (0.232, 0.484)	0.436 (0.295, 0.577)	$Q(7) = 291.422^{***}$	94.70	0.027 (0.016)	(0.131, 0.585)
	Spirituality	5	1,416	0.374 (0.284, 0.464)	0.415 (0.315, 0.515)	$Q(4) = 17.660^{***}$	73.38	0.007 (0.007)	(0.249, 0.499)
Empowerment	Vitality	5	1,411	0.243 (0.180, 0.305)	0.247 (0.184, 0.311)	$Q(4) = 7.153$	30.91	0.002 (0.003)	(0.178, 0.308)
	Wellbeing	17	6,188	0.316 (0.236, 0.395)	0.354 (0.264, 0.445)	$Q(16) = 158.663^{***}$	89.84	0.021 (0.009)	(0.121, 0.510)
	Self esteem	5	829	0.154 (0.023, 0.285)	0.201 (0.027, 0.374)	$Q(4) = 20.120^{**}$	73.42	0.016 (0.014)	(−0.030, 0.337)
	Collective efficacy	7	1,471	0.464 (0.391, 0.537)	0.508 (0.437, 0.579)	$Q(6) = 20.594^{***}$	64.71	0.006 (0.005)	(0.357, 0.572)
	Collective self-esteem	7	1,497	0.421 (0.284, 0.558)	0.485 (0.327, 0.643)	$Q(6) = 46.607^{***}$	90.80	0.027 (0.018)	(0.191, 0.651)

k is the number of studies and *N* the number of participants included in the analysis. *r* and rho (95% CI) indicate pooled Pearson's *r*s and rhos (i.e., the estimation of the effect with a correction for reliability) and their 95% confidence intervals. *Q*(*df*) indicate *Q* heterogeneity test and its degrees of freedom. I^2 indicate a percentage indicating the relationship between residual and unaccounted heterogeneity. τ^2 and (SE) indicate the estimated amount of residual heterogeneity and its standard error. (80% CI Pred. Intv.) represents the 80% confidence intervals of prediction intervals (Riley et al., 2011). *, **, ***, indicate $p < 0.05$, 0.01, and 0.001, respectively.

10.3389/fpsyg.2022.974683

excluded publication biases (N_{fs} = 17872; rank correlation and regression test, p = 0.773 and 0.171, respectively; and N_{fs} = 14597; rank correlation and regression test, p = 0.905 and 0.722, respectively).

Values and social beliefs

We also found positive and significant associations between CE and Self-Transcendent Beliefs (r = 0.45), Schwartz's Self-Transcendent Values (r = 0.34), Purpose in Life (r = 0.36) and Spirituality (r = 0.37).[3] Fail-safe N tests returned values of 3,046, 206, 2,182, and 489 (respectively). In addition, all p-values of the rank correlations and Egger's regression tests were non-significant (p = 0.483 and 0.320; p = 0.083 and 0.133; p = 0.061 and 0.309; p = 0.083 and 0.212, respectively, for Self-Transcendent Beliefs, Values, Purpose in Life, and Spirituality), indicating and absence of publication bias for all analyses in this dimension.

Empowerment

For the final dimension, we found that CE was significantly associated with all the variables included. First, it was associated with Vitality (r = 0.24) with robust results and no evidence of publication bias (*N*fs = 147; rank correlation and regression test p = 0.483, and 0.122, respectively). The same was the case for its association with wellbeing (r = 0.32; *N*fs = 4,588; rank correlation and regression test p = 0.903, and 0.109, respectively), Self-Esteem (r = 0.15), Collective Efficacy (r = 0.46), and Collective Self-Esteem (r = 0.42), revealing stronger associations for variables at the collective level (i.e., Collective Self-Esteem) than the individual level (i.e., Self-Esteem). However, analyses revealed some indication of possible asymmetry in the funnel plot for the variables Collective Efficacy and Collective Self-Esteem, since the Egger's regression test was significant in both cases (ps < 0.001) but not the rank correlation tests (p = 0.381 and 0.239, respectively). In the case of Self-Esteem, finally, both tests were significant (p = 0.017 and p < 0.001), suggesting strong asymmetry in the funnel plot.

Total effect sizes, real correlations and future predictions

A further analyses of the total meta-analyzed effect sizes revealed that, from the 21 outcome variables analyzed in this study, 54.54% of them showed large effects (involving $k_{effectsizes}$ = 146; N = 282710), around 30% were medium (involving $k_{effectsizes}$ = 26; N = 8758), and around 13% were small (involving $k_{effectsizes}$ = 5; N = 829). In addition, and as it was expected, the largest effects were found in the associations with proximal outcomes—also considered validity criteria—with variables such as Self-Transcendent Emotions and Fusion of Identity. Conversely, the weakest associations, were with Self-Esteem (individual), and only two associations were non-significant: those with Negative Emotions and with Negative Emotional Climate. In addition, an examination of the pooled effects from the real correlations (i.e., rhos; Table 3) suggests that the underlying relationship between CE and outcome variables is indeed stronger in all cases but, once again, non-significant with Negative Emotions and Negative Emotional Climate.

Finally, we conducted 80% CI prediction intervals (Riley et al., 2011), which correspond to an estimation where the true outcomes would fall in hypothetical new study from the population of studies. The results (Table 3) indicate that, with the exception of the relationship between CE and Negative Emotions, Negative Emotional Climate and Self-Esteem, all relationships in future studies would be positive and significant. In other words, that future studies should indeed reveal significant associations and among those, the majority should be of medium or high effect size.

Moderation analyses

This section presents the results of the analyses of potential moderators in each dependent variable dimension. All tables reporting moderations analysis were included in Supplementary material.

Type of gathering

This analysis allows us to examine the specific association of CE with the outcomes during different type of collective gatherings (see Table 4). Regarding the type of event attended by participants (1 = Demonstration; 2 = Celebration; 3 = Religious event), results revealed similar effects for all dependent variables (r_{avg} = 0.40, 0.38, and 0.38, respectively) and that residual heterogeneity was decreased noticeably in 11 out of the 12 associations explored. In addition, and while there were no significant differences in the levels of the mediator for the analyses, we found a positive and significant association of CE and Negative Emotions [r = 0.14, 95% CI (0.01, 0.27); k = 8; N = 755], which was previously non-significant in the main results. Finally, it is worth noting that the relationship between CE and outcome variables did not change dramatically across the types of rituals; in fact, there were only significant differences in the association with Collective Efficacy. Specifically, CE associates

3 In the case of Just World (e.g., World Assumption Scale, as in Páez et al., 2015), the association was positive and significant (r_{pooled} = 0.27; $Q_{(1)}$ = 0.083, p = 0.773) but the analysis was removed due to the amount of studies (k = 2).

TABLE 4 Pooled correlations between collective effervescence and criterion variables moderated by type of collective gathering.

		Residual heterogeneity	Test of moderators			Effect size
Dimension	**Variable**	***QE*(*df*)**	***QM*(*df*)**	***k***	***N***	***r* (95% CI)**
Proximal outcomes						
Individual emotions	Arousal	$QE(10) = 148.122, p < 0.001$	$QM(1) = 0.146, p = 0.703$	8	622	0.413 (0.222, 0.603)
				4	1,013	0.474 (0.221, 0.727)
				2	46,681	
	Negative emotions	$QE(11) = 47.373, p < 0.001$	$QM(1) = 2.915, p = 0.088$	8	755	0.139 (0.004, 0.273)
				5	1,163	−0.041 (−0.191, 0.01)
				1	110	
	Positive emotions	$QE(19) = 213.662, p < 0.001$	$QM(1) = 0.792, p = 0.373$	11	3,754	0.585 (0.466, 0.705)
				10	1,970	0.508 (0.386, 0.629)
				1	110	
	ST emotions	$QE(14) = 149.430, p < 0.001$	$QM(1) = 0.010, p = 0.922$	9	3,516	0.579 (0.458, 0.701)
				7	1,714	0.571 (0.444, 0.697)
				1	110	
Communal sharing	Ingroup ID	$QE(11) = 74.172, p < 0.001$	$QM(1) = 0.205, p = 0.651$		576	0.517 (0.380, 0.655)
				6	1,501	0.472 (0.33, 0.611)
				1	1,176	
	FI pictorial	$QE(9) = 46.328, p < 0.001$	$QM(1) = 2.306, p = 0.129$	6	249	0.434 (0.286, 0.581)
				5	1,255	0.283 (0.157, 0.410)
				–	–	
	Social support	$QE(9) = 109.526, p < 0.001$	$QM(1) = 0.906, p = 0.341$	1	213	
				8	2230	0.363 (0.248, 0.479)
				3	1692	0.257 (0.071, 0.443)
Distal outcomes						
Social integration	Ingroup commitment	$QE(4) = 1471.167, p < 0.001$	$QM(1) = 0.075, p = 0.784$	3	911	0.340 (0.182, 0.499)
				1	409	
				3	122642	0.371 (0.221, 0.521)
Social values and beliefs	Purpose in life	$QE(6) = 185.414, p < 0.001$	$QM(1) = 0.068, p = 0.794$	3	2918	0.329 (0.083, 0.575)
				6	1602	0.369 (0.197, 0.541)
				-	-	
Empowerment	Wellbeing	$QE(13) = 142.684, p < 0.001$	$QM(1) = 0.232, p = 0.630$	5	3421	0.346 (0.168, 0.524)
				10	2611	0.294 (0.183, 0.406)
				2	156	
	Collective efficacy	$QE(5) = 8.569, p = 0.128$	$QM(1) = 5.169, p = 0.023$	3	342	0.367 (0.256, 0.478)
				4	1129	0.519 (0.449, 0.588)
				–	–	
	Collective self-esteem	$QE(4) = 31.835, p < 0.001$	$QM(1) = 0.466, p = 0.495$	3	288	0.383 (0.128, 0.639)
				3	1099	0.501 (0.280, 0.723)
				1	110	

k is the number of studies and *N* the number of participants included in the analysis. *r* (95% CI) indicates pooled Pearson's *r*s and their 95% confidence intervals. *QE*(*df*) indicate the *Q* test of the residual heterogeneity test (i.e., after the moderation) and its degrees of freedom; *QM*(*df*) indicate the *Q* test of comparison between the effect sizes between the levels of the moderator and its degrees of freedom. Moderator levels of type of gathering are 1 = Demonstration, 2 = Celebration, and 3 = Religious event. Dashes indicate that no study included the level and black spaces indicate that a given level was excluded due to no reaching the minimum condition for moderation analyses (i.e., $k = 3$).

with this variable more strongly in across Celebrations ($r = 0.52$) than Demonstrations ($r = 0.38$).

Further, when the gathering in question was a demonstration (e.g., such as a political demonstration due in favor of changes in the political system, or due to the international women's day) (see Table 5), we found positive and significant associations of CE with a series of variables that are shown to produce and/or sustain collective action in different

TABLE 5 Pooled correlations between collective effervescence on factors conductive to collective action in demonstrations.

Factors conductive to collective action	*k*	*N*	Effect sizes	
			r (95% CI)	Interpretation
Group identification	7	576	0.517 (0.376, 0.657)	Large
Collective efficacy	3	342	0.371 (0.209, 0.533)	Large
Negative emotions (e.g., anger)	8	755	0.139 (0.004, 0.273)	Small
Self-transcendent emotions (e.g., awe)	9	3,516	0.582 (0.468, 0.695)	Large
Morality (self-transcendent beliefs)[a]	2	3,338	0.434 (0.046, 0.823)	Large

k is the number of studies and *N* the number of participants included in the analysis. *r* and (95% CI) indicate pooled Pearson's *r*s and their 95% confidence intervals. Factors conductive to collective action are integrated from the present article as well as different reviews (e.g., Agostini and van Zomeren, 2021; Akfirat et al., 2021). [a] While the analysis shows a large pooled effects size (as well in the direct affects), this relationship should be taken with cation due to the small amount of studies (i.e., $k = 2$).

forms. In detail, CE was positively and significantly associated to Collective Identity ($r = 0.52$), Collective Efficacy ($r = 0.37$), Social Beliefs ($r = 0.43$) and specifically, on Negative Emotions, as previously mentioned. Overall, this supports the hypothesis that demonstrations are socialization instances that fuel factors conducive to long-term participation in collective action.

Study design

When the effect sizes of the association between CE and outcome variables were moderated by the type of design (i.e., 1 = Cross-sectional; 2 = Longitudinal; Supplementary Table S1), results showed there was only a strong decrease of heterogeneity in the association with Negative Emotions and Ingroup Identity (extended); for the rest of the association, heterogeneity levels remained similar. Regarding the test between the levels of this moderator, on the other side, analyses revealed significant differences on Negative and Positive Emotions and Ingroup Identity (extended), indicating stronger associations of the variables with CE in cross-sectional studies in the case of Negative and Ingroup Identity, while the opposite was true for Positive Emotions (i.e., in longitudinal studies). Considering longitudinal studies as more supportive of the idea that CE is a cause of the outcomes, the fact that these kind of studies have similar or stronger effects (compared to cross-sectional ones) reaffirms the relevance of CE as an explanatory process.

CE measurement scales

Using as a moderation the different scales of CE (1 = PES; 2 = Positive Intense Emotionality: 3 = other scales such as State of Collective Effervescence and Emotional Entrainment; Supplementary Table S2), we found noticeable decreases of the levels of heterogeneity in 5 of the 6 associations that were performed. Comparing the levels of the mediator, we only found a difference between the PES and Positive Emotionality measure of CE for the association with Ingroup ID, with a lower association for the latter.

PES scale forms

In studies that included the PES scale as a measure of CE ($k = 28$; Supplementary Table S3), we found overall similar effects for the short (1) and long (2) forms of scale and decreases in the levels of heterogeneity in only 3 of the 7 associations we explored. In addition, we found no differences in the levels of the mediator in the association of CE with dependent variables. As a whole, these results support the validity of the short version of the PES scale.

Age, gender and cultural regions

Finally, meta-regression analyses (Supplementary Tables S4, S5), showed that both age and gender had an influence in the relationship between CE and dependent variables. Specifically, age positively affected the relationship with Spirituality and Wellbeing, while gender affected the relationship with Positive Emotions and Climate, the verbal measure of Fusion of Identity (positively), and Social Support (negatively). The analysis considering the cultural values, analyses revealed that national-level scores of Individualism-Collectivism influenced the association with Positive Emotions and Negative Climate (negatively), while Power Distance Index did it so with Positive Climate (positively) and Collective Efficacy (negatively).

Discussion

Overall, CE was significantly but heterogeneously associated with, and predicted, the vast majority of criterion variables. More specifically, observed effects were stronger for proximal variables, compared to the distal ones. Confidence intervals excluded zero and Fail-safe *N*s were usually ten times larger than the number of included studies (between 99 and thousands of non-significant studies were necessary to nullify effect sizes). In addition, rank correlations and Egger's regressions suggested a lack of asymmetry in the funnel plots in 20 out of the 21 analyses performed and we found similar overall effects concerning the methodology (i.e., design and scale used to measure CE).

Altogether, these findings suggest little evidence of publication bias and overall robust results.

First, CE was found to be related to proximal or immediate emotional outcomes: General Arousal, Positive Emotions, and Self-Transcendent Emotions. A strong result was found for General Arousal, which was associated with CE with a large effect size. These results confirmed that this variable was associated with a proximal or immediate intensification of emotions. CE was also strongly associated with positive emotions, supporting the "joy of gathering" or the essentially positive affective nature of effervescent states (Moscovici, 1988/1993; see also Ehrenreich, 2007). In addition, and consistent with Fiske (1992) and Haidt's (2012) proposals, CE was strongly associated with emotions that transcend the individual self (i.e., self-transcendent emotions). No relationship was found between CE and Negative Emotions. This may be partly explained by the fact that events involving clear and intense negative affectivity (e.g., funerary rituals) were not investigated. However, moderation analyses revealed that this relationship was significant in studies involving sociopolitical demonstrations, in which anger frequently played an important role. Thus, rather than assuming a non-existent relationship, it is safe to conclude that CE is indeed associated with individual negative emotions when they are salient and strong, in line with Durkheim's ideas.

Second, CE was associated with immediate outcomes related to various manifestations of communal sharing. It was strongly, albeit heterogeneously, associated with Social Support and with Identification with the Ingroup. Its association with Identity Fusion was also strong, confirming that CE has the potential to blur boundaries between the individual and the collective self. Together with the previous results, these findings support the view that, through CE, collective gatherings enhance a social or collective identification, social integration among participants, and as a long-term outcome social belongingness cohesion (Durkheim, 1912/1915; Collins, 2004). In this sense, CE was also associated with long-term self-investment in the ingroup (i.e., psychological commitment, and identification with the extended ingroup).

Third, CE was not only associated with Self-Transcendent Emotions but also with Spirituality or Self-Transcendent Beliefs and Values, with large effect sizes. These results confirm that this predictor redirects attention and reflection outwards and beyond the individual self, and by this token, constitutes a factor that can lead to the experience of self-transcendence (Van Cappellen and Rimé, 2014; Yaden et al., 2017). Findings support the view that CE puts people participating in collective events in contact with values and ideals—with the sacred (Durkheim, 1912/1915; Moscovici, 1988/1993; Gabriel et al., 2020). Specifically, CE was associated with the agreement with other-oriented values or the wellbeing of significant others, as well as with universalism or ideals of wellbeing and justice for all (i.e., Self-Transcendent Values; Schwartz, 2012). Furthermore, CE was associated with attributions of a Purpose in Life and beliefs that the world is just and has meaning. These effects were, respectively, large and medium. They confirm that rituals and collective encounters can be a source of attributions of positive meaning to life.

Fourth, CE was found to have medium and large effect-size associations with Empowerment-related constructs. It was indeed positively associated with Self-Esteem, Self-Efficacy, and Psychological Wellbeing. These results are in line with the idea that this variable promotes wellbeing through positive individual and collective emotions, social integration, salience, and adhesion to values and beliefs (Páez et al., 2015; Wlodarczyk et al., 2020). It is important to note that CE is more strongly connected to variables that function at collective levels (i.e., Collective Efficacy and Collective Self-Esteem) and that its effects relate to the ingroup reality, rather being related to intergroup relations (see Niedenthal and Brauer, 2012). Finally, results revealed that participation in effervescent collective gatherings was associated with a medium-size effect with vital energy, a finding that is consistent with evidence indicating that social integration enhances physical wellbeing (Larson, 1990; Holt-Lunstad et al., 2015; Liu et al., 2018). In short, people reinvigorate and replenish themselves through their experience of CE (Durkheim, 1912/1915; Moscovici, 1988/1993).

Fifth, CE was associated with Positive Collective Emotions with a medium effect size. This is an important finding since it supports the idea that CE helps to build an enduring shared mood (Collins, 2004) or long-term collective affect orientation (von Scheve et al., 2017) and that its effects are not limited to the creation of short-term emotional atmosphere. In addition, consistently with individual short-term emotional reactions, CE was not associated with Negative Emotional Climate.

Regarding moderation analyses, it is important to indicate that they could explain only a small part of the high level of heterogeneity observed in the effects.[4] The analyses comparing design types found that cross-sectional studies had significant effect sizes which were similar, although slightly larger than those found in longitudinal studies—from the three differences found, in two cross-sectional showed larger effects. Longitudinal studies supported the view that this variable is an antecedent and potential cause of short-term increased emotionality (i.e., Total Emotionality), Positive Emotions, and Self-Transcendent Emotions, as well as enhanced Social Integration. In addition, it supports the idea that CE builds Positive Emotional Climate and long-term social cohesion, that it is related to a higher agreement with Self-Transcendent Beliefs and Values, and reinforcing individual and collective Empowerment, including Vitality.

The results of the moderation analyses focusing on the type of collective gathering are consistent with Durkheim's ideas that the effects are similar in collective gatherings with different

4 While undesirable, this is not unusual in meta-analyses; see Siegel et al. (2018).

content and valence, as well as in religious and secular rituals. They also revealed that Negative Emotions were associated with CE in the case of collective gatherings with mixed content and valence, such as sociopolitical demonstrations. Furthermore, the associations between CE and positive personal emotions were strong in events with positive content and valence, such as celebrations, thereby revealing convergent patterns.

The moderation analysis based on the type of scale revealed that associations were large for every scale assessing CE, although slightly stronger when it was measured with the PES scale, as well as with scales that only emphasized mutual emotional stimulation or connecting with others. However, as indicated previously, both the heterogeneity of measurements and the lack of a larger number of studies make it difficult to draw clear and solid conclusions. In contrast, subsequent analyses comparing the short and long forms of the PES scale supported the usefulness of the PES short version scale (Wlodarczyk et al., 2020), since the two forms yielded similar effect sizes.

Concerning the relevance of participation in collective behaviors on socially and politically relevant phenomena, CE during demonstrations correlates to several outcomes similarly as it is found in other forms of collective gatherings. What is more, CE during demonstrations was associated with factors favorable to social movements like social or Collective Identity. Together with Agostini and van Zomeren's (2021) meta-analysis, this identification predicted participation in collective action, and thus, it is possible to assume CE as a catalyzer for collective action. Taking into account Akfirat et al.'s (2021) meta-analysis on identity and network-based social movements, we also see a strong relationship between social identification and participation in collective action. The relationship between participation in collective action and identification with emergent groups was also found to be stronger than identification with pre-existing groups. Thus, identification with an emerging group (e.g., protest groups, opinion groups), better predicts participation in collective action than identification with pre-existing social groups (e.g., nations, religious groups, ideological groups, etc.). Participation in demonstrations appears as a key factor to promote this emergent politicized collective identity. Furthermore, CE also correlates with Collective Efficacy, which is a strong predictor of participation in collective action and associates strongly with participation in collective behavior (see also van Zomeren et al., 2008).

In the same vein, CE during demonstrations strongly correlates with Positive Emotions, and Self-Transcendent Emotions (e.g., hope) that play a role in social mobilization (Páez et al., 2013). In addition, CE correlates with Negative Emotions (e.g., anger), and these types of emotions are conducive to participation in collective behavior and social movements. According to van Zomeren et al.' (2008) meta-analysis, the emotional or affective experience of injustice—which is also strongly associated with collective behaviors—has stronger effects on collective action than non-affective perceived injustice, which also goes in line with Smith et al.'s (2012) review underlying the emotional (i.e., compared the cognitive) facet of deprivation. Finally, and as it has been shown elsewhere (e.g., Agostini and van Zomeren, 2021), the age, gender, as well as cultural regions can have an effect in the association with several outcomes included in this meta-analysis.

To conclude, this article shows that CE is not only associated, but also longitudinally predicts, positive outcomes, particularly when the measure is not limited to feeling intense positive emotions, but rather emphasizes interaction and emotional connection with others. The results thus suggest that it can affect the participants of a collective event in a significant form: their emotions, their power to act, their social positioning, as well as their beliefs and values. It is safe to conclude, therefore, that CE was not a myth that came out of Durkheim's imagination.

Future perspectives

In support of what was advanced by Moscovici (1988/1993) and Collins (2004), CE emerges from the reviewed results as a powerful tool for transforming individuals. It represents an instrument that brings individuals together, gives them self-confidence, and infuses them with values and beliefs. However, and considering the "positivity" of the results presented here, we must not overlook the fact that the same effects can also lead to negative consequences. To illustrate, during the decades before the Second World War, totalitarian parties perfectly understood the use they could make of such a tool (i.e., exploitations of collective gatherings). As the abundant film archives attest, they did indeed make an immoderate use of it. It is not utopian to think that, in the absence of this tool, these parties would not have had the impact they had for humanity's misfortune. At the very same time, scientists had left the questions of collective gatherings and collective emotions in the shade. Now, that CE and its effects are moving beyond the realm of mere theorization and are taking up a place among empirical findings, there are compelling reasons for scientific work to catch up and develop knowledge on the scope and limits of the collective tool. In particular, future research will have the task of specifying to what extent and under what conditions CE constitutes an instrument of persuasion. We currently do not know what the degree of plasticity of individuals in a collective situation is, and many questions arise in this regard. For instance, to what extent are the participants in a collective event likely to incorporate ideas, beliefs, or values that differ from those they previously held? What is the duration of the impact or effects of participating in a group situation? Are these effects of equal importance and duration with respect to emotions, motivation, social connections, and beliefs and values? Are there individual differences that make individuals more or less susceptible to

the effects of collective situations? What resilience or resistance tools are available to participants in collective situations? These are just a few examples of the many questions that need to be investigated.

A burgeoning line of research has employed indicators of CE together with measures tapping into the effects of participation in collective gatherings. We were able to locate 59 studies of this type and subjected them to a meta-analysis. It assessed the extent to which indicators of CE were associated with the different types of effects mentioned in the conclusion of our literature review. The studies included in this meta-analysis covered a wide variety of populations and a wide range of collective events. They also involved diverse measures of CE and a broad array of instruments for the evaluation of the different classes of potential effects. Our results confirmed that most of the variables identified in our literature review were significantly associated with the measures of CE, often with large effect sizes. This review provides support to Durkheim's original theorizations and the available data here can shed light on the effects of collective gatherings of all types.

Author contributions

DP and BR conceptualized and organized the present study and elaborated the first draft. JP and LZ conducted all the transformations and codification of studies, and the subsequent statistical analyses (with the supervision of DP), which in turn were reviewed by all authors. All authors reviewed and commented on the final version of this study. All authors contributed to the article and approved the submitted version.

Funding

This research was supported by grants given to the research team Culture, Cognition and Emotion (Psicología Social CCE), the Spanish Ministry of Economy and Competitiveness ([Ref.: PSI2017-84145-P and Ref.: PID2020-115738GB-I00), the Basque Government (Ref.: GIC12/91 IT-666-13, IT1187-19, and IT1598-22]), and a post-doc grant from the UPV/EHU to JP (DOCBERRI 20/23).

Acknowledgments

We would like to express our sincere thanks to all the people who have made this work possible, to members of the Culture, Cognition and Emotion group (University of the Basque Country UPV/EHU), and the valuable criticisms and comments received from the Kama Muta Lab and participants of the ISPP 2021 conference on an early version of this article.

Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

Publisher's note

Supplementary material

The Supplementary Material for this article can be found online at: https://www.frontiersin.org/articles/10.3389/fpsyg.2022.974683/full#supplementary-material

References

Agostini, M., and van Zomeren, M. (2021). Toward a comprehensive and potentially cross-cultural model of why people engage in collective action: a quantitative research synthesis of four motivations and structural constraints. *Psychol. Bull.* 147, 667–700. doi: 10.1037/bul0000256

Akfrat, S., Uysal, M. S., Bayrak, F., Ergiyen, T., Üzümçeker, E., Yurtbakan, T., et al. (2021). Social identification and collective action participation in the internet age: A meta-analysis. Cyberpsychol. *J. Psychosoc. Res. Cyberspace*. 15. doi: 10.5817/CP2021-4-10

Algoe, S. B., and Haidt, J. (2009). Witnessing excellence in action: the 'other-praising' emotions of elevation, gratitude, and admiration. *J. Posit. Psychol.* 4, 105–127. doi: 10.1080/17439760802650519

*Alnabulsi, H., Drury, J., Vignoles, V. L., and Oogink, S. (2020). Understanding the impact of the Hajj: explaining experiences of self-change at a religious mass gathering. *Eur. J. Soc. Psychol.* 50, 292–308. doi: 10.1002/ejsp.2623

Basabe, N., and Paez, D. (2017). "Innovación, transparencia y comunicación en grupos y organizaciones [Innovation, transparency and communication in groups and organizations]," in *Innovación, Transparencia y Comunicación En Grupos y Organizaciones. Influencia de Las Aportaciones Teóricas y Metodológicas de Sabino Ayestarán* [*Innovation, Transparency and Communication In Groups and Organizations. Influence of Sabino Ayestarán's Theoretical and Methodological Contributions*], eds J. Arrospide, C. Martínez-Taboada, and J. F. Morales (Madrid: Sanz y Torres, S. L.), 29–54.

Begg, C. B., and Mazumdar, M. (1994). Operating characteristics of a rank correlation test for publication bias. *Biometrics* 50, 1088–1101. doi: 10.2307/2533446

Borenstein, M., Hedges, L. V., Higgins, J. P. T., and Rothstein,. H. R. (2009). *Introduction to Meta-Analysis*. Chichester: Wiley.

Bosco, F. A., Aguinis, H., Singh, K., Field, J. G., and Pierce, C. A. (2015). Correlational effect size benchmarks. *J. Appl. Psychol.* 100, 431–449. doi: 10.1037/a0038047

*Bouchat, P., Rim,é, B., Van Eycken, R., and Nils, F. (2020). The virtues of collective gatherings: a study on the positive effects of a major scouting event. *J. Appl. Soc. Psychol.* 50, 189–201. doi: 10.1111/jasp.12649

Brown, C. L., and Fredrickson, B. L. (2021). Characteristics and consequences of co-experienced positive affect: understanding the origins of social skills, social bonds, and caring, healthy communities. *Curr. Opin. Behav. Sci.* 39, 58–63. doi: 10.1016/j.cobeha.2021.02.002

*Carlton-Ford, S. L. (1992). Charisma, ritual, collective effervescence, and self-esteem. *Sociol. Q.* 33, 365–387. doi: 10.1111/j.1533-8525.1992.tb00380.x

*Castro-Abril, P., Da Costa, S., Navarro-Carrillo, G., Caicedo-Moreno, A., Gracia-Leiva, M., Bouchat, P., et al. (2021). Social identity, perceived emotional synchrony, creativity, social representations, and participation in social movements: the case of the 2019 chilean populist protests. *Front. Psychol.* 12, 1–15. doi: 10.3389/fpsyg.2021.764434

Cloninger, C. R., Przybeck, T. R., Syrakic, D. M., and Wetzel, R. D. (1994). *The temperament and character inventory (TCI): A guide to its development and use*. St. Louis, MO: Washington University Center for Psychobiology of Personality.

Cochran, W. G. (1954). The combination of estimates from different experiments. *Biometrics* 10, 101–129. doi: 10.2307/3001666

Cohen, J. (1977). *Statistical Power Analysis for the Behavioral Sciences*. New York, NY: Academic Press.

Collins, R. (2004). *Interaction Ritual Chains*. Princeton: Princeton University Press.

Collins, R., and Hanneman, R. (1998). "Modeling interaction ritual theory of solidarity," in *The Problem of Solidarity: Theories and Models*, eds D. Patrick and T. J. Fararo (Amsterdam: Gordon and Breach).

Cook, R. D., and Weisberg, S. (1982). *Residuals and Influence in Regression*. London: Chapman and Hall.

*Corcoran, K. E. (2015). Thinkers and feelers: emotion and giving. *Soc. Sci. Res.* 52, 686–700. doi: 10.1016/j.ssresearch.2014.10.008

*Corcoran, K. E. (2020). Emotion, religion, and civic engagement: a multilevel analysis of U.S. congregations. *Sociol. Religion Q. Rev.* 81, 20–44. doi: 10.1093/socrel/srz012

Correll, J., Mellinger, C., McClelland, G. H., and Judd, C. M. (2020). Avoid Cohen's 'small', 'medium', and 'large' for power analysis. *Trends Cogn. Sci.* 24, 200–207. doi: 10.1016/j.tics.2019.12.009

Cumming, G. (2013). The new statistics: why and how. *Psychol. Sci.* 25, 7–29. doi: 10.1177/0956797613504966

*Cusi, O., Alfaro-Beracoechea, L., Sánchez, M., and Alonso-Arbiol, I. (2022). *Frecuencia de participación en encuentros colectivos, sincronía emocional percibida y emociones de trascendencia en una muestra de jóvenes de México [Frequency of participation in collective meetings, perceived emotional synchrony and emotions of transcendence in a sample of young people in Mexico.]*. Revista de Psicología UCA Bs. Aires.

de Rivera, J., and Páez, D. (2007). Emotional climate, human security, and cultures of peace. *J. Soc. Issues* 63, 233–253. doi: 10.1111/j.1540-4560.2007.00506.x

*Draper, S. (2014). Effervescence and solidarity in religious organizations. *J. Sci. Study Relig.* 53, 229–248. doi: 10.1111/jssr.12109

*Drengner, J., Jahn, S., and Gaus, H. (2012). Creating loyalty in collective hedonic services: the role of satisfaction and psychological sense of community. *Schmalenbach Bus. Rev.* 64, 59–76. doi: 10.1007/BF03396838

Drury, J., Brown, R., González, R., and Miranda, D. (2016). Emergent social identity and observing social support predict social support provided by survivors in a disaster: Solidarity in the 2010 Chile earthquake. *Euro. J. Soc. Psychol.* 46, 209–223. doi: 10.1002/ejsp.2146

Drury, J., and Reicher, S. (2005). Explaining enduring empowerment: a comparative study of collective action and psychological outcomes. *Eur. J. Soc. Psychol.* 35, 35–58. doi: 10.1002/ejsp.231

Durkheim, É. (1912/1915). *The Elementary Forms of Religious Life* (J. D. Swan transl.). Georges Allen & Unwin Ltd. (Original work published 1912).

Ehrenreich, B. (2007). *Dancing in the Streets: A History of Collective joy*. London: Macmillan.

Filleule, O., and Tartakowski, D. (2013). *Demonstrations*. Canada: Hignell Book Printing.

*Fischer, R., Xygalatas, D., Mitkidis, P., Reddish, P., Tok, P., Konvalinka, I., et al. (2014). The fire-walker's high: Affect and physiological responses in an extreme collective ritual. *PLoS ONE* 9, e88355. doi: 10.1371/journal.pone.0088355

Fiske, A. P. (1992). The four elementary forms of sociality: framework for a unified theory of social relations. *Psychol. Rev.* 99, 689–723. doi: 10.1037/0033-295X.99.4.689

Fiske, A. P., Seibt, B., and Schubert, T. W. (2017). The sudden devotion emotion: Kama muta and the cultural practices whose function is to evoke it. *Emot. Rev.* 11, 1–13. doi: 10.1177/1754073917723167

Fredrickson, B. L. (2009). *Positivity*. New York, NY: Three Rivers Press.

Fredrickson, B. L. (2016). "Love: positivity resonance as a fresh, evidence-based perspective on an age-old topic," in *Handbook of Emotions*, eds L. Feldman Barret and J. M. Haviland-Jones (New York, NY: Guilford Press), 847–858.

Freud, S. (1922). *Group Psychology and the Analysis of the Ego*. New York, NY: Boni and Liveright.

Funder, D. C., and Ozer, D. J. (2019). Evaluating effect size in psychological research: sense and nonsense. *Adv. Methods Pract. Psychol. Sci.* 2, 156–168. doi: 10.1177/2515245919847202

*Gabriel, S., Naidu, E., Paravati, E., Morrison, C. D., and Gainey, K. (2020). Creating the sacred from the profane: collective effervescence and everyday activities. *J. Posit. Psychol.* 15, 129–154. doi: 10.1080/17439760.2019.1689412

*Gabriel, S., Valenti, J., Naragon-Gainey, K., and Young, A. F. (2017). The psychological importance of collective assembly: development and validation of the Tendency for Effervescent Assembly Measure (TEAM). *Psychol. Assess.* 29, 1349–1362. doi: 10.1037/pas0000434

Gignac, G. E., and Szodorai, E. T. (2016). Effect size guidelines for individual differences researchers. *Pers. Individ. Dif.* 102, 74–78. doi: 10.1016/j.paid.2016.06.069

Goffman, E. (1959). *The Presentation of Self in Everyday Life*. New York, NY: Doubleday.

Gómez, Á., Brooks, M. L., Buhrmester, M. D., Vázquez, A., Jetten, J., and Swann, W. B. (2011). On the nature of identity fusion: Insights into the construct and a new measure. *J. Pers Soc. Psychol.* 100, 918–933. doi: 10.1037/a0022642

Haidt, J. (2003a). "Elevation and the positive psychology of morality," in *Flourishing: Positive Psychology and the Life Well Lived*, eds C. L. M. Keyes and J. Haidt (Washington, DC: American Psychological Association), 275–289.

Haidt, J. (2003b). "The moral emotions," in *Handbook of Affective Sciences*, eds R. J. Davidson, K. R. Scherer, and H. H. Goldsmith (Oxford: Oxford University Press), 852–870.

Haidt, J. (2012). *The Righteous Mind: Why Good People Are Divided by Politics and Religion*. New York, NY: Pantheon Books.

Haidt, J., and Morris, J. P. (2009). Finding the self in self-transcendent emotions. *Proc. Natl. Acad. Sci. U. S. A.* 106, 7687–7688. doi: 10.1073/pnas.0903076106

Haidt, J., Seder, J. P., and Kesebir, S. (2008). Hive psychology, happiness, and public policy. *J. Legal Stud.* 37, S133–S156. doi: 10.1086/529447

Hanley, A. W., and Garland, E. L. (2019). Spatial frame of reference as a phenomenological feature of self-transcendence: Measurement and manipulation through mindfulness meditation. *Psychol. Consciousness Theory Res. Pract.* 6, 329–345. doi: 10.1037/cns0000204

Henrich, J. (2020). *The Weirdest People in the World*. New York, NY: Penguin Books.

Higgins, J. P. T., and Thompson, S. G. (2002). Quantifying heterogeneity in a meta-analysis. *Stat. Med.* 21, 1539–1558. doi: 10.1002/sim.1186

Hofstede, G. (2015). Dimension Data Matrix. Available online at: https://geerthofstede.com/research-and-vsm/dimension-data-matrix/

Holt-Lunstad, J., Smith, T. B., Baker, M., Harris, T., and Stephenson, D. (2015). Loneliness and social isolation as risk factors for mortality: a meta-analytic review. *Perspect. Psychol. Sci.* 10, 227–237. doi: 10.1177/1745691614568352

*Hopkins, N., Reicher, S. D., Khan, S. S., Tewari, S., Srinivasan, N., and Stevenson, C. (2016). Explaining effervescence: investigating the relationship between shared social identity and positive experience in crowds. *Cogn. Emot.* 30, 20–32. doi: 10.1080/02699931.2015.1015969

Hornsey, M. J. (2008). Social identity theory and self-categorization theory: a historical review. *Soc. Personal. Psychol. Compass* 2, 204–222. doi: 10.1111/j.1751-9004.2007.00066.x

Hunter, J. E., and Schmidt, F. L. (2004). *Methods of Meta-Analysis: Correcting Error and Bias in Research Findings*, 2nd Edn. Newbury Park, CA: Sage Publications.

Ismer, S., von Scheve, C., Beyer, M., and Solms-Baruth, C. (2017). International football tournaments, emotional entrainment, and the reproduction of symbolic boundaries. A case study in Germany. *Soccer Soc.* 18, 554–574. doi: 10.1080/14660970.2015.1067784

*Jiménez, A., Páez, D., and Javaloy, F. (2005). Correlatos psico-sociales de la participación en manifestaciones tras el atentado del 11 de Marzo [Psycosocial correlates of participating in the demonstrations after March 11 bombings]. *Revista de Psicología Social* 20, 263–275. doi: 10.1174/021347405774277686

*Kettner, H., Rosas, F. E., Timmermann, C., Kärtner, L., Carhart-Harris, R. L., and Roseman, L. (2021). Psychedelic communitas: intersubjective experience during psychedelic group sessions predicts enduring changes in psychological wellbeing and social connectedness. *Front. Pharmacol.* 12, 623985. doi: 10.3389/fphar.2021.623985

Larson, R. (1990). The solitary side of life: an examination of the time people spend alone from childhood to old age. *Dev. Rev.* 10, 155–183. doi: 10.1016/0273-2297(90)90008-R

Lau, J., Ioannidis, J. P., Terrin, N., Schmid, C. H., and Olkin, I. (2006). The case of the misleading funnel plot. *BMJ* 333, 597–600. doi: 10.1136/bmj.333.7568.597

Le Bon, G. (2002). *The Crowd: A Study of the Popular Mind by Gustave Le Bon*. Available online at: https://www.files.ethz.ch/isn/125518/1414_LeBon.pdf

Leach, C. W., van Zomeren, M., Zebel, S., Vliek, M. L. W., Pennekamp, S. F., Doosje, B., et al. (2008). Group-level self-definition and self-investment: a hierarchical (multicomponent) model of in-group identification. *J. Pers. Soc. Psychol.* 95, 144–165. doi: 10.1037/0022-3514.95.1.144

Lipsey, M. W., and Wilson, D. B. (2001). *Practical Meta-Analysis*. Thousand Oaks, CA: Sage.

Liu, H., Xie, Q. W., and Lou, V. W. Q. (2018). Everyday social interactions and intra-individual variability in affect: a systematic review and meta-analysis of ecological momentary assessment studies. *Motiv. Emot.* 43, 339–353. doi: 10.1007/s11031-018-9735-x

Maryanski, A. (2018). *Émile Durkheim and the Birth of the Gods*. New York, NY; London: Routledge.

Menges, J. I., and Kilduff, M. (2015). Group emotions: cutting the gordian knots concerning terms, levels of analysis, and processes. *Acad. Manage. Ann.* 9, 845–928. doi: 10.5465/19416520.2015.1033148

Moher, D., Shamseer, L., Clarke, M., Ghersi, D., Liberati, A., Petticrew, M., Shekelle, P., Stewart, L. A., and and, P. R. I. S. M. A.-P., Group (2015). Preferred reporting items for systematic review and meta-analysis protocols (PRISMA-P) 2015 statement. *Syst. Rev.* 4, 1–9. doi: 10.1186/2046-4053-4-1

Moscovici, S. (1988/1993). *The Invention of Society. Psychological Explanations for Social Phenomena* (W.D. Halls transl.) [original work published 1988]. Cambridge: Polity Press.

*Naidu, E. S., Paravati, E., and Gabriel, S. (2022). Staying happy even when staying 6 ft apart: the relationship between extroversion and social adaptability. *Pers. Individ. Dif.* 190, 111549. doi: 10.1016/j.paid.2022.111549

*Neville, F., and Reicher, S. (2011). The experience of collective participation: shared identity, relatedness and emotionality. *Contemp. Soc. Sci.* 6, 377–396. doi: 10.1080/21582041.2012.627277

Niedenthal, P. M., and Brauer, M. (2012). Social functionality of human emotion. *Annu. Rev. Psychol.* 63, 259–285. doi: 10.1146/annurev.psych.121208.131605

Novelli, D., Drury, J., Reicher, S., and Stott, C. (2013). Crowdedness mediates the effect of social identification on positive emotion in a crowd: a survey of two crowd events. *PLoS ONE* 8, e78983. doi: 10.1371/journal.pone.0078983

*Páez, D., Javaloy, F., Wlodarczyk, A., Espelt, E., and Rimé, B. (2013). El movimiento 15-M: Sus acciones como rituales, compartir social, creencias, valores y emociones. *Revista de Psicologia Social* 28, 19–33. doi: 10.1174/021347413804756078

*Páez, D., Rimé, B., Basabe, N., Wlodarczyk, A., and Zumeta, L. N. (2015). Psychosocial effects of perceived emotional synchrony in collective gatherings. *J. Pers. Soc. Psychol.* 108, 711–729. doi: 10.1037/pspi0000014

*Parveen, S., and Khan, S. M. (2020). Social integration and perceived emotional synchrony among devotees visiting mausoleum. *Jetir* 7, 526–532.

*Pelletier, P. (2018). The pivotal role of perceived emotional synchrony in the context of terrorism: challenges and lessons learned from the March 2016 attack in Belgium. *J. Appl. Soc. Psychol.* 48, 477–487. doi: 10.1111/jasp.12526

Peterson, R. A., and Brown, S. P. (2005). On the use of beta coefficients in meta-analysis. *J. Appl. Psychol.* 90, 175–181. doi: 10.1037/0021-9010.90.1.175

Piedmont, R. L. (2004). "Assessment of spirituality and religious sentiments technical manual," in *Encyclopedia of Quality of Life and Well-Being Research*, ed A. C. Michalos (Dordrecht: Springer). doi: 10.1007/978-94-007-0753-5_119

Pizarro, J. J. (2019). *An Emotional Path to Ourselves: Self-Transcendent Emotions and Positive Effects of Collective Participation. University of the Basque Country UPV/EHU*.

*Pizarro, J. J., Alfaro-beracoechea, L., Cusi, O., Ibarra, M. L., Zumeta, L. N., and Basabe, N. (2021). Eventos locales, efectos globales: emociones trascendentes e identificación con toda la humanidad [Local events, global effects: transcendent emotions and identification with all humanity.]. *Revista de Psicología* 39, 625–654. doi: 10.18800/psico.202102.005

*Pizarro, J. J., Basabe, N., Amutio, A., Telletxea, S., Harizmendi, M., and Van Gordon, W. (2020). The mediating role of shared flow and perceived emotional synchrony on compassion for others in a mindful-dancing program. *Mindfulness* 11, 125–139. doi: 10.1007/s12671-019-01200-z

*Pizarro, J. J., Telletxea, S., Bobowik, M., and Zumeta, L. (2017). Experimental ritual: humanizing immigrants or utilitarian prejudice in Europe? *Universitas Psychologica* 16, 47–60. doi: 10.11144/Javeriana.upsy16-5.erhi

R Core Team, (2020), *R: A Language and Environment for Statistical Computing*. R Foundation for Statistical Computing. Available online at: https://www.R-project.org/ (accessed July 01, 2022).

Richard, F. D., Bond, C. F., and Stokes-Zoota, J. J. (2003). One hundred years of social psychology quantitatively described. *Rev. Gen. Psychol.* 7, 331–363. doi: 10.1037/1089-2680.7.4.331

Richer, S. F., and Vallerand, R. J. (1998). Construction et validation de l'échelle du sentiment d'appartenance sociale (ÉSAS). *Euro. Rev. Appl. Psychol.* 48, 129–138.

Riley, R. D., Higgins, J. P. T., and Deeks, J. J. (2011). Interpretation of random effects meta-analyses. *Br. Med. J.* 342, d549. doi: 10.1136/bmj.d549

Rosenberg, M. (1965). *Society and the Adolescent Self-Image*. Princeton, NJ: Princeton University Press.

Rosenthal, R. (1979). The "file drawer problem" and tolerance for null results. *Psychol. Bull.* 86, 638–641. doi: 10.1037/0033-2909.86.3.638

Rubio-Aparicio, M., Sánchez-Meca, J., Marín-Martínez, F., and López-López, J. A. (2018). Guidelines for reporting systematic reviews and meta-analyses. *Anales de Psicologia* 34, 412–420. doi: 10.6018/analesps.34.2.320131

Sabucedo, J. M., Dono, M., Alzate, M., and Seoane, G. (2018). The importance of protesters' morals: moral obligation as a key variable to understand collective action. *Front. Psychol.* 9, 1–12. doi: 10.3389/fpsyg.2018.00418

Schwartz, S. H. (2007). "Value orientations: measurement, antecedents and consequences across nations," in *Measuring Attitudes Cross-Nationally*, eds R. Jowell, C. Roberts, R. Fitzgerald, and G. Eva (London: Sage Publications), 169–204.

Schwartz, S. H. (2012). An overview of the Schwartz theory of basic values. *Online Readings in Psychology and Culture 2*. Available online at: https://core.ac.uk/download/pdf/10687025.pdf (accessed July 01, 2022).

Siegel, E. H., Sands, M. K., Van den Noortgate, W., Quigley, K. S., and Barrett, L. F. (2018). Emotion fingerprints or emotion populations? A meta-analytic investigation of autonomic features of emotion categories. *Psychol. Bull.* 144, 343–393. doi: 10.1037/bul0000128

Smith, H. J., Pettigrew, T. F., Pippin, G., and Bialosiewicz, S. (2012). Relative deprivation: a theoretical and meta-analytic review. *Person. Soc. Psychol. Rev.* 16 203–232. doi: 10.1177/1088868311430825

Spencer, B., and Gillen, F. J. (1898). *The Native Tribes of Central Australia*. London: Macmillan and Company.

Stanley, T. D., Carter, E. C., and Doucouliagos, H. (2018). What meta-analyses reveal about the replicability of psychological research. *Psychol. Bull.* 144, 1325–1346. doi: 10.1037/bul0000169

Stellar, J. E., Gordon, A. M., Piff, P. K., Cordaro, D., Anderson, C. L., Bai, Y., et al. (2017). Self-transcendent emotions and their social functions: compassion, gratitude, and awe bind us to others through prosociality. *Emot. Rev.* 9, 200–207. doi: 10.1177/1754073916684557

Sterne, J. A. C., and Egger, M. (2005). "Regression methods to detect publication and other bias in meta-analysis," in *Publication Bias in Meta-Analysis: Prevention, Assessment and Adjustment*, eds H. R. Rothstein, A. J. Sutton, and M. Borenstein (Chichester: Wiley), 99–110.

Stott, C., Ball, R., Drury, J., Neville, F., Reicher, S., Boardman, A., et al. (2018). The evolving normative dimensions of 'riot': towards an elaborated social identity explanation. *Eur. J. Soc. Psychol.* 48, 834–849. doi: 10.1002/ejsp.2376

Swann, W. B., Gómez, Á., Seyle, D. C., Morales, J. F., and Huici, C. (2009). Identity fusion: the interplay of personal and social identities in extreme group behavior. *J. Pers. Soc. Psychol.* 96, 995–1011. doi: 10.1037/a0013668

Tajfel, H., and Turner, J. C. (1979). "An integrative theory of intergroup conflict," in *The Social Psychology of Intergroup Relations*, eds W. G. Austin and S. Worchel (Monterey, CA: Brooks/Cole), 33–47.

Thonhauser, G. (2022). Towards a taxonomy of collective emotions. *Emot. Rev.* 14, 31–42. doi: 10.1177/17540739211072469

Turner, J. C., Hogg, M. A., Oakes, P. J., Reicher, S., and Wetherell, M. S. (1987). *Rediscovering the Social Group: A Self-Categorization Theory*. New York, NY: Blackwell.

Turner, J. H., and Stets, J. E. (2006). Sociological theories of human emotions. *Annu. Rev. Sociol.* 32, 25–52. doi: 10.1146/annurev.soc.32.061604.123130

Van Cappellen, P., and Rimé, B. (2014). "Positive emotions and self-transcendence," in *Religion, Personality, and Social Behavior*, ed V. Saroglou (New York, NY: Psychology Press), 123–145.

van Zomeren, M., Leach, C. W., and Spears, R. (2010). Does group efficacy increase group identification? Resolving their paradoxical relationship. *J. Exp. Soc. Psychol.* 46, 1055–1060. doi: 10.1016/j.jesp.2010.05.006

van Zomeren, M., Postmes, T., and Spears, R. (2008). Toward an integrative social identity model of collective action: a quantitative research synthesis of three socio-psychological perspectives. *Psychol. Bull.* 134, 504–535. doi: 10.1037/0033-2909.134.4.504

Viechtbauer, W. (2021). "Model checking in meta-analysis," in *Handbook of Meta-Analysis*, eds C. H. Schmid, T. Stijnen, and I. R. White (Boca Raton, FL: CRC Press), 219–254.

von Scheve, C. (2011). "Collective emotions in rituals: elicitation, transmission, and a "Matthew-effect,"" in *Emotions in Rituals*, eds A. Michaels and C. Wulf (London: Routledge), 504–530.

*von Scheve, C., Beyer, M., Ismer, S., Kozłowska, M., and Morawetz, C. (2014). Emotional entrainment, national symbols, and identification: a naturalistic study around the men's football World Cup. *Curr. Sociol.* 62, 3–23. doi: 10.1177/0011392113507463

*von Scheve, C., Ismer, S., Kozłowska, M., and Solms-Baruth, C. (2017). Rituals, emotional entrainment and national identification: a cross-national study around the European football championship. *Compar. Sociol.* 16, 585–612. doi: 10.1163/15691330-12341439

von Scheve, C., and Salmela, M. (2014). *Collective Emotions: Perspectives From Psychology, Philosophy and Sociology*. Oxford: Oxford University Press.

∗ References marked with an asterisk indicate studies included in the meta-analysis.

Ware Jr, J. E., and Sherbourne, C. D. (1992). The MOS 36-item short-form health survey (SF-36): I. Conceptual framework and item selection. *Med. Care* 30, 473–483. doi: 10.1097/00005650-199206000-00002

Whitehouse, H., François, P., Savage, P. E., Currie, T. E., Feeney, K. C., Cioni, E., et al. (2019). Complex societies precede moralizing gods throughout world history. *Nature* 568, 226–229. doi: 10.1038/s41586-019-1043-4

*Wlodarczyk, A., Zumeta, L., Basabe, N., Rimé, B., and Páez, D. (2021). Religious and secular collective gatherings, perceived emotional synchrony and self-transcendent emotions: two longitudinal studies. *Curr. Psychol.* doi: 10.1007/s12144-021-01826-0. [Epub ahead of print].

*Wlodarczyk, A., Zumeta, L. N., Pizarro, J. J., Bouchat, P., Hatibovic, F., Basabe, N., et al. (2020). Perceived emotional synchrony in collective gatherings: validation of a short scale and proposition of an integrative measure. *Front. Psychol.* 11, 1–13. doi: 10.3389/fpsyg.2020.01721

*Xygalatas, D., Mitkidis, P., Fischer, R., Reddish, P., Skewes, J., Geertz, A. W., et al. (2013). Extreme rituals promote prosociality. *Psychol. Sci.* 24, 1602–1605. doi: 10.1177/0956797612472910

Yaden, D. B., Haidt, J., Hood, R. W., Vago, D. R., and Newberg, A. B. (2017). The varieties of self-transcendent experience. *Rev. Gen. Psychol.* 21, 143–160. doi: 10.1037/gpr0000102

Zickfeld, J. H., Schubert, T. W., Seibt, B., Blomster, J. K., Arriaga, P., Basabe, N., et al. (2019b). Kama muta: conceptualizing and measuring the experience often labelled being moved across 19 nations and 15 languages. *Emotion* 19, 402–424. doi: 10.1037/emo0000450

Zickfeld, J. H., Schubert, T. W., Seibt, B., and Fiske, A. P. (2019a). Moving through the literature: what is the emotion often denoted being moved? *Emot. Rev.* 11, 123–139. doi: 10.1177/1754073918820126

*Zlobina, A., and Celeste, M. C. (2022). Preventive behaviours during the pandemic: the role of collective rituals, emotional synchrony, social norms and moral obligation. *Br. J. Soc. Psychol.* 00, 1–19. doi: 10.1111/bjso.12539

*Zumeta, L. N., Bobowik, M., Basabe, N., and Wlodarczyk, A. (2021). Participation in multicultural awareness-raising community actions: positive effects on well-being and group efficacy. *Cult. Diversity Ethnic Minor. Psychol.* 28, 413–426. doi: 10.1037/cdp0000426

*Zumeta, L. N., Castro-Abril, P., Méndez, L., Pizarro, J. J., Włodarczyk, A., Basabe, N., et al. (2020). Collective effervescence, self-transcendence, and gender differences in social well-being during 8 March demonstrations. *Front. Psychol.* 11, 1–16. doi: 10.3389/fpsyg.2020.607538

*Zumeta, L. N., Oriol, X., Telletxea, S., Amutio, A., and Basabe, N. (2016). Collective efficacy in sports and physical activities: perceived emotional synchrony and shared flow. *Front. Psychol.* 6, 1–12. doi: 10.3389/fpsyg.2015.01960

frontiers | Frontiers in Psychology

TYPE Systematic Review
PUBLISHED 20 October 2022
DOI 10.3389/fpsyg.2022.1030379

OPEN ACCESS

EDITED BY
Huseyin Çakal,
Keele University, United Kingdom

REVIEWED BY
Li Liu,
Henan University of Technology, China
Rommy Morales-Olivares,
University of the Witwatersrand, South Africa
Diego Fernando Barragán-Giraldo,
Universidad de La Salle Colombia, Colombia

*CORRESPONDENCE
Pablo Rivera-Vargas
pablorivera@ub.edu

SPECIALTY SECTION
This article was submitted to Personality and Social Psychology, a section of the journal Frontiers in Psychology

RECEIVED 28 August 2022
ACCEPTED 26 September 2022
PUBLISHED 20 October 2022

CITATION
Ballesteros-Quilez J, Rivera-Vargas P and Jacovkis J (2022) Counter hegemony, popular education, and resistances: A systematic literature review on the squatters' movement. *Front. Psychol.* 13:1030379. doi: 10.3389/fpsyg.2022.1030379

Counter hegemony, popular education, and resistances: A systematic literature review on the squatters' movement

Julia Ballesteros-Quilez[1], Pablo Rivera-Vargas[2,3]* and Judith Jacovkis[2]

[1]Faculty of Psychology, University of Barcelona, Barcelona, Spain, [2]Department of Teaching and Learning and Educational Organization, University of Barcelona, Barcelona, Spain, [3]Facultad de Educación y Ciencias Sociales, Universidad Andrés Bello, Santiago, Chile

The squatting movement is a social movement that seeks to use unoccupied land or temporarily or permanently abandoned buildings as farmland, housing, meeting places, or centers for social and cultural purposes. Its main motivation is to denounce and at the same time respond to the economic difficulties that activists believe exist to realize the right to housing. Much of what we know about this movement comes from the informational and journalistic literature generated by actors that are close or even belong to the movement. However, there is also a significant diversity of knowledge and scientific evidence on the squatters' movement that is being produced by academia and that is worth knowing and grouping together. With the aim of defining and understanding how the squatters' movement is constituted and organized, and how it acts, this research analyzes what the scientific literature affirms about it. Through qualitative research based on the systematic literature review (SLR) method, information was sought in the Web of Science (WOS) and Scopus databases. The initial universe of 262 articles was finally reduced to a sample of 32 articles. These have been analyzed by means of a categorized classification content analysis. The results obtained allow us to establish the state of the art on the squatting movement, placing special emphasis on its dynamics of resistance, its process of political subjectivation and its mechanisms of action and self-management. The study suggests that the movement is understood based on collective actions with a political role of resistance to neoliberalism and the inequalities it generates, and of response to the basic and social needs of the communities through self-management.

Systematic review registration: [doi: 10.5281/zenodo.7179670], identifier [7179670].

KEYWORDS

squatting movement, squatters, anti-capitalism, social movements, neoliberalism, self-management, insurgency, social transformation

Introduction

The development of the squatting movement, born in the 1960s in Western Europe, has been a clear response to urban policies, especially those linked to the housing market, and has proposed an alternative way of constructing individual and collective life. Thus, it has opted for a politically conscious, participatory, self-managed, and creative life option, without dependence on established hierarchies and outside the dynamics of the world of consumption and the market. The emergence of this movement, as well as other new social movements, can be interpreted from the theory of Inglehart (2018) who investigates the process of transformation from a "materialist society" to a "post-materialist society." In materialistic societies, values were conditioned by material needs. In contrast, post-materialist values have driven claims to issues related to the preservation of autonomy, political participation, identity, or quality of life.

Occupation as a phenomenon refers to the action of squatting, to the very fact of illegally entering and inhabiting someone else's property, whether to use it as a home, to house political projects or for both objectives (Anton, 2020). Despite their diversity and the richness of their demands, it is common to restrict, reduce and simplify the scope of the social movement to the act of opening and entering a building (Anton, 2020). For Pruijit (2013), it is in this way that an specific and disruptive action becomes a symbol of the occupation, which overshadows its other dimensions. However, the process of squatting, as well as the different ways of inhabiting occupied spaces, make it a complex and diverse movement that has evolved and changed over time.

For Martínez (2011) and Morawski (2019), the expansion of the squatters' movement since the 1970s is due to transnational imitation and activists' personal connections, which constitute social and political networks. In the same vein, for Anton (2020), its survival over time has been possible thanks to internal discussions and debates that reoriented some of its priorities and tools of struggle. Indeed, currently some squatting social centers are not only providers of leisure but also of services such as legal advice, food collection or the promotion of self-occupation (Rivero and Abasolo, 2010; Morawski, 2019). Thanks to their social and anti-hegemonic aims, links are established with other social, political, or neighborhood movements, so that squatting is adopted by the daily and political struggle of many collectives that initially did not see it as a valid and efficient response or action to achieve their objectives (Cattaneo and Martínez, 2014; Anton, 2020). In fact, the movement, which for many years was marginalized due to the questioning and attack on private property it entails, has seen its legitimacy increase over the last decade for these linkages and interrelationships (Anton, 2020; Nowicki, 2020).

The squatting movement proposes an alternative path to the construction of individual and collective life (Staniewicz, 2011). In this vein, for Martínez (2019) many of its participants promote collective direct action, self-management and communal lifestyles that challenge capitalist urbanization, housing speculation and unsustainable and alienated lives. Squatting communities provide identity resources and enable the development of commonly shared skills that are transferable to other territories (Bouillon, 2009).

Although the contexts and projects are considerably differentiable, authors such as Martínez (2011, 2016), Cattaneo and Martínez (2014), and Morawski (2019) argue that there are also common patterns in the squatting movement. In the case of Europe, for example, some important motivations for all types of occupation have been: the need for social housing for vulnerable groups; the social and cultural resignification of unsatisfied and unused urban and rural spaces; the search for identity and well-being in urban territorial contexts inhabited by the working class; the search for empowerment and greater neighborhood organization; and, in general, anti-hegemonic resistance to housing policies subjugated to the market and financial speculation, and to the promotion of the gentrification of historic neighborhoods.

In relation to its definition, the literature so far offers numerous divergent interpretations that convey the difficulty of defining the squatters' movement (Pruijit, 2013). At the same time, none of these interpretations can be considered incorrect, since the squatters' movement presents a great variability and diversity of projects, even depending on the national or local context in which they are developed (Pruijit, 2013; Morawski, 2019).

As a social and political movement, the occupation has been approached by literature from many perspectives, reflecting its own complexity and heterogeneity: historical, political, anthropological, and sociological (Alonso, 2015). At the same time, there is not only academic literature, but also many sources of counter-information and alternatives to the *mass-media* generated by the squatters' movement itself. These sources are easy to access, but they are clearly discursive vehicles as their main objectives are to promote citizen support, make alliances, seek recognition as cultural centers and disseminate the movement's ideas through social networks (Venegas Ahumada, 2014). Therefore, we cannot consider that there is no bias in the information they offer.

Given the complexity of the movement on a social level, and the existence of numerous bibliographical precedents that address its different dimensions, in this article we are particularly interested in learning about the various focuses of interest of scientific research on the phenomenon of the squatter movement. Without wishing to delegitimize the importance of the more informative and political references in the field, we are interested above all in answering the following questions based on the available scientific evidence:

What is the squatter movement? What are its main dynamics of counter-hegemonic action?, What are its main focuses of interest?, What are its main mechanisms of action

and self-management?, And what social resistances does it encounter?

With the aim of answering these questions, a systematic literature review (SLR) of scientific articles on the squatter movement published between 2019 and 2021 has been developed. The present work, in this sense, aims to establish what is the state of the art in the scientific literature and what are its main focuses.

Approach to the theoretical framework. An approach to its history and main characteristics

The squatter movement is considered by some authors as one of the New Social Movements (NMSs) that emerged in the late 1960s (Pruijit, 2013; Subirats, 2013). Unlike the classical movements, they have a networked structure, are more informal and unstable and follow an organizational model more enthusiastic (Calhoun, 1993 cited by Pruijit, 2013) and detached from the relations of production that characterized traditional movements (Chihu, 1999). In any case, like traditional movements, NMS are forms of collective action that respond to the abuses of economic and political powers and involve processes of consciousness-raising for social emancipation (Vargas, 2008), thus contributing to the generation of identities and new ways of living (Chihu, 1999).

The "squatting" phenomenon, as we understand it today, responds to the need for accommodation and the need for spaces that serve as base of operations for alternative political and cultural activities. The occupation of empty houses and buildings to satisfy these needs has its origins in Britain in the 1960s and early 1970s, when countercultural groups settled more or less permanently in dwellings that were not used by their owners (Cattaneo and Martínez, 2014). The movement was very strong due to the large number of abandoned dwellings and the fact that most of them were owned by local councils, which lacked funds to modernize them and therefore left them unused.

The movement quickly spread to Denmark, the Netherlands and Germany, with different nuances in each case. In the late 1960s, German cities such as Berlin, Hamburg, and Freiburg began to be subject to numerous "hausbesetzung" (squatting in Deutsche). The first wave of Germany squatting was linked to the student revolution of 1968. The second wave began in the years 1978–1979 with the declaration of "redevelopment" zones in old Berlin districts; the situation became scandalous: while countless flats were left empty, the demand for housing soared. In these circumstances, the squatting movement reappeared, and its first targets were precisely the houses affected by these redevelopment plans. In the Netherlands, in the late 1970s and early 1980s, students and former provost occupied uninhabited buildings proposed for demolition in the wake of the ideas put forward by the provos and kabouters. The occupation ("Krakers" in Dutch) was very popular among Amsterdam's youth. Over the years, the Netherlands has become the European country where the squatting movement has stabilized the most, as it has found an attitude of dialogue and support from administrations (Kriesi, 1989; Morawski, 2019; Van der Steen et al., 2020). In this sense, the enforcement of the Law 12305 established that a property could only be left unused for 1 year, and the municipality of Amsterdam, for example, publishes a catalog of occupiable houses when the owners, in addition to having them empty, do not comply with minimum conservation requirements.

Depending on the motivations for squatting a space, building, or dwelling, Pruijit (2013) presents a classification along five dimensions:

1. Deprived occupation includes people who, because of their poverty, do not have access to any kind of housing. For them, the only alternative to occupation is homelessness. In this case, the main demand is not structural but seeks to meet an individual need.
2. Occupancy as an alternative housing strategy is not as restrictive as the previous one, as it does not necessarily imply conditions of poverty. In this case, squatting is seen as an alternative to renting.
3. Occupation as entrepreneurship is that which allows any project to be developed without the bureaucracy involved in doing so in other ways. This includes neighborhood centers, squatters' bars, or personal or collective social actions and projects.
4. Conservationist occupation is one that aims to conserve and preserve the urban landscape, avoiding urbanization and renewal, or slowing down gentrification processes.
5. The occupation as a political action sustains an anti-system positioning and identifies itself as revolutionary with autonomous ideas.

In synthesis, we can say that the squatting movement, despite its great heterogeneity, shares in its majority of expressions a motivation of transformation or resistance in an emancipatory key or, at the very least, a practice that is subversive insofar as it represents a transgression of the right to private property. To squat, in this sense, is indeed to violate private property, but not with a lucrative interest but with an intention that goes from survival to social transformation (Squatting Europe Kollective [SQEK], 2010).

Beyond Pruijit (2013) classification, to which we will return later, the squatting movement has been a key actor in bringing to the table the tensions raised by the exploitation of cities by markets (Polanska and Weldon, 2020). In this sense, their actions have not been limited to the occupation of spaces in passive terms, but rather to their use as places of collective construction and resistance to hegemony. Thus, various researchers have been interested in movement as

an element of social transformation in different contexts. Staniewicz (2011) points out that the squatting movement is an object of study for both urban sociology and the sociology of social movements.

On the one hand, from a point of view of the study of urban dynamics, Guzmán (2008, cited by Staniewicz, 2011) argues that squatting is an adaptive instrument in the face of the lack of housing characteristic of many European cities, and that it plays an active role in the reform and improvement of urban ecology. In this sense, the squatting movement seeks to reclaim the Right to the City. As described by Lefebvre (1967 cited by Molano, 2016 p. 4), this right is the right of all urban dwellers to build, decide and create the city, making it a privileged space for anti-capitalist struggle. Thus, Lefebvre proposed it as an alternative to the social and urban depoliticization promoted by modern states (Molano, 2016). However, despite the transformative and radical potential of the Right to the City, institutions and administrations have used it discursively but have also detached it from its initial political and ideological content, which has given rise to weak participatory processes and forms of self-management and eventually has contributed to sustain and give more importance to certain municipal participatory processes (Mayer, 2012; Dee, 2018).

On the other hand, approaches from the sociology of social movements highlight some key aspects of the squatters' movement as its diversity and radicalism, especially in comparison with other forms of participation and existing urban movements. This is manifested in the promotion of building takeovers and the development of strategies of everyday grassroots and neighborhood self-management of urban spaces. Martínez (2011), in fact, proposes to speak of "squatter movements" in the plural, due to their heterogeneity and variability depending on the local and historical contexts in which they have been developing. These contexts, nevertheless, share characteristics typical of the neoliberal model of the city such as inequalities, social polarization, and the precariousness of living conditions (Llobet, 2004).

Despite these common factors, the squatting movement cannot be considered solely as a reactive movement to the system, but as a generator of alternatives that materialize in particular experiences of self-management, construction of daily coexistence, reflection on the contradictions and interpersonal and collective conflicts that arise, etc. (Llobet, 2004). In this sense, squatted social centers and squats constitute political experiences of contestation to political and urban transformations in neoliberal contexts (Miró, 2008).

Both for its role in the configuration of urban scenarios and for its characteristics as a social movement, the squatters' movement is a counter-hegemonic movement insofar as, through its practice, it publicly and collectively questions what is defined as normal, taken for granted, and that forms part of common sense: private property, individualism, or the need for institutions to organize collective practices due to the impossibility of self-management. On the other hand, the movement represents an experience of popular education. Beyond its different expressions, the movement's practices involve collective learning and knowledge-building processes that have had a transformative impact in many of the contexts in which they have developed, both at the neighborhood and city level, and in terms of the activists' experiences (Rivera-Vargas et al., 2022). Through the creation of open social centers, participation in neighborhood assemblies and other initiatives linked to their environments, the squatting movement has contributed to generating reflection and critical thinking among its activists, who have been formed in these environments as political subjects.

This brief review of the emergence and evolution of the squatting movement and its framing as a counter-hegemonic social movement capable of promoting popular education strategies in its spaces of intervention leads us to ask how the scientific literature has delved into some of its characteristics. The methodological approach presented in the following section, which has guided this analysis, aims to find out how research on this movement has responded to the questions formulated in the introduction.

Materials and methods

The method used to carry out this study is documentary analysis, a procedure based on the need to facilitate individuals' access to information sources, bearing in mind that the volume of information production has been increasing (Peña and Pirella, 2007).

In order to determine the state of the art on the squatter movement, as well as to analyze, identify and synthesize the scientific information available in this field in order to make it more accessible and comprehensible, a SLR has been carried out (Sanz, 2020; Fardella et al., 2022). This SLR is based on the PRISMA 2020 protocol (Moher et al., 2009; Page et al., 2021; Sosa-Díaz et al., 2022).

Systematic literature review is a type of scientific research whose main purpose is to objectively and systematically integrate the results of previous studies on the same research problem, thus determining the state of the art in the chosen field of study (Sánchez-Meca and Botella, 2010).

Based on the article's guiding questions, this study used systematic and explicit methods to locate, select and critically appraise relevant research (Sánchez-Meca and Botella, 2010), so that valid and objective conclusions could be drawn about the questions posed.

Sources of information

For the collection of information, search strategies were applied in different databases, identifying studies by date (last

3 years) and type of document (journal articles). The search was limited by language to articles in English, Spanish, Catalan, and French. This study selection process was carried out independently by two reviewers acting in different phases. Specifically, these reviewers divided the document searches by databases (WOS and Scopus).

Search strategies

The search included different combinations of the words *squatting OR squatters* together with other keywords: *urban squatting, social centers, social work, neighborhood, political squatting, neoliberalism, social transformation, social change,* and *community,* using the Boolean operator "AND," and specifying that the words appear in the title or between the keywords.

Due to the polysemy of the word "*squatting*," in order to obtain results on our research problem, the search was limited to the following research domains in Web of Science (WOS): *Anthropology, Cultural studies, Political science, Psychology, Geography, Psychology applied, Psychology experimental, History, regional urban planning, History of social sciences, Cultural studies, Demography, International relations, Social issues, Development studies, Law, social sciences interdisciplinary, Sociology, Economics, Education educational research.*

In Scopus the search was also limited to the following subject areas: *Social sciences, Arts and humanities, Business, Management and accounting, Economics, econometrics and finance, Psychology, Environmental Science, Earth and Planetary Sciences, Multidisciplinary* (see **Table 1**).

TABLE 1 Database search description.

Database	Description
Sequence of filters in SCOPUS	TITLE-ABS-KEY TITLE-ABS- KEY + PUBYEAR > 2018 + DOCTYPE (AR) TITLE-ABS- KEY + PUBYEAR > 2018 + DOCTYPE (AR) Subject area: *Social sciences, Arts and humanities, Business, Management and accounting, Economics, econometrics and finance, Psychology, Environmental Science, Earth and Planetary Sciences, Multidisciplinary.*
Sequence of filters in WOS	TITLE-ABS-KEY TITLE-ABS- KEY + PUBYEAR > 2018 + DOCTYPE (AR) TITLE-ABS- KEY + PUBYEAR > 2018 + DOCTYPE (AR) Research domains: *Anthropology, Cultural studies, Political science, Psychology, Geography, Psychology applied, Psychology experimental, History, regional urban planning, History of social sciences, Cultural studies, Demography, International relations, Social issues, Development studies, Law, social sciences interdisciplinary, Sociology, Economics, Education educational research*

Selection process

The Prisma protocol suggests the execution of four phases in the SLR. These are: Identification, Screening, Eligibility, and Inclusion (see **Figure 1**). In these phases, the criteria for selection and elimination of texts were grouped as follows:

In the identification phase, once the different word combinations had been included in the WOS and Scopus databases, a total of 262 articles were found. In the screening phase, duplicate articles were eliminated ($n = 61$) and also those which, based on the reading of the abstract, were not related to the object of study or the guiding question ($n = 60$), resulting in a total of 141 articles.

In the eligibility phase, after reading or attempting to read the articles, a total of 109 of the 141 resulting from the screening process were eliminated. This elimination was carried out on the basis of four criteria: because of impossibility of access or paid access ($n = 56$), because they were not available in Catalan, Spanish, or English ($n = 8$), because their main focus was not the squatter movement ($n = 15$) and, finally, because they were published before 2019 ($n = 30$). No exclusion criteria were established based on the territorial area studied by the articles, as the aim was to obtain a global vision of the squatters' movement.

Thus, the final sample in this SLR included 32 articles published between 2019 and 2021 (**Table 2**).

The 32 selected texts were subjected to a content analysis based on open coding (Strauss and Corbin, 2002). In addition, five axial categories were established in which the different codes identified were grouped and related: (1) Origin and conceptualization of the squatter movement. (2) Counter-hegemonic action against Neoliberalism and Capitalism. (3) Links with the community. (4) Squatter movement and migration. (5) Limitations and resistances to the squatting movement (see **Table 3**). The documents that make up the sample were analyzed according to these axial categories in a spreadsheet (Sosa-Díaz et al., 2022).

Results

The results obtained through the SLR are grouped into the five axial categories mentioned above.

Origin and conceptualization of the squatter movement

There are numerous definitions of what the squatting movement is and what its main actions are in the literature analyzed. For numerous authors, occupation as a phenomenon

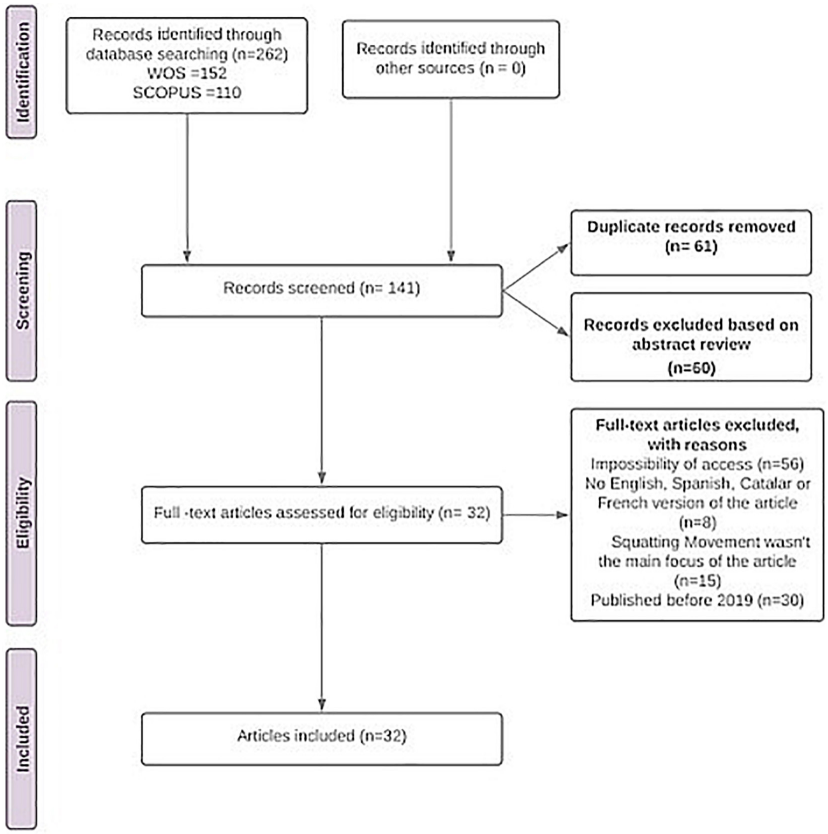


FIGURE 1
Flowchart based on the PRISMA 2020 statement (Page et al., 2021). Source: own elaboration.

refers to the action of squatting, to the very fact of entering someone else's property illegally and inhabiting it, whether to use it as a home, to house political projects or for both objectives (Cattaneo and Martínez, 2014 cited by González et al., 2020; Aceros et al., 2019; De Biasi, 2019; Martínez, 2019; Atabien and Tekdemir, 2020; Chiodelli et al., 2020). In normative terms, occupation would consist of the action of occupying a property without the prior consent of the owner and, above all, without a legal right to that property (Campbell, 2019; Atabien and Tekdemir, 2020; Chiodelli et al., 2020).

The squatting movement historically emerges as a collective response to housing crises (Pruijit, 2013 cited by Atabien and Tekdemir, 2020; Campbell, 2019; Nowicki, 2020). Therefore, according to the literature analyzed, it is not surprising that there is a strong link between this movement and political activism as an alternative and counter to capitalism (Squatting Europe Kollective [SQEK], 2010 cited in Polanska and Weldon, 2020; Nowicki, 2020).

Several authors frame the squatters' movement as an example of the politics of the act, which are contrary to the politics of demand. The politics of the act are based on the premise that freedom and emancipation should not be asked for, but should be built and lived, creating alternatives to the state and social organization (Dadusc, 2019a; Ighe, 2020; Novák and Kuřík, 2020).

Occupation is a phenomenon that continues to occur in Europe and affects the global scale, but according to the literature analyzed, it is difficult to compare situations in different development contexts (Raimondi, 2019; Martínez, 2020a; Soresina, 2020). It is not, therefore, a homogeneous movement. On the contrary, it is extremely heterogeneous, and takes different forms depending on the country, city and even areas and administrations within the same city (Gelder, 2013 cited in Dadusc, 2019a; Malik et al., 2020; Martínez, 2020a). However, and in spite of the difficulties in generalizing, for various authors, the communication relations, the activists' travels, and the mutual influence in the anti-capitalist resistance practices mean that the movement can be considered transnational (Owens et al., 2013 cited in Martínez, 2020a).

Most of the self-managed squatting projects coincide in the fact of meeting social needs (Caciagli, 2019; Dadusc et al., 2019; González et al., 2020) through direct action (Dos Santos, 2020). Firstly, by meeting the need for housing (Caciagli, 2019; Karaliotas and Kapsali, 2021) but also other needs such as the creation of common goods and spaces that enable socialization

TABLE 2 Articles included in the SLR.

NO.	References	Publication	Title
1	Aceros et al., 2019	Journal of youth studies	"Often it is because of who is doing it." The production of a youth subculture's image through talk.
2	Asara, 2019	Partecipazione e conflitto.	"The redefinition and co-production of public services by Urban movements: The Can Batllo social innovation in Barcelona."
3	Caciagli, 2019	Antipode	Housing Squats as "Educational Sites of Resistance": The Process of Movement Social Base Formation in the Struggle for the House.
4	Campbell, 2019	Anthropology today	Of squatting amid capitalism on Yangon's industrial periphery.
5	Dadusc, 2019b	Citizenship studies	The Micropolitics of border struggles: migrants' squats and inhabitance as alternatives to citizenship.
6	Dadusc, 2019a	City	Enclosing autonomy: The politics of tolerance and criminalization of the Amsterdam squatting movement
7	Dadusc et al., 2019	Citizenship studies	Introduction: citizenship as inhabitance? Migrant housing squats versus institutional accommodation
8	De Biasi, 2019	City	Squatting and adverse possession: Countering neighborhood blight and disinvestment
9	Lauri, 2019	Subjectivity	Social movements, squatting and communality: ethical practices and re-subjectification processes
10	Maestri, 2019	International journal of urban and regional research	The Nomad, The Squatter and the State: Roma Racialization and Spatial Politics in Italy.
11	Martínez, 2019	Culture unbound	Good and bad squatters? Challenging hegemonic narratives and advancing anti-capitalist views of squatting in western European cities
12	Raimondi, 2019	Citizenship studies	For "common struggles of migrants and locals." Migrant activism and squatting in Athens
13	Starecheski, 2019	American ethnologist	Social movements, squatting and communality: ethical practices and re-subjectification processes
14	Atabien and Tekdemir, 2020	Studies in psychology – psikoloji calismalari dergisi	Identity Positionings in Squatters' Framings of Don Quijote Social Centre
15	Burgum, 2020	Journal of urban history	This City Is An Archive: Squatting History and Urban Authority
16	Chiodelli et al., 2020	Progress in planning	The production of informal space: A critical atlas of housing informalities in Italy between public institutions and political strategies
17	De Moor, 2020	International journal of urban and regional research	Alternatives to Resistance? Comparing Depoliticization in Two British Environmental Movement Scenes
18	Dos Santos, 2020	Partecipazione e conflitto	Squatting, commons and conflict: A discussion of squatting's challenges to the commons.
19	González et al., 2020	Participation and conflict	Squatted and self-managed social Centers in Mexico City: Four case studies from 1978–2020.
20	Ighe, 2020	Participation and conflict	Empty space, open space. Claiming, reaching and remembering common ground in ubran squats. Haga in the 1980s.
21	Malik et al., 2020	Journal of housing and the built environment	Investigation of informal housing challenges and issues: experiences from slum and squatter of Lahore.
22	Martínez, 2020a	Partecipazione e conflitto	Urban commons from an anti-capitalist approach.
23	Martínez, 2020b	Routledge handbook of contemporary European social movements: protest in turbulent times	European squatters' movements and the right to the city.

(Continued)

TABLE 2 (Continued)

NO.	References	Publication	Title
24	Novák, 2020	Social movement studies	Every city needs a klinika: the struggle for autonomy in the post-political city.
25	Novák and Kuřík, 2020	Journal of urban affairs	Rethinking radical activism: Heterogeneity and dynamics of political Squatting in Prague after 1989.
26	Nowicki, 2020	Environment and planning c-politics and space	Is anyone home? Appropriating and re-narrativising the post-criminalization squatting scene in England and Wales.
27	Polanska and Weldon, 2020	Participation and conflict	In Search of Urban Commons Through Squatting: The Role of Knowledge Sharing in the Creation and Organization of Everyday Utopian Spaces in Sweden.
28	Soresina, 2020	Journal of urban history	The Housing Struggle in Milan in the 1970s: Influences and Particularities.
29	Van der Steen et al., 2020	Journal of urban history	Who Are the Squatters? Challenging Stereotypes through a Case Study of Squatting in the Dutch City of Leiden, 1970–1980.
30	Yardımcı, 2020	Antipode	State Stigmatization in Urban Turkey: Managing the "Insurgent" Squatter Dwellers in Dikmen Valley.
31	Zaman, 2020	Transactions of the institute of British geographers	Neighborliness, conviviality, and the sacred in Athens' refugee squats
32	Karaliotas and Kapsali, 2021	Antipode	Equals in Solidarity: Orfanotrofio's Housing Squat as a Site for Political Subjectification Across Differences Amid the "Greek Crisis."

TABLE 3 Categorization and number of articles that mention each category.

NO.	Categories about the squatting movement	Articles
1	Origin and conceptualization of the squatter movement.	25/32
2	Resistance to neoliberalism and capitalism.	26/32
3	Squatters' movement and migration.	13/32
4	Community outreach.	25/32
5	Limitations and resistances.	25/32

and the generation of cohesive communities (Dos Santos, 2020; Polanska and Weldon, 2020).

Identities and types of occupation: Who squats?

The image of the squatter as a political militant who generates continuous confrontations with the police and violent conflicts emerged during the 1980s in Europe (Van der Steen et al., 2020). However, to adhere to the myth of the militant squatter often depicted as a white, thin, young man excludes all other people who are also part of the movement: "apolitical" squatters, migrants, women, etc. (Kadir, n.d. cited by Van der Steen et al., 2020).

There are examples such as the Haga neighborhood in Götemborg, with a large squatter focus, where activists claimed to have built a tolerant community composed of all kinds of people: children with dysfunctional families, alcoholics, as well as other people suffering from social exclusion, such as transgender people (Ighe, 2020). Informants also stressed the importance of relationships, links and learning between young squatters and older people who had been or were squatters (Ighe, 2020; Soresina, 2020), thus breaking the established stereotype.

The classification and characterization of the squatting movement is difficult. According to Martínez (2020a), the most relevant work in the field is the approach of Pruijit (2013) who presents, as we have mentioned in the theoretical framework, a classification of urban occupation according to the motivations of such occupation. This classification has been widely applied and criticized, as some of these configurations can be interrelated (Martínez, 2020a). Furthermore, some authors argue that the practice of occupation, as long as it is collective, is inherently political as it subverts one of the basic principles of the hegemonic order: private property (Caciagli, 2019; Polanska and Weldon, 2020).

Counter-hegemonic action toward neoliberalism and capitalism

The neoliberal era has seen changes in urban spaces, accelerated in many cities by the growth of urbanization- and restructuring-oriented capitalism (Polanska and

Weldon, 2020; Soresina, 2020). One of the most visible transformations has been the privatization of public spaces in cities. In this context, more and more "glocal" movements for transformation are appearing whose main claim is "the Right to the City" (Lefebvre, 1968 cited by Martínez, 2020a; Polanska and Weldon, 2020) as well as public spaces outside the market and the control of the capitalist state (Caffentzis and Federici, 2014 cited by Polanska and Weldon, 2020).

Urbanization has become a key tool for the development of capitalism, and the city plays a central role in capital accumulation (Novák and Kuřík, 2020; Yardımcı, 2020). Accelerated urbanization causes more and more people to move to cities (González et al., 2020; Novák and Kuřík, 2020); in turn, urban spaces are increasingly commodified, what has turned cities into neoliberal spaces where life is increasingly individualized and based on the free market (Novák and Kuřík, 2020).

The occupation of buildings or land is inherent to the practice of resisting commodification through challenging private property and institutional authority (Asara, 2019; Dadusc, 2019b; Starecheski, 2019; González et al., 2020; Polanska and Weldon, 2020). Occupation is thus an anti-capitalist expression of life, serving both as its own purpose (to meet the need for housing/shelter produced by the capitalist system) and as an instrument of resistance to neoliberalism (Raimondi, 2019; Soresina, 2020) that constructs a desirable future (Atabien and Tekdemir, 2020). Even when it is only an occupation to obtain housing, it is considered political by shaping an alternative to the imposition of the capitalist market (Caciagli, 2019).

Processes of political re-subjectivation through squatted spaces

The common life put into practice by the squatting movement, the communal learning, knowledge and experiences, all generates political subjects more disposed to collective existence (Lauri, 2019). While the neoliberal paradigm individualizes, squats work on the effects of depoliticization with ethical, social and political implications (Nicholls, 2016 cited by Caciagli, 2019), generating in turn a starting point for renewed political participation (D'Albergo and De Nardis, 2016 cited by Caciagli, 2019).

Cities have been identified as incubators of social movements. Increasingly, processes of politicization and depoliticization are studied in relation to urban contexts (De Moor, 2020), and it is established that there is an interplay between post-political forces, which depoliticize, and those that re-politicize through acts of opposition to the *status quo* (Novák, 2020).

Squatted spaces constitute urban community practices that, by forming autonomous communities of resistance to privatization and dispossession, generate new forms of governance that open up the possibility of radical political subjectivities to emerge (Dadusc, 2019b).

Popular education and community outreach

Through the creation of self-organized spaces and communities as alternatives for living against capitalism, squatters generate commons for cities (Dadusc et al., 2019; Polanska and Weldon, 2020). For example, in these spaces it is particularly important the creation of explicit and implicit collectively accepted principles and rules that regulate behavior (Novák, 2020; Polanska and Weldon, 2020) and aim to unlearn what produces social exclusion (racism, sexism, and ableism). At the same time, they seek to accentuate behaviors of solidarity, self-determination and mutual help, creating spaces of freedom where everyone feels safe (Raimondi, 2019; Polanska and Weldon, 2020). This is how the creation of communities offers squatters an alternative to models of social reproduction (Polanska and Weldon, 2020).

The relationship with the surroundings and the neighborhood usually occurs when the space is already squatted and gradually becomes a space for external use such as the hosting of neighborhood support campaigns or cultural activities (Caciagli, 2019; Novák, 2020). This does not imply that relations between squatters and neighbors are easy, as the latter may react negatively to the squatters' activities and put pressure on the authorities for eviction (Caciagli, 2019).

Beyond the services it offers, the main contributions that the squatting movement makes to the community are shared knowledge and learning (Ighe, 2020), as well as giving a voice to groups that are socially silenced by conditions of fear and dependence and that, through occupation, appropriate and inhabit urban, social, and political spaces (Dadusc, 2019a).

Urban commons

Occupation is understood within the urban *commons* as it provides and generates resources for the community (Dos Santos, 2020) that are highly valuable for anti-capitalist practices (Martínez, 2020b). *Commons* are characterized by property relations that reflect the collective decisions of the people who participate and use the resources (Rodrigo, 2010; Algarra, 2015; Sastre, 2018; Dos Santos, 2020). However, the available resources do not constitute *commons per se*, but become commons through collective organization (Dos Santos, 2020).

In the case of occupation, empty buildings are available resources, but this availability only exists outside the capitalist framework, only through occupation (Dos Santos, 2020). Occupation can be framed as a common when it is collective,

cooperative, self-organized, based on mutual aid and non-exploitation, and is a survival practice for the working class (Martínez, 2020a).

Squatters' movement and migration

In 2015, the refugee crisis and the long migration summer formed a very powerful solidarity movement across Europe to address the hardship and rights violations of migrants, and to fight exclusion and racism (Martínez, 2016 cited by Maestri, 2019; Raimondi, 2019). In this context, movements such as the "We Are Here" in the Netherlands (Dadusc, 2019a), the "Syrian Solidarity House Initiative" and the "City Plaza" hotel in Athens (Martínez, 2020a; Zaman, 2020), Klinika in the Czechia (Novák, 2020) or Metropoliz in Italy (Martínez, 2020a) were created.

The increase of laws criminalizing migration is a technique of repression that extends illegality to all aspects of migrants' lives, creating a hostile environment for them (Aas, 2011 cited by Dadusc, 2019a; Dadusc et al., 2019; Novák, 2020). Violence and coercion are not only produced by administrations (Dadusc, 2019b), but also by humanitarian borders (Walters, 2010 cited by Dadusc, 2019b) that treat migrants as an emergency, victimizing them and presenting them as vulnerable and in need from an apolitical approach (Dadusc, 2019b). In these cases, occupation represents a practice of resistance to criminalization and humanitarian borders, creating common spaces and solidarities against violence, segregation and the constraints of humanitarian security measures (Dadusc, 2019b; Martínez, 2020b; Karaliotas and Kapsali, 2021).

In addition, occupations with migrants or Roma together with activists have the function of making visible what has been excluded (Dikeç, 2012 cited by Maestri, 2019), creating spaces for silenced voices to be heard (City Plaza Refugee and Accommodation Space, 2017 cited by Raimondi, 2019). Although these shared occupations are based on a principle of equality, this does not prevent the appearance of internal conflicts or the reproduction of power relations (Dadusc et al., 2019; Karaliotas and Kapsali, 2021). Indeed, communities present tensions and contradictions in which they confront forms of racism and other internalized privileges, albeit with the possibility of learning from mistakes (Dadusc et al., 2019).

Inhabiting these spaces successfully overcomes isolation, dependency, the politics of fear and the silence of migrants and politicizes far beyond the coverage of accommodation needs in response to the austerity of neoliberalism (Dadusc, 2019a; Dadusc et al., 2019; Chiodelli et al., 2020; Zaman, 2020; Karaliotas and Kapsali, 2021). The occupation endows the illegal migration process with autonomy, constituting itself as a political movement that escapes institutions and delegitimize control and authority (Dadusc et al., 2019).

Main social resistance toward the squatting movement

According to the literature analyzed, there are four main resistances that limit and threaten the existence and extension of the squatters' movement.

Firstly, the stigmatization of the movement, which has been publicly delegitimized through its criminalization (Nowicki, 2020; Yardımcı, 2020), to which the media have contributed by portraying squatters as fanatics, criminal gangs, parasites, and invaders (Martínez, 2019). This has served political interests on the part of the state to continue urbanizing without encountering resistance (Kallin and Slater, 2014 citats per Yardımcı, 2020; Novák, 2020; Yardımcı, 2020).

Secondly, evictions, which lead to the loss of the squatted space, and force the squatting movement to develop strategies to face this constant threat (Caciagli, 2019). Very often, the eviction of a squatted space leads to the proliferation of other squats (Dadusc, 2019b). Therefore, instead of using direct forms of repression, institutions sometimes use more subtle governance strategies and offer negotiations to squatted spaces (Dadusc, 2019a; Lauri, 2019; De Moor, 2020). The institutionalization of many of the spaces as an alternative to eviction and because of these negotiations, ends up leading to control and surveillance, depoliticization of the movement and even police infiltration of social movements (Dadusc, 2019b; De Moor, 2020; Novák, 2020). Direct and indirect repression socially isolates squatted spaces, preventing them from accessing their necessary social bases (González et al., 2020). Yet, even in the face of eviction, activists have the capacity to challenge authority and politicize the debate about their own eviction (Novák, 2020).

Thirdly, internal conflicts that, although do not imply the failure of the project, represent resistance and alert of the need to maintain a critical view that avoids the reproduction of privileges and power structures (Atabien and Tekdemir, 2020; Karaliotas and Kapsali, 2021). Some squatted spaces present norms to minimize tensions between participants (Maestri, 2019; Novák, 2020; Polanska and Weldon, 2020). But breaking normative agreements can have serious implications, such as expulsion from the squatted space, so some people follow the rules not because they understand them as collectively generated processes, but out of fear of the consequence (Caciagli, 2019).

Finally, we find the precariousness of housing. The squatting movement offers a direct response to the need for housing, but often the occupied spaces are not suitable for living (Malik et al., 2020). The limitations of basic infrastructure make conditions unfavorable for continued occupation (Malik et al., 2020).

Discussion

The main thematic focuses addressed by the scientific literature on the squatting movement refer to its conceptualization and classification, its counter-hegemonic role and resistance to neoliberalism and capitalism, its links with the community and with the anti-racist and migrant movements, and, finally, its limitations and the resistance it can generate.

Since its emergence between the 1960s and 1970s, the squatting movement has materialized two distinct lines of social transformation. On the one hand, the occupation is finalist insofar as it creates alternatives to cover basic housing needs regardless of the ethnicity, gender identity, age, or personal or legal situation of all the people who participate. In this way, the movement contributes to changing the material reality of the people who squat. On the other hand, the squatting movement is also a tool for counter-hegemonic transformation. Through occupation, processes of learning and formation of political subjects are generated that allow squatters and all those who come into contact with squatted spaces to rethink the power structures and hegemonic social roles that are characteristic of the capitalist system. In this sense, it contributes to social transformation through critique and the construction of alternative spaces and self-managed communities.

The interrelation between the squatters' movement and other social movements, with which it weaves networks of solidarity and support, contributes to social transformation through the collective construction of knowledge and the generation of open spaces for political participation. In particular, the scientific literature highlights the relationship with the migration and anti-racist movements. In a context of the promotion of economically and politically exclusionary policies, occupation represents one of the main alternatives to institutional humanitarian aid, which often victimizes and violates the autonomy of migrants.

The practices of self-management, training and linking with the environment allow us to understand squatted spaces as places where popular education initiatives can be developed in which the objectives and the ways of achieving them are decided collectively; where the participation of the whole community is stimulated; where all voices have the same opportunities to express themselves and are considered by the group without prejudice.

Even so, we cannot ignore the fact that the relationship between activists from the squatting movement and the migrant and anti-racist movements is not always easy. Cultural and ideological differences, as well as the diversity of motivations for squatting, often lead to the emergence of internal conflicts, especially between activists and migrants or refugees, which can deteriorate coexistence in the squatting space and make internalized power structures visible, especially on the part of the activists. These same structures (racist, sexist, and classist) can also affect squatting collectives internally.

Thus, internal conflicts constitute one of the main limitations for the squatting movement. While some authors consider that conflict is part of the process of coexistence and that it provides opportunities for learning and questioning social structures, for other authors it can become the cause of the termination of the squatted space project, having a negative impact on the community (Van der Steen et al., 2020). Reinforcing the weight of popular education in the management of these conflicts can facilitate reflection on the privilege of some activists in relation to others and provide the movement with tools to overcome it (Llobet, 2004).

Repression and stigma are also important constraints for the movement. Evictions are the most direct form of repression against the movement, and its main threat, as they deprive it of the space in which to develop its political activity. However, there are other -indirect- forms of repression, such as the hypervigilance of squatted spaces or the attempts to depoliticize projects. This depoliticization can materialize through an institutional appropriation of the contents of the Right to the City (Mayer, 2012) and of the spaces and practices of previously squatted centers that are now managed by the administration. Stigma can also be understood as a form of indirect repression that can make it difficult for the movement to gain support.

As for the political orientation of the movement, all the studies included in this review that talk about squatting from a political perspective do so about squatted and politicized left-wing spaces. While these make up the vast majority of the movement, there are also political spaces that defend other positions. Even so, Martínez (2020b) establishes that when the occupation is carried out by individuals with the intention of enriching themselves, or by extreme right-wing movements, it is not included within the squatting movement. Although these practices can be understood as counter-hegemonic if they subvert basic principles of the established social order, it is understood that they cannot be considered part of the movement due to the absence of a social emancipation project that characterizes it.

Finally, it is necessary to mention that the studies included in the review are mainly focused on Europe. This indicates that the scientific literature in the languages included in this article is limited to the study of the European movement, which is, in turn, a limitation in our own review.

Conclusion

Recovering the guiding questions posed in the introduction to this article: What is the squatting movement?, What are its main dynamics of resistance?, How does its process of political subjectivation take place?, and What are its main mechanisms of action and self-management? We can conclude that there is

a large amount of scientific literature that provides evidence of cases in which the squatting movement has or has had an impact on the social transformation of the context and the material reality of the neighborhoods.

We can conclude, by consensus of the majority of authors, that all collective occupation constitutes a political process and creates alternatives for housing, socialization and culture in the face of the commodification of public space and housing speculation by the administrations of the capitalist and neoliberal system.

The main contributions of the squatting movement, according to the literature, are firstly, the direct response to the social needs detected: whether covering basic needs such as housing or generating non-commercialized spaces for socialization and directly challenging private property, which is fundamental for profit and the accumulation of capital. In other words, one of the main contributions is the creation of *commons*.

Secondly, the opening of the squatted space generates processes of political subjectivation that allow for the questioning of established power structures and social roles. This allows for the deconstruction of internalized ideas at a personal and relational level because of the hegemonic structures of the capitalist and neoliberal system. The squatting movement promotes values of solidarity, cooperation, and anti-capitalism, which have as their ultimate goal the politicization of the working class for social transformation.

Finally, the occupation creates safe self-managed spaces for dissident people and identities, seeks to give a voice and to listen through daily practice, self-governance and political and protest action to those voices that are never heard, thus transforming the reality of these people.

Based on the literature, we can establish that another contribution of the squatting movement to social transformation is generated through its interaction with other social movements, serving as a tool for them. One of the interrelationships on which the scientific literature has focused the most is the one between the squatting movement and the migrant-anti-racist movement. Occupation becomes a response to migratory and discriminatory policies, an alternative for asylum, community building and socialization for migrants and refugees whose rights are violated, who are criminalized and hyper-policed by states, and whose political and social participation is limited by humanitarian borders.

Based on the evidence and research carried out so far, we believe it would be useful to expand knowledge about the squatter movement and social transformation in territorial contexts outside Europe in the future. This would also broaden the available knowledge on the movement on a global level and allow comparisons to be made between the conditions and contributions of the movement in different cultural, economic, political, and social contexts.

Data availability statement

The original contributions presented in this study are included in the article/supplementary material, further inquiries can be directed to the corresponding author.

Author contributions

JB-Q, PR-V, and JJ contributed to the conception and design of the study, selected the articles, and read and categorized the data. JB-Q and PR-V organized the database. JB-Q performed the statistical analysis and wrote the first draft of the manuscript. PR-V and JJ wrote sections of the manuscript, and reviewed and organized the references. All authors contributed to manuscript revision, read, and approved the submitted version.

Funding

This research has received funding from the UB-AE-AS017654 call, and the support of the UB funding for Open access publishing.

Acknowledgments

We thank ESBRINA Research group, Contemporary Subjectivities, Visualities, and Learning Environments (2017SGR 1248) (http://esbrina.eu). We also thank REUNI + D University Network for Educational Research and Innovation, Connecting Networks and Promoting Open Knowledge, University Network for Educational Research and Innovation, Connecting Networks and Promoting Open Knowledge, RED2018-0180-102439-T (http://reunid.eu).

Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

Publisher's note

References

Aas, K. F. (2011). 'Crimmigrant'bodies and bona fide travelers: Surveillance, citizenship and global governance. *Theor. Criminol.* 15, 331–346. doi: 10.1177/1362480610396643

Aceros, J. C., Belli, S., and Ninova, M. (2019). 'Often it is because of who is doing it.'The production of a youth subculture's image through talk. *J. Youth Stud.* 22, 46–65. doi: 10.1080/13676261.2018.1477124

Algarra, D. (2015). *El comú català. La història dels que no surten a la història*. Barcelona: Editorial Potlatch.

Alonso, A. (2015). Trabajo Social Okupa. Documentos de trabajo social. *Rev. Trab. y Acción Soc.* 56, 64–93.

Anton, A. T. (2020). Barcelona okupa! Una posible historia de la okupación en Barcelona. *Inguruak* 68, 78–95.

Asara, V. (2019). The redefinition and co-production of public services by urban movements. The can batlló social innovation in Barcelona. *Partecip. Conflitto* 12, 539–565.

Atabien, Ý, and Tekdemir, G. (2020). Identity positionings in squatters' framings of don quijote social centre. *Psychol. Res.* 40, 625–654. doi: 10.26650/SP2020-0040

Bouillon, F. (2009). *Les mondes du squat. Productions d'un habitat illégal et compétences des citadins disqualifiés*. Paris: Presses Universitaires de France. doi: 10.3917/puf.bouil.2009.01

Burgum, S. (2020). This city is an archive : Squatting history and Urban authority. *J. Urban Hist.* 48, 504–522. doi: 10.1177/0096144220955165

Caciagli, C. (2019). Housing squats as "educational sites of resistance": The process of movement social base formation in the struggle for the house. *Antipode* 51, 730–749. doi: 10.1111/anti.12515

Caffentzis, G., and Federici, S. (2014). Commons against and beyond capitalism. *Community Dev. J.* 49, i92–i105. doi: 10.1093/cdj/bsu006

Calhoun, C. (1993). New social movements of the early nineteenth century. *Soc. Sci. Hist.* 17, 385–427. doi: 10.1017/S0145553200018642

Campbell, S. (2019). Of squatting amid capitalism on Yangon's industrial periphery. *Anthropol. Today* 35, 7–10. doi: 10.1111/1467-8322.12539

Cattaneo, C., and Martínez, M. A. (2014). *The squatters' movement in Europe: Commons and autonomy as alternatives to capitalism*. London: Pluto Press. doi: 10.2307/j.ctt183p1wf

Chihu, A. (1999). Nuevos movimientos sociales e identidades colectivas. Iztapalapa. *Rev. Cienc. Soc. Humanid.* 20, 59–70.

Chiodelli, F., Coppola, A., Belotti, E., Berruti, G., Marinaro, I. C., Curci, F., et al. (2020). The production of informal space: A critical atlas of housing informalities in Italy between public institutions and political strategies. *Prog. Plan.* 149:100495. doi: 10.1016/j.progress.2020.100495

D'Albergo, E., and De Nardis, F. (2016). "Sfide e prospettive della sociologia politica: Tra de-politicizzazione del politico e ri-politicizzazione del sociale," in *Sociologia del futuro. Studiare la società del ventunesimo secolo*, eds F. Corbisiero and E. Ruspini (Padova: Cedam), 223–246.

Dadusc, D. (2019a). Enclosing autonomy: The politics of tolerance and criminalisation of the Amsterdam squatting movement. *City* 23, 170–188. doi: 10.1080/13604813.2019.1615760

Dadusc, D. (2019b). The micropolitics of border struggles: Migrants' squats andinhabitance as alternatives to citizenship. *Citizsh. Stud.* 23, 593–607. doi: 10.1080/13621025.2019.1634377

Dadusc, D., Grazioli, M., and Martínez, M. A. (2019). Introduction: Citizenship as inhabitance? Migrant housing squats versus institutional accommodation. *Citizsh. Stud.* 23, 521–539. doi: 10.1080/13621025.2019.1634311

De Biasi, A. (2019). Squatting and adverse possession: Countering neighbourhood blight and disinvestment. *City* 23, 66–82. doi: 10.1080/13604813.2019.1579501

De Moor, J. (2020). Alternatives to resistance? Comparing depoliticization in two British environmental movement scenes. *Int. J. Urban Reg. Res.* 44, 124–144. doi: 10.1111/1468-2427.12860

Dee, E. T. C. (2018). *The ebb and flow of resistance: The squatters' movement and squatted social centres in Brighton. The Urban politics of squatters' movements*. New York, NY: Palgrave Macmillan, 209–225. doi: 10.1057/978-1-349-95314-1_10

Dikeç, M. (2012). Politics is sublime. *Environ. Plan. D Soc. Space* 30, 262–279. doi: 10.1068/d12610

Dos Santos, G. (2020). Squatting, commons and conflict: A discussion of squatting's challenges to the commons. *Partecip. e Conflitto* 13, 1338–1354.

Fardella, C., Jiménez, F., Rivera-Vargas, P., and Baleriola, E. (2022). Salir de la sombra. Una revisión sistemática sobre shadowing como propuesta metodológica para la investigación educativa. *Rev. de Investig. Educ.* 40, 257–274. doi: 10.6018/rie.464151

Gelder, J. L. (2013). Paradoxes of urban housing informality in the developing world. *Law Soc. Rev.* 47, 493–522. doi: 10.1111/lasr.12030

González, R., de Santiago, D., and Rodríguez, M. A. (2020). Squatted and self-managed social centres in Mexico City: Four case studies from 1978-2020. *Partecip. Conflitto* 13, 1269–1289.

Guzmán, C. (2008). "Squatters and radical movements in the European urban order," in *Proceeding of the presentation held at the American sociological association annual meeting*, Boston, MA.

Ighe, A. (2020). Empty space, open space. Claiming, reaching and remembering common ground in Urban Squats. Haga in the 1980's. *Partecip. Conflitto* 13, 1373–1389.

Inglehart, R. (2018). *Cultural evolution: People's motivations are changing, and reshaping the world*. Cambridge: Cambridge University Press. doi: 10.1017/9781108613880

Kallin, H., and Slater, T. (2014). Activating territorial stigma: Gentrifying marginality on Edinburgh's periphery. *Environ. Plan A* 46, 1351–1368. doi: 10.1068/a45634

Karaliotas, L., and Kapsali, M. (2021). Equals in solidarity: Orfanotrofio's housing squat as a site for political subjectification across differences amid the "Greek crisis". *Antipode* 53, 399–421. doi: 10.1111/anti.12653

Kriesi, H. (1989). New social movements and the new class in the Netherlands. *Am. J. Sociol.* 94, 1078–1116. doi: 10.1086/229112

Lauri, J. (2019). Social movements, squatting and communality: Ethical practices and re-subjectification processes. *Subjectivity* 12, 154–170. doi: 10.1057/s41286-019-00067-8

Lefebvre, H. (1967). *El marxismo sin mitos*. Buenos Aires: A. Peña Lillo Editor.

Lefebvre, H. (1968). *Le droit à la ville*. Paris: Anthropos.

Llobet, M. (2004). "Contracultura, creatividad y redes sociales en el movimiento okupa," in *¿Dónde están las llaves? El movimiento okupa: Prácticas y contextos sociales*, eds R. Adell Argilés and M. Martínez López (Madrid: Catarata), 179–204.

Maestri, G. (2019). The nomad, the squatter and the state: Roma racialization and spatial politics in Italy. *Int. J. Urban Reg. Res.* 43, 930–946. doi: 10.1111/1468-2427.12812

Malik, S., Roosli, R., and Tariq, F. (2020). Investigation of informal housing challenges and issues: Experiences from slum and squatter of Lahore. *J. Hous. Built Environ.* 35, 143–170. doi: 10.1007/s10901-019-09669-9

Martínez, M. (2011). "The struggle for social autonomy: What have we learnt about urban politics from squatting in Europe?," in *Proceeding of the international RC21 conference 'the struggle to belong. Dealing with diversity in 21st century urban settings*, Vol. 7, Amsterdam.

Martínez, M. (2016). "Beyond solidarity: Migrants and squatters in Madrid," in *Migration, squatting and radical autonomy*, eds P. Mudu and S. Chattopadhyay (London: Routledge), 189–206. doi: 10.4324/9781315673301-16

Martínez, M. (2019). Good and bad squatters? Challenging hegemonic narratives and advancing anti-capitalist views of squatting in western European cities. *Cult. Unbound* 11, 165–189. doi: 10.3384/cu.2000.1525.2019111165

Martínez, M. (2020a). Urban commons from an anti-capitalist approach. *Partecip. e Conflitto* 13, 1390–1410.

Martínez, M. (2020b). "European squatters' movements and the right to the city," in *Handbook of contemporary European social movements: Protest in turbulent times*, eds C. Flesher and R. Feenstra (London: Routledge), 155–167. doi: 10.4324/9781351025188-12

Mayer, M. (2012). "The "right to the city" in urban social movements," in *Cities for people, not for profit: Critical Urban theory and the right to the city*, eds N. Brenner, P. Marcuse, and M. Mayer (London: Routledge),63–85.

Miró, I. (2008). *Dibujando nuevas, rápidas figuras. Okupaciones en la transformación metropolitana*. Barcelona: En La red en la ciudad. Icària, 81–94.

Moher, D., Liberati, A., Tetzlaff, J., and Altman, D. G. (2009). Preferred reporting items for systematic reviews and meta-analyses: The PRISMA statement. *BMJ* 339:b2535. doi: 10.1136/bmj.b2535

Molano, F. (2016). El derecho a la ciudad: De Henri Lefebvre a los análisis sobre la ciudad capitalista contemporánea. *Folios* 44, 3–19. doi: 10.17227/01234870.44folios3.19

Morawski, T. (2019). "Mapping the squatting movement," in *This is not an atlas: A global collection of counter-cartographies*, ed. K. Orangotango (Bielefeld: Transcript Verlag), 222–227. doi: 10.1515/9783839445198-027

Nicholls, W. (2016). Politicizing undocumented immigrants one corner at a time: How day laborers became a politically contentious group. *Int. J. Urban Reg. Res.* 40, 299–320. doi: 10.1111/1468-2427.12334

Novák, A. (2020). Every city needs a Klinika: The struggle for autonomy in the post-political city. *Soc. Mov. Stud.* 20, 1–16. doi: 10.1080/14742837.2020.1770070

Novák, A., and Kuřík, B. (2020). Rethinking radical activism: Heterogeneity and dynamics of political squatting in Prague after 1989. *J. Urban Aff.* 42, 203–221. doi: 10.1080/07352166.2019.1565820

Nowicki, M. (2020). Is anyone home? Appropriating and re-narrativisating the post-criminalisation squatting scene in England and Wales. *Environ. Plan. C Politics Space* 39, 838–855. doi: 10.1177/2399654420964835

Owens, L., Katzeff, A., Lorenzi, E., and Colin, B. (2013). "At home in the movement: Constructing an oppositional identity through activist travel across European squats," in *Understanding European movements*, eds C. Flesher and L. Cox (Abingdon: Routledge), 172–186.

Page, M. J., McKenzie, J. E., Bossuyt, P. M., Boutron, I., Hoffmann, T. C., Mulrow, C. D., et al. (2021). Declaración PRISMA 2020: Una guía actualizada para la publicación de revisiones sistemáticas. *Rev. Esp. Cardiol.* 74, 790–799. doi: 10.1016/j.recesp.2021.06.016

Peña, T., and Pirella, J. (2007). La complejidad del análisis documental información, cultura y sociedad: Revista del instituto de investigaciones. *Inform. Cult. Soc.* 16, 55–81.

Polanska, D. V., and Weldon, T. (2020). In search of Urban commons through squatting: The role of knowledge sharing in the creation and organization of everyday utopian spaces in Sweden. *Partecip. e Conflitto* 13, 1355–1372.

Pruijit, H. (2013). The logic of urban squatting. *Int. J. Urban Reg. Res.* 37, 19–45. doi: 10.1111/j.1468-2427.2012.01116.x

Raimondi, V. (2019). For 'common struggles of migrants and locals'. Migrant activism and squatting in Athens. *Citizsh. Stud.* 23, 559–576. doi: 10.1080/13621025.2019.1634373

Rivera-Vargas, P., Miño-Puigcercós, R., Passerón, E., and Jacovkis, J. (2022). Presentación. Movimientos sociales, activismos y resistencias desde la escuela. *Rev. Izquierdas* 51, 1–12.

Rivero, J., and Abasolo, O. (2010). La okupación como transformación del estado presente de las cosas. *Pap. Relaciones Ecosociales y Cambio Glob.* 111, 87–97.

Rodrigo, F. (2010). *La democracia y el triunfo del Estado: Esbozo de una revolución democrática, axiológica y civilizadora*. Madrid: Editorial Manuscritos.

Sánchez-Meca, J., and Botella, J. (2010). Revisiones sistemáticas y meta-análisis: Herramientas para la práctica profesional. *Pap. Psicol.* 31, 7–17.

Sanz, J. (2020). *Guía práctica 16. Las aportaciones de las revisiones sistemáticas de la literatura al diseño de las políticas públicas*. Barcelona: Ivàlua.

Sastre, P. (2018). *Komun. Assemblearisme i comunalisme populars a euskal herria*. Barcelona: Bauma.

Soresina, M. (2020). The housing struggle in Milan in the 1970s: Influences and particularities. *J. Urban Hist.* 46, 1386–1406. doi: 10.1177/0096144219849902

Sosa-Díaz, M. J., Sierra-Daza, M. C., Arriazu-Muñoz, R., Llamas-Salguero, F., and Durán-Rodríguez, N. (2022). "EdTech integration framework in schools": Systematic review of the literature. *Front. Educ.* 7:895042. doi: 10.3389/feduc.2022.895042

Squatting Europe Kollective [SQEK] (2010). The SQEK: Squatting Europe research agenda–v. 1.0. *ACME An Int. E J. Crit. Geogr.* 9, 377–381.

Staniewicz, M. (2011). El movimiento okupa como un actor político, social y cultural en una ciudad postcomunista. El caso del centro social-casa okupa rozbrat en Poznan, Polonia. *Rev. Estud. Juv.* 95, 123–144.

Starecheski, A. (2019). Squatters make history in New York: Property, history, and collective claims on the city. *Am. Ethnol.* 46, 61–74. doi: 10.1111/amet.12734

Strauss, A., and Corbin, J. (2002). *"Codificación abierta" y "codificación axial." In bases de la investigación cualitativa: Técnicas y procedimientos para desarrollar la teoría fundamentada*. Antioquia: Universidad de Antioquia.

Subirats, J. (2013). "?Nuevos movimientos sociales para una Europa en crisis?," in *Futuro de la eurozona, gobernanza econoìmica y reaccioìn social: Salidas Europeas a la crisis*, eds F. Morata, E. Peña, J. Subirats, and J. Bilbao Ubillos (Euskadi: EUROBASK), 67–91.

Van der Steen, B., van Rooden, C., and Snoep, M. (2020). Who are the squatters? Challenging stereotypes through a case study of squatting in the Dutch City of Leiden, 1970-1980. *J. Urban Hist.* 46, 1368–1385. doi: 10.1177/0096144219843891

Vargas, J. (2008). *Nuevos movimientos sociales. V jornadas de sociología de la UNLP*. La Plata: Universidad Nacional de La Plata. Facultad de Humanidades y Ciencias de la Educación. Departamento de Sociología.

Venegas Ahumada, C. A. (2014). El movimiento okupa: Resistencia contra el capitalismo. *Perspect. Comun.* 7, 97–131.

Walters, W. (2010). "Foucault and frontiers: Notes on the birth of the humanitarian border," in *Governmentality: Current issues and future challenges*, eds U. Bröckling, S. Krasmann, and T. Lemke (London: Routledge), 146–172.

Yardımcı, Ö (2020). State stigmatisation in Urban Turkey: Managing the "insurgent" squatter dwellers in Dikmen Valley. *Antipode* 52, 1519–1538. doi: 10.1111/anti.12651

Zaman, T. (2020). Neighbourliness, conviviality, and the sacred in Athens' refugee squats. *Trans. Inst. Br. Geogr.* 45, 529–541. doi: 10.1111/tran.12360

frontiers | Frontiers in Psychology

TYPE Original Research
PUBLISHED 17 November 2022
DOI 10.3389/fpsyg.2022.996331

OPEN ACCESS

EDITED BY
Dario Paez,
University of the Basque Country, Spain

REVIEWED BY
Susmita Mukhopadhyay,
Indian Institute of Technology Kharagpur, India
M. Nazmul Islam,
BRAC University, Bangladesh

*CORRESPONDENCE
Luan Zhang
zhangluan@ujs.edu.cn

SPECIALTY SECTION
This article was submitted to Personality and Social Psychology, a section of the journal Frontiers in Psychology

RECEIVED 17 July 2022
ACCEPTED 18 October 2022
PUBLISHED 17 November 2022

CITATION
Wu M, Zhu Y, He Q, Zhang L and Lu J (2022) The influence of differential leadership on employees' deviant innovation behavior: An outsider subordinate perspective. *Front. Psychol.* 13:996331. doi: 10.3389/fpsyg.2022.996331

The influence of differential leadership on employees' deviant innovation behavior: An outsider subordinate perspective

Mengyun Wu[1], Yuqing Zhu[1], Qi He[1], Luan Zhang[1]* and Jie Lu[2]

[1]School of Finance and Economics, Jiangsu University, Zhenjiang, China, [2]School of Management, Jiangsu University, Zhenjiang, China

Given the complex business environment worldwide and rapid development of information technologies, employees' deviant innovation behavior has attracted increasing attention. However, few scholars have explored the internal mechanism of the influence of differential leadership on the deviant innovation behavior of outsider subordinates from a positive perspective. Based on relative deprivation theory and attribution theory, we construct a theoretical model to study the influence of differential leadership in family businesses on the deviant innovation behavior of outsider subordinates, and hypothesis testing is conducted based on 243 questionnaire responses. The result shows that: differential leadership has a positive impact on the deviant innovation behavior of outsider subordinates; relative deprivation plays a mediating role; and internal control personality enhances the moderation effect between relative deprivation and outsider subordinates' deviant innovation behavior. This study provides a reference point for the promotion of the innovation performance both of employees and organizations.

KEYWORDS

differential leadership, deviant innovation behavior, relative deprivation, internal control, outsider subordinate perspective

Introduction

Innovation behavior has always been widely regarded as an inexhaustible driving force in the development of organizations. However, in recent years, enterprises have gradually found that the innovation behavior of employees has become deviant, and that there is a potentially close and interesting relationship between innovation activities and workplace deviance (Deng, 2019). Although there are differences in defining deviant innovation behavior, scholars concur that the original intention of such behavior is not deviance but innovation (Criscuolo et al., 2014). Deviant innovation behavior aims to

improve the benefits and performance of organizations, but it is not approved of by the leadership and has a negative effect on legitimacy, so it is sometimes conducted in a private and secret manner (Masoudnia and Szwejczewski, 2012). However, in the development of enterprises worldwide, many innovations, such as the Sogou browser, 3M scotch tape, and HP's new monitor, were have been created by the deviant behavior of employees, entailing disruptive effects on the organizations. Particularly in the era of innovation-oriented development, organizations are paying much more attention to employees' innovation achievements than the manner of innovation, which intensifies the contradiction between the search for innovation and the constraints of organizational systems, thus resulting in more deviant innovation behaviors (Wu et al., 2020). Deviant innovation behavior appears to violate organizational norms, but it can help enterprises to achieve the maximum efficiency of resources and break innovation bottlenecks if they are able to enhance its positive effects and reduce the negative effects through scientific guidance. Deviant innovation behavior thus represents a new and effective means of organizational innovation (Deng, 2019). Christensen et al. (2007) first proposed the concept of disruptive innovation and used it to describe innovations that disrupt the competitiveness of incumbent firms in existing mainstream markets. Deviant innovation behavior and disruptive innovation behavior are concepts that originated in the category of social psychology. Both of these two behaviors are important ways to promote employee innovation in the new era by breaking organizational routines. The purpose of both is to help enterprises achieve innovation and create greater value. Disruptive innovation pays more attention to the degree of realization, and effective leadership promotion is the key to the success of disruptive innovation; deviant innovation pays more attention to the way of realization, employees increase their motivation to participate in the realization of organizational goals through motivation, and take the initiative to develop their potential to improve participation in the realization of organizational goals to improve the overall innovation performance of the organization.

Previous research has focused on the consequences of deviant innovations, but research on its antecedents is lacking (Wang et al., 2018). Especially in China, it is worth studying how different leadership styles influence employees' deviant innovation behavior (Guo and Li, 2015). Differential leadership is more susceptible to the psychological influence of "insiders" and "outsiders" and treats employees differently (Ruan, 2018). This kind of leadership style, with strong partiality, will affect the perceived fairness and innovation behavior of subordinates. Accordingly, questions such as why it has survived so long in Chinese enterprises and what impacts it will have on employees' deviant innovation have attracted intense academic attention. Against the background of innovation-driven development strategy, the need to understand China's own leadership values and to explore their impacts on employees' deviant innovation, and subsequently on organizations' innovation performance, has become necessary in the context of management localization.

Most current research has focused on the positive effects of differential leadership on insider subordinates (Zhao, 2019). In contrast, research on outsider subordinates has mostly focused on the negative effects (Liu et al., 2020), while ignoring the positive effects. For outsider subordinates, when employees are moderately in a state of dissatisfaction and anxiety, striving hard will become the motivation to stimulate their innovation behavior, thus prompting outsider subordinates to make achievements through deviant innovations (Weng, 2014). Research on employees' perception of work situations suggests that, when the leaders treat subordinates differently inside organizations, employees who are treated unfairly often experience feelings of relative deprivation (Wan et al., 2016). A feeling of relative deprivation incurred by unfairness makes employees, out of the need for pressure release, more inclined to seek self-actualization through improving innovation ability and to try to move to groups of higher social status (Smith et al., 2012). Therefore, as a subjective perception of employees, relative deprivation is more likely to trigger their deviant innovation behaviors (Kinicki and Vecchio, 1994). Accordingly, this study introduces relative deprivation as a mediator variable and explores the internal mechanism of the influence of differential leadership on employees' deviant innovation behavior. In addition, based on attribution theory, employees with internal control personality are more confident about the impact of self-abilities on the work environment, and they will give full play to initiative at work, thus reducing their feelings of relative deprivation and maximizing the management efficiency of organizations (Ke and Sun, 2018).

This study contributes to the current leadership, human resource management, and enterprise change management literature by formulating original hypotheses to reveal the impact of differential leadership styles on employees' deviant innovation behaviors. Using social exchange theory, relative deprivation theory, and attribution theory, the scale design was carried out, and exploratory factor analysis, confirmatory factor analysis, descriptive statistics and correlation analysis, Bootstrap test, "moderated mediation test and other methods were used to obtain." The theoretical model of the positive impact of differential leadership on employees' deviant and innovative behaviors from the perspective of outsiders The internal relationship between leadership style and employees' deviant innovative behaviors, discussing employees' deviant innovative behaviors and their governance countermeasures, and clarifying the importance of flexible adjustment of leadership styles to effectively manage employees' deviant innovative behaviors.

The remainder of this paper is structured as follows: the next section describes the theoretical support of this research and the development of the hypotheses tested in this study. Next in the research design, presents data

resource, and statistical model and software that was used for testing the hypotheses. Subsequently, the empirical findings of the proposed hypothesized model are presented. The paper concludes with a summary of the important findings, limitations of the study, and directions of future research to develop this burgeoning area of organizational change management.

Theoretical background and hypotheses

Differential leadership and outsider subordinates' deviant innovation

The relationship between a leader and subordinates is dynamic. Leaders will judge insider and outsider subordinates according to intimacy, loyalty, and ability, and then treat them differently (Zheng, 2004; Ruan, 2018). Jiang and Zhang (2010) compared the differential leadership and categorization model of employees based on cultural specialty, and redefined differential leadership from the perspective of employees' perception. The leader-member exchange (LMX) (Graen and Uhl-Bien, 1995) developed in the context of Western culture and differential leadership seem similar on the surface, but they have many differences. First, the cultural backgrounds of the two leadership styles are different. LPC-LMX is based on the social structure of equality between people in the West, the exchange relationship between leaders and employees is based on the law of fair exchange, while the differential leadership is based on the cultural context of Chinese humanism and relationship orientation, the leader is in the dominant position and the employee is in the subordinate position, the relationship between the two is not equal (Sikora and Ferris, 2014). Second, the classification criteria of the two leadership styles are different. LPC-LMX emphasizes employee ability, work interaction and value orientation; while differential leadership emphasizes the closeness and loyalty between employees and themselves. Third, the differential treatment of the two leadership styles is different. In the LPC-LMX, in-group employees with better leadership and exchange quality only show their trust and support at work; but differential leadership is not only limited to care at work, but also shows the family and emotions of their own employees, intimacy, care and trust in life, etc., and more communication and interaction with their own employees in private. Therefore, the leadership-member exchange theory under the background of Western culture and the differential leadership under the Chinese cultural background are completely different in nature. When discussing the differential treatment of leadership in Chinese enterprises and organizations, differential leadership is more culturally appropriate.

Deviant innovation behavior is a complex concept that consists of two very different factors: "deviance;" and "innovation." Obedience to instructions is a basic requirement for participating in organizational work, but deviant behaviors ignore formal and informal rules and regulations and violate normative expectations in the workplace (Staw and Boettger, 1990; Tsui et al., 2000; Warren, 2003). Innovation is a creative process in which subordinates develop and practice innovative ideas, pursue value-added resources through updating technologies and methods, and finally produce innovative results that can play a role at a specific moment (Stein, 1953; Ford, 1996; Chen et al., 2017). Therefore, deviant innovation behavior takes "innovation" as the goal and "deviance" as the means. The rationality of the goal and the deviation of the behavior make it a special form of innovation behavior. Although scholars have different understandings regarding deviant innovation behavior, they concur that it aims to improve organizational interests and tries to assist innovation through deviant behavior, reflecting the non-traditional characteristics of organizational behavior (Galperin, 2002; Jiang, 2018). In conclusion, the present study defines deviant innovation behavior as follows: when organizational management and leadership authority become obstacles to innovation, if subordinates believe that their innovative ideas will bring benefits to the organization, they will choose to practice them through unconventional means, regardless of whether leaders approve or not, and perform innovative behavior that is inconsistent with organizational norms and leaders' expectations.

Given that the leaders' subordinate categorization model is dynamic, the relationship between leaders and subordinates resulting from differential leadership is not static (Thau et al., 2015). Outsider subordinates tend to establish good interaction and communication with leaders by improving relationships, showing their royalty, and enhancing their abilities. Outsider subordinates try to meet leaders' expectations and gain their recognition through positive work performance, thus realizing the transformation from "outsider" to "insider," in order to improve their social status and obtain more promotion opportunities. If employees realize that they can achieve the desired results by changing their behaviors, this will stimulate their innovative behaviors (Amabile et al., 2005). Accordingly, the first hypothesis is proposed:

> **Hypothesis 1**: Differential leadership has a positive effect on outsider subordinates' deviant innovation behavior.

Mediating effect of relative deprivation

Since Stouffer et al. (1949) first proposed the concept of "relative deprivation," it has become an important research topic in psychology, sociology, politics, and economics, and an explicit definition and systematic theoretical framework have

gradually emerged. Based on the different reference group selected, relative deprivation is classified into horizontal relative deprivation and longitudinal relative deprivation (Wang, 2000, 2007; Walker and Pettigrew, 2011; Xiong and Ye, 2016). The former is derived from individual comparison in the spatial dimension. It is a negative feeling of an individual induced by his/her weak situation, such as anger and dissatisfaction. The latter is derived from individual comparison in the temporal dimension, i.e., a comparison of the present situation with the past, future, or desired situation. It is a negative feeling induced by the incompatibility between individual value expectation and one's ability. Accordingly, this study defines relative deprivation as (in the process of the horizontal or longitudinal comparison of individuals within the reference group) the subjective perception and emotional experience of anger and dissatisfaction induced by the differences between what is expected and what is actually received.

According to relative deprivation theory, when employees perceive unfair or discriminatory treatment in the workplace, this generates a sense of frustration and relative deprivation (Priesemuth and Taylor, 2016; Wan et al., 2016). Therefore, when leaders provide better material benefits, development opportunities, and social status to insider subordinates, it will send discriminatory signals to outsider subordinates that they are not valued and trusted by the organization, thus leading to outsider subordinates believing that they suffer more loss (Lin and Cheng, 2017; Wang et al., 2018). Underprivileged outsider subordinates often feel entitled to the same treatment and have a strong sense of deprivation because of their marginalized situation. Accordingly, the second hypothesis is proposed:

> **Hypothesis 2:** Differential leadership has a positive effect on outsider subordinates' relative deprivation.

The feeling of relative deprivation reflects people's strong dissatisfaction with their situation and strong desires to change it. The generation and reinforcement of the feeling of relative deprivation provide the psychological drives and prerequisites for initiating action to compulsively correct "relative deprivation." The purpose is often to break through class boundaries and achieve upward individual mobility through innovative ideas by those who are dissatisfied with the *status quo* (Mummendey et al., 1999). The feeling of relative deprivation is an underlying psychological experience that reflects the degree of social satisfaction of individuals or groups and the price that people have to pay to meet such needs, and it is a by-product of people's efforts to change the *status quo* (Cheng and Chan, 2008). People who feel relative deprivation believe that they are entitled to fairer treatment, and that their ideas are feasible but that they lack the support that they should receive. Therefore, they may act without the leader's approval, which results in deviant innovation behavior. Accordingly, the third hypothesis is proposed:

> **Hypothesis 3:** Relative deprivation has a positive effect on outsider subordinates' deviant innovation behavior.

Relative deprivation is the link between the external environment and individual behavior. Individuals assess the external environment through social comparison and experience anger, dissatisfaction, and other subjective perceptions due to the strong sense of unfairness (Guo and Zhang, 2014), resulting in changes in their attitude and behavior (Smith and Ortiz, 2002). Therefore, individuals will use a variety of conventional or unconventional means to work hard and pursue career development (Wang, 1988; Smith et al., 2012; Wan et al., 2016) in order to reduce the consequences of negative emotions (Bachleitner and Zins, 1999; Bennett and Robinson, 2000). Based on relative deprivation theory, Adams (1965) proposed equity theory regarding motivation for taking initiative in the workplace, which reflects people's desire to improve the *status quo*. Moderate relative deprivation will lead to the expectation that individuals can realize their goals, having a positive impact on individuals' internal psychological adaptation and external social adaptation (Gursoy and Kendall, 2006). Some scholars also believe that relative deprivation will improve individuals' self-esteem (Han et al., 2017), and that employees may be motivated by expectations for a higher-status identity (Mummendey et al., 1999). Accordingly, the fourth hypothesis is proposed:

> **Hypothesis 4:** Relative deprivation is the mediator between differential leadership and outsider subordinates' deviant innovation behavior.

Moderating effect of inner control personality

Rotter (1966) developed social learning theory based on Heider's (1958) attribution theory, initially proposing internal and external loci of control. According to attribution theory, people with the internal control personality trait attribute the occurrence and outcome of events to internal subjective factors. Due to different attribution styles, people with internal and external control personality traits have significant differences in perception and behavior (Krenl, 1992), which can be introduced to explain the motivation and rules of people's behavioral decision-making. Based on the literature, the present study defines the internal and external loci of control as a psychological perception that is used to assess whether an individual attributes the outcomes of an event to his/her own factors or external factors.

Previous studies have shown that attribution styles have a significant impact on the relationship between relative deprivation and behavior reactions (Smith and Ortiz, 2002). If individuals with a feeling of relative deprivation view it positively and face up to their difference with reference objects, they can take effective measures to narrow the gap. Regarding the relationship between the locus of control and relative deprivation, Crosby (1976) believed that different types of locus of control have different effects on individuals' relative deprivation. Individuals with internal control personality traits tend to attribute the outcome of events to their own responsibility (Rotter, 1966), and they will seek opportunities for change to turn the disadvantageous situation into an advantageous one through self-criticism (Smith et al., 2012). Perceived control gives individuals confident self-awareness (Seligman and Marshak, 1990; Henderson and Zimbardo, 1999) and helps individuals face disadvantageous situations actively (Smith et al., 2012), thus leading to good response behaviors (Luthans, 2002) and realizing expectations for the future (Erez and Judge, 2001) and for inner satisfaction (Li, 2011). Therefore, although relative deprivation exists, individuals with internal control personality can turn it into an internal drive to change the disadvantageous situation by correctly analyzing it, leading to the desire for innovation, the pursuit of enhanced social status, and the expectation of making breakthroughs in their organization. Therefore, the fifth hypothesis is proposed:

> **Hypothesis 5:** Internal control personality has a positive moderating effect on the relationship between relative deprivation and outsider subordinates' deviant innovation behavior.

Moderated mediator

The stress perception and response of individuals are obviously affected by their psychological control sources (Allen et al., 2008). Relative deprivation is the subjective perception and emotional experience of psychological stress owing to an individual putting herself/himself in a disadvantageous situation during social comparison. Psychological control sources also affect the response behavior of individuals in relation to the feeling of relative deprivation (Xiong and Ye, 2016). Individuals with internal control personality traits tend to assess the external environment from a positive perspective, focusing on the situation sources that cause stress and trying to solve problems through constructive strategies (Allen et al., 2003). Therefore, employees with internal control personality are less susceptible to external stress factors. They believe that, through active information seeking and improving work capacity, one can achieve an advantageous position in organizations quickly. Wu and He (2015) verified the positive influence of the internal control personality trait on organizational citizenship behaviors. Deviant innovation is an extra-role activity with high risk, which requires employees to actively capture opportunities, set goals and strategies, and take actions (Zhang, 2016). The internal control personality trait can help employees improve their motivation to obtain rewards by changing their behavior (Gao et al., 2014). It promotes ambitions by satisfying people's needs for self-actualization, thereby improving work efficiency. Therefore, individuals will adopt the above behaviors and perception modes to eliminate psychological imbalances, strive to improve self-conditions, and narrow the gap with reference objects. Accordingly, the sixth hypothesis is proposed:

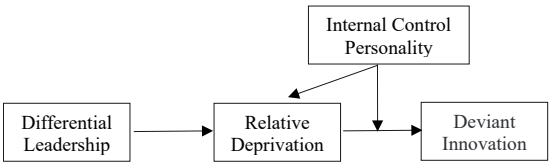


FIGURE 1
Theoretical model.

> **Hypothesis 6:** Internal control personality plays a moderated mediating role in the process of differential leadership indirectly influencing outside subordinates' deviant innovation behavior through the mediating effect of relative deprivation.

This study's theoretical model is depicted in **Figure 1**.

Research design

Data

The present study used a questionnaire, and sample data were collected from organizations in Hainan province, China. The questionnaire addressed employees' assessments regarding differential leadership, feelings of relative deprivation, internal control personality, and deviant innovation behavior. A total of 300 questionnaires were distributed, of which 243 were valid (an effective response rate of 81.00%). Regarding the valid responses, the following key demographic distributions were found: 51.03% of employees were male and 48.97% were female; 65.43% of employees were aged 31–40 years; 11.93% of employees had a junior college degree and 63.79% had a Bachelor's degree; 68.31% of employees had been working in their current organization for 3–5 years; 19.75% of employees were from state-owned enterprises, 14.81% from private enterprises, 21.40% from foreign ventures, 22.63% from joint ventures, and 21.40% from other types of enterprises; and 73.66% of respondents were business employees.

Variables

This study adopted the Vineland Social Maturity Scale, and all items in the scale were scored on a seven-point Likert scale to avoid many neutral answers from respondents. The description of the variables is as follows:

- *Differential leadership*. We adopted a 14-item scale developed by Jiang and Zhang (2010) (example item: "I spend more time on individual guidance"). The reliability of the scale is 0.877.
- *Relative deprivation*. We adopted a five-item scale developed by Tropp and Wright (1999) (example item: "I perceive I have been treated unfairly"). The reliability of the scale is 0.863.
- *Internal control personality*. We adopted an eight-item scale developed by Spector (1988) (example item: "Getting the job you want mostly relies on luck"). The reliability of the scale is 0.912.
- *Deviant innovation*. We adopted a five-item scale developed by Criscuolo et al. (2014) (example item: "I like to think of new ideas beyond my duty"). The reliability of the scale is 0.870.
- *Control variables*. We selected several demographic variables, including gender, age, education, work seniority, organization type, and occupation type, that may affect differential leadership, relative deprivation, internal control personality, and deviant innovation.

Analysis and results

Common method bias test and confirmatory factor analysis

Harman's single factor analysis was adopted in this study to conduct exploratory factor analysis on all items of the four variables. The results revealed a KMO value of 0.860, a Bartlett's Chi-square test of sphericity value of 5,437.908, and a p-value less than 0.001. In addition, the extracted four common factors were consistent with the number of variables set in this study, and the degree of variance of the first variance was 29.498%, which is lower than the critical value of 50%. Therefore, there is no serious common method bias in the data of this study.

In this study, confirmatory factor analysis was adopted to test the discriminative validity of differential leadership, relative deprivation, internal control personality, and deviant innovation behavior. As shown in **Table 1**, compared with the other three models, the four-factor model has the best fitting effect, and each indicator reaches or approaches the indicator requirements, among which $\chi^2/df = 1.979$, CFI = 0.915, TLI = 0.907, RMSEA = 0.064, and IFI = 0.916. In summary, the four variables in this study have good discriminative validity.

Descriptive statistical analysis

The results of the correlation analysis of the research are shown in **Table 2**, in which the mean value, standard deviation, and correlation coefficient of the variables are given. Differential leadership has a significant positive correlation with deviant innovation ($r = 0.532$, $p < 0.01$), and with relative deprivation ($r = 0.319$, $p < 0.01$). There is a significant positive correlation between relative deprivation and deviant innovation ($r = 0.282$, $p < 0.01$).

Hypothesis testing

Baron and Kenny (1986)'s hierarchical regression method was adopted in this study to analyze the utility of the mediating and moderating variables. The steps followed to explore the mediating role of relative deprivation are as follows. First, six demographic control variables (gender, age, education, work seniority, organization type, and occupation type) were put into the regression equation. Second, an independent variable (differential leadership) was introduced into the equation. Finally, we tested the mediating effect of relative deprivation on the relationship between differential leadership and deviant innovation behavior.

The steps followed to explore the moderating effect of internal control personality are as follows. First, we put six control variables into the regression equation. Second, relative deprivation and internal control personality were introduced into the regression equation. Third, the interaction terms of relative deprivation and internal control personality were put into the regression equation to explore their influence.

Main effect and mediating effect tests

As shown in **Table 3**, there is a significant positive correlation between differential leadership and deviant innovation ($\beta = 0.585$, $p < 0.01$), thus verifying *H1*. There is a significant positive correlation between differential leadership and relative deprivation ($\beta = 0.437$, $p < 0.01$), which verifies *H2*. When the mediating variable of relative deprivation is introduced in the relationship between differential leadership and deviant innovation, there is a significant positive correlation between relative deprivation and deviant innovation ($\beta = 0.230$, $p < 0.01$), thus verifying *H3*. In addition, the positive effect of differential leadership on deviant innovation is weakened by introducing the mediating variable of relative deprivation (β changed from 0.585 to 0.543, $p < 0.01$), indicating that

TABLE 1 AMOS confirmatory factor analysis.

Models	χ^2	df	χ^2/df	RMSEA	CFI	IFI	TLI
Four-factor model D	890.725	450	1.979	0.064	0.915	0.916	0.907
Three-factor model C	1,471.747	457	3.220	0.096	0.805	0.807	0.789
Two-factor model B	1,808.074	460	3.931	0.110	0.741	0.743	0.721
One-factor model A	1,977.352	461	4.289	0.117	0.709	0.711	0.687

Model A: differential leadership + relative deprivation + internal control personality + deviant innovation. Model B: differential leadership + relative deprivation + internal control personality; deviant innovation. Model C: differential leadership; relative deprivation + internal control personality; deviant innovation. Model D: differential leadership; relative deprivation; internal control personality; deviant innovation.

TABLE 2 Descriptive statistical results for the variables.

Variable	Mean	SD	1	2	3	4	5	6	7	8	9	10
1. Gender	1.49	0.501	1									
2. Age	2.93	0.901	0.044	1								
3. Education	2.96	0.926	−0.108	−0.197**	1							
4. Work seniority	2.91	0.891	−0.076	−0.029	0.096	1						
5. Organization types	3.11	1.420	0.028	−0.039	−0.012	0.028	1					
6. Occupation types	3.06	0.780	−0.104	0.088	−0.014	0.013	−0.036	1				
7. Differential leadership	4.10	0.932	0.014	0.036	−0.047	−0.075	0.035	−0.090	1			
8. Relative deprivation	4.32	1.237	−0.033	0.023	0.019	0.030	−0.016	0.019	0.319**	1		
9. Internal control personality	4.09	0.923	−0.070	0.024	0.034	0.050	−0.072	0.077	0.402**	0.179**	1	
10. Deviant innovation	4.02	1.010	−0.053	0.013	0.011	−0.019	−0.033	−0.007	0.532**	0.282**	0.611**	1

Symbol ** denotes $p < 0.01$.

TABLE 3 Mediating effect of relative deprivation (n = 243).

Variable	Relative deprivation		Deviant innovation behavior		
	Model 1	Model 2	Model 3	Model 4	Model 5
Gender	−0.071	−0.065	−0.104	−0.096	−0.098
Age	0.037	0.020	−0.003	0.011	−0.005
Education	0.025	0.040	0.031	0.005	0.027
Work seniority	0.037	0.070	0.018	−0.034	0.011
Organization types	−0.012	−0.022	−0.035	−0.019	−0.033
Occupation types	0.021	0.069	0.045	−0.024	0.039
Differential leadership		0.437**	0.585**		0.543**
Relative deprivation				0.230**	0.097*
F	0.127	4.126***	13.798***	3.069***	12.770***
R^2	0.003	0.109	0.291	0.084	0.304
ΔR^2		0.106	0.286	0.079	0.013

Symbol * denotes $p < 0.05$, ** denotes $p < 0.01$, *** denotes $p < 0.001$.

relative deprivation plays a mediating role in the relationship between differential leadership and deviant innovation, thus verifying *H4*.

In order to further test the mediating effect of relative deprivation, this study adopted the PROCESS macro program to conduct bootstrap analysis. The results showed that the mediating effect of relative deprivation with a bootstrap 95% confidence interval is (0.001, 0.089), excluding 0, which indicates that the mediating effect of relative deprivation is significant, and the effect value is 0.042 (SE = 0.022).

Moderating effect of internal control personality

As shown in Table 4, the regression coefficient of the interaction term of relative deprivation and internal control personality is significant (β = 0.113, $p < 0.05$), indicating that internal control personality has a moderating

effect on the relationship between relative deprivation and deviant innovation, thus verifying *H5*. Figure 2 illustrates the moderating effect of internal control personality on the relationship between relative deprivation and deviant innovation. As shown in Figure 2, relative deprivation has a more significant impact on the deviant innovation behavior of employees with high internal control personality compared to those with low internal control personality.

Test of moderated mediating effects

This study adopted the PROCESS macro program developed by Hayes and Preacher (2013) to test the moderated mediating effect, with a 95% confidence interval, adopting Mean ± SD to distinguish the mediating effects of relative deprivation under different levels of internal control personality: high; medium; and low. As shown in Table 5, the mediating effect of relative deprivation under high internal control personality is significant and strong, and the effect value is 0.074 (SE = 0.028). The mediating effect of relative deprivation under low internal control personality is comparatively weaker and insignificant, and the effect value is 0.002 (SE = 0.024). Therefore, the partial mediating effect of relative deprivation on the relationship between differential leadership and deviant innovation is affected by internal control personality, and there is a moderated mediating effect. The higher the level of internal control personality, the stronger the mediating effect of relative deprivation, which verifies *H6*.

Conclusion and research prospects

Conclusion

Based on relative deprivation theory, this study has explored the mechanism of differential leadership influencing employees' deviant innovation behavior, as well as the mediating effect of relative deprivation and the moderating effect of internal control personality. The results verify all six hypotheses, confirming that: differential leadership has a positive effect on outsider subordinates' deviant innovation behavior (*H1*); differential leadership has a positive effect on outsider subordinates' relative deprivation (*H2*); relative deprivation has a positive effect on outsider subordinates' deviant innovation behavior (*H3*); relative deprivation is the mediator between differential leadership and outsider subordinates' deviant innovation behavior (*H4*); internal control personality has a positive moderating effect on the relationship between relative deprivation and outsider subordinates' deviant innovation behavior (*H5*); and internal control personality plays a moderated mediating role in the process of differential leadership indirectly influencing outside subordinates' deviant innovation behavior through the mediating effect of relative deprivation (*H6*).

Theoretical significance

First, this study has explored the influence of differential leadership on employees' deviant innovation behaviors, extending research on the antecedents of outsider subordinates' deviant innovation behaviors. Most previous studies have focused on the consequences of employees' deviant innovation behaviors, while the exploration of its logical deconstruction is relatively scarce. Therefore, a systematic study on the influence of leadership style on employees' deviant innovation behaviors is lacking. Starting with the construction of "China's own leadership values," this study has conducted empirical testing on the mechanism of differential leadership influencing employees' deviant innovation behavior, analyzing the internal relationship between them.

Second, most previous studies on differential leadership have focused on its negative influences, while the positive effects have largely been ignored. This study has explored differential leadership and its effectiveness in the context of Chinese culture, which enriches the theoretical study of differential leadership. By incorporating differential leadership into research on employees' deviant innovation behavior, this study strengthens the theoretical framework of employees' deviant innovation behavior in the context of Chinese culture, providing new ideas for related research and expanding the theoretical research perspective.

Finally, based on relative deprivation theory, this study has introduced the relative deprivation of outsider subordinates as a mediating variable to explore the influence of differential leadership on employees' deviant innovation, which enriches research on the mediating mechanism of relative deprivation and provides a theoretical reference for further exploration of the causes of deviant innovation. In addition, based on attribution theory, this study has used internal control personality as a moderating variable to systematically explain the moderating mechanism of the influence of differential leadership on employees' deviant innovation behavior. It thus expands the boundary conditions for the generation of deviant innovation, enriches the related research pertaining to attribution theory, and provides a theoretical reference point for optimizing deviant innovation behavior.

Practical significance

First, in view of the important influence of differential patterns in the economy, studying differential leadership and its effectiveness has important practical value in optimizing differential leadership. The findings help understand the influence and effectiveness of differential leadership in the context of management localization in China, and provide a

10.3389/fpsyg.2022.996331

TABLE 4 Moderating effect of internal control personality (n = 243).

Variable	Deviant innovation behavior		
	Model 6	Model 7	Model 8
Gender	−0.112	−0.036	−0.040
Age	0.019	−0.003	−0.001
Education	0.010	−0.012	−0.012
Work seniority	−0.026	−0.061	−0.054
Organization types	−0.022	0.008	0.001
Occupation types	−0.019	−0.073	−0.068
Relative deprivation		0.147**	0.150**
Internal control personality		0.641**	0.646**
Relative deprivation × internal control personality			0.113*
F	0.192	20.364***	19.263***
R^2	0.005	0.410	0.427
ΔR^2	0.005	0.406	0.016

Symbol * denotes $p < 0.05$, ** denotes $p < 0.01$, *** denotes $p < 0.001$.

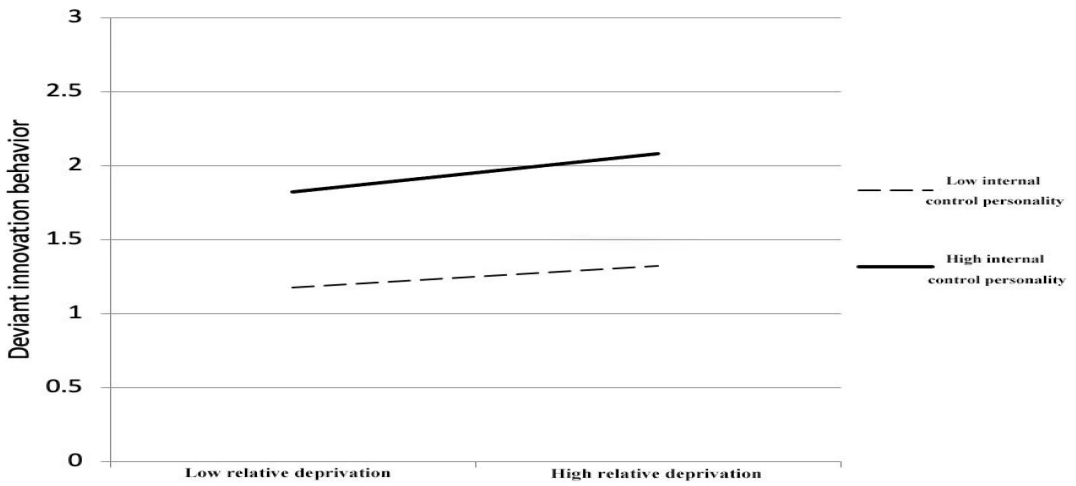


FIGURE 2
Moderating effect of internal control personality.

TABLE 5 Test of moderated mediating effects.

Effect	Mediating path	Internal control personality	Effect value	*SE*	Boot LLCI	Boot ULCI
Indirect effect	Relative deprivation	High	0.074	0.028	0.028	0.143
		Middle	0.038	0.019	0.005	0.081
		Low	0.002	0.024	−0.048	0.049

reference point for the appropriate adjustment of leadership style and the cultivation of managers with differential leadership skills, in order to guide management styles and thinking modes to fit sustainable development.

Second, this study has explored the influence mechanism of differential leadership on employees' deviant innovation, providing practical reference for the effective optimization of employees' deviant innovation behavior. The finding helps leaders to fully understand the path of differential leadership in improving employees' deviant innovation behavior and provides insights into different strategies to improve employees' innovation. The paper provides a theoretical foundation for

leaders to motivate employees to break their shackles and effectively govern deviant innovative behaviors, providing empirical support for improving enterprises' innovation values and promoting sustainable development, thus realizing the improvement of the overall innovation performance of organizations.

Finally, this study has explored the mediating effect of relative deprivation between differential leadership and deviant innovation. This helps managers to correctly understand employees with feelings of relative deprivation and to provide the necessary psychological counseling and encouragement in order to address feelings of relative deprivation. Although relative deprivation is an unpleasant feeling, the findings indicate that moderate relative deprivation can motivate employees to work harder to change their situation. Therefore, managers need to pay attention to the psychological status of employees and give full play to the positive role of relative deprivation.

Limitations and research prospects

There are some limitations in this study that should be addressed in future studies. First, the scales adopted in the questionnaire were translated from foreign scales. However, due to cultural differences between China and foreign countries, there may be some limitations in applicability. Future studies should further develop localization scales and improve the applicability in China. Second, all data in this study came from the self-assessment of employees; thus, common method bias may exist. Future studies could adopt the pairing method to collect data to test the hypotheses. Third, this study only explored the influence mechanism of differential leadership on employees' deviant innovation behavior from the perspective of outsider subordinates. In the future, studies could compare the different influences of differential leadership on employee behavior both from the perspectives of insiders and outsiders. Finally, this study only took China as the research object. It does not consider the differential impact of organizational culture. Subsequent research could consider the cross-cultural applicability of differential leadership theory and promote the localization theory of China to other regions.

Data availability statement

The original contributions presented in this study are included in the article/supplementary material, further inquiries can be directed to the corresponding author.

Author contributions

YZ, MW, and QH contributed to the conception of the study. MW and LZ performed the experiment. LZ contributed significantly to analysis and manuscript preparation. JL, YZ, and LZ performed the data analyses and wrote the manuscript. JL and YZ helped to perform the analysis with constructive discussions. All authors contributed to the article and approved the submitted version.

Funding

This work was funded by the National Social Science Foundation of China (19BGL127), the National Natural Science Foundation of China (72072076), and the fund for Humanities and Social Sciences Research of the Ministry of Education (18YJA630074).

Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

Publisher's note

All claims expressed in this article are solely those of the authors and do not necessarily represent those of their affiliated organizations, or those of the publisher, the editors and the reviewers. Any product that may be evaluated in this article, or claim that may be made by its manufacturer, is not guaranteed or endorsed by the publisher.

References

Adams, J. S. (1965). Inequity in social exchange. *Adv. Exp. Soc. Psychol.* 2, 267–299. doi: 10.1016/S0065-2601(08)60108-2

Allen, D. G., Shore, L. M., and Griffeth, R. W. (2003). The role of perceived organizational support and supportive human resource practices in the turnover process. *J. Manage.* 29, 99–118.

Allen, D. G., Shore, L. M., and Griffeth, R. W. (2008). The role of perceived organizational support and supportive human resource practices in the turnover process. *J. Manage* 29, 99–118.

Amabile, T. M., Barsade, S. G., and Staw, M. (2005). Affect and creativity at work. *Adm. Sci. Q.* 50, 367–403. doi: 10.2189/asqu.2005.50.3.367

Bachleitner, R., and Zins, A. H. (1999). Cultural tourism in rural communities: the residents' perspective. *J. Bus. Res.* 44, 199–209. doi: 10.1016/S0148-2963(97)00201-4

Baron, R. M., and Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *J. Pers. Soc. Psychol.* 51, 1173–1182. doi: 10.1037/0022-3514.51.6.1173

Bennett, R. J., and Robinson, S. L. (2000). Development of a measure of workplace deviance. *J. Appl. Psychol.* 85, 349–360. doi: 10.1037/0021-9010.85.3.349

Chen, W., Ye, M., Chen, Y., and Peng, J. (2017). The influence of subordinates' deviant innovation behavior on supervisors' inhibition: the role of status threat and authoritarianism orientation. *Psychol. Sci.* 40, 670–677.

Cheng, G. H. L., and Chan, D. K. S. (2008). Who suffers more from job insecurity? A meta-analytic review. *Appl. Psychol.* 57, 272–303. doi: 10.1111/j.1464-0597.2007.00312.x

Christensen, M. E., Therkildsen, H. M., and Poulsen, S. S. (2007). *Immunoreactive Transforming Growth Factor Alpha and Epidermal Growth Factor in Oral Squamos Cell Carcinoma.*

Criscuolo, P., Salter, A., and Terwal, A. L. J. (2014). Going Underground: Bootlegging and Individual Innovative Performance. *Organ. Sci.* 25, 1287–1305. doi: 10.1287/orsc.2013.0856

Crosby, F. (1976). A model of egoistical relative deprivation. *Psychol. Rev.* 83:85. doi: 10.1037/0033-295X.83.2.85

Deng, Y. (2019). Review and prospect of employee deviant innovation research. *Leadsh. Sci.* 12, 61–64.

Erez, A., and Judge, T. A. (2001). Relationship of core self-evaluations to goal setting, motivation, and performance. *J. Appl. Psychol.* 86:1270. doi: 10.1037/0021-9010.86.6.1270

Ford, C. M. (1996). A theory of individual creative action in multiple social domains. *Acad. Manage. Rev.* 21, 1112–1142. doi: 10.2307/259166

Galperin, B. (2002). *Determinants of Deviance in the Workplace: An Empirical Examination of Canada and Mexico*. Quebec: John Molson School of Business.

Gao, L., Wang, S., and Pan, Y. (2014). Training transfer: influencing factors and its relationship with organizational commitment. *Manage. Rev.* 33, 128–138.

Graen, G. B., and Uhl-Bien, M. (1995). Relationship-based approach to leadership: Development of leader-member exchange (LMX) theory of leadership over 25 years: applying a multi-level multi-domain perspective. *Leadersh. Q.* 6, 219–247. doi: 10.1016/1048-9843(95)90036-5

Guo, X., and Li, C. (2015). The relationship between superiors and subordinates in China: The Establishment and preliminary examination of integrated constructs. *Chin. J. Manage.* 12:167.

Guo, X., and Zhang, R. (2014). Three research dimensions of rumor psychology: theoretical integration and reality care. *J. Tianj. Adm. Inst.* 28, 41–50.

Gursoy, D., and Kendall, K. W. (2006). Hosting mega events: modeling locals' support. *Ann Tour Res* 33, 603–623. doi: 10.1016/j.annals.2006.01.005

Han, L., Ren, Y., Xue, W., and Gao, F. (2017). Self-Esteem and aggression: the multiple mediating effects of relative deprivation and perceived social support. *Chin. J. Spec. Educ.* 17, 84–89.

Hayes, A. F., and Preacher, K. J. (2013). "Conditional process modeling: Using structural equation modeling to examine contingent causal processes," in *Structural Equation Modeling: A Second Course*, eds G. R. Hancock and R. O. Mueller (Charlotte, NC: IAP Information Age Publishing).

Heider, F. (1958). *The Psychology of Interpersonal Relations*. New York, NY: Wiley. doi: 10.1037/10628-000

Henderson, L., and Zimbardo, P. G. (1999). *Commentary: Developmental Outcomes and Clinical Perspectives*. New York, NY: Oxford University Press. doi: 10.1093/acprof:oso/9780195118872.003.0016

Jiang, D., and Zhang, W. (2010). Differential leadership and subordinate effectiveness in Chinese. *Local Psychol. Res.* 33, 109–177.

Jiang, Y. (2018). A literature review of creative deviance and prospects. *Sci. Technol. Manage. Res.* 13, 131–139.

Ke, J., and Sun, J. (2018). The influence of internal controlling personality, transformational leadership and organizational culture on employee psychological capital. *Econ. Manage. Res.* 39, 136–144.

Kinicki, A. J., and Vecchio, R. P. (1994). Influences on the quality of supervisor-subordinate relations: the role of time-pressure, organizational commitment, and locus of control. *J. Organ. Behav.* 15, 75–82. doi: 10.1002/job.4030150108

Krenl, L. (1992). The moderating effects of locus of control on performance incentives and participation. *Hum. Relat.* 45, 991–1012. doi: 10.1177/001872679204500906

Li, L.-Y. (2011). A review on continuing education of study for P.E teachers in elementary and middle schools in China Since the "Tenth Five". *J. Nanj. Inst. Phys. Educ.* 11, 156–158.

Lin, Y., and Cheng, K. (2017). Differential leadership and employee pro-organizational unethical behavior: Insiders and outsiders perspectives. *Manage. Sci.* 30, 35–50.

Liu, W., Tang, C., and Tang, J. (2020). The influence mechanism of differential leadership on employee counterproductive behavior: An exploratory study based on multiple theories. *Operat. Res. Manage.* 29, 223–231.

Luthans, F. (2002). The need for the meaning of positive organizational behavior. *J. Organ. Behav.* 23, 695–706. doi: 10.1002/job.165

Masoudnia, Y., and Szwejczewski, M. (2012). Bootlegging in the R&D Departments of High-Technology Firms. *Res. Technol. Manage.* 55, 35–42. doi: 10.5437/08956308X5505070

Mummendey, A., Kessler, T., Klink, A., and Mielke, R. (1999). Strategies to cope with negative social identity: Predictions by social identity theory and relative deprivation theory. *J. Pers. Soc. Psychol.* 76, 229–245. doi: 10.1037/0022-3514.76.2.229

Priesemuth, M., and Taylor, R. M. (2016). The More I Want, The Less I Have Left to Give: the moderating role of psychological entitlement on the relationship between psychological contract violation, depressive mood states, and citizenship behavior. *J. Organ. Behav.* 37, 967–982. doi: 10.1002/job.2080

Rotter, J. B. (1966). Generalized expectancies for internal versus external control of reinforcement. *Psychol. Monogr.* 80, 1–28. doi: 10.1037/h0092976

Ruan, J. (2018). Analysis on the mechanism of differential leadership and employee voice behavior: From the perspective of "insiders" and "outsiders". *Leadersh. Sci.* 8, 54–56.

Seligman, M., and Marshak, L. E. (1990). *Group psychotherapy: Interventions with special populations*. Boston, MA: Allyn and Bacon.

Sikora, D. M., and Ferris, G. D. (2014). Strategic Human Resource Practice Implementation: The Critical Role of Line Management. *Hum. Resour. Manage. Rev.* 24, 271–281. doi: 10.1016/j.hrmr.2014.03.008

Smith, H. J., and Ortiz, D. J. (2002). *The Different Consequences of Personal and Group Relative Deprivation*. Cambridge, MA: Cambridge University Press. doi: 10.1017/CBO9780511527753.005

Smith, H. J., Pettigrew, T. F., Pippin, G. M., and Bialosiewicz, S. (2012). Relative deprivation: a theoretical and meta-analytic review. *Pers. Soc. Psychol. Rev.* 16, 203–232. doi: 10.1177/1088868311430825

Spector, P. E. (1988). Development of the work locus of control scale. *J. Occup. Psychol.* 61, 335–340. doi: 10.1111/j.2044-8325.1988.tb00470.x

Staw, B. M., and Boettger, R. D. (1990). Task revision: a neglected form of work performance. *Acad. Manage. J.* 33, 534–559. doi: 10.2307/256580

Stein, M. (1953). Creativity and culture. *J. Psychol.* 32, 311–322. doi: 10.1080/00223980.1953.9712897

Stouffer, S. A., Suchman, E. A., DeVinney, L. C., Star, S. A., and Williams, R. M. (1949). *The American Soldier: Adjustment during Army Life*. Princeton, N.J: Princeton University Press.

Thau, S., Derfler-Rozin, R., Pitesa, M., Mitchell, M. S., and Pillutla, M. M. (2015). Unethical for the sake of the group: risk of social exclusion and progroup unethical behavior. *J. Appl. Psychol.* 100, 98–113. doi: 10.1037/a0036708

Tropp, L. R., and Wright, S. C. (1999). Ingroup identification and relative deprivation: an examination across multiple social comparisons. *Eur. J. Soc. Psychol.* 29, 707–724. doi: 10.1002/(SICI)1099-0992(199908/09)29:5/6<707::AID-EJSP968>3.0.CO;2-Y

Tsui, A. S., Farh, J. L., and Xin, K. R. (2000). *Guanxi in the Chinese Context*. London: Palgrave Macmillan. doi: 10.1057/9780230511590_9

Walker, I., and Pettigrew, T. F. (2011). Relative deprivation theory: an overview and conceptual critique. *Br. J. Soc. Psychol.* 23, 301–310. doi: 10.1111/j.2044-8309.1984.tb00645.x

Wan, J., Shi, K., Cui, Y. B., and Deng, Q. (2016). Organizational justice, relative deprivation and knowledge sharing: a moderated mediation model. *Sci. Technol. Prog. Policy* 14, 129–135.

Wang, H., Zou, C., and Cui, Z. (2018). The effect of differential leadership on deviant innovation behavior: a moderated mediation model. *Sci. Technol. Prog. Countermeas.* 445, 137–143.

Wang, L. (2000). Phenomenon and empirical evidence of relative deprivation among "cadre" groups. *China Natl. Cond. Strength* 9:42.

Wang, N. (2007). Relative deprivation: a case of the retired urban elders' experience on medical security system. *J. Northwest Norm. Univ.* 7, 19–25.

Wang, S. (1988). Relative deprivation" and the construction of the reform environment. *Soc. Sci. Shanghai China* 14, 32–37.

Warren, D. E. (2003). Constructive and destructive deviance in organizations. *Acad. Manage. Rev.* 28, 622–632. doi: 10.2307/30040751

Weng, L. C. (2014). Improving employee job performance through ethical leadership and "Guanxi": the moderation effects of supervisor-subordinate guanxi differentiation. *Asia Pac. Manage. Rev.* 19, 321–342.

Wu, X., and He, Y. (2015). Research on the relationship between political skills, workplace exclusion, and organizational citizenship behavior. *J. Dalian. Maritime Univ.* 21, 25–34.

Wu, Y., Pan, C., and Zhou, Y. (2020). Humble leadership and deviant innovation behavior: A chain mediation model of superior-subordinate relationship and psychological privilege. *Soft Sci.* 34, 140–144.

Xiong, M., and Ye, Y. (2016). Relative deprivation: concept, measurement, influencing factors and effects. *Adv. Psychol. Sci.* 3, 438–453. doi: 10.3724/SP.J.1042.2016.00438

Zhang, G. (2016). The influence mechanism of workplace exclusion on employees' pro-organizational non-ethical behavior. *Manage. Sci.* 29, 104–114.

Zhao, J. J. (2019). Research on the influence mechanism of differential leadership on knowledge workers' constructive performance deviance. *J. Bus. Econ.* 4, 42–54.

Zheng, B. (2004). Indigenous culture and organizational leadership: from phenomenological description to theoretical validation. *Loc. Psychol. Res.* 22, 195–251.

frontiers | Frontiers in Psychology

TYPE Original Research
PUBLISHED 18 November 2022
DOI 10.3389/fpsyg.2022.1008259

OPEN ACCESS

EDITED BY
Dario Paez,
University of the Basque Country,
Spain

REVIEWED BY
Ana Moreira,
University Institute of Psychological,
Social and Life Sciences (ISPA),
Portugal
Mohammed Habes,
Yarmouk University, Jordan

*CORRESPONDENCE
Zijian Peng
pppzj0420@whu.edu.cn
Lin Wu
wlin@whu.edu.cn

SPECIALTY SECTION
This article was submitted to
Personality and Social Psychology,
a section of the journal
Frontiers in Psychology

RECEIVED 31 July 2022
ACCEPTED 31 October 2022
PUBLISHED 18 November 2022

CITATION
Peng Z and Wu L (2022) Association
of income relative deprivation
and sleep duration in China.
Front. Psychol. 13:1008259.
doi: 10.3389/fpsyg.2022.1008259

Association of income relative deprivation and sleep duration in China

Zijian Peng* and Lin Wu*

School of Sociology, Wuhan University, Wuhan, China

In recent years, the rapid development of China's economy has brought about a serious polarization between rich and poor, which makes people have to bear the impact of social changes on their physical and mental health while enjoying the benefits of social development. It is difficult to maintain normal sleep duration (7–9 h), which has gradually become a social phenomenon. Based on the China Family Panel Studies (CFPS2018), this study explored the relationship between relative income deprivation and sleep duration at the micro-level. This paper empirically tests that the probability of normal sleep duration (7–9 h) decreases by 22.8% for each unit of income relative deprivation. This conclusion is significant at 0.05 level. On this basis, the instrumental variable method is used to overcome the endogenous problem, and a more accurate conclusion is obtained. After the robustness test and heterogeneity analysis of the model, a mediation model is constructed through Mplus: relative income deprivation – social trust – sleep duration. Social trust is considered as a mediation variable. This study believes that in Chinese society, the relative deprivation of individual income will affect their sleep duration by changing their social trust. Therefore, increasing the income of low-income groups, narrowing the gap between rich and poor, alleviating social conflicts, and promoting interpersonal trust are important means to ensure that social members can have normal sleep duration.

KEYWORDS

income relative deprivation, sleep duration, social trust, social mentality, instrumental variable method

Introduction

Scientific research shows that an adult's normal sleep duration should be between 7 and 9 h, less than 7 h is insufficient sleep duration, and more than 9 h is too long sleep duration (Hirshkowitz et al., 2015; Ren et al., 2019). Sleep duration of 7–9 h is considered to play an important role in maintaining normal physiological functions and improving quality of life, and it is considered to be one of the important factors for individual physical and mental health and life happiness (Yan et al., 2020). According to the statistics of China Sleep Research Society (CSRS), with the increased pressure and pace of life, the average sleep duration of Chinese people has dropped

from 8.8 to 6.5 h from 2013 to 2018. During the working day, only 67.24% of people suffer from sleep disorders (Yueqiu et al., 2022).

Sleep duration less than 7 h or more than 9 h is considered abnormal sleep duration, which will lead to unhealthy health (Steptoe, 2006; Stranges et al., 2008): increased probability of cardiovascular and cerebrovascular diseases, diabetes, heart disease (Christa et al., 2007), and obesity (Vgontzas et al., 2008; Peltzer and Pengpid, 2017; Fan et al., 2020); cognitive decline and dementia risk is greatly increased (Cappuccio et al., 2010; Chien et al., 2010). The researchers attribute the poor health caused by the short or long sleep duration mentioned above to the individual's physical qualities such as glucose tolerance, insulin sensitivity, hunger, and endocrine function (Van Cauter and Knutson, 2008); living habits such as sleep patterns, drug intake, eating habits (Genderson et al., 2014); disease history such as coronary heart disease, myocardial infarction, and various physical discomfort (Peltzer and Pengpid, 2017; Ren et al., 2019).

From the above analysis, we can see that the previous research on sleep duration was mostly focused on the biomedical field, but more and more research began to focus on the role of social factors in sleep duration, especially the impact of income. A large number of empirical studies have shown that absolute income is an important factor affecting health (Guoqiang et al., 2017). As an important measure of health, whether sleep duration is normal is also affected by absolute income (Ancoliisrael et al., 1991). Heslop et al. (2002) proposed that workers with lower income usually have longer working hours to improve their living conditions, which will greatly reduce their sleep time. Stamatakis et al. (2007) conducted a longitudinal study on the sleep duration of the population in California, the United States, and found that socio-economic status is a strong determinant of short sleep duration, especially when the family income is low, individuals have a higher probability of shorter sleep duration. Some studies have pointed out that the social groups with higher income have the ability to pay for various late night entertainment activities, such as the Internet, television, and party activities, so the individuals with higher income sleep longer than the individuals with lower income (Bliwise, 1996). It can be seen that although the relevant research did not reach an agreement on the relationship between income and sleep duration, it proved that income did have an impact on sleep duration.

Most of the previous studies focused on the direct role of absolute income in people's sleep duration, and lack of research on the role of relative income in sleep duration. As another form of income, relative income has a significant impact on social members (Deaton, 2001). Wilkinson (1996) pointed out that relative income has a greater impact on people's health and living conditions than absolute income, which well explains the relationship between income inequality at the individual level and their health and life. In daily life, people not only pay attention to their own income but also pay attention to the income of others and compare it with their income. The theory of relative deprivation of income proposed by Townsend (1979) points out that people tend to make upward social comparisons, that is, to compare themselves with people with better income status. In this process, individuals will face the income gap with others directly and thus produce income relative deprivation. Therefore, relative deprivation of income is considered as a measure of individual income inequality. When individuals face the same income inequality, their subjective feelings of deprivation are not the same. Especially in China, the economic boom brought about by the reform and opening up has caused a serious imbalance in social development, which makes people enjoy social progress, but also face the costs and pain brought about by social transformation. Health is facing unprecedented challenges (Jiawen, 2016). Insufficient sleep has become a widespread social phenomenon. According to the income inequality hypothesis, as the gap between the rich and the poor in society gradually expands, it not only increases the number of relatively poor people but also makes the whole social group feel strongly deprived (Adjaye-Gbewonyo and Kawachi, 2012). Therefore, under the social background of severe social differentiation and the gap between rich and poor brought about by China's social and economic development, the Chinese people's sense of income relative deprivation is widespread. This shows that under the background of widespread income deprivation and insufficient sleep in China, it is of great theoretical and practical significance to explore the impact of income relative deprivation on sleep duration and its mechanism.

Income relative deprivation and sleep duration

Since the late 1990s, more and more studies have begun to pay attention to the impact of individual income inequality on people at the micro-level. According to the theory of relative deprivation, people always tend to make upward social comparisons with individuals who are higher than their own social economy, rather than lower (Runciman, 1966). As an important component of socio-economic status, income is a key indicator to measure the relative deprivation of micro-individuals. Income relative deprivation describes the impact of income inequality on different individuals. Through sorting out relevant studies, the mechanism of relative income deprivation affecting sleep duration can be summarized in the following two levels.

First of all, income relative deprivation affects the sleep duration of individuals through material channels. In general, the lower the income level of individuals, the higher their income relative deprivation (Mangyo and Park, 2011; Gunasekara et al., 2013). That is, the higher the degree of

income relative deprivation, the lower their income level and the poorer they are compared with others. The high degree of income relative deprivation means the relative poverty on the material level. Crimmins et al. (2009) found that people living in poverty are often accompanied by sleep problems, such as insufficient sleep. The reasons why income relative deprivation affects individual sleep duration through material channels can be attributed to the following two reasons. First, individuals with high degree of income relative deprivation have low income, poor living environment, and short sleep duration. Adler and Ostrove (1999) pointed out that compared with low-income groups, high-income groups have a better living environment. Their living area is large, the environment is good, and temperature and noise are well controlled. Their sleeping space is superior. Therefore, the high-income group has a shorter sleep duration than the low-income group, and is more likely to have a longer sleep duration (Lauderdale et al., 2006). Second, individuals with a high degree of income relative deprivation have a low income, and it is difficult to obtain material resources to maintain health, which will affect their sleep duration. Poor health is an important factor that aggravates sleep disorders and is not conducive to maintaining normal sleep duration (Stamatakis et al., 2007). Many studies have pointed out that the income relative deprivation has a negative impact on people's health (Basta et al., 2007; Akay et al., 2018). This is because the income of low-income groups is difficult to support them to obtain basic medical services and purchase other health insurance, which makes them vulnerable to poor health (Mangyo and Park, 2011). Lutfey and Freese (2005) conducted a one-year ethnographic survey on outpatients with diabetes and found that most of the specific mechanisms affecting patients and obtaining high-quality medical resources and services are more favorable to patients with high socioeconomic status. Therefore, the higher the degree of income relative deprivation, the shorter their sleep duration.

Secondly, income relative deprivation affects the sleep duration of individuals through psychological channels. The theory of relative deprivation points out that because people always have an upward social preference, the low-income group has a stronger sense of income relative deprivation than the higher income group, which will cause the low-income group to have a persistent sense of inefficiency (Eibner and Evans, 2005). This negative emotion makes them constantly produce stress and anxiety, which is the key factor to shorten the sleep duration (Yan et al., 2018). There are two reasons why income relative deprivation affects individual sleep duration through psychological channels. First, low-income groups are often in a lower socio-economic status in society, which makes them have a higher level of stress and anxiety than high-income groups. The continuous negative psychological state will make low-income groups with a higher sense of deprivation more likely to fall into depression, which is not conducive to sleep (Thomsen et al., 2003). Stewart et al. (2011) pointed out that the higher a person's anxiety test score, the greater the likelihood of insufficient sleep. It can be seen that higher stress levels cannot be ignored in disturbing sleep duration (Kerstedt, 2006). Second, compared with high-income groups, low-income groups have less social resources. They always feel lack of resources when solving problems and thus generate huge psychological pressure, which will also directly lead to sleep deprivation in low-income groups with a higher sense of deprivation (Barber et al., 2013). Hardie and Lucas (2010) pointed out that the income relative deprivation will lead to the decline of marriage quality, increase the frequency of family conflict and domestic violence, and make people feel less social support when dealing with daily problems, increasing the pressure level of family members in family relations. Therefore, the higher the degree of income relative deprivation, the shorter their sleep duration.

Social trust as an intermediary variable

Based on the above analysis, this paper constructs an explanation framework between income relative deprivation and sleep duration. However, we cannot ignore that sleep duration is determined by complex social processes. In this process, people allocate and negotiate their sleep duration of the day according to their social status, social roles, and resources (Burgard, 2011). Therefore, this paper tries to find the mediating mechanism of income relative deprivation affecting sleep duration. Bai and Luo (2014) pointed out that the trust crisis caused by the polarization between the rich and the poor in China today is an important problem faced by the society. According to the data of the World Values Survey, the level of social trust of Chinese people is declining year by year. The social and economic comparison at the individual level caused by the income gap has aggravated their sense of deprivation, led to bad social relations and interpersonal distrust, had a negative impact on the physical and mental health of individuals, and made it difficult for people to have normal sleep duration. First, the income relative deprivation has a negative impact on social trust. According to the principle of homogeneity preference, people with the same income status communicate more frequently. The worsening income inequality has strengthened the difference in social status, led to estrangement and alienation between people, and significantly reduced social trust (Yiwei, 2018). Many studies have emphasized that there is a highly negative correlation between income inequality caused by the polarization of the rich and the poor and people's social trust (Uslaner, 2005; Freitag and Buhlmann, 2009). Brehm and Rahn (1997) estimated a structural model using data from 1975 to 1994, including citizen participation, social trust, and government confidence. They found that Gini coefficient would significantly reduce people's social trust. Eliana and Alesina (2000) used the census data

to calculate the Gini coefficient to measure the income gap, which also proved the negative impact of income heterogeneity on social trust. Guangjun and Chuanchuan (2016) studied the income gap and social trust in China, and found that under the realistic background of the sharp decline of social trust level and the rapid deterioration of income distribution pattern in contemporary China, the social differentiation caused by income gap is an important factor leading to the reduction of trust among social members. Secondly, low social trust makes it difficult for individuals to maintain normal sleep duration. The improvement of social trust can increase the social support and social participation of individuals, thus effectively weakening the various chronic pressures they bear (Sato et al., 2018; Saura et al., 2021). A high degree of social trust makes people not need to keep tense all the time, enhances their self-esteem and confidence when dealing with things, and reduces the possibility of negative emotions through emotional support (Mikucka et al., 2017). A positive emotional state helps people maintain a normal sleep duration. Numerous studies have proved this: Japanese scholars Sugawara et al. (2020) pointed out in a study on social trust and sleep that low socio-economic status and poor living standards will reduce people's social trust, increase their stress level, and damage their health, and they are usually difficult to maintain normal sleep duration. Chinese scholar Jiawen (2016) proposed in his research on income inequality and personal well-being in Chinese society that social trust plays a mediating role between income inequality and personal well-being. As a subjective psychological emotion, personal happiness will affect people's sleep. Kawachi et al. (1997) pointed out that the lower the level of social trust, the higher the possibility of increased mortality, which has a negative impact on people's health and is difficult to maintain a normal sleep duration. Therefore, this paper argues that social trust is the intermediary mechanism that explains the relationship between income relative deprivation and sleep duration.

After sorting out the existing research, it is found that the existing literature lacks the research and mechanism exploration of the direct role of income relative deprivation in sleep duration. And many studies are based on the analysis of the phenomenon of developed countries. However, the research based on the background of developed countries is not suitable for the actual situation of China. As a large developing country with rapid social changes, the rapid development of China's economy has gradually worsened the income pattern and seriously challenged the national spiritual life. Based on the above considerations, this paper uses China Family Panel Studies (CFPS2018) data to study the impact of income relative deprivation on the sleep duration of social members and analyze the impact path under the Chinese background. The innovations of this paper are as follows: First, in terms of research perspective, this paper uses the individual level income inequality index Kakwani (1984) to measure the income relative deprivation, which is used to measure the impact of income inequality on different individuals and overcome the problem that other indexes are sensitive to income scale. It is included in the overall analysis framework between income difference and sleep duration of Chinese residents, revealing the relationship between income inequality and sleep duration from a micro-individual perspective. Second, in terms of research methods, on the basis of overcoming the endogenous problem with instrumental variable method, this paper analyzes the heterogeneity from three dimensions of region, marital status, and housing quantity. The mechanism of the effect of income relative deprivation on sleep duration was explored by intermediary analysis. It provides a more comprehensive perspective to understand the relationship between income relative deprivation and sleep duration in the Chinese context.

Research questions and assumptions

In order to overcome the above shortcomings of previous empirical studies, this study explored and analyzed the changes and mechanisms of sleep duration of Chinese people with Kakwani (1984) income relative deprivation index under the background of China's reality, using China Family Panel Studies (CFPS2018) data, and from the perspective of relative deprivation at the micro-level. After combing the realistic background and existing literature in the introduction, this paper proposes the following two assumptions:

> Hypothesis 1: There is a negative correlation between income relative deprivation and whether normal sleep duration can be maintained. The higher the degree of income relative deprivation, the more difficult it is to maintain normal sleep duration; on the contrary, the lower the income relative deprivation, the easier it is to maintain normal sleep duration.

> Hypothesis 2: Social trust is a mediator between income relative deprivation and whether normal sleep duration can be maintained. The income relative deprivation affects their sleep duration by affecting their social trust.

Data and methods

Data and samples

This study uses China Family Panel Studies (CFPS2018), which is a large-scale national social survey project carried out by Institute of Social Science Survey (ISSS). CFPS aims to reflect the changes of China's society, economy, population,

education, and health by tracking and collecting data at three levels: individual, family, and community. It is a national, large-scale, and multidisciplinary social tracking survey project. The baseline survey was carried out in 2010, and the tracking survey was carried out every two years thereafter. Taking into account the regional differences in Chinese society, in order to save survey costs and improve the representativeness and scientificity of sample sampling, CFPS adopts a multi-stage, implicit stratified sampling method (PPS) proportional to the size of the population. Because of the scientific and authoritative nature of CFPS in China, the use of CFPS data to study Chinese society has been recognized and adopted by an increasing number of Chinese scholars (Yu et al., 2014).

CFPS2018 has five types of questionnaires: family members' questionnaire, family economic questionnaire, individual self-administered questionnaire, children's parents' proxy questionnaire, and individual proxy questionnaire, covering all family members in families and sample households in 25 provinces, cities, and autonomous regions in China. The total sample size is 12,421 families and 32,669 individuals. Due to the calculation of the kakwani income relative deprivation index, the object of this study is adults with income. In order to establish an appropriate database, the following steps were carried out: First, use Stata software to select the appropriate variables in the CFPS2018 family database and adult database, and combine them. Second, the missing values, singular values, and interrupted samples are eliminated, and the samples with income of 0 are excluded. Only adult samples with income above 0 are retained. Third, sorting out the selected variables according to the research needs. After the above steps, 8650 valid samples were obtained.

Variable setting

Dependent variable

The dependent variable of this study is "sleep duration". In adults with work and income, the sleep duration usually depends on the schedule of the working day, so the sleep duration of the working day can better reflect the individual's regular living conditions (Dinges et al., 2006). Therefore, this paper chooses the question of sleep duration in CFPS2018, "Generally speaking, you sleep several hours every day on weekdays," to calculate the dependent variable. According to previous studies, 7–9 h is normal sleep duration, less than 7 h is insufficient sleep, and more than 9 h is too long sleep (Hirshkowitz et al., 2015; Ren et al., 2019). We learned from Stamatakis et al. (2007) treated sleep duration as a categorical variable: 7–9 h of sleep duration was normal sleep duration, and less than 7 h and more than 9 h of sleep duration were abnormal sleep duration.

Independent variable

The independent variable of this study is "income relative deprivation." Since the theory of relative deprivation was put forward, the measurement of relative deprivation has become the focus of academic discussion, and many representative measurement indicators have emerged. For example, Yitzhaki index, Kakwani index, Podder index, Esposito index, and relative deprivation index are considered as the range of income values. Kakwani index satisfies the good properties of dimensionless, normal, and transfer invariance. Therefore, this paper uses the kakwani income relative deprivation index proposed by Kakwani (1984) in to measure the different negative effects of income inequality on different individuals.

Instrumental variables and mediating variable

In order to overcome the possible endogenous problems of income relative deprivation and sleep duration, this study calculated the "average income relative deprivation index of the same village/household" as a tool variable according to the relative income deprivation index. As the economic income development of each region has obvious spatial and geographical effects, the income level of people in the same region usually depends on the economic development level of the region. Therefore, there is a strong correlation between the individual income relative deprivation index and the average income relative deprivation index of the same village/resident, but the correlation between the average income relative deprivation index of the same village and the individual is weak. In addition, in order to explore the specific mechanism of income relative deprivation affecting individual sleep duration, this study set up the intermediary variable of social trust. Drawing on previous research using CFPS data to measure social trust, construct a virtual variable of social trust based on the question "Generally speaking, do you think most people can be trusted, or should you be as careful as possible to get along with others": when respondents answer "most people can be trusted," it is 1; when the respondent answered "The more careful, the better," it was 0 (Guangjun and Chuanchuan, 2016).

Control variable

In order to make the conclusion of the relationship between individual income relative deprivation and sleep duration more reliable, and reduce the problem of missing variables as much as possible, we set up several control variables from the individual, family, and regional levels, and reduce the problem of missing variables as much as possible, we set up several control variables from the individual, family, and regional levels. Individual level characteristics: gender, registered residence, education, health, whether or not a member. Family level characteristics: housing property rights, family population, whether there are two or more houses, the total real estate value of the family, the net income of the family. Regional characteristics: region, regional average household income. The specific meanings of these control variables are shown in **Table 1**.

TABLE 1 Key variable description statistics.

Vartype	Varname	Mean/Frequency	SD/Percentages	Min	Max	Obs
Dependent variable	sleep duration	0.729	0.444	0	1	8650
Independent variable	kakwani	0.047	0.056	0	0.273	8650
Control variable	gender	3843	0.444	0	1	8650
	hukou	3171	0.367	0	1	8650
	edu	0.232	0.422	0	1	8650
	health	3.240	1.088	1	5	8650
	cpc	8485	0.981	0	1	8650
	hproperty	1401	0.162	0	1	8650
	sfamily	4.093	1.989	1	17	8650
	nhouse	6604	0.763	0	1	8650
	ln_fhousem	12.628	1.431	9	16	8650
	ln_fincome	11.332	0.701	10	13	8650
	re_ln_fincome	11.333	0.130	11.149	11.460	8650
Other variable	mkakwani	0.047	0.029	0	0.273	8650
	trust	0.576	0.494	0	1	8650

The frequency and percentage of categorical variables in this table are calculated based on category 0.

Empirical strategy

Based on the core research content, the explained variable of this paper is sleep duration. It is binary dummy variables. Therefore, this paper selects Probit model which can deal with binary variables for regression analysis. The model settings are as follows:

$$\text{Probit}(\text{Sleep}_i) = f(\beta_1 \text{Inequality}_i + \beta_2 X_i + \varepsilon_i) \quad (1)$$

In Equation (1), Sleep_i is the binary variable of sleep duration, subscript i represents the ith individual, Inequality_i represents the individual income relative deprivation measured by Kakwani relative deprivation index, and ε_i represents the random disturbance term. In order to reduce the missing variables in the model, X_i is introduced to represent other control variables in this paper.

Because the estimation in Equation (1) may have endogenous problems, some potential factors may affect the individual income relative deprivation and the sleep duration at the same time due to measurement errors, missing variables, and reverse causality. However, we cannot effectively control these factors in Probit model, so the estimation result of individual income relative deprivation on sleep duration in the model may be biased. In order to deal with the potential endogenous problem, we used the instrumental variable method to re-estimate (1) and then carry out IV Probit two-stage regression on this basis. In the first stage, we used the explanatory variable inequality to perform OLS regression on other variables to obtain the fitting values of residual $\widehat{\varepsilon_i}$ and latent variable Inequality*:

$$\text{Inequality}_i^* = \mu_0 + \mu_1 \vec{Z} + \mu_2 X_i + \varepsilon_i \Longrightarrow \widehat{\text{Inequality}}_i^* \quad (2)$$

In Equation 2, $\vec{Z}$ represents the tool variable, $\widehat{\text{Inequality}}_i^*$ represents the fitting value of Inequality^*. X_i is the same control variable as in Probit model. In the second stage, the explained variable sleep performs Probit regression on the fitting value, residual and exogenous explanatory variables of the latent variables, and the consistent estimated value is obtained. The expression is:

$$\text{Sleep}_i^* = \alpha_i + \beta_i^* \widehat{\text{Inequality}}_i^* + \gamma X_i + \lambda_i + \xi_i \quad (3)$$

In Modern Econometrics, $\vec{Z}$ must meet the following two conditions: first, exogenous $\text{cov}(\vec{Z}, \xi_i) = 0$. Second, it is significantly correlated with endogenous variable Inequality. The instrumental variables selected in this paper and its effectiveness test are described in detail below.

Results

Descriptive statistics

Table 1 presents the descriptive statistics of the key variables used in this paper. It can be seen that in the samples we used, nearly 30% of Chinese adults aged 16–60 do not have normal sleep duration. The average of individual income relative deprivation index is 0.047. From the individual level of the interviewed group, it can be found that men account for 59%, agricultural registered residence accounts for 70%, and the proportion of people who have received university and above is 23%, and the proportion of Party members is 0.2%. This is also more consistent with China's basic national conditions, such as the large number of male population, large rural population and low popularity of higher education. From the family level of the

respondents, it can be found that the average number of family members is 4, which is basically consistent with the effect of China's family planning policy. 84% of the households have their own housing property rights, and only 24% of the households have second or more houses. The standard deviations of the total house property value (logarithm) and the net family income (logarithm) are 1.431 and 0.701, respectively. There is great heterogeneity of property among families. These data are in line with the reality of China's large gap between the rich and the poor and unequal distribution of income and wealth.

Correlation results

In this paper, Probit model is used to analyze the impact of individual income relative deprivation on sleep duration. We used the method of gradually increasing control variables to observe the fitting degree of the model. In Table 2, model 1 shows the marginal effect of Probit regression without adding control variables, and model 2 shows the marginal effect of Probit regression with adding control variables. According to the regression results of model 1, the effect of income relative deprivation on sleep duration was significant at the level of 1%. Model 1 points out that without adding control variables, income relative deprivation is not conducive to maintaining a normal sleep duration (7–9 h). For each unit of increase in people's income relative deprivation, the probability of a normal sleep duration (7–9 h) decreases by 27.8%. It may be that when people make an upward social comparison of income, the sense of relative deprivation makes them have more emotional stress and dissatisfaction with the current situation of life. This negative emotion is not conducive to have normal sleep duration (7–9 h). Considering that other factors may also affect people's sleep duration, we added control variables in model 2. With the increase of variables, the impact of individual income relative deprivation on normal sleep duration (7–9 h) decreased compared with model 1, but it was still significant at the level of 5%. After adding the control variable, the probability of having normal sleep duration (7–9 h) decreased by 22.8% for each unit of increase in people's income relative deprivation. The control variables basically display the direction symbols consistent with the expectation. At the individual level, men, rural residents, individuals with partners, individuals with low education and individuals with poor health are accompanied by short or long sleep duration. At the family level, there is a significant negative correlation between family net income and having normal sleep duration, and the total real estate value of the family has a positive impact on having normal sleep duration (7–9 h). Compared with model 1, r2 increases from 0.001 to 0.014 after adding control variables, which shows that the goodness of fit of model 2 is significantly improved, fully reflecting the rationality of model selection. This conclusion supports hypothesis 1 of the text.

TABLE 2 Correlation between income relative deprivation and rationality of sleep duration.

Explanatory variable	Model 1 Marginal effect	Model 2 Marginal effect
Kakwani	−0.278***	−0.228**
	(−3.35)	(−2.46)
Gender		−0.031***
		(−3.04)
Hukou		0.029**
		(2.45)
Marriage		−0.024*
		(−1.91)
Edu		0.089***
		(6.79)
Health		0.027***
		(6.28)
Cpc		0.027
		(0.76)
Hproperty		−0.003
		(−0.25)
Nhouse		−0.007
		(−0.54)
Sfamily		0.003
		(0.94)
ln_fincome		−0.015*
		(−1.67)
ln_fhousem		0.011***
		(2.60)
re_ln_fincome		−0.307
		(−0.77)
Regional fixed effect	No	Yes
_cons	0.651***	10.953
	(34.52)	(0.80)
N	8650	8650
r2	0.001	0.014

*$p < 0.1$; **$p < 0.05$; ***$p < 0.001$.

Endogenous problem

In order to deal with the possible endogenous problem of income relative deprivation, we re-estimated the regression results of Probit model by instrumental variable method IV Probit. After controlling other variables, Table 3 presents the results of re-estimation of the model, in which the second column is the estimation results of the first stage and the third column is the estimation results of the second stage. After estimating the model, we tested whether the instrumental variable "average individual income relative deprivation index of the same village/residence" has the problem of weak instrumental variables. The results show that in the first stage, f = 337.05, far greater than 10. The relationship between instrumental variables and explanatory variables is significant at the level of 1%. Therefore, it can be determined that there is a significant strong correlation between instrumental variables and explanatory variables. At the same time, according to

TABLE 3 Instrumental variable estimation results.

Variable name	IV Probit	
	First-stage	Two-step
Mkakwani	0.824***	
	(43.80)	
Kakwani		−1.401**
		(−2.10)
_cons	0.246	12.225
	(0.54)	(0.89)
Control variable	Yes	Yes
Wald		4.39**
AR		4.39**
F	337.05	
r2	0.353	
N	8650	8650

**$p < 0.05$; ***$p < 0.001$.

the previous theoretical assumptions, it is difficult to establish a correlation between the average individual income relative deprivation index of the same village/residence and the sleep duration. And in our data analysis results, it also shows that there is no correlation between them. In this sense, we believe that "relative deprivation of average individual income in the same village/residence" is a reasonable instrumental variable. This is also confirmed by the estimation results in Table 3. The estimation results of the first stage show that "relative deprivation of average individual income in the same village / residence" has a significant positive impact on the explanatory variable "individual income relative deprivation". In the first stage, the goodness of fit of the model is ideal. The results of the second stage show that after we use the instrumental variable method to re-estimate the model, the higher the income relative deprivation, the lower the probability of having normal sleep duration. The relationship is significant at the 5% level, and the correlation estimation coefficient of the model does not change much. At the same time, Wald and Ar are both significant at the 1% level, indicating that the instrumental variables selected in this paper are not weak instrumental variables. Compared with Probit model, the result of re-estimation by instrumental variable method is more accurate and reliable. For the control variables of the model, the estimation results are basically consistent with those of Probit model, which will not be repeated here.

Robustness check

The above results show that there is a significant causal relationship between individual income relative deprivation and their sleep duration. With the increase of individual income relative deprivation, their probability of having a normal sleep duration will be reduced. In order to further test the robustness of the estimation results, we use three methods: changing independent variable, changing dependent variable, and changing models.

First, change independent variable. In Probit model, we measured the relative deprivation index of income through the annual wage income of individuals. Some studies have shown that income depends not only on individual labor market returns but also on family intergenerational assets transmission. Family assets is an important reason for individual income gap, it is particularly evident in China (Yi et al., 2017). In order to more accurately identify the impact of income relative deprivation on individual sleep duration, we change the unit of explanatory variable from individual to family, and measure the income relative deprivation index with family assets. In CFPS2018, the variables related to family assets include household durable goods consumption, total household agricultural machinery, household cash and deposits, household time deposits, and the total value of household financial products. After combining these five variables, the relative deprivation index of family assets is obtained. The instrumental variable method is used to re-estimate the model, and the results in the first column of Table 4 are obtained. The results show that when other variables are controlled, there is still a significant correlation between the relative deprivation of family assets and the sleep duration. The higher the relative deprivation of family assets, the lower the probability of having a normal sleep duration.

Second, change-dependent variable. Since the schedule of working days can better reflect the routine life state of individuals, we set up the sleep duration of working days as the explained variable in Probit model. However, some studies have suggested that because the state of individuals on working days is continuous, the sleep duration on rest days can also reflect their daily state (Akay et al., 2019). Therefore, we combine the sleep duration on rest days with the sleep duration on working days to obtain the individual's total sleep duration as a new explained variable. The instrumental variable method is used to re-estimate the model, and the results in the second column of Table 4 are obtained. The results show that when other variables are controlled, individual income relative deprivation still has an impact on their sleep duration. The higher people's income relative deprivation, the lower their probability of having normal sleep duration.

Third, change the model. Since the self-explanatory variable sleep duration is a binary dummy variable, the Probit model is selected as the main model in this paper. However, not only Probit model can deal with binary dummy variables but also Logit model can carry out regression analysis on such data. Therefore, we changed the model to Logit model for regression analysis, and obtained the results in the third column of Table 4. The results showed that when other variables were controlled, the individual income

relative deprivation is still significantly negatively correlated with the sleep duration. The higher people's income relative deprivation, the lower their probability of having normal sleep duration. This is consistent with the conclusion of Probit model.

Heterogeneity analysis

In order to investigate the conditions under which individual income relative deprivation will affect sleep duration, we conducted a heterogeneity analysis on the sample. **Table 5** presents the heterogeneity analysis results of the impact of individual income relative deprivation on sleep duration. First, after controlling for other variables, only when individuals are in eastern China, relative income deprivation is not conducive to individuals having normal sleep duration. Whereas in Western and central China, the effect of income relative deprivation on the sleep duration disappears. With economic development, China's regional development gap is widening. The economic development level of the western and central regions is lower than that of the eastern region, and the per capita income of the central and western regions is significantly lower than that of the eastern region. The heterogeneity of per capita income in the eastern region is significantly higher than that in the central and western regions (Chaofang, 2012). Therefore, compared with the central and western regions, individuals in the eastern region will have a more obvious sense of income relative deprivation, which directly has a negative impact on the individuals having normal sleep duration. Second, after controlling for other variables, when respondents have partners, relative income deprivation is not conducive to individuals having normal sleep duration. The correlation between income relative deprivation and sleep duration disappeared when respondents had no partners. Studies have pointed out that when people get married or have a partner, they will be forced to have a stronger sense of responsibility and bear more pressure than when they are single (Xiaodong, 2020). Stress is not conducive to individuals falling asleep normally. Third, after controlling for other variables, when the respondent's family owns two or more houses, relative income deprivation is not conducive to individuals having normal sleep duration. The correlation between relative income deprivation and sleep duration disappeared when respondents had only one house or no house. Some studies have pointed out that the increase of the number of houses will promote the risk investment of families. The increase of risk investment will increase the stress level of individuals and families, and then have a negative impact on having normal sleep duration (Kerdrain, 2011). It should be pointed out that in China, due to the huge differences in regional economic development, there

TABLE 4 Robustness check results.

Variable name	Model 1	Model 2	Model 3
	Replace independent variable	Replace dependent variable	Replace model
Fkakwani	−6.912***		
	(−3.69)		
Kakwani		−1.107*	−1.044**
		(−1.65)	(−2.13)
_cons	−8.336	29.199**	12.988
	(−0.63)	(2.17)	(0.55)
Control variable	Yes	Yes	Yes
N	8127	8117	8117

*$p < 0.1$; **$p < 0.05$; ***$p < 0.001$.

TABLE 5 Heterogeneity analysis results.

Variable name	Region			Marriage		Nhouse	
	West	Central	East	Have a partner	No partner	Two or more houses	No
Kakwani	−0.673	−0.787	−2.294**	−1.523**	−0.913	−2.525*	−1.090
	(−0.46)	(−0.67)	(−2.36)	(−1.99)	(−0.64)	(-1.86)	(−1.42)
_cons	0.306	1.135	0.703	3.776	51.206	−23.847	22.406
	(0.39)	(1.48)	(1.33)	(0.25)	(1.61)	(−0.82)	(1.43)
Control variable	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	2133	2405	4112	6764	1886	2046	6604

*$p < 0.1$; **$p < 0.05$; ***$p < 0.001$.

are great differences in housing value, quantity, area, and quality. The housing unit price in underdeveloped rural areas is far lower than that in developed cities. Therefore, the large number of family houses does not mean that the total value of houses is also high. This explains why the negative impact of the number of houses in the heterogeneity analysis is different from the positive impact of the total value of real estate in the Probit model.

Mechanism

Why does the lower income relative deprivation make people sleep more normally? In order to answer this question, this paper further analyzes the potential mediating mechanism that income relative deprivation may affect the change of sleep duration. Specifically, this paper constructs a mediation model through Mplus: income relative deprivation – social trust – sleep duration, and uses the bias correction percentile Bootstrap method to test the mediation effect. It can be seen from **Figure 1** and **Table 6** that social trust as an intermediary variable is effectively supported by data, and the total effect, direct effect and indirect effect are also statistically significant. The confidence interval of the total effect of income relative deprivation on sleep duration was (−1.243, −0.142), excluding 0, indicating that the total effect was significant. On the basis of controlling other variables, the confidence interval of the direct effect of income relative deprivation on sleep duration is (−1.136, −0.058), excluding 0, indicating that the direct effect is significant. The indirect confidence interval of income relative deprivation on sleep duration and hunger is (−0.008, −0.002), excluding 0, indicating that the indirect effect is significant. The path of intermediary effect can be understood as: the effect of income relative deprivation on social trust is −0.617, which is significant at the level of 0.05. The effect of social trust on sleep duration was −0.076, which was significant at 0.001 level. The effect of income relative deprivation on sleep duration is −0693, which is significant at the level of 0.05. To sum up, we believe that social trust is an important influence mechanism to explain the relationship between income relative deprivation and sleep duration. The income relative deprivation has a negative impact on the normal sleep duration by negatively affecting the social trust of individuals. This conclusion supports hypothesis 2 of the text.

Conclusion

This paper argues that in the context of the increasingly serious gap between the rich and the poor and the widespread lack of sleep in China, the individual income relative deprivation is the key factor affecting their inability to maintain normal sleep duration. Based on this, this paper uses the data of CFPS2018 to analyze the relationship between individual income relative deprivation and whether they can have normal sleep duration, and explores the mechanism. After a systematic review of previous relevant literature studies, we proposed two hypotheses for this study.

First, in order to answer the question of Hypothesis 1 "There is a negative correlation between income relative deprivation and whether normal sleep duration can be maintained. The higher the degree of income relative deprivation, the more difficult it is to maintain normal sleep duration; on the contrary, the lower the income relative deprivation, the easier it is to maintain normal sleep duration." Based on the requirements of data types, we set the Probit model as the main model of this study. The results of Probit model show that there is a significant negative correlation between income relative deprivation and whether or not they have normal sleep duration. That is, the probability of normal sleep duration decreases by 22.8% for each unit of income relative deprivation. This conclusion is still valid after the endogenous problem is overcome and the model is re estimated using the instrumental variable method.

Second, in order to answer the question of Hypothesis 2 "Social trust is a mediator between income relative deprivation and whether normal sleep duration can be maintained. The income relative deprivation affects their sleep duration by

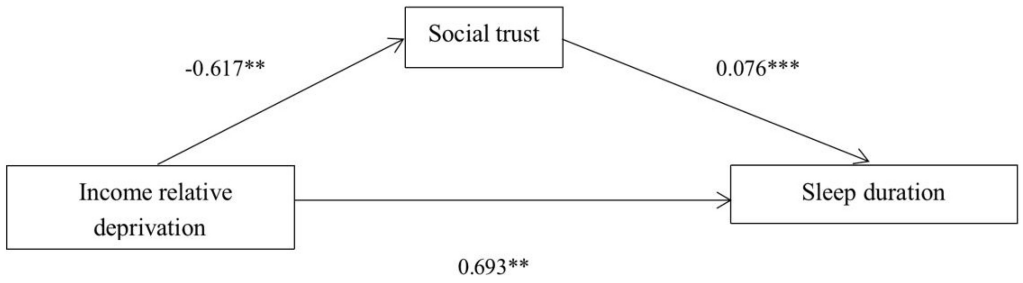


FIGURE 1
Mediation model of social trust. *$p < 0.1$; **$p < 0.05$; ***$p < 0.001$.

TABLE 6 Analysis results of mediating effect.

Effect value	Effect quantity	Bootstrap 95% confidence interval
Total effect	−0.693**	(−1.243, −0.142)
Direct effect	−0.617**	(−1.136, −0.058)
Indirect effect	−0.076***	(−0.008, −0.002)

**$p < 0.05$; ***$p < 0.001$.

affecting their social trust," this study constructed a mediation model through Mplus: income relative deprivation – social trust – sleep duration. And the bias correction percentile Bootstrap method is used to test the mediation effect. The results of intermediary analysis show that social trust is an important mechanism to explain the relationship between income relative deprivation and sleep duration. The income relative deprivation has a negative impact on the normal sleep duration by negatively affecting the social trust of individuals.

Third, in addition, this paper also uses three methods to test the robustness of the model: change the dependent variable, change the independent variable, and change the model, the conclusion is still stable. On the basis of instrumental variable method, the heterogeneity analysis is further carried out. The results show that the negative impact of income relative deprivation on sleep duration is only significant in eastern China, married people and groups with more than two properties. The above conclusions prove the role of income relative deprivation in maintaining normal sleep duration, and provide empirical evidence to support the adverse effects of income relative deprivation on individual normal sleep duration.

Discussion

On the basis of combing the previous relevant literature, this study conducted an empirical analysis on the income relative deprivation and sleep duration of individuals. Previous studies on factors affecting sleep duration focused on the biomedical field, and many clinical medical research evidences fully endowed the health significance of sleep duration. However, we cannot ignore the social impact on individual behavior. The time when individuals fall asleep, wake up, and their sleep duration is determined by complex social processes. In the modern society with rapid social development, sleep problem is not only a physiological problem but also a social problem. For a long time, people believed that economic growth would bring about an increase in the income of social members and improve their living standards. However, more evidence shows that economic growth plays a stronger role in promoting the income growth of high-income groups and will exacerbate income inequality. Compared with high-income groups, low-income groups have greater psychological pressure, stronger sense of social deprivation and loss of control in life (Kim and Dimsdale, 2007; Ellaway et al., 2011). Low-income groups, out of concern about their income, will sacrifice their sleep time to obtain further education or training to increase their income potential. Or they may increase their leisure time to compensate for the loss due to low income. It can be seen that the polarization between rich and poor and income inequality brought about by economic development are not conducive to the healthy development of the whole society, and the resulting income relative deprivation will seriously affect people's sleep duration.

Theoretical implications

After studying the existing relevant literature, we found that there were few social studies on sleep duration. Moreover, most studies on income inequality are based on a macro-perspective and measured with Gini coefficient, which means that different social members will have the same negative feelings when facing income inequality, but this is obviously unscientific (Guoqiang et al., 2017). Lack of research is on relative deprivation of income from the micro-individual level. Sleep duration is affected by different social roles and social relationships of individuals (Meadows, 2005). Living in poverty may bring challenges to social relationships and social roles, thus reducing the possibility of individuals maintaining normal sleep duration. Therefore, different individuals have different perceptions of inequality when facing the income gap. From the perspective of relative income deprivation at the micro-individual level, this study uses empirical research to explore the impact of income inequality at the micro-level on sleep duration. To some extent, it makes up for the theoretical vacancy of the current theme.

Practical implications

The rapid development of China's economy has brought about serious social polarization between the rich and the poor. At the same time, the fierce social competition has also seriously affected the sleep of social members, and insufficient sleep has become a common social phenomenon. Therefore, we should give sufficient social attention to sleep duration, and it is of great practical significance to understand the factors that affect keeping normal sleep duration. According to the results of this study, we put forward the following two suggestions. First, we need to improve the income level of low-income groups and narrow the gap between the rich and the poor. The empirical results of this paper show that with the deepening of the income relative deprivation, the probability of people keeping normal sleep duration is lower. Therefore, it is very

important to improve the income level of low-income groups and narrow the gap between rich and poor. Second, improve the social psychological counseling mechanism, alleviate social conflicts, and promote the establishment of a good relationship of trust between people. Our empirical study found that social trust is an important mechanism for income relative deprivation to affect individual sleep duration. The increasing income relative deprivation has a negative impact on the trust relationship between people, which is not conducive to maintaining normal sleep duration.

Limitations and future research

This study has the following limitations, which can be further addressed in future research. First of all, due to the influence of many practical factors, this study uses cross-sectional data to study, which cannot dynamically reflect the relationship between income relative deprivation and sleep duration. In the future research, we should consider the longitudinal data analysis for many years to explore the longitudinal impact of the time change of income relative deprivation on people's sleep duration. Second, because CFPS2018 data are adopted, the data are defined as wage income according to personal net income. Under the restriction of data conditions, we can only choose individual wage income as the index to calculate the relative deprivation of individual income, and cannot include other income except wage income. In future research, multiple databases should be merged to measure and calculate the income of social members more comprehensively. Third, because of the relative deprivation index of income in this study is measured by wage income, the sample is limited to the group with jobs, and many samples without jobs but with flexible income are eliminated, resulting in a small sample size. In future research, we should enrich the existing database, continue to expand the sample size, and make the research results more representative and generalizable.

Data availability statement

The original contributions presented in this study are included in the article/supplementary material, further inquiries can be directed to the corresponding authors.

Author contributions

ZP: conceptualization, methodology, software, data curation, writing – original draft preparation, and review and editing. LW: supervision, investigation, project administration, and funding acquisition. Both authors contributed to the article and approved the submitted version.

Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

Publisher's note

References

Adjaye-Gbewonyo, K., and Kawachi, I. (2012). Use of the yitzhaki index as a test of relative deprivation. for health outcomes: A review of recent literature. *Soc. Sci. Med.* 75, 129–137. doi: 10.1016/j.socscimed.2012.03.004

Adler, N. E., and Ostrove, J. M. (1999). Socioeconomic status and health: What we know and what we don't. *Soioeconomic Status Health Ind. Nations* 896, 3–15. doi: 10.1111/j.1749-6632.1999.tb08101.x

Akay, A., Martinsson, P., and Ralsmark, H. (2019). Relative concerns and sleep behavior. *Econ. Hum. Biol.* 33, 1–14. doi: 10.1016/j.ehb.2018.12.002

Akay, A., Martinsson, P., Ralsmark, H. (2018). Relative concerns and sleep behavior. *Econ. Hum. Biol.* 33, 1–14. doi: 10.1016/j.ehb.2018.12.002

Ancoliisrael, S., Kripke, D. F., Klauber, M. R., Mason, W. J., Fell, R., and Kaplan, O. (1991). Periodic limb movements in sleep in community-dwelling elderly. *Sleep* 14, 496–500. doi: 10.1093/sleep/14.6.496

Bai, R., and Luo, L. (2014). Correlation between income inequality and social trust: An empirical test based on quantitative analysis. *J. Wuhan Univ.* 67, 15–19.

Barber, L., Grawitch, M. J., and Munz, D. C. (2013). Are better sleepers more engaged workers? A Self-regulatory approach to sleep hygiene and work engagement. *Stress Health* 29, 307–316. doi: 10.1002/smi.2468

Basta, M., Chrousos, G. P., Velabueno, A., and Vgontzas, A. N. (2007). Chronic insomnia and stress system. *Sleep Med. Clin.* 2:279. doi: 10.1016/j.jsmc.2007.04.002

Bliwise, D. L. (1996). Historical change in the report of daytime fatigue. *Sleep* 19, 462–464. doi: 10.1093/sleep/19.6.462

Brehm, J., and Rahn, W. (1997). Individual-level evidence for the causes and consequences of social capital. *Am. J. Polit. Sci.* 41, 999–1023. doi: 10.2307/2111684

Burgard, S. A. (2011). The needs of others: Gender and sleep interruptions for caregivers. *Soc. Forces* 89, 1189–1215. doi: 10.1093/sf/89.4.1189

Cappuccio, F. P., D'Elia, L., Strazzullo, P., and Miller, M. A. (2010). Quantity and quality of sleep and incidence of type 2 diabetes a systematic review and meta-analysis. *Diabetes Care* 33, 414–420. doi: 10.2337/dc09-1124

Chaofang, L. (2012). Regional economic differences, enterprise organizational changes and environmental accounting information disclosure – empirical data from pollution industry in Shanghai stock market of China in 2009. *Audit Econ. Res.* 27, 68–78.

Chien, K. L., Chen, P. C., Hsu, H. C., Su, T. C., Sung, F. C., Chen, M. F., et al. (2010). Habitual sleep duration and insomnia and the risk of cardiovascular events and all-cause death: Report from a community-based cohort. *Sleep* 33, 177–184. doi: 10.1093/sleep/33.2.177

Christa, M., Margit, H., Hannelore, L., Schneider, A., and Döring, A. (2007). Sleep duration and sleep complaints and risk of myocardial infarction in middle-aged men and women from the general population: The MONICA/KORA Augsburg cohort study. *Sleep* 9, 1121–1127. doi: 10.1093/sleep/30.9.1121

Crimmins, E. M., Kim, J. K., and Seeman, T. E. (2009). Poverty and biological risk: The earlier "Aging" of the Poor. *J. Gerontol.* 64, 286–292. doi: 10.1093/gerona/gln010

Deaton, A. (2001). Health, inequality, and economic development. *J. Econ. Lit.* 41, 113–158. doi: 10.1257/jel.41.1.113

Dinges, D., Fomberstein, K., William, J., and Banks, S. (2006). Waking activities associated with reduced sleep time. *Sleep* 29:408.

Eibner, C., and Evans, W. (2005). Relative deprivation. Poor health habits and mortality. *J. Hum. Res.* 40, 591–620. doi: 10.1016/s0033-3506(05)80087-3

Eliana, L. F., and Alesina, A. F. (2000). Participation in heterogeneous communities. *Work. Pap.* 115, 847–904. doi: 10.1162/003355300554935

Ellaway, A., Benzeval, M., Green, M., Leyland, A., and Macintyre, S. (2011). "Getting sicker quicker": Does living in a more deprived neighbourhood mean your health deteriorates faster? *Health Place* 18, 132–137. doi: 10.1016/j.healthplace.2011.08.005

Fan, J., Ding, C., Gong, W., Yuan, F., Zhang, Y., Feng, G., et al. (2020). Association of sleep duration and overweight/obesity among children in China. *Int. J. Environ. Res. Public Health* 17:1962. doi: 10.3390/ijerph17061962

Freitag, M., and Buhlmann, M. (2009). Crafting trust : The role of political institutionsin a comparative perspective. *Comp. Polit. Stud.* 42, 1537–1566. doi: 10.1177/0010414009332151

Genderson, M. R., Rana, B. K., Panizzon, M. S., Grant, MD., Toomey, R., Jacobson, KC. et al. (2014). Genetic and environmental influences on sleep quality in middle-aged men: A twin study. *J. Sleep Res.* 22, 519–526. doi: 10.1111/jsr.12048

Guangjun, S., and Chuanchuan, Z. (2016). Income gap, social differentiation and social trust. *Comparison Econ. Soc. Syst.* 01, 121–136.

Gunasekara, F. I., Carter, K. N., Crampton, P., and Blakely, T. (2013). Income and individual deprivation as predictors of health over time. *Int. J. Public Health* 58, 501–511. doi: 10.1007/s00038-013-0450-9

Guoqiang, R., Yun, H., and Yunbo, Z. (2017). How does individual income deprivation affect the health of urban residents—— Empirical research based on CFPS urban panel data. *Econ. Sci.* 77–93.

Hardie, J. H., and Lucas, A. (2010). Economic factors and relationship quality among young couples: Comparing cohabitation and marriage. *J. Marriage Fam.* 72, 1141–1154. doi: 10.1111/j.1741-3737.2010.00755.x

Heslop, P., Smith, G. D., Metcalfe, C., Macleod, J., and Hart, C. (2002). Sleep duration and mortality: The effect of short or long sleep duration on cardiovascular and all-cause mortality in working men and women. *Sleep Med.* 3, 305–314. doi: 10.1016/S1389-9457(02)00016-3

Hirshkowitz, M., Whiton, K., Albert, S. M., Alessi, C., Bruni, O., DonCarlos, L., et al. (2015). National Sleep Foundation's sleep time duration recommendations: Methodology and results summary. *Sleep Health* 1, 40–43. doi: 10.1016/j.sleh.2014.12.010

Jiawen, H. (2016). Study on the impact of income inequality on Chinese residents' well-being and its mechanism. *Society* 36, 123–145.

Kakwani, N. (1984). The relative deprivation curve and its applications. *J. Bus. Econ. Stat.* 2, 396–397. doi: 10.2307/1391280

Kawachi, I., Kennedy, B. P., Lochner, K., and Prothrow-Stith, D. (1997). Social capital, income inequality, and mortality. *Am. J. Public Health* 87, 1491–1498. doi: 10.2105/AJPH.87.9.1491

Kerdrain, C. (2011). How important is wealth for explaining household consumption over the recent crisis: An empirical study for the united states, japan and the Euro area. *OECD Econ. Dep. Work. Pap.* 5, 365–391.

Kerstedt, T. (2006). Psychosocial stress and impaired sleep. *Scand. J. Work Environ. Health* 32, 493–501. doi: 10.5271/sjweh.1054

Kim, E. J., and Dimsdale, J. E. (2007). The effect of psychosocial stress on sleep: A review of polysomnographic evidence. *Behav. Sleep Med.* 5, 256–278. doi: 10.1080/15402000701557383

Lauderdale, D. S., Knutson, K. L., Yan, L. L., Rathouz, P. J., Hulley, S. B., Sidney, S., et al. (2006). Objectively measured sleep characteristics among early-middle-aged adults: The CARDIA study. *Am. J. Epidemiol.* 164, 5–16. doi: P10.1093/aje/kwj199

Lutfey, K., and Freese, J. (2005). Toward some fundamentals of fundamental causality: Socioeconomic status and health in the routine clinic visit for diabetes. *Am. J. Sociol.* 110, 1326–1372. doi: 10.1086/428914

Mangyo, E., and Park, A. (2011). Relative deprivation and health. *J. Hum. Res.* 46, 459–481. doi: 10.3368/jhr.46.3.459

Meadows, R. (2005). The 'negotiated night': An embodied conceptual framework for the sociological study of sleep. *Sociol. Rev.* 53, 240–254.

Mikucka, M., Sarracino, F., and Dubrow, J. K. (2017). When does economic growth improve life satisfaction? Multilevel analysis of the roles of social trust and income inequality in 46 countries, 1981–2012. *World Dev.* 93, 447–459. doi: 10.1016/j.worlddev.2017.01.002

Peltzer, K., and Pengpid, S. (2017). Sleep duration, sleep quality, body mass index, and waist circumference among young adults from 24 low- and middle-income and two high-income countries. *International J. Environ. Res. Puclic Health* 14:566. doi: 10.3390/ijerph14060566

Ren, Y., Liu, Y. W., and Meng, T. Y. (2019). Social-biological influences on sleep duration among adult residents of Northeastern China. *Health Qual. Life Outcomes* 17:47. doi: 10.1186/s12955-019-1111-3

Runciman, W. G. (1966). *Relative deprivation and social justice: study attitudes social inequality in 20th century England*. Berkeley, CA: University of California Press.

Sato, Y., Aida, J., Tsuboya, T., Shirai, K., Koyama, S., Matsuyama, Y., et al. (2018). Generalized and particularized trust for health between urban and rural residents in Japan: A cohort study from the JAGES project. *Soc. Sci. Med.* 202, 43–53. doi: 10.1016/j.socscimed.2018.02.015

Saura, J. R., Palacios-Marqués, D., and Iturricha-Fernández, A. (2021). Ethical design in social media: Assessing the main performance measurements of user online behavior modification. *J. Bus. Res.* 129, 271–281. doi: 10.1016/j.jbusres.2021.03.001

Stamatakis, K. A., Kaplan, G. A., and Roberts, R. E. (2007). Short sleep duration across income, education, and race/ethnic groups: Population prevalence and growing disparities during 34 years of follow-Up. *Ann. Epidemiol.* 17, 948–955. doi: 10.1016/j.annepidem.2007.07.096

Steptoe, A. (2006). Sleep duration and health in young adults. *Arch. Int. Med.* 166, 1689–1692. doi: 10.1001/archinte.166.16.1689

Stewart, J. C., Rand, K. L., Hawkins, M., and Stines, J. A. (2011). Associations of the shared and unique aspects of positive and negative emotional factors with sleep quality. *Pers. Individ. Differ.* 50, 609–614.

Stranges, S., Dorn, J., Shipley, M., Kandala, N. B., Trevisan, M., Miller, M. A., et al. (2008). Correlates of short and long sleep duration: A cross-cultural comparison between the United Kingdom and the United States: The whitehall ii study and the Western New York health study. *Am. J. Epidemiol.* 168:1353. doi: 10.1093/aje/kwn337

Sugawara, Y., Tomata, Y., Sekiguchi, T., Yabe, Y., Hagiwara, Y., Tsuji, I., et al. (2020). Social trust predicts sleep disorder at 6 years after the Great East Japan earthquake: Data from a prospective cohort study. *BMC Psychol.* 8:69.

Thomsen, D. K., Mehlsen, M. Y., Christensen, S., and Zachariae, R. (2003). Rumination - relationship with negative mood and sleep quality. *Pers. Individ Differ.* 34, 1293–1301. doi: 10.1016/S0191-8869(02)00120-4

Townsend, P. (1979). *Poverty in the United Kingdom*. Harmondsworth: Penguin Books. doi: 10.1525/9780520325760

Uslaner, E. M. (2005). Inequality, Trust, and Civic Engagement. *Am. Polit. Res.* 33, 868–894. doi: 10.1177/1532673X04271903

Van Cauter, E., and Knutson, K. L. (2008). Sleep and the epidemic of obesity in children and adults. *Eur. J. Endocrinol.* 159, S59–S66. doi: 10.1530/EJE-08-0298

Vgontzas, A. N., Lin, H. M., Papaliaga, M., Calhoun, S., Vela-Bueno, A., Chrousos, G. P., et al. (2008). Short sleep duration and obesity: The role of emotional stress and sleep disturbances. *Int. J. Obes.* 32, 801–809.

Wilkinson, R. G. (1996). *Unhealthy societies: The afflictions of inequality*. London: Routledge.

Xiaodong, C. (2020). Starting a family before starting a career: Does "starting a family" affect "starting a career"—— Empirical Analysis on the influence of marriage on male entrepreneurial behavior in China. *Popul. Dev.* 26, 118–128+71.

Yan, L., Xiaoxuan, L., and Jilei, W. (2020). Effect of sleep duration on self-rated health and its age difference. *Popul. Dev.* 26:9.

Yan, Y. W., Lin, R. M., Su, Y. K., and Liu, M. Y. (2018). The relationship between adolescent academic stress and sleep quality: A multiple mediation model. *Soc. Behav. Pers. Int. J.* 46, 63–78.

Yi, L., Zhizhi, L., and Zhixiang, G. (2017). Marriage matching, intergenerational mobility and individual income tax reform of family model. *Manag. world* 9, 60–72.

Yiwei, L. (2018). The impact of income inequality on local government trust and its mechanism analysis. *Exploration* 38–47. doi: 10.1186/s12913-021-07016-9

Yu, X., Jingwei, H., and Chunni, Z. (2014). Chinese family tracking survey: Concept and practice. *Society* 34, 1–32.

Yueqiu, H., Jin, L., Enze, W., and Yuqi, T. (2022). Effect of sleep quality on family risk asset allocation. *Northwest Popul.* 43, 38–50.

frontiers | Frontiers in Psychology

TYPE Original Research
PUBLISHED 20 December 2022
DOI 10.3389/fpsyg.2022.1070609

OPEN ACCESS

EDITED BY
Anna Włodarczyk,
Catholic University of the North, Chile

REVIEWED BY
María José Mera-Lemp,
Universidad Santo Tomás, Chile
Víctor Eusebio Montero López,
Universidad Nacional Mayor de San Marcos, Peru
Gisela Isabel Delfino,
Comillas Pontifical University, Spain

*CORRESPONDENCE
Agustin Espinosa
agustin.espinosa@pucp.pe

SPECIALTY SECTION
This article was submitted to Personality and Social Psychology, a section of the journal Frontiers in Psychology

RECEIVED 15 October 2022
ACCEPTED 09 November 2022
PUBLISHED 20 December 2022

CITATION
Espinosa A, Janos E, Pacheco M, Juárez J and Chaparro H (2022) Populism in Peru: Populist attitudes and perception of the populist offer and its relationship with political cynicism and attitudes toward democracy.
Front. Psychol. 13:1070609.
doi: 10.3389/fpsyg.2022.1070609

Populism in Peru: Populist attitudes and perception of the populist offer and its relationship with political cynicism and attitudes toward democracy

Agustin Espinosa[1]*, Erika Janos[1], Manuel Pacheco[1], Juan Juárez[2] and Hernán Chaparro[3]

[1]Departamento de Psicología, Pontificia Universidad Católica del Perú, Lima, Peru, [2]Departamento de Humanidades y Ciencias Sociales, Universidad Nacional de San Martín, Tarapoto, Peru, [3]Facultad de Comunicación, Universidad de Lima, Lima, Peru

Populism is a phenomenon that is gaining attention in Political Psychology. The goal of the current study was to determine the relationship between populist attitudes, based on the populist demand and the perception of the populist offer, and several indices of political cynicism and attitudes toward democracy in Peru. To do this, a quantitative correlational study including 391 participants from diverse Peruvian locations was carried out. Both populist attitudes and critical perception of the populist offer are found to be directly related to Political Cynicism in its dimensions of Political Distrust, Political Hopelessness, and Political Moral Laxity, and inversely related to the dimension of Political System Change. Similarly, both dimensions of populism are directly related to Democratic Support and inversely related to Democratic Satisfaction. The findings support the notion that populist attitudes emerge in the context of distrust of the system and express an ambivalent relationship with democracy. Furthermore, the various approaches developed by the social sciences to address the populist phenomenon are discussed in terms of their strengths and limitations.

KEYWORDS

attitudes toward democracy, populist attitudes, political cynicism, perception of populist offer, Peru

Introduction

Populism is a symptom of a contingent relationship between political power and the need-or intention-of the masses to democratize, in a broad sense, the society. From this perspective, populism is constituted in the search for a supposed democratic constitution of power based on political decisions whose origin should be located in the masses (Villacañas, 2017; p. 17). The first aspect to highlight is that the idea of masses expressed lines before corresponds to a diffuse representation of the people, an entity that will be one

of the central elements in the different approaches on the subject of populism. In this scenario, populism can be defined as a form of political action, as well as a form of government, which seeks to gain or maintain political power, based on popular adhesion and loyalty (Villacañas, 2017; p. 18).

Currently, one of the most widespread and widely used approaches in the study of populism is known as the ideational approach (Mudde, 2004; Mudde and Rovira Kaltwasser, 2017). From this approach, it is proposed that populism is a thin ideology, whose discourse confronts in a Manichean way, a representation of the people, as an idealized moral entity, before a corrupt elite, from whose actions arise the problems that the people go through. Because populism seems to adhere to other forms of full ideologies like nationalism or conservatism, among others, the idea of populism as a thin ideology is proposed (Mudde, 2004; Mudde and Rovira Kaltwasser, 2013; de La Torre, 2018; Hunger and Paxton, 2021). The aforesaid produces populisms of various political spectrums to form and manifest themselves, some of which are antagonistic to one another (Mudde and Rovira Kaltwasser, 2013; Rooduijn and Akkerman, 2017).

From an academic perspective, the ideational approach has proven useful, conceptually and methodologically, by introducing three discursive elements presented as necessary and sufficient to understand any expression of the populist phenomenon: (1) a noble people constantly exalted, (2) a corrupt elite frequently reviled, and (3) the idea that a true democracy emanates from the popular will (Mudde, 2004; Aslanidis, 2016; Mudde and Rovira Kaltwasser, 2017; Hawkins and Rovira Kaltwasser, 2017a). However, the attempt to represent populism as a thin ideology is open to a major conceptual problem, since when speaking of ideology, the notion of thinness is spurious and, in the examples proposed by those who support this approach, thin ideology entails a lack of centrality and coherence that is inconsistent with classical approaches to ideology from the social sciences (Feldman, 2013; Aslanidis, 2016).

Alternatively, to the ideational approach, the study of populism has also gone through representations of populism as a political strategy or as a discursive framework (Aslanidis, 2016). Populism as a political strategy is related to a personalistic, charismatic, and plebiscitary leadership style, through which, the populist politician builds an identitarian relationship with the people, to attain, or exercise, power based on the direct, unmediated, and non-institutionalized support of a mass of mostly unorganized followers (Weyland, 1999, 2001, 2020). On the other hand, populism as a discursive framework identifies the use of political discourse as a strategy. The contribution of this vision is that, regardless of the specificities of a particular populist project, at a general level the three constitutive elements of populism identified by Mudde and Rovira Kaltwasser (2017) are taken up again, although no longer as an ideology. The populist discursive framework might then be summed up in a discourse that asserts that a "real" democracy results from popular will, making clear the people's moral superiority while confronting it with corrupt elites (Aslanidis, 2016).

It has already been established, in the critique of the ideational approach, that populism as a discursive framework would not constitute an elaborated and complete structure like ideologies; however, the above does not detract from the fact that it can convey coherent meanings in certain communicational situations (Moffitt and Tormey, 2014; Aslanidis, 2016; Moffitt, 2016; Ostiguy, 2020). From a psychosocial perspective, the constitutive elements of populism would comprise an intergroup dynamic where the people would act as an ingroup and the elite as an outgroup (Forgas and Crano, 2021; Stathi and Guerra, 2021). Specifically, the relationship is represented by a discursive strategy that, instead of offering rational or realistic solutions to their followers, depicts the elites as evil enemies of the people, exploiting an animosity deeply rooted in human values and needs (Forgas and Crano, 2021). Thus, populism as a framing process of political information would fulfill a cognitive function that allows people to find schemes and categories to interpret the information they receive from their environment (García Beaudoux and D'Adamo, 2007).

Gross and D'Ambrosio (2004) also point out that the framing of political information affects the emotional responses of people exposed to a message. This statement is derived from the cognitive theories of emotion from Social Psychology, from which it is proposed that evaluative and emotional responses will always be rooted in a cognitive representation of a social context, since people do not usually develop attitudes or experience emotions randomly, but rather these arise as a result of a cognitive evaluation of a given fact or phenomenon (Gross and D'Ambrosio, 2004).

In particular, populism as a discursive framework carries a political message with a particularly potent content to elicit emotional reactions, which, in line with Jerit's (2004) proposal, would allow it to project representations that can consensually result in positive (for example, toward the moral people) or negative (for example, toward the corrupt elite) beliefs and attitudes (Aslanidis, 2016; Spruyt et al., 2021). The discursive strategy will emphasize contents that make salient the identification with the people, as opposed to the elites, to give political meaning to citizen dissatisfaction and demands (Rooduijn et al., 2016; Aslanidis, 2016; de la Torre, 2017; Marchlewska et al., 2018; Busby et al., 2019; Meléndez and Rovira Kaltwasser, 2019; Hawkins et al., 2020; Stathi and Guerra, 2021; Çakal et al., 2022). In conclusion, the populist discursive frame promises certainty and cognitive simplicity to cope with an unfavorable political situation. It also enables the development of a positive identity, a sense of moral superiority, and the promise of a collective solution to the political problem, all of which combine to appeal to its target audience (Forgas and Crano, 2021).

A complementary perspective suggests that populist beliefs and attitudes are the result of a social construction based on the interaction between political offer and citizen demands, which are framed in a context of dissatisfaction and distrust with the (liberal) democratic system (Mudde and Rovira Kaltwasser, 2017; Spruyt et al., 2021). The above has implied that populism is represented as a phenomenon in an ambivalent relationship with democracy;

to some extent because both concepts are juxtaposed in the representation of a government of the people (Forgas and Crano, 2021).

Democracy can be defined in a variety of ways (see Doh, 2007; Hoffman and Graham, 2015), which impacts the ambiguity of its relationship to populism. In this context, Villacañas (2017) points out that populist methods of obtaining or exercising power must in some way be socially democratic, even if they are in conflict with liberal democracy and its values. Emphasizing this tension, Forgas and Crano (2021) indicate that in many liberal democracies there is an increase in the feeling of resentment against the elites, which would be a distinctive feature of populism. These authors add that "the rise of emotional and identity politics is replacing the old norms of rational, analytical and pragmatic decision-making, where consensus and compromise have been supplanted by implacable animosity and tribal hatreds" (Forgas and Crano, 2021; p. 2). Forgas and Crano's (2021) observation is pertinent, but insufficient, as the authors locate the problem of populism as a threat to (liberal) democracy exclusively in the behavior of the mass-or the people-, and in populist politicians. However, they do not seem to pay attention to the contextual conditions that produce such dissatisfaction with, or distrust of, the democratic system in the mass or people (where the demand is situated), nor to the conditions in which a politician-or political movement-emerges to channel such dissatisfaction (where the offer is situated).

In this regard, authors like Inglehart and Welzel (2005) or Dargent (2013) mention the significance of the actions of-political and economic-elites in the development, improvement, or degeneration of democracy in various societies. In this vein, works by authors like Dargent (2013), Stiglitz (2013), or Cañete Alonso (2018) highlight how, over the past few decades, political and economic elites in various countries with varying degrees of democratization have taken control of State institutions and public policies through their economic and/or political power in favor of their class interests, leading to increased poverty and inequality while distorting the fundamentals of a democratic system where the common good should prevail over private interests (Cañete Alonso, 2018). As a result of this behavior of the elites, in Latin America "(t)he supports for democracy as the preferred form of government has been falling, slowly but steadily since 2010; increasing in this region the number of people who feel indifferent to the form of government adopted" (Cañete Alonso, 2018; p. 10).

The beliefs, attitudes, and political behaviors of individuals regarding how they view and exercise their citizenship, as well as how they relate to a political and social system, will be affected by the social, political, and economic characteristics of their society (Chaparro, 2018; Beramendi et al., 2020; Brussino and Alonso, 2021; Imhoff, 2021). In that sense, any discussion of the stability of a political system should focus on the quality of the exercise of governance and authority, based on compliance with transparency, procedural justice, and distributive justice that allow acceptance and trust toward the system by citizens. Then, the legitimacy of a system is constituted as part of a general political climate or culture that is fundamental for the consolidation of democracy (Tyler, 2001, 2006; Brussino and Alonso, 2021).

From the above, it could be concluded that the fundamental issue in the relationship between populism and democracy would not be the citizens' rejection of the latter, as different opinion studies conducted at the international level have shown that, in the societies examined, the majority of people support democracy as a form of government (Inglehart and Welzel, 2005; Doh, 2007). Nevertheless, adherence to populist beliefs and attitudes would be the product of dissatisfaction-and consequent distrust-with the functioning of (liberal) democracy and the expression of its difficulties in responding to the demands of the people (Hawkins and Rovira Kaltwasser, 2017b; Hameleers and de Vreese, 2020). It is in this scenario, where demand for alternative political mechanisms to "truly" democratize society may arise in the citizenry, being there where the populist offer comes into play (see Villacañas, 2017; Meléndez, 2022).

In conclusion, it makes sense to view populist citizen demands as a sign that the (liberal) democratic system is malfunctioning. In this perspective, some populist demands would not be objectionable merely by themselves because they criticize issues that lead to distrust of the system, such as inequality, exclusion, and corruption. However, this does not mean that populism does not pose a threat to democratic regimes when it results in the violation of minority groups' fundamental rights or the dissolution of a State's institutional structure and power structure, among other issues that leave an authoritarian imprint (Mudde, 2004; Mudde and Rovira Kaltwasser, 2017; Villacañas, 2017).

That populism is expressed as a response, both by some politicians and the citizenry, to problematic aspects of liberal democracy (Mudde and Rovira Kaltwasser, 2017); does not mean categorically that distrust in the political system and its representatives are constituted as an exclusive or sufficient feature of it, but it is a relevant element that could predispose to its emergence (Hawkins et al., 2012; Levitsky and Ziblatt, 2018; Meléndez and Rovira Kaltwasser, 2019). Widespread distrust of the political system has been defined in social sciences as political cynicism (Miller, 1974; Siu-kai, 1992). Cynicism as an expression of discredit of the system will produce feelings of indignation, impotence, or hopelessness and a generalized perception that the political system through its actors, institutions, and norms that regulate it, lacks legitimacy for being corrupt or inefficient (Miller, 1974; Siu-kai, 1992). Moreover, as a vicious circle, cynicism will increase in contexts where there is a perceived lack of institutional legitimacy, high levels of corruption, a lack of representation of citizen interests by politicians, perceived lack of distributive and procedural justice, among others (Miller, 1974; Siu-kai, 1992; Beramendi, 2014).

The consequences of political cynicism are considered potentially dangerous for the development of a society, as it mitigates civic and democratic values and attitudes, and tends to reduce citizen participation in the political sphere, as a result of hopelessness or disinterest in public affairs (Patterson, 2002; Chaparro, 2018) and increases citizens' adherence to authoritarian

or populist political positions as forms of opposition to the political system and what it has traditionally represented (Bélanger and Aarts, 2006; Levitsky and Ziblatt, 2018; Çakal et al., 2022). Espinosa et al. (2022c) find in a recent study in 11 Ibero-American countries, that the elements that constitute political cynicism goes beyond political distrust toward the system in general, so it is important to extend its understanding to the perception of corruption present in the system as a specific element on which distrust develops. Likewise, the authors refer that it is important to include in the description of political cynicism the elements of Political Moral Laxity and the Perception of the need for change in the system as possible outcomes of distrust, to the extent that they explain the types of representation and political participation demanded by the citizenry (Espinosa et al., 2022a,c).

The aforementioned suggests that a populist discursive framework could develop from the expressed distrust of the system, where society and its citizens are portrayed in the two groups mentioned above: "the moral people" vs. "the corrupt elites." (Aslanidis, 2016; Mudde and Rovira Kaltwasser, 2017; Çakal et al., 2022). As was previously observed, the previous classification places different identity processes at the core of populist discourse, which is how populist promoting agents attempt to persuade people to support their political objectives (Marchlewska et al., 2018; Stathi and Guerra, 2021; Çakal et al., 2022). This produces an interesting paradox since, on the one hand, identity affiliations to processes of populist nature establish a position where malfunctioning and corruption in the system are perceived as alien to those who adhere to the populist cause. Thus, for example, rhetorics about corruption frame a corrupt and unreliable "other" to whom are attributed, through denunciation, the difficulties that members of the ingroup (the moral people) would be facing (Mudde and Rovira Kaltwasser, 2017; Çakal et al., 2022). However, on the other hand, processes of political, economic, and social crisis where populism emerges, are also often framed by institutional weakening and corruption, which has produced in the citizenry a certain tolerance and acceptance of these problems at the individual and institutional level (see Quiroz, 2013; Levitsky and Ziblatt, 2018).

In Latin America, there is an emergence of various populist and authoritarian political movements, both on the ideological left (for example, Chavismo in Venezuela) and on the ideological right (for example, Bolsonarismo in Brazil), where the hegemonic discourses at the base of such movements refer to a refoundation of the political system with narratives that confront the so-called good citizens-or the moral people-against the corrupt elite (Salinero, 2015; Mudde and Rovira Kaltwasser, 2017; Levitsky and Ziblatt, 2018; Meléndez, 2022). In this scenario, a new paradox arises, since in societies such as those described, a tendency to accept and tolerance toward corrupt practices is often appreciated, incorporating certain moral laxity (Espinosa et al., 2022a,c), which is a potentially dangerous component of political cynicism. Political moral laxity is a condition that is typical of many politicians and political movements linked to discourses of a populist nature, specifically when narratives about the election of candidates with a history or suspicion of corruption are acceptable as long as "they steal but do work" or "they benefit me and my groups," opening the door to prebendary and clientelist political strategies in society (Quiroz, 2013; Sautu, 2014; Schmitz and Espinosa, 2015; Janos et al., 2018). In this regard, López-López et al. (2016, 2017), found in several studies developed in Colombia that attitudes toward corruption do not depend exclusively on the corrupt act or its consequences; rather, the levels of tolerance toward corruption will be related to a set of characteristics of the corrupt actor, from which behavior will be problematized as corruption or not, which will depend on the political and identity affinity that citizens have with whoever performs the corrupt act. This is consistent with the observations of Dargent (2013), who introduces the notion of precarious democrats, attributing it to political elites-and could be extended to their followers-who express different levels of adherence and defense of democracy according to their convenience. They express a strong detachment to it when they are in power and vindicate it when they have to play an opposing role to other politicians in power, which they usually accuse of being undemocratic.

Despite the extensive reference to the concepts of political cynicism and populism in the social sciences, the empirical approach to them, and their relationship, is scarce in social psychology (Feldman, 2013; Çakal et al., 2022) so the present study opens a line of research little explored and original, locally and internationally. The scenario described becomes more interesting because, in the Peruvian context, there has been much discussion about populism and distrust (political cynicism), without going into detail on those elements of Peruvian political culture that explain how the relationship between the two occurs and how it is experienced by the country's citizens, as well as how these phenomena are related to attitudes and satisfaction with democracy, in a scenario of democratic precariousness (Dargent, 2013). Regarding the latter, a recent study by Chaparro et al. (2022), which analyzes which variables predict populist attitudes in Chile, Colombia, and Peru, finds that populist demand at the general level is directly explained by (1) a positive attitude toward pluralism-as demand for social inclusion-, (2) the self-perception of relative deprivation-as a subjective expression of lack of distributive justice-, (3) the political cynicism in its dimensions of generalized distrust, need for change and the perception of corruption; and (4) the perception of poor democratic functioning. While populist attitudes will be inversely related to greater political moral laxity. In other words, populist attitudes, as a citizen demands in the studied countries, are a covariation of different elements perceived as flaws in the functioning of the democratic system, which need to be modified.

On the other hand, Espinosa et al. (2022b), in a qualitative study, investigate how populism and democracy are socially represented in a sample of Peruvian citizens from different regions of the country. The originality of this approach is that it portrays the representation of populism and democracy from ordinary citizens, and not in descriptions coming from academia as those mentioned above. Beginning with the representation of

democracy obtained in the results, it can be seen that this is semantically poor, being associated mainly with electoral behavior and, to a lesser extent, with the representation of an exercise of rights and freedoms or the idea of a government of the people-or the majority-; while populism is represented as a set of strategies to influence the political behavior-mostly electoral behavior-of the people, exploiting their basic needs. From the above, a negative representation of populism emerges, where the masses that express adherence to populist strategies are described as manipulable entities due to their ignorance or disinterest in public affairs. The notion of populism also includes a negative representation of politicians in general-including populist politicians who, through various usually unscrupulous strategies, try to win popular favor. In sum, populism is seen as a negative phenomenon, where the corrupt elites are the politicians-and on very rare occasions the economic elites are mentioned-, where there is no representation of a moral people, but of a people that can be manipulated because of their ignorance, and where, if anything, the only positive aspect is that it is a symptom of issues that need to be resolved within the system (Espinosa et al., 2022b). The above implies that, from an approach of social representations, populism for the citizenry differs from the popular (see Aslanidis, 2016), and its definition is tinged with a negative nuance with which there is no identification. That is, populism is not situated in oneself, but in an "other" that can be manipulated because of its ignorance or because it obtains some benefit from clientelist and prebendary strategies, which implies a negative perception of the populist offer.

The context of the current study is interesting because various analyses of the political reality in Peru indicate a tendency among citizens to view the political system negatively, which has led to mistrust and indifference in public affairs (Chaparro, 2018; Janos et al., 2018). The negative perception of the system appears to be anchored in a variety of phenomena, such as corruption, which appears to be an endemic problem in the country (Quiroz, 2013) and whose representation has gained public attention as various scandals involving political actors from various state powers and political parties have been exposed in the media (Proética, 2019). Recently, the described scenario has also included processes of political polarization promoted by some actors and political groups with the intention of obtaining power quotas at the expense of weakening institutions and further undermining the country's democratic political system (Dargent, 2013). The above has gotten worse with the arrival of the COVID-19 pandemic in Peru, highlighting the Peruvian State's inability to deal with a complex health situation like the one described, and making Peru one of the countries with the worst emergency care performance, resulting in a large number of deaths and increased poverty in the country (Villarán et al., 2021). Thus, in the period between 2021 and 2022, when this study was conducted, and in the face of new presidential elections, various political groups and actors emerge on the electoral scene with offers that, discursively and strategically, could fit the definitions of populism (Meléndez, 2022). From the foregoing, it is clear that there is a high prevalence of political cynicism in Peru (Chaparro, 2018; Espinosa et al., 2022c) as well as a large presence of a diverse populist offer by several actors and political groups attempting to respond to citizen demand for representation (Meléndez, 2022). Despite the fact that the social sciences have proposed systematic relationships between these two political processes and how they can affect democracy, empirical evidence has been limited.

Based on what has been described so far, the present proposal has the general objective of describing and analyzing the beliefs and attitudes toward populism, at two analytical levels (1) populist attitudes comprising populist demand (Akkerman et al., 2014) and (2) the perception of the populist offer (Espinosa et al., 2022b), and their relationships with (3) political distrust expressed in the dimensions of political cynicism (Espinosa et al., 2022c) and (4) attitudes toward democracy in the indicators of support and satisfaction with this system of government.

Materials and methods

Participants

The sample consisted of 391 people with an age range between 18 and 82 years ($M = 34.39$, $SD = 15.25$), of whom 56.3% were men and 41.4% were women (the remaining percentage were people who were non-binary or preferred not to state their sex). Concerning self-perceived socioeconomic level (SES) the majority of participants represented themselves as middle level (49.6%), a second group considered themselves to be lower-middle level (26.9%) and in third place was the group that considered themselves to be upper-middle level (13.8%). The groups with the lowest frequency were the high and low-level groups. About the region of residence, the majority of participants were from Lima (50.7%) while the second largest group was from San Martín (23.3%); the rest of the participants were distributed homogeneously and with small percentages in the rest of the regions of the country.

Additionally, we asked about other variables that help to contextualize the socio-political characteristics of the participants such as (1) their level of interest in politics, (2) their political orientation in the left–right continuum, and, finally, (3) their attitudes toward the economic model change in the country. It was evident that there was a tendency to report interest in politics (57.1%), a slight tendency to self-position themselves in the ideological center (38.6%) and, in the same way, there is a slight tendency of the participants to seek to change the economic model (45%).

Ethical considerations

Due to its characteristics, the present study does not involve sensitive contents that could generate any risk to the physical or psychological health of the participants. However, to comply with the requirements and ethical considerations of a project of this nature, participants were presented with the terms of the informed

consent, which they had to read and accept to agree to answer the study questionnaire. The informed consent explained the general objective of the study and the conditions of anonymity and confidentiality under which the information obtained would be managed. Participants were also informed of the academic nature of the study and that the information obtained would be used exclusively for this purpose. In addition, it was emphasized that participation was voluntary and that they could stop answering the questions in the questionnaire at any time if they so wished. Finally, they were asked to leave an e-mail address if they wished to receive information on the final results of this project.

Measurement

Political cynicism scale

The version adapted by Espinosa et al. (2022c) from the original version constructed by Janos et al. (2018) was used. The instrument consists of 12 items on a Likert scale ranging from 1 (Strongly disagree) to 4 (Strongly agree). A CFA was performed in the original study to evaluate the factorial structure of the scale and a final 4-factor solution was found with a good fit, χ^2/df = 9.967, CFI = 0.960, NFI = 0.956, RMSEA = 0.061, 90% CI [0.054, 0.069] (Espinosa et al., 2022c). The 4 factors found were: (1) Political Distrust, which evidences a negative and incredulous view toward political institutions and authorities, as well as politics in general (α = 0.78 and ω = 0.80); (2) Political Moral Laxity, which shows favorable attitudes toward maintaining a corrupt and inefficient political system but oriented to satisfy the needs of certain groups, without taking into account the damage or harm toward other sectors or toward society itself (α = 0.61 and ω = 0.63); (3) Political System Change, which indicates that it is necessary to make modifications to the current system to achieve improvements in society (α = 0.78 and ω = 0.79); and (4) Political Hopelessness, which evidences a pessimistic view of politics in general due to the widespread corruption in the system (α = 0.43 and ω = 0.58). Although the alpha coefficient is low, this could be happening because the tau equivalence assumption is not met. This could be leading to an overall underestimation of reliability and, therefore, to a lower than expected score (McNeish, 2018; Hayes and Coutts, 2020). Because of this, the omega coefficient (which does not require this assumption) is used and a higher value than the previous one is observed. This new coefficient has acceptable levels of internal consistency for statistical inferences, according to the criteria of Mezulis et al. (2004).

Attitudes toward democracy

Two items were used specifically focused on evaluating both the support ("In general I believe that democracy is the best system of government") and the satisfaction ("I am satisfied with the functioning of democracy in Peru") of the participants toward the democratic system of government in Peru. For both items, a Likert scale ranging from 1 (Strongly disagree) to 5 (Strongly agree) was used. Both items were analyzed independently, taking into account that each of them explains different elements of the country's social reality. These items do not have psychometric information but have been used previously in similar studies such as those of Chaparro et al. (2022) and Rovira Kaltwasser and Van Hauwaert (2020) demonstrating a correct performance.

The scale of populist attitudes

The scale developed by Van Hauwaert et al. (2016) was used, which consists of 8 items evaluated on a Likert scale from 1 (Strongly Disagree) to 5 (Strongly Agree) that measure populist attitudes based on previous studies such as Hawkins et al. (2012) and Akkerman et al. (2014). Additionally, 4 items were added that evaluated additional aspects of the representation of populism, not represented in the original scale previously cited (see Espinosa et al., 2022b), this decision to incorporate new items more focused on the perception of the populist offer also helped to improve the validity of the instrument. In that sense, an Exploratory Factor Analysis (EFA) was performed to know the underlying structure and an optimal sample fit was found (KMO = 0.870, χ^2 = 1859.85, $p < 0.001$) with two factors explaining 48.34% of the total variance. The first factor was composed of all the items of the original Van Hauwaert et al. (2016) scale plus one of the items added for this study (in total there were 9 items) and was labeled "Populist Demand." The second factor was composed of 3 items and was called "Perception of the Populist Offer," which includes both a representation and a negative evaluation of populism. The reliability of both factors for the present study was good (Populist Demand: α = 0.83 and ω = 0.83; Perception of the Populist Offer: α = 0.86 and ω = 0.81).

Procedure

The application protocol was developed in the *Qualtrics* survey platform where all the instruments were digitized. The sampling of participants was non-probabilistic and was carried out through the use of social media (Facebook, Twitter, etc.) and the snowball technique to obtain the desired cases. At the beginning of filling out the scales, there was an informed consent. Subsequently, the instruments were answered in the following order: sociodemographic data (including certain questions on socio-political characteristics), political cynicism, populist attitudes, and finally attitudes toward democracy. The fieldwork was carried out between December 2021 and January 2022. Once the questionnaire was closed, the database was exported to the statistical software and the corresponding analysis began.

Data analysis

The data were analyzed with IBM SPSS statistical software version 27. Initially, the database was cleaned to check for outliers and missing cases. Based on the latter, the amount of missing data did not exceed 5% per observed variable, so it could be considered as part of a random and non-systematic process (Ho, 2013). In any

TABLE 1 Descriptive statistics of study variables.

Variable	*n*	*M*	DE	95%CI
Political cynicism				
Political distrust	391	3.09	1.00	[2.99, 3.19]
Political moral laxity	391	3.92	0.73	[3.85, 4.00]
Political system change	390	1.91	0.83	[1.82, 1.99]
Political hopelessness	391	3.69	0.77	[3.61, 3.76]
Attitudes toward democracy				
Democracy support	380	3.87	1.01	[3.77, 3.98]
Satisfaction with democracy	387	2.16	0.94	[2.07, 2.26]
Populist attitudes				
Populist demand	391	3.72	0.64	[3.66, 3.78]
Perception of the populist offer	390	4.30	0.74	[4.22, 4.37]
Socio-political characteristics				
Interest in politics	389	3.62	1.21	[3.50, 3.74]
Left–right political orientation	390	3.00	1.17	[2.88, 3.12]
Economic model change	390	3.24	1.39	[3.10, 3.38]

case, some cases that did not meet at least 90% of completed responses were eliminated, generating the final sample of 391 participants. With the base already cleaned, a normality analysis was performed using the Shapiro–Wilk test and the skewness and kurtosis statistics. It was found that the univariate normality assumption was met for all variables. A descriptive analysis was then performed for all the dimensions of the study variables. Finally, and as the main procedure, correlation analysis was performed using Cohen's criteria for the magnitude of the effect size, and also regression analysis using the stepwise method, where the dimensions obtained from the populist attitudes scale were treated as dependent variables. The stepwise method is the step-by-step iterative construction of a regression model involving automatic selection of independent variables (different from hierarchical regression). This method was used to more easily identify those variables that should be included in the model and those that could be excluded based on a series of F-tests and t-tests.

Results

Descriptive analysis

As an initial part of the analysis, descriptive statistics were performed for the four dimensions of Political Cynicism, Attitudes Toward Democracy, and the two factors of the Populist Attitudes Scale. The results can be seen in Table 1.

Concerning the dimensions of the Political Cynicism scale, it can be seen that almost all the scores are above the midpoint of the response scale (2.5) and even reach almost the maximum score. The only exception is the factor of Political System Change, which is below that level. Regarding attitudes toward democracy, there is a high level of Support for this system of government (being above the midpoint), however, the level of Satisfaction with Democracy is somewhat low (being below the midpoint). On the other hand, in the case of both dimensions of populist attitudes (demand and perception of offer) participants demonstrate high levels in these variables (above the midpoint), highlighting that Populist Demand comprises a favorable valuation of the empowerment of the people in political decision-making, while Perception of Populist Offer is semantically represented negatively. Finally, the participants declared a medium to high interest in politics (above the midpoint), a centrist ideological position, that is, little defined toward the extremes of the left–right continuum, and a medium to high Disposition toward the change of the economic model (above the midpoint).

Relationships between political cynicism, attitudes toward democracy, and populist attitudes

In response to the main objective, several correlation analyses were carried out between the different variables of the study. The results of these relationships can be seen in Table 2.

The main results of these correlations are summarized as follows: (1) the Political System Change dimension is significantly and inversely related to Democracy Support and directly related to Satisfaction with Democracy. In addition, Political Hopelessness is negatively associated with Satisfaction with Democracy; (2) The dimensions of Political Distrust, Political Hopelessness, and Political Moral Laxity are positively associated with both dimensions of populist attitudes (Populist Demand and Perception of the Populist Offer), while the dimension of Political System Change is, in both cases, inversely associated. Finally, (3), it can be seen that Populist Demand and Offer Perception correlate directly with Democracy Support. Likewise, Perception of the Populist Offer is inversely related to Satisfaction with Democracy.

TABLE 2 Correlations between the dimensions of political cynicism, attitudes toward democracy, socio-political characteristics and populism.

	1	2	3	4	5	6	7	8	9	10	11
1. Political distrust	1										
2. Political moral laxity	0.137**	1									
3. Political system change	0.305**	−0.106*	1								
4. Political hopelessness	0.355**	0.178**	0.045	1							
5. Democracy support	−0.051	0.013	−0.185**	0.058	1						
6. Satisfaction with democracy	−0.077	−0.097	0.167**	−0.102*	0.176**	1					
7. Populist demand	0.345**	0.353**	−0.104*	0.286**	0.177**	−0.036	1				
8. Perception of the populist offer	0.285**	0.222**	−0.179**	0.342**	0.163**	−0.149**	0.487**	1			
9. Politics interest	−0.293**	0.014**	−0.219	−0.035	−0.056	−0.201**	−0.095	−0.064	1		
10. Left–right political orientation	0.119*	−0.161**	0.249**	−0.054	0.036	0.163*	−0.301**	−0.035	−0.192**	1	
11. Economic model change	0.011	0.166**	−0.083	−0.017	0.001	−0.054	0.391**	−0.090	0.052	−0.368**	1

*$p < 0.05$; **$p < 0.01$.

TABLE 3 Multiple linear regression of political cynicism, attitudes toward democracy and socio-political characteristics (IV) on the populist demand dimension (DV).

	Estimate	*SE*	95% IC		*p*
			LL	*UL*	
Intercept	1.39	0.23	0.95	1.85	<0.001
Political distrust	0.18	0.02	0.13	0.24	<0.001
Economic model change	0.13	0.02	0.09	0.17	<0.001
Political moral laxity	0.21	0.04	0.14	0.29	<0.001
Left–right political orientation	−0.12	0.03	−0.17	−0.07	<0.001
Democracy support	0.15	0.03	0.07	0.17	<0.001
Political hopelessness	0.11	0.04	0.04	0.18	0.003

Regression analysis between political cynicism, attitudes toward democracy, socio-political characteristics, and populist attitudes

To understand the relationships between the variables, several multiple linear regressions were performed using the stepwise method, with political cynicism and attitudes toward democracy as predictor variables and the dimensions of populism as the criterion variable. Additionally, certain socio-political characteristics were also incorporated as part of the analysis, such as whether they are in favor or against the change in the economic model ("Economic Model Change") and its political orientation ("Left–Right Political Orientation"). Sociodemographic variables such as age, sex or socioeconomic level were not taken into account as part of the regression model or as control variables, because there was no association between these variables and the study variables mentioned above.

For the first dimension, a significant model was obtained that explains 41.2% of the variance of the Populist Demand dimension, $F(6,347) = 42.25$, $p < 0.001$. Specifically, all dimensions of Political Cynicism, except for Political System Change would be predictive of Populist Demand. Of the dimensions of attitudes toward democracy, only Democracy Support would be predicting Populist Demand. Economic Model Change also directly predicts Populist Demand. Finally, ideological orientation has an inverse relationship with Populist Demand, that is, people who are more to the left of the ideological continuum tend to score higher on Populist Demand (see Table 3). The following variables were excluded from the model because they were not significant: Satisfaction with Democracy, Political System Change and Interest in Politics.

For the second dimension, a significant model was obtained that explains 22.7% of the variance of the Perception of the Populist Offer dimension, $F(6,347) = 18.31$, $p < 0.001$. About the coefficients, something very similar happens as in the previous model; all the dimensions of Political Cynicism would be directly predicting the Perception of the Populist Offer, except for the Political System Change which does so inversely. Likewise, Democracy Support directly and a Disposition to Economic Model Change inversely would also be part of the statistical model (see Table 4). The following variables were excluded from the model because they were not significant: Satisfaction with Democracy, Left–Right Political Orientation and Interest in Politics.

Path analysis of the predictors of populist attitudes

Based on the obtained results, a path analysis was processed to observe in an integrated model how the Populist Demand and

TABLE 4 Multiple linear regression of political cynicism, attitudes toward democracy and socio-political characteristics (IV) on the perception populism offer dimension (DV).

	Estimate	*SE*	95% IC		*p*
			LL	*UL*	
Intercept	2.54	0.29	1.97	3.10	<0.001
Political hopelessness	0.23	0.05	0.13	0.32	<0.001
Political system change	−0.21	0.05	−0.30	−0.12	<0.001
Political distrust	0.19	0.04	0.11	0.26	<0.001
Economic model change	−0.07	0.03	−0.12	−0.02	0.005
Political moral laxity	0.16	0.05	0.06	0.26	0.001
Democracy support	0.09	0.03	0.02	0.16	0.009

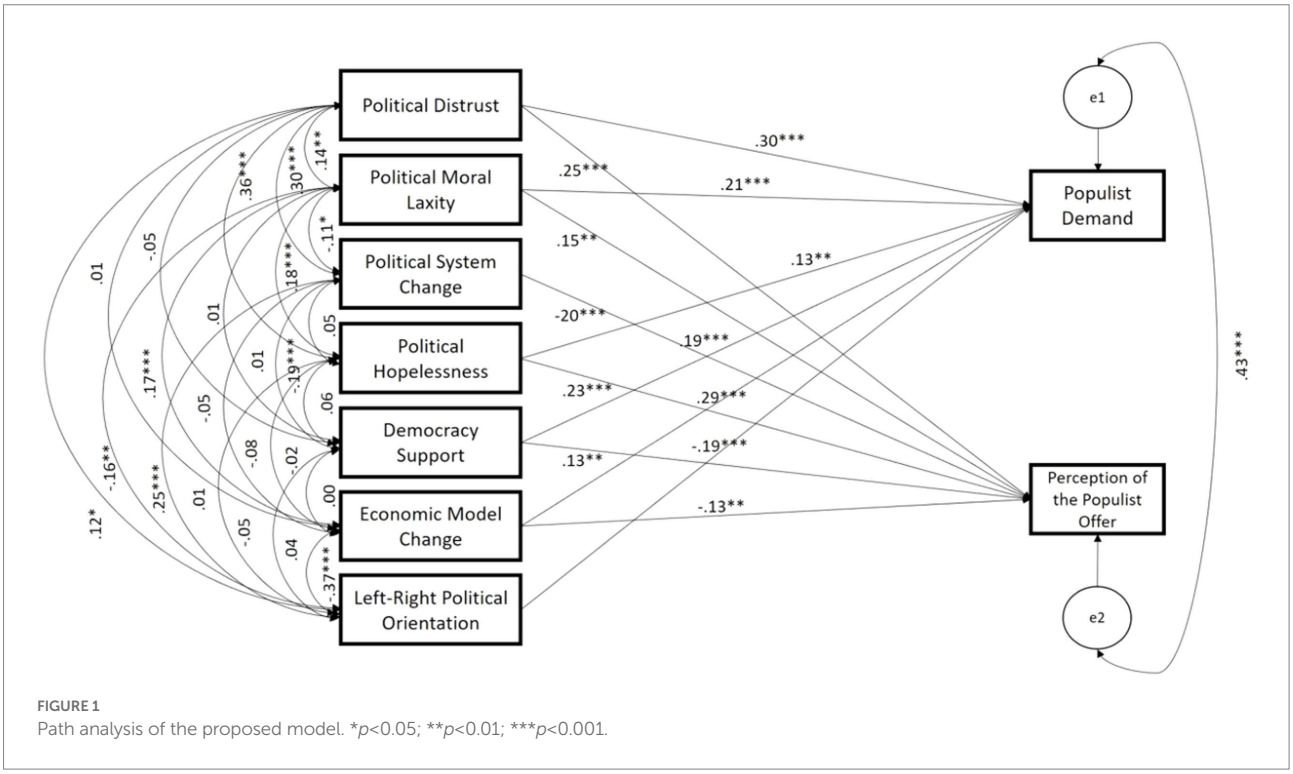


FIGURE 1
Path analysis of the proposed model. *p<0.05; **p<0.01; ***p<0.001.

the Perception of the Populist Offer as exogenous variables were related to the dimensions of Political Cynicism, the dimensions of Attitudes toward Democracy, and the Socio-Political Characteristics of the participants as endogenous variables (see Figure 1). The model obtained shows a good fit according to the following indices: χ^2/df = 2.364, CFI = 0.995, NFI = 0.993, RMSEA = 0.059, 90% CI [0.000; 0.130].

Discussion

On a descriptive level, it is clear that the sample studied has a high level of Political Cynicism, —for example, the participants distrust their political system, perceive it to be corrupt, and feel hopeless about it. Simultaneously, it is a sample with high levels of Political Moral Laxity, which means that in political decision making they tend to prioritize private and individual interests before the public good (Espinosa et al., 2022a). As a whole, the dimensions of Political Cynicism and, more specifically, its component of Political Moral Laxity builds a favorable path for a political offer that, far from solving the underlying problems of inclusion, inequality, or corruption, systematically becomes the "lesser evil" or a political offer constituted by those who "steal but [at least] do work" (Espinosa et al., 2022a; Meléndez, 2022). The above has a bearing on the fact that the [Negative] Perception of the Populist Offer is high in the sample. Paradoxically, the Political System Change does not stand out, with which distrust, in general, is constituted as a central element in the deterioration of quality, both in the populist offer perception and in the demand for political representation (Espinosa et al., 2022c).

The scenario of generalized distrust of the system produces a complex relationship with a democracy made precarious by the political behavior of the elites (Dargent, 2013), because although participants are more inclined to support it as a political system, they are dissatisfied with its functioning. Despite the fact that support for democracy is a consistent phenomenon at the international level (Inglehart and Welzel, 2005), there is not necessarily a consensus on liberal democracy, although there is support for more limited representations of democracy, based on electoral behavior or the idea of a government of the people, which are expressions of social democratization that reflect popular demands for economic or social inclusion, but do not necessarily incorporate respect for pluralist or libertarian values (Espinosa et al., 2022b).

Regarding attitudes, which comprise the Populist Demand (Van Hauwaert et al., 2016), there is a medium-high tendency to support ideas that democracy should emanate from the people; however, when the questions are channeled toward the Perception of the Populist Offer, this is viewed negatively and as part of the critical view of populist politics and politicians in the country (Espinosa et al., 2022b; Meléndez, 2022). The semantic discrepancy observed in the indicators of populist attitudes, Populist Demand with a more positive nuance and Perception of the Populist Offer (by those who demand) with a more negative nuance, can be explained by the fact that, in the classic measurement of populist attitudes, the term "populism" has not been made explicit, while in the items added to the scale that evaluate the Perception of the Populist Offer, this term is presented explicitly. The above introduces a critical methodological aspect about some scales of populist attitudes since there is an important semantic and evaluative distinction between populism, which is what is intended to be measured, and the popular, which is ultimately what is measured (Aslanidis, 2016).

At the correlational level, populist attitudes are associated with all the indicators of Political Cynicism evaluated. As previously argued, although it is not a sufficient condition, widespread distrust of a system can trigger populist demands in a society (Hawkins et al., 2012; Levitsky and Ziblatt, 2018; Meléndez and Rovira Kaltwasser, 2019). From the perspective of a citizenry that distrusts, is hopeless, has developed morally lax attitudes, and expresses no interest in changing the system, greater adherence to the idea of empowerment of the people is appreciated. This implies a paradoxical political process where the populist demand is anchored in distrust and dissatisfaction with the system, but where, in the end, there is no expectation of substantive change either. It is something like finding oneself in a country of citizens dissatisfied with the system, but only in those aspects that are not functional to their ingroup or class interests (Dargent, 2013; Meléndez, 2022). In addition to the above, it can be seen that support for democracy in a distrustful and politically hopeless citizenry, with a disposition to moral laxity and little interest in changing things, could be related to a diffuse or poor representation of democracy (Espinosa et al., 2022b); That is, support for democracy in this sample, does not necessarily coincide, and may even enter into tension, with liberal democracy, and its principles of respect for plurality and individual freedoms, or with expressions of republican democracy that seek to ensure institutional strengthening and balance of state powers (Mudde and Rovira Kaltwasser, 2017; Villacañas, 2017; Forgas and Crano, 2021).

Meléndez (2022) mentions that Peruvian society, despite its social and political diversity, is systemically populist, and its members act accordingly, regardless of the group to which they belong. Thus, populism is constituted as a way of doing politics generalizable to almost all social and political strata of Peruvian society, although as mentioned by Espinosa et al. (2022b), none of them is directly identified with the populist category.

In the sample, although the populist demand is not associated with the need for political change, it is associated with the need to discuss the change of the economic model, which seems to be related to the perceived-and existing-problems of distributive justice in the country (Chaparro et al., 2022). The latter is also linked to the economic *anti-establishment* discourse in Peru, which has been mostly claimed by different factions of the Peruvian left, observing in this study a relationship between left-wing ideological positioning and attitudes that comprise a populist demand. In contrast, the study sample shows that the more right-wing a participant is, the less populist attitudes and the less *anti-establishment* demands at the economic or political level.

An important element, and returning to a limitation previously alluded to in the interpretation of the so-called populist attitudes, is the use of the scale of Van Hauwaert et al. (2016), whose statements do not show (1) explicit references to the concept of populism, while, (2) the references to elites, without explicitly using this term, focus on politicians and not on other power groups. In contrast, in the qualitative study developed by Espinosa et al. (2022b) in Peru, the representations of populism carry a critical and negative perception of the populist offer, when the concept "populism" is made explicit. Likewise, politicians in general, and populist politicians in particular, are negatively referred to as part of the problems derived from this political phenomenon. The above, as has been discussed, causes people not to identify themselves as populists.

As seen, the negative perception of the populist offer is consistently associated with all the evaluated elements of political cynicism. On the one hand, the perception of populism is directly related to greater distrust, greater hopelessness due to perceived corruption, and greater justification of political morally lax attitudes. Likewise, it is related to a lower need for change in the political system; which, although it seems paradoxical, could be explained by the fact that there is a generalized perception of systemic malfunctioning, where transgression practices and non-civic behaviors have been reinforced in citizens, which, although perceived negatively, can be seen as functional and therefore, ultimately acceptable (Quiroz, 2013; Chaparro, 2018; Beramendi et al., 2020).

An additional element of interest is that the greater the negative perception of the populist offer, the less satisfied people are with democracy, although they support it as a system of government, which paradoxically implies that, despite the

malfunctioning of the system and a negative perception of the populist offer as a way of doing politics in the country (Espinosa et al., 2022b; Meléndez, 2022), people persist in expressing their support for democracy as a system of government (Inglehart and Welzel, 2005).

The direct relationship between the negative perception of the populist offer with the populist demand seems to be explained by the fact that, in the face of a bad political offer, popular empowerment is necessary as a way to democratize the system and its shortcomings, which implies a greater adherence to populist attitudes focused on demand because as has been said, these have been measured through a scale that, does not explicitly refer to populism, and does refer to the popular (Aslanidis, 2016).

The integrated results seem to represent two aspects of populism that are overlapping each other. The covariation of demand and perception of the populist offer would be explained as a diffuse need to democratize society and a negative perception of political offer-mostly populist-as a way to do so.

The results of the populist attitude scale, where demand is located, are associated with the need to change the economic model, with a greater left-wing ideological orientation and with greater support for democracy; at the same time, which is related to distrust and hopelessness toward the system and a prevalence of greater political moral laxity, this last point is a possible result of the so-called "tribal" elements in populist attitudes, and which are characterized by interested support for an ingroup, even at the cost of harming other outgroups with which life in society is shared (Forgas and Crano, 2021). In other words, populist attitudes finally seem to support the idea of social democracy, not necessarily pluralist, libertarian, or republicanist (Villacañas, 2017; Meléndez, 2022).

On the other hand, the perceived populist offer, although negative, is not related to an intention to change the system, which would imply an impoverishment of social capital through the acceptance of a system that is unreliable, corrupt, and in which it is acceptable to make morally lax political decisions that may have a positive effect on private or ingroup interests while affecting the common good. The above, as expected, could comprise a gradual weakening of civic and democratic values (Cañete Alonso, 2018; Espinosa et al., 2022a).

In sum, the results are consistent with a negative representation of populist offer, although there seems to be functional habituation toward it. On the other hand, the demand seems to seek to democratize, albeit in a limited way, society by taking power away from the politicians who are perceived more negatively, but putting in their place others who are less bad; which would be at the base of a recurrent phenomenon in Peruvian political life, which consists of voting for the "lesser evil" (Espinosa, 2008). The apparent inconsistency of some results seems to be explained by the idea that the way of doing politics in Peru can be understood as totally populist (Meléndez, 2022). Thus, in light of the political results of the last two decades, populism comprises a set of strategies established to vindicate an anti-establishment discourse, about which there is little expectation and, therefore, has a limited capacity for the constant mobilization of the citizenry to seek a change in the system.

Finally, while it is true that the study proposes an interesting discussion on populism, it is not exempt from limitations. Thus, it is considered that the sample, although large, lacks national representativeness. It is suggested that the sample should be more diverse in terms of place of residence and political views. In addition, the way of measuring democracy may not adequately represent the construct of support and satisfaction by only evaluating it with two items, despite the fact that these items function correctly in previous studies. It is proposed to use other scales of attitudes toward democracy that can better reflect the manifestations of the construct. Finally, not as a limitation in itself, but an additional validation of the populist attitudes scale should be carried out. It would be pertinent to carry out a CFA in order to confirm the factorial structure found in this study and to have more evidence of the validity of this construct since only an exploratory look at the structure of the test was evidenced.

Data availability statement

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

Ethics statement

Ethical review and approval was not required for the study on human participants in accordance with the local legislation and institutional requirements. The patients/participants provided their written informed consent to participate in this study.

Author contributions

AE, EJ, and MP: theoretical proposal and methodological design, data analysis, and final report writing. JJ: methodological design and final report writing. HC: theoretical proposal and final report writing. All authors contributed to the article and approved the submitted version.

Funding

This work was supported by the Vicerrectorado de Investigación de la Pontificia Universidad Católica del Perú (VRI-PUCP) FAI-0048-2022.

Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

Publisher's note

References

Akkerman, A., Mudde, C., and Zaslove, A. (2014). How populist are the people? Measuring populist attitudes in voters. *Comp. Pol. Stud.* 47, 1324–1353. doi: 10.1177/0010414013512600

Aslanidis, P. (2016). Is populism an ideology? A refutation and a new perspective. *Polit. Stud.* 64, 88–104. doi: 10.1111/1467-9248.12224

Bélanger, E., and Aarts, K. (2006). Explaining the rise of the LPF: issues, discontent, and the 2002 Dutch election. *Acta Polít.* 41, 4–20. doi: 10.1057/palgrave.ap.5500135

Beramendi, M. (2014). Percepción del Sistema Normativo, Transgresión y Sus Correlatos Psicosociales en Argentina. Unpublished doctoral thesis. Argentina: Facultad de Psicología, Universidad de Buenos Aires.

Beramendi, M., Espinosa, A., and Acosta, Y. (2020). Percepción del Sistema Normativo y sus correlatos psicosociales en Argentina, Perú y Venezuela. *Rev. Colomb. Psicol.* 29, 13–27. doi: 10.15446/.v29n1.75797

Brussino, S., and Alonso, D. (2021). "Citizens and democracy: political legitimacy processes in Latin American democracies" in *Political Psychology in Latin America*. eds. C. Zúñiga and W. López-López (Washington, D.C: American Psychological Association), 11–34.

Busby, E. C., Gubler, J. R., and Hawkins, K. A. (2019). Framing and blame attribution in populist rhetoric. *J. Polit.* 81, 616–630. doi: 10.1086/701832

Çakal, H., Altınışık, Y., Gökcekuş, Ö., and Eraslan, E. G. (2022). Why people vote for thin-centred ideology parties? A multi-level multi-country test of individual and aggregate level predictors. *PLoS One* 17:e0264421. doi: 10.1371/journal.pone.0264421

Cañete Alonso, R. (2018). *Democracias Capturadas: el Gobierno de Unos Pocos* Oxfam & CLACSO.

Chaparro, H. (2018). *Afectos y Desafectos: Las Diversas Subculturas Políticas en Lima*. Lima. Instituto de Estudios Peruanos

Chaparro, H., Espinosa, A., Zúñiga, C., and Ruiz, A. (2022). *Pluralismo y Privación Relativa: Predicción de las Actitudes Populistas en Chile*, Perú y Colombia. Unpublished manuscript.

Dargent, E. (2013). *Demócratas Precarios. Élites y Debilidad Democrática en el Perú y América Latina* (*3rd Edn*). Lima: Instituto de Estudios Peruanos

de la Torre, C. (2017). "Populism in Latin America" in *The Oxford Handbook of Populism*. eds. C. Rovira Kaltwasser, P. Taggart, P. Ochoa and P. Ostiguy (Oxford: Oxford University Press), 250–274.

de La Torre, C. (2018). Populism Revived: Donald Trump and the Latin American Leftist Populists. *Americas* 75, 733–753. doi: 10.1017/tam.2018.39

Doh, C. S. (2007). "Democratization: perspectives from global citizenries" in *The Oxford Handbook of Political Behavior*. eds. R. J. Dalton and H.-D. Klingemann (Oxford: Oxford University Press), 259–282.

Espinosa, A. (2008). Decidiéndose por el mal menor. El rol de las emociones en las elecciones peruanas del 2006. *Psicol. Polit.* 37, 47–70.

Espinosa, A., Çakal, H., Beramendi, M., and Molina, N. (2022a). Political moral laxity as a symptom of system justification in Argentina, Colombia and Peru. *Test. Psychom. Methodol. Appl. Psychol.* 29, 39–53. doi: 10.4473/TPM29.1.4

Espinosa, A., Janos, E., Pacheco, M., Chaparro, H., Cisneros, R., Cueva, F., et al. (2022b). *Representaciones del Populismo y la Democracia en el Perú: Un estudio cualitativo*. Unpublished manuscript.

Espinosa, A., Pacheco, M., Janos, E., Acosta, Y., Alvarez-Galeano, E., Berenguer, J., et al. (2022c). Ideology and political cynicism: effects of authoritarianism and social dominance on perceptions about the political system in 11 Ibero-American countries. *Int. J. Psychol.* 56:e1465. doi: 10.30849/ripijp.v56i2.1465

Feldman, S. (2013). "Political ideology" in *The Oxford Handbook of Political Psychology*. eds. L. Huddy, D. Sears and J. Levy (Oxford: Oxford University Press), 591–626.

Forgas, J. P., and Crano, W. D. (2021). "The psychology of populism. The tribal challenge to liberal democracy" in *The Psychology of Populism. The Tribal Challenge to Liberal Democracy*. eds. J. P. Forgas, W. D. Crano and K. Fiedler (London: Routledge), 1–19.

García Beaudoux, V., and D'Adamo, O. (2007). "Psicología Social y medios de comunicación de masas" in *Psicología Social*. eds. J. F. Morales, E. Gaviria, M. Moya and I. Cuadrado. *3rd* ed (Madrid: McGraw-Hill), 741–762.

Gross, K., and D'Ambrosio, L. (2004). Framing emotional response. *Polit. Psychol.* 25, 1–29. doi: 10.1111/j.1467-9221.2004.00354.x

Hameleers, M., and de Vreese, C. H. (2020). To whom are "the people" opposed? Conceptualizing and measuring citizens' populist attitudes as a multidimensional construct. *J. Elect. Public Opin. Parties* 30, 255–274. doi: 10.1080/17457289.2018.1532434

Hawkins, K. A., Riding, S., and Mudde, C. (2012). Measuring populist attitudes. in *Political Concepts Committee on Concepts and Methods Working Paper Series*. 55, 1–35. Available at: http://www.concepts methods.org/Files/WorkingPaper/PC_55_Hawkins_Riding_Mudde.pdf

Hawkins, K. A., and Rovira Kaltwasser, C. (2017a). The ideational approach to populism. *Lat. Am. Res. Rev.* 52, 513–528. doi: 10.25222/larr.85

Hawkins, K. A., and Rovira Kaltwasser, C. (2017b). What the (ideational) study of populism can teach us, and what it can't. *Swiss Polit. Sci. Rev.* 23, 526–542. doi: 10.1111/spsr.12281

Hawkins, K. A., Rovira Kaltwasser, C., and Andreadis, I. (2020). The activation of populist attitudes. *Gov. Oppos.* 55, 283–307. doi: 10.1017/gov.2018.23

Hayes, A. F., and Coutts, J. J. (2020). Use omega rather than Cronbach's alpha for estimating reliability. But *Commun. Methods Meas.* 14, 1–24. doi: 10.1080/19312458.2020.1718629

Ho, R. (2013). *Handbook of Univariate and Multivariate Data Analysis With IBM SPSS*. Boca Raton, FL: CRC Press

Hoffman, J., and Graham, P. (2015). *Introduction to Political Theory*. *3rd Edn* London: Routledge.

Hunger, S., and Paxton, F. (2021). What's in a buzzword? A systematic review of the state of populism research in political science. *Polit. Sci. Res. Methods* 10, 617–633. doi: 10.1017/psrm.2021.44

Imhoff, D. (2021). "A psychopolitical approach to social inequality in Latin America" in *Political Psychology in Latin America*. eds. C. Zúñiga and W. López-López (Washington, D.C: American Psychological Association), 59–78.

Inglehart, R., and Welzel, C. (2005). *Modernization, Cultural Change, and Democracy: The Human Development Sequence*. Cambridge: Cambridge University Press

Janos, E., Espinosa, A., and Pacheco, M. (2018). Bases Ideológicas de la Percepción del Sistema Normativo y el Cinismo Político en Adultos de Sectores Urbanos del Perú. *Psykhe* 27, 1–14. doi: 10.7764/psykhe.27.1.1176

Jerit, J. (2004). Survival of the fittest: rethoric during the course of an election campaign. *Polit. Psychol.* 25, 563–575. doi: 10.1111/j.1467-9221.2004.00387.x

Levitsky, S., and Ziblatt, D. (2018). Cómo mueren las democracias. Bogotá: Ariel.

López-López, W., Roa, D., Roa, M. A., Correa-Chica, A., Pérez-Durán, C., and Pineda-Marín, C. (2016). El rol de la filiación política en las creencias y discursos legitimadores de la corrupción [The role of political affiliation in the beliefs and discourses legitimising corruption]. *Psychosoc. Interv.* 25, 179–186. doi: 10.1016/j.psi.2016.07.001

López-López, W., Roa, M. A., Roa, D., Pineda-Marín, C., and Mullet, E. (2017). Mapping Colombian citizens' views regarding ordinary corruption: threat, bribery, and the illicit sharing of confidential information. *Soc. Indic. Res.* 133, 259–273. doi: 10.1007/s11205-016-1366-6

Marchlewska, M., Cichocka, A., Panayiotou, O., Castellanos, K., and Batayneh, J. (2018). Populism as identity politics: perceived in-group disadvantage, collective narcissism, and support for populism. *Soc. Psychol. Personal. Sci.* 9, 151–162. doi: 10.1177/1948550617732393

McNeish, D. (2018). Thanks coefficient alpha, we'll take it from here. *Psychol. Methods* 23, 412–433. doi: 10.1037/met0000144

Meléndez, C. (2022). *Populistas. ¿Cuán Populistas Somos los Peruanos? Un Estudio empírico*. Lima: Penguin Random House

Meléndez, C., and Rovira Kaltwasser, C. (2019). Political identities: the missing link in the study of populism. *Party Polit.* 25, 520–533. doi: 10.1177/1354068817741287

Mezulis, A. H., Abramson, L. Y., Hyde, J. S., and Hankin, B. L. (2004). Is there a universal positivity bias in attributions? A meta-analytic review of individual, developmental, and cultural differences in the self-serving attributional bias. *Psychol. Bull.* 130:711. doi: 10.1037/0033-2909.130.5.711

Miller, A. H. (1974). Political issues and Trust in Government: 1964–1970. *Am. Polit. Sci. Rev.* 68, 951–972. doi: 10.2307/1959140

Moffitt, B. (2016). *The Global Rise of Populism: Performance, Political Style, and Representation*. California: Stanford University Press.

Moffitt, B., and Tormey, S. (2014). Rethinking populism: politics, mediatisation and political style. *Polit. Stud.* 62, 381–397. doi: 10.1111/1467-9248.12032

Mudde, C. (2004). The populist zeitgeist. *Gov. Oppos.* 39, 541–563. doi: 10.1111/j.1477-7053.2004.00135.x

Mudde, C., and Rovira Kaltwasser, C. (2013). Exclusionary vs. inclusionary populism: comparing contemporary Europe and Latin America. *Gov. Oppos.* 48, 147–174. doi: 10.1017/gov.2012.11

Mudde, C., and Rovira Kaltwasser, C. (2017). *Populism: A Very Short Introduction*. Oxford: Oxford University Press.

Ostiguy, P. (2020). The socio-cultural, relational approach to populism. *Partecip. Conflitto* 13, 29–58. doi: 10.1285/i20356609v13i1p29

Patterson, T. E. (2002). *The Vanishing Voter: Public Involvement in an Age of Uncertainty*. New York: Alfred A. Knopf

Proética (2019). XI Encuesta Nacional sobre percepciones de la corrupción en el Perú. 55, 1–35. Available at: https://www.proetica.org.pe/contenido/xi-encuesta-nacional-sobre-percepciones-de-la-corrupcion-en-el-peru-2019/

Quiroz, A. (2013). *Historia de la Corrupción en el Perú*. Lima: Instituto de Estudios Peruanos.

Rooduijn, M., and Akkerman, T. (2017). Flank attacks: populism and left-right radicalism in Western Europe. *Party Polit.* 23, 193–204. doi: 10.1177/1354068815596514

Rooduijn, M., Van der Brug, W., and de Lange, S. L. (2016). Expressing or fuelling discontent? The relationship between populist voting and political discontent. *Elect. Stud.* 43, 32–40. doi: 10.1016/j.electstud.2016.04.006

Rovira Kaltwasser, C., and Van Hauwaert, S. (2020). The populist citizen: empirical evidence from Europe and Latin America. *Eur. Polit. Sci. Rev.* 12, 1–18. doi: 10.1017/S1755773919000262

Salinero, M. (2015). Populismo en América Latina. Análisis comparado de los factores que potencian o debilitan la discrecionalidad de la representación populista en el gobierno: los casos de Venezuela y Bolivia. Unpublished doctoral thesis. Spain: Universitat de Barcelona.

Sautu, R. (2014). La corrupción endémica en un país prebendario: un intento de construcción teórica. in E. Zubieta and J. Valencia & Delfino, G. *Psicología Social y Política: Procesos Teóricos y Estudios Aplicados* (pp. 103–128). Buenos Aires: Eudeba

Schmitz, M., and Espinosa, A. (2015). Ideología, emocionalidad y crisis de gobernabilidad en Lima metropolitana: un estudio correlacional sobre el proceso de revocatoria 2013. *Rev. Electr. Psicol. Polít.* 34, 46–63.

Siu-kai, L. (1992). Decline of governmental authority, political cynicism and political inefficacy in Hong Kong. *J. Northeast Asian Stud.* 11, 3–20. doi: 10.1007/BF03023340

Spruyt, B., Rooduijn, M., and Zaslove, A. (2021). Ideologically consistent, but for whom? An empirical assessment of the populism-elitism-pluralism set of attitudes and the moderating role of political sophistication. *Politics* 1–17. doi: 10.1177/02633957211017763

Stathi, S., and Guerra, R. (2021). Unpacking the social psychology of populism: a brief introductory note. *J. Theor. Soc. Psychol.* 5, 50–53. doi: 10.1002/jts5.98

Stiglitz, J. E. (2013). *La Gran Brecha*. Ciudad de México: Penguin Random House.

Tyler, T. R. (2001). Public trust and confidence in legal authorities: what do majority and minority group members want from the law and legal institutions? *Behav. Sci. Law* 19, 215–235. doi: 10.1002/bsl.438

Tyler, T. R. (2006). Psychological perspectives on legitimacy and legitimation. *Annu. Rev. Psychol.* 57, 375–400. doi: 10.1146/annurev.psych.57.102904.190038

Van Hauwaert, S. M., Schimpf, C. H., and Azevedo, F. (2016). The measurement of populist attitudes across Europe: developing a cross-national scale using item response theory. Paper Presented at the ECPR General Conference, Charles University, Prague.

Villacañas, J. L. (2017). "La reinvención de la política. Orígenes y fundamentos del populismo contemporáneo" in *El Porqué de los Populismos. Un Análisis del Auge Populista de Derecha e Izquierda a Ambos Lados del Atlántico*. ed. F. Carrillo (Barcelona: Deusto), 17–46.

Villarán, F., López, S., Ramos, M. D. C., Quintanilla, P., Solari, L., Ñopo Aguilar, H., et al. (2021). *Informe Sobre las Causas del Elevado Número de Muertes por la Pandemia del COVID-19 en el Perú*. Lima: Consejo Nacional de Ciencia, Tecnología e Innovación

Weyland, K. (1999). Neoliberal populism in Latin America and Eastern Europe. *Comp. Polit.* 31, 379–401. doi: 10.2307/422236

Weyland, K. (2001). Clarifying a contested concept: populism in the study of Latin American politics. *Comp. Polit.* 34, 1–22. doi: 10.2307/422412

Weyland, K. (2020). Populism's threat to democracy: comparative lessons for the United States. *Perspect. Polit.* 18, 389–406. doi: 10.1017/S1537592719003955

frontiers | Frontiers in Psychology

TYPE Original Research
PUBLISHED 04 January 2023
DOI 10.3389/fpsyg.2022.1046581

OPEN ACCESS

EDITED BY
Juan Carlos Oyanedel,
Andres Bello University,
Chile

REVIEWED BY
Anni Kajanus,
University of Helsinki,
Finland
Cristian R. Céspedes,
Andres Bello University,
Chile

*CORRESPONDENCE
Xiaopeng Ren
✉ renxp@psych.ac.cn

SPECIALTY SECTION
This article was submitted to Personality and Social Psychology, a section of the journal Frontiers in Psychology

RECEIVED 16 September 2022
ACCEPTED 02 December 2022
PUBLISHED 04 January 2023

CITATION
Wang Y and Ren X (2023) Exploring the impact of Chuangguandong Movement on individualism in China based on Sina Weibo information.
Front. Psychol. 13:1046581.
doi: 10.3389/fpsyg.2022.1046581

Exploring the impact of Chuangguandong Movement on individualism in China based on Sina Weibo information

Yan Wang[1,2] and Xiaopeng Ren[1,2]*

[1]Institute of Psychology, Chinese Academy of Sciences, Beijing, China, [2]Department of Psychology, University of Chinese Academy of Sciences, Beijing, China

The voluntary frontier settlement hypothesis holds that frontier movements can promote the formation of individualism in the frontier area. The Chuangguandong Movement is one of China's voluntary frontier movements that potentially had a positive impact on the formation of high individualism in the northeastern provinces. Previous studies used independent/interdependent measures of self-construal scale, symbolic self-inflation, nepotism tasks, and percentage of most common names, to examine the differences in the independence between Heilongjiang and Shandong residents, which may be related to the Chuangguandong Movement. However, these studies were limited by certain factors such as sample size and objectivity of materials acquisition. In this study, we obtained Sina Weibo big data for period 2010–2020 to overcome the limitation of previous work. Using text feature extraction and keyword word frequency calculation methods based on the individualism/collectivism dictionary, we found that the level of individualism in Northeast China was higher than that in Shandong Province, which was consistent with previous research. Through the discussion of the four representative theoretical frameworks of individualism, the voluntary frontier settlement theory was considered as a potential explanation for the high degree of individualism in Northeast China.

KEYWORDS

individualism, voluntary frontier settlement hypothesis, Chuangguandong Movement, social media, Sina Weibo

1. Introduction

Individualism and collectivism are two important dimensions that measure the differences in values, which are usually used to indicate differences in tendencies toward social interactions. Individualism emphasizes the importance of "I," focusing on one's own uniqueness and autonomy, and caring more about oneself and immediate family. In contrast, collectivism emphasizes the importance of "we" and focuses on support and identity within the organization, caring more about the interests and cooperation of the collective. These are two separate dimensions that are not mutually exclusive, which has

been proven not only by cross-cultural studies but also within the same cultures or within the same country (Oyserman et al., 2002; Su and Ren, 2014).

Differences in individualism/collectivism have also been found between various regions within China. Starting from the influencing factors of individualism/collectivism, the following theoretical frameworks are commonly used for the research and interpretation of differences within the same culture: (1) Modernization theory argues that the more modernized the region is, the higher the level of individualism. Conversely, the less modernized the region is, the higher the level of collectivism (Inglehart and Baker, 2000). The theory focuses on the impact of economic development on culture. Additionally, culture becomes more individualistic with economic growth and over time (Hamamura, 2012). (2) Climate-economic theory argues that the interaction between climate and economy may impact levels of individualism/collectivism. Van de Vliert (2011) found a correlation between climate and economic resource demand in climate-economic theory. When the climate environment is harsh and economic resources are insufficient, the collective ties between people are strengthened as this may promote survival. When the climate is comfortable, people have less need for the climate environment and are more inclined to form more independent relations. Van de Vliert et al. (2013) provided further support for this theory shortly afterward by studying the relationship between individualism/collectivism fractions, monetary resources (*per capita* household income), and climate demand. Their results showed that collectivism was strongest in low-income provinces with harsh climate environments (such as Heilongjiang), and collectivism was weakest in high-income provinces with suitable climate environments (such as Guangdong). (3) Rice theory argues that different modes of subsistence such as agriculture, forestry, animal husbandry and fishery have a certain influence on individualism/collectivism (Uskul et al., 2008). Talhelm et al. (2014) studied in rice-growing and wheat-growing regions and examined cultural thought, implicit individualism, and loyalty/nepotism, finding that rice-growing regional cultures were more collectivistic, while wheat-growing regional cultures were more individualistic. The present study further explored whether the above theories could explain the manifestations of high individualism in Northeast China.

Frederick Jackson Turner (1920) proposed the voluntary frontier settlement hypothesis, and Kitayama et al., (2006), Park (2007) further enriched the theory by positing that it involved three distinct psychological processes involved. First, frontier self-selection refers to settlers' psychological motivation. People are driven by the desire for wealth and freedom, and they often possess a high degree of autonomy, independent psychological characteristics, and willingness to accept challenges. Second, the poor living conditions on the frontier reinforce the character of independence in the settlement process. The frontier life is often too harsh, full of uncertainty, and requires high level of self-reliance to promote survival. Simultaneously, there is no perfect system to protect people's rights and interests, so people have to rely on themselves to solve various problems they face. In such environment, individual initiative is encouraged and strengthened. Third, a shared behavioral and spiritual culture gradually forms after settlement by gathering of likeminded people. This culture originates from settlers' daily life, education, communication, and other characteristics, and it passes from generation to generation. Therefore, Kitayama et al. (2006) argued that the history of the United States is largely a history of the expansion of the Great West, which was mentioned as the birthplace of American history and had played a crucial role in shaping the American territory and the formation of the national character. It is this pioneering spirit that has nurtured and shaped America's remarkably individualist culture. To test this hypothesis, Kitayama et al. (2009), Varnum and Kitayama (2011) compared the individualism in the United States to that of other countries. First, they compared North Americans (US), Western Europeans (British and German), and Asians by examining focused (vs. holistic) attention, the association of experienced emotions with independence (vs. interdependence), the association of happiness with personal achievement (vs. communal harmony), and an inflated symbolic self. Ultimately, they found that North Americans showed stronger individualistic tendencies than Western Europeans on all tests of implicit psychological disposition except for personality bias in attribution. Bazzi et al. (2020) also provided evidence about the roots of frontier culture by tracing it from 1790 to 1890, identifying a causal link between selective migration and frontier individualism. These findings further confirmed that frontier regions can create and strengthen individualism.

Does the voluntary frontier hypothesis also apply in collectivist China? Some researchers measured voluntary frontier settlement through the ongoing voluntary frontier region Shenzhen and the control region Foshan based on student groups using a one-sided measure intergroup design with a frame-line task and a sociogram task respectively, finding that Shenzhen had higher independent performance than the control region Foshan (Chen et al., 2016). The studies confirmed that the voluntary frontier settlement hypothesis is valid in China and could explain the impact on individualism.

As a voluntary frontier settlement movement, it is possible that the Chuangguandong Movement could provide a better explanation for the formation of individualism in the northeast. Together with "Go West" and "Go South," the Chuangguandong Movement is one of the three famous population migrations in modern China. It initiated the modern mass migration to Northeast China in 1860, which continued until the September 18 Incident in 1931. The "pass" of Chuangguandong refers to Shanhaiguan (Mountain-sea Pass; Fan, 2005), which marks the effective boundary between Northeast China and North China as shown in Figure 1. Northeast China is located in the east of the Shanhaiguan and includes Heilongjiang, Jilin and Liaoning Provinces, which is considered the "Guandong" region. The region of North China named Guannei mainly includes Shandong, Hebei and Henan Provinces. This is referred to as Shandong Province in this study, considering that 71% of Northeast China immigrants

FIGURE 1
Map of Guandong region.

originated from Shandong in 1929 (Fan, 2005). Because Guannei residents actually illegaly inhabited Northeast China during the Qing Dynasty, which practiced the prohibition policy in the northeastern region called "Chuangguandong." Even after the prohibition policy was lifted, the people still referred to the phenomenon of immigration from Guannei to the Guandong region as Chuangguandong (Zhang, 1998). The Chuangguandong Movement, which refers to the mass migration of people between 1860 and 1931 in this paper, was similar to the "Westbound Movement" in the United States. Before the Qing Dynasty, the population of Northeast China was especially modest, and most of the land in this region was barren and unexplored. In the first year of Tongzhi refers to 1862, there were only 3.16 million people (out of 255.41 million total people in China) in the northeast (Fan, 2005). By 1931, the total population of Northeast China reached 38.05 million (Gottschang and Lary, 2000), which was more than 12 times the population in 1860, and this increase was mostly caused by immigration, far exceeding the natural population growth rate. Although the figures recorded during this period varied for historical reasons, this was undoubtedly the largest migration flow in Chinese history (Zhang, 1998; Gottschang and Lary, 2000; Fan, 2005).

Taking the above historical context in consideration, it is necessary to establish whether the Chuangguandong Movement complied with the three distinct psychological processes of the voluntary frontier hypothesis. First, the settlements had the high motivation of immigrants. As is well known, North China was seen as overcrowded, impoverished and wretched. In particular, Shandong was terribly poor and brutally buffeted by nature. For 51 years (1860–1911), Shandong Province suffered natural disasters almost every year (Gottschang and Lary, 2000; Fan and Jia, 2016). In addition to natural disasters, frequent military disasters and bandits were other serious issue with which the people of North China had to contend. As the center of China's political geography, North China became the base for various political forces. Conflicts such as the Zhi Wan War, Zhi Feng War, Central Plains War and others all brought huge losses to local farmers (Zhang, 1998; Fan, 2005). Moreover, there was a high population density in North China. E.g., in the 24th year of Guangxu refers to 1898, the population density of Shandong Province reached 246.24 people per square kilometer, which was six times the national average of 41.29 (Zhang, 1998; Fan, 2005). Nonetheless, the population of North China was still large and growing. From the Xinhai Revolution (1911) to the early 1930s, the population of Shandong increased from approximately 37 million to 40 million (Gottschang and Lary, 2000), but Shandong was constantly poor, apparently becoming even poorer as the population surged. Nevertheless, Guannei residents had to endure unimaginable tax exploitations. According to statistics, the best rice fields in China were only 0.4 per mu (1 acre is about 6 mu) in 1902, while Laiyang in Shandong Province increased nearly fivefold in 1927 (Zhang, 1998). When Zhang Zongchang took the post of military supervisor in Shandong, he financially exploited the people,

leading to an extremely heavy tax burdens and skyrocketing bankruptcy rates. At that time, the people even expressed their anger through folk song lyrics: "Zhang Zongchang, come to Jinan, people have taxes, dogs have donations, one pot over 800 cost" (in Chinese, "张宗昌,来济南,人有税,狗有捐,一个锅头八百钱") (Fan, 2005).

The heavy financial burden caused widespread hardship, and the peasants in North China eventually were forced to find and explore new places to live in order to survive. Northeast China met some of the wishes of immigrants, with a vast territory, abundant resources, and a sparse population. In 1928, the three northeastern provinces accounted for only 6.01% of the population, but 12.5% of the total land area (Fan, 2005). Until 1931, there was still a large amount of uncultivated land in Northeast China, with 5.67 square kilometers of arable land *per capita*, three times that of Shandong (Zhang, 1998). In addition, the soil was fertile, allowing for growth of rich crops such as soybeans, sorghum, barley, and corn as well as cash crops such as bananas, sugarcane, and litchi (Zhang, 1998; Gottschang and Lary, 2000). Accordingly, Japan considered Northeast China to be the treasure trove of East Asia, while Europe and the United States called it the "New Continent" of Asia (Gottschang and Lary, 2000). As discussed above, the abundant resources and free lands attracted settlers. Although, due to poverty and difficult conditions, some starved to death or died of disease during migration, this ultimately could not stop the will and determination of the immigrants.

Second, immigration to the Northeast increased sharply over time. From 1891 to 1911, the population in three Northeastern Provinces increased from more than 5 million to 19.19 million, with at least 10 million immigrants in Guannei (Fan, 2005). From the founding of the People's Republic of China in 1912 to the "September 18 Incident" in 1931, the total population of people in the three northeastern provinces increased from 21,694,193 to 29,073,049. In just 20 years, the population increased by more than 7 million, which was far beyond the natural population growth rate (Zhang, 1998; Fan, 2005). Later, some researchers estimated that the actual number of immigrants may have been more than what the officially statistics reported (Ho, 1959; Gottschang and Lary, 2000). This might be true not only with respect to the numbers of migrants but also with respect to the total population size. According to the statistics, from 1891 to 1931, the average annual floating population of Shandong Peninsula was 13.07 per thousand (Gottschang and Lary, 2000). Meanwhile, the population density was low in Northeast China for several historical and geographic reasons, as the region was completely isolated from China due to its few natural transportation routes (Gottschang and Lary, 2000). According to Wu Xiyong's statistics, in the early Republic of China (1912), the average population density was 14.1 people per square huali (1 huali is equal to 0.5 km) in Liaoning Province, 5.6 people per square huali in Jilin Province, and only 1.7 people per square huali in Heilongjiang Province (in the 24th year of Guangxu (1898), while the average population density was only 82.58 per square huali) (Fan, 2005).

However, after many Guannei immigrants arrived in the northeast, what awaited them was not a comfortable living environment but instead survival challenges of all types (Zhang, 1998; Gottschang and Lary, 2000; Fan, 2005; Fan and Jia, 2016). The natural conditions in Guandong were different from the ones in Guannei. For example, the northeast region had a continental monsoon climate, with long and cold winters, with temperatures below zero for more than 5 months. Therefore, since ancient times, the northeast was regarded as a bitter cold place on the frontier, scarcely populated. Moreover, the ecological environment was relatively primitive, and wild beasts frequently appeared. Even so, the residents overcame many difficulties and chose to stay in this region.

Third, Northeast China was inhabited by a huge number of voluntary settlers, which shaped a culturally shared lay theory of behavior. In Northeast China, various ethnic groups lived together, which promoted the mutual economic and cultural exchanges. The Han nationality became the main ethnic group except Manchuria, Mongolia, and Korea. This was fundamentally different from the culture formation of the Westward Movement in the United States, which directly replaced the previous culture by means of destruction, while the northeast was formed on the basis of equality and peaceful exchange and integration (Xu and Wang, 2016). It was not only in the material culture field and the cultural practice field but also in the spiritual field, Northeast China reflected the immigrant culture with regional characteristics (Fan and Jia, 2016; Fan, 2021), which constituted the three key factors of cultural spirit, namely explicit cultural values, cultural practices and implicit psychological tendencies (Kitayama et al., 2010). Although more than 100 years have passed, the northeast immigrant culture still reflects this state of multiethnic coexistence with the Han nationality as the theme. Northeast food, humor, art of paper-cut, song and dance duets, cheongsam, and the national spirit of self-improvement, hard work, self-reliance, and cooperation that can be observed in the northeast are still passed down from generation to generation (Kitayama et al., 2010; Fan and Jia, 2016; Fan, 2021; Ren et al., 2021).

Some scholars used independent/interdependent measures, such as self-construal scale, symbolic self-inflation, nepotism tasks, and percentage of most common names, to examine residents of Heilongjiang and Shandong, revealing that contrasted to Shandong Province, Heilongjiang residents had lower levels of interdependence and in-group preference, but the self-inflation was higher, and a greater preference for giving their children unique names. These results suggested that the differences between Heilongjiang and Shandong people in terms of independence may be related to the Chuangguandong Movement (Bai and Ren, 2021). However, this study was limited by the research method, while the included participants were relatively subjective in interpreting the meaning of the scale, which varied from person to person and was characterized by uncertainty. In terms of the representativeness of the regional population, due to the small sample size, the total number of subjects was only 179 (104 in Heilongjiang and 75 in Shandong), which may affect the

stability of the research results. Considering the problems of strong subjectivity and small sample size in existing research, this issue should be further explored by using a more suitable data acquisition channel, which is also one of the contributions of this study.

As society has progressed, social media have become one of the most popular online activities and an integral part of daily internet usage. In their study, Na et al. (2015) investigated Facebook users from 49 countries and conducted a multicultural analysis, finding that users from individualist countries had more self-centered networks (i.e., network members were connected through the self) compared to users from collectivist countries. As these studies were proven to be valid and stable, we also decided to use Chinese social media tools to overcome the limitations associated with subjectivity and inadequate sample size of content measurement in previous studies.

Sina Weibo is the mainstream social media platform in China, which is based on the sharing, dissemination, and access of user relationship information through a "follow" mechanism and allows users to share information interactively and instantaneously through a variety of mediums such as text, pictures, videos, and other forms. Since its launch and promotion in August 2009, it underwent explosive growth, reaching 511 million active monthly users and 224 million active daily users as of September 2020 (Center Sina Weibo Data, 2021). As they are publicly available, Sina Weibo data are easy to obtain and can be used for scientific research in several fields. As of April 14, 2022, there were 5,987 papers on the topic "Sina Weibo" in China National Knowledge Infrastructure (CNKI). There are also psychological studies based on microblog big data. For example, based on the big data of 1 million active Weibo users, Ren et al. (2017) used keywords related to individualism/collectivism, compared provincial differences in individualism, and collectivism and confirmed the effectiveness of the big data approach. Therefore, using the text data of Sina Weibo from 2010 to 2020, combined with the dictionary of individualism/collectivism (Ren et al., 2017), we investigated whether individualism in Northeast China was higher than that in Shandong, using the framework of the voluntary frontier settlement hypothesis for testing.

2. Data and method

2.1. Data collection

The present study included more than 500 million active users of Sina Weibo. We downloaded 11 years of microblogging content from January 2010 to December 2021 through Weibo's public application service interface API, covering 31 provinces and autonomous regions in China. Figure 2 depicts the process from data collection to statistical analysis in this study. The details on indicator selection, data cleaning and variable calculation are described in the corresponding section. The research methods and used procedures were approved by the Research Ethics Committee of the Institute of Psychology, Chinese Academy of Sciences, with ethical specification H15009.

2.2. Word selection

This study was based on original user-posted content on Sina Weibo, which was used to analyze the frequency of individualism/collectivism keywords that were determined based on relevant social and cultural psychology studies. The construction of the individualism/collectivism dictionary was based on the Chinese vocabulary that was identified following group discussion of domestic scholars, and it included 53 individualist words such as "you," "I," "he/she" and 112 collectivist words such as "we," "you," "family" etc. the first-person called singular and plural pronouns (Hamamura and Xu, 2015; Zeng and Greenfield, 2015), economic priority and personal property words. At the same time, some neutral words, such as "of," "and" and other auxiliary words, conjunctions and so on, were also sorted out and refined as baseline words to calibrate the deviation of individualism/collectivism keyword statistics. This method has been effectively verified by comparing the regional differences in individualism/collectivism at the provincial level (Gao et al., 2013), and found that the outbreak of COVID-19 increased collectivism and reduced individualism through Weibo data based on the parasite theory of collectivism (Ren et al., 2020).

2.3. Statistical analysis

We first obtained the original microblogging text data through the JAVA program and distinguished the province and prefecture where the subjects were located by the user's registration place. Although there may be some information inconsistency between the registration place and the real place of residence, which is difficult to verify, the distorted data become diluted when the amount of data is large enough. To ensure the authenticity of the data as much as possible, we eliminated the accounts that had no place of registration and were identified as overseas. Since Weibo does not have fields for users' birthplace and permanent residence, it is difficult to distinguish between natives and outsiders. However, this did not affect the analysis of our results (Fan, 2005; Luo and Ren, 2018). Second, in the selection of users, marketing and authentication accounts were excluded and more than 1.3 billion tweets of Weibo data from 644,243 ordinary users who published original Weibo content (263,990 were male, accounting for 41%) were included. There were many missing values in the age information, accounting for 78.89%. Among the remaining users with age information, most were aged 28–38, accounting for 13.23%, followed by users aged 18–28, accounting for 5.7%, and 38–48 years old and 48–58 years old, accounting for 1.78 and 0.31%, respectively. There were very few users $\geq$ 58 years old, accounting for 0.1%. Since this study analyzed users in Northeast

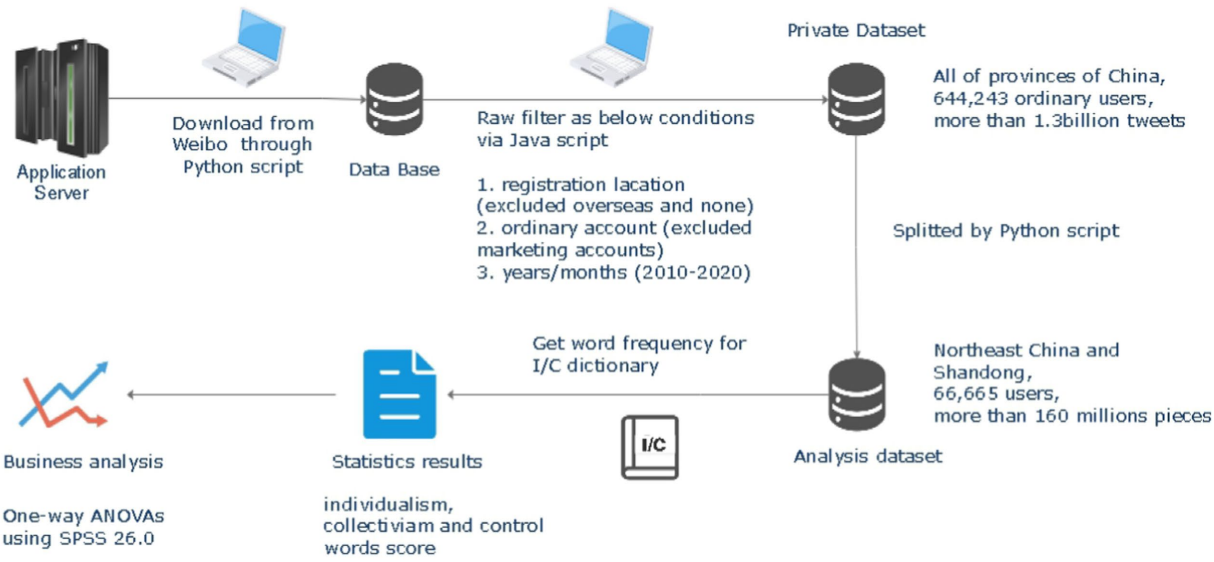


FIGURE 2
The procedure from data collection to statistical analysis.

TABLE 1 The individualism index* by provinces.

Year	Individualism index*			
	Heilongjiang	Jilin	Liaoning	Shandong
2010	25.92	25.36	24.61	22.67
2011	28.81	27.82	27.27	24.73
2012	30.16	26.01	27.84	24.23
2013	28.14	26.80	27.66	24.38
2014	27.57	28.21	25.87	23.58
2015	27.57	27.20	24.93	22.88
2016	25.35	27.28	25.59	21.94
2017	23.87	25.84	24.10	21.95
2018	26.85	26.79	25.22	22.68
2019	29.25	26.21	27.13	22.80
2020	24.80	23.17	24.03	20.06

*Individualism index refers to the subtraction of collectivism from individualism.

China and Shandong, 160 million pieces of microblog content with 66,665 users registered in Heilongjiang (15,872), Jilin (9,803), Liaoning (17,988) and Shandong (23,002) were extracted from the microblog user pool. Next, individualism/collectivism was calculated as a within-groups variable and treated province was treated as a between-groups variable when computing descriptive statistics and conducting one-way ANOVAs. To control the impact of changes in the total number of microblog users and balance the large differences in the number of microblog users and posts in various provinces, the frequency of each word was calculated according to the social cultural and psychological dictionary. Then, the ratio of the frequency of keyword words to the number of microblogs published in that month was used as the score of individualism, collectivism, and control words in the three northeastern provinces and Shandong. After that, the monthly individualism, the monthly collectivism, and the monthly control word score obtained were summed up and averaged, and the annual average individualism, collectivism, and control word score for the 11 years from 2010 to 2020 were finally obtained. To minimize the bias between individualism and collectivism in the four provinces, we divided the annual average individualism and collectivism score by the annual average control word score, respectively. Next, the difference between the two was analyzed as an individualism index. A positive value represents strong individualism and vice versa. SPSS 26.0 was used for statistical analyzes.

3. Results

Through a series of preprocessing steps on the original individualism and collectivism score, we finally obtained the individualism index. Since the calculated scores were too small, we uniformly multiplied the scores by a factor of 100 (i.e., individualism index*100) to check for cultural differences in individualism between the two locations as shown in Table 1. The annual changes in differences in the individualism index between the Guandong region and Shandong are shown in Figure 3.

A one-way ANOVA with province as the between subjects variable revealed a significant main effect as shown in Table 2, $F(3,40) = 15.85$, $p < 0.01$, $\eta^2 = 0.54$. Post-hoc comparisons using the Tukey HSD test revealed that Heilongjiang ($M = 27.12$, SD = 1.97) was more individualistic than Shandong ($M = 22.90$,

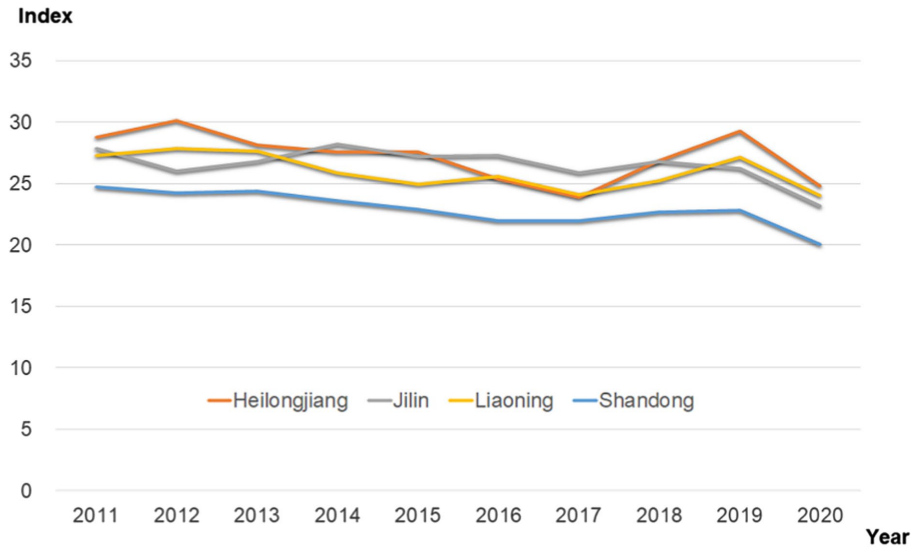


FIGURE 3
Trend of individualism index. It is the visual presentation of Table 1, data source from Weibo's public application service interface API, the Weibo posts used in the present study are publicly available, while users' privacy is strictly protected according to ethical principles. Individualism index refers to the subtraction of collectivism from individualism.

TABLE 2 The result of one way ANOVA for Individualism index.

C	Sum of squares	df	Mean square	*F*	Sig.
Between groups	113.63	3	37.88	15.85	0.00
Within groups	95.58	40	2.39		
Total	209.21	43			

$F(3,40) = 15.85$, $p < 0.01$.

SD = 1.33), $t(20) = 5.89$, $p < 0.01$, Cohen's d = 2.51. This was also the case when comparing Jilin ($M = 26.43$, SD = 1.38) to Shandong ($M = 22.90$, SD = 1.33), $t(20) = 6.10$, $p < 0.01$, Cohen's d = 2.60, and when comparing Liaoning ($M = 25.84$, SD = 1.42) to Shandong ($M = 22.90$, SD = 1.33), $t(20) = 5.01$, $p < 0.01$, Cohen's d = 2.14. In summary, the three provinces of Heilongjiang, Jilin and Liaoning had a higher tendency toward individualism compared to the reference Shandong province, particularly Heilongjiang province, which was found to have the highest tendency in Northeast China. These results showed that even after expanding the sample size and establishing the true meaning of the expression, the same results were obtained, which is consistent with Bai and Ren (2021) findings. These results validated our research hypothesis based on the framework of voluntary frontier settlement, illustrating that this phenomenon may be related to the influence of the Chuangguandong Movement.

4. Discussion

Based on the Weibo text data that were collected for period from 2010 to 2020, this study used an individualistic/collectivist dictionary to extract text features and analyze the word frequency. One-factor variance verification revealed that the individualism tendency of Heilongjiang, Jilin, and Liaoning in the Chuangguandong region was higher than that in Shandong Province. By excluding other ecological factors, the Chuangguandong Movement was confirmed as a possible cause of the highly individualistic culture of the northeast region. This is consistent with the research conclusion of Bai and Ren (2021), which further confirmed the robustness of the findings and the universality of the explanation of the influence of the voluntary frontier movement on individualism and verified the effectiveness of the method. These results also provide new evidence for the future study of Chinese individualism and cross-cultural research. Moreover, we also found that regardless of the year, the individualism in the three northeastern provinces was higher than that of Shandong, which suggested that individualistic tendencies in the northeast region were very stable.

4.1. Ecology of individualism

There are many factors influencing the regional differences in individualism/collectivism that could further explain the possible impact of voluntary frontier movement in Northeast

China. Other ecological factors are shown and compared in Table 3. (1) Modernization theory: the *per capita* GDP in Northeast China (42,635 in Heilongjiang, 50,800 in Jilin, and 58,872 in Liaoning) was less than that of Shandong Province (72,151) (Department of Heilongjiang statistical, 2021; Department of Jilin Statistical, 2021; Department of Liaoning Statistical, 2021; Department of Shandong Statistical, 2021). According to modernization theory, the level of individualism in Northeast China was lower than that in Shandong, which had a higher degree of economic modernization. This is obviously contrary to our analytical conclusions. Therefore, modernization theory cannot explain the phenomenon of a highly individualistic culture in Northeast China well. (2) Climate economic theory: the climate demand of the three northeastern provinces (Heilongjiang was 89.29, Jilin was 82.71, and Liaoning was 70.75) was higher than that of Shandong (51.63) (NOAA, 2022), and in terms of economic indicators, the *per capita* GDP of the three northeastern provinces was lower than that of Shandong. Taking in consideration this theory, it was found that the climate environment in the northeast was relatively poor and the economic resources were relatively weak, so the collectivist tendency in the northeast was stronger than that in Shandong. Again, this was contrary to our conclusions. Therefore, this theory cannot be considered as possible explanation for the higher levels of individualism observed in Northeast China than in Shandong. (3) Rice theory: the percentage of rice planted in Northeast China (26.82% in Heilongjiang, 14.73% in Jilin, 14.75% in Liaoning) was larger than that in Shandong (1.36%) (Department of Heilongjiang statistical, 2021; Department of Jilin Statistical, 2021; Department of Liaoning Statistical, 2021; Department of Shandong Statistical, 2021). According to this theory, individualism in the northeast was lower than in Shandong. Therefore, the rice theory also does not provide a reasonable explanation for the findings of the present study.

Comparing the above with possible competitive ecological factors, we found no support for the above factors, and they could not explain the phenomena observed in this study. However, the voluntary frontier settlement hypothesis proposes that regions with frontier settlement are more individualistic (Turner, 1920). As mentioned earlier, the theoretical framework includes three important processes, i.e., self-selection, reinforcement, and institutionalization (Kitayama et al., 2006; Bai and Ren, 2021), which not only explain the individualism presented in the United States compared to other Western European and East Asian countries (Kitayama et al., 2009), but also the differences between Hokkaido and the main island of Japan (Kitayama et al., 2006) and the differences between Shenzhen and other reference regions (Chen et al., 2016, 2019; Luo and Ren, 2018). As a voluntary frontier settlement in China, the Chuangguandong Movement includes the three processes mentioned above, i.e., the high immigrants' motivation (Zhang, 1998; Gottschang and Lary, 2000; Fan, 2005; Fan and Jia, 2016), the continuous influx of immigrants' adaptation to the ecological conditions in Northeast China (Ho, 1959; Zhang, 1998; Gottschang and Lary, 2000; Fan, 2005), and the gradual formation of an independent spirit in the northeast region (Fan, 2005, 2021; Fan and Jia, 2016), all of which reflect the independent tendency brought about by the Chuangguandong Movement. Therefore, the Chuangguandong Movement provides better clarification of these historical events, which may explain why the northeast region is more individualist than Shandong. However, more research is needed to further verify the reported findings.

The ideal way to manipulate the independent variables through experimental design would be to test the changes in the individualism of Northeast China before and after the Chuanguandong Movement. Nevertheless, the Chuangguandong Movement is a historical event, so it is impossible to make before and after comparisons. Moreover, it is also difficult to manipulate other social and ecological factors in the laboratory. Therefore, most of the current studies used historical events as antecedent variables to examine the differences in individualism between the two places through comparative analysis of the historical event and the reference place.

TABLE 3 Ecology of individualism.

Index	Heilongjiang	Jilin	Liaoning	Shandong
Climatic demands	89.29	82.71	70.75	51.63
Per capita GDP 2020	42,635	50,800	58,872	72,151
Rice	26.82%	14.73%	14.75%	1.36%

Climatic demands is the sum of the absolute deviations from 22°C (ca. 72°C) for the lowest and highest temperatures in the coldest month and the lowest and highest temperatures (Van de Vliert, 2011). Data source from Meteorological data from 1929–2021 in NOAA. Per capita GDP and Rice, which provide data from statistical yearbooks of each province (Department of Heilongjiang statistical, 2021; Department of Jilin Statistical, 2021; Department of Liaoning Statistical, 2021; Department of Shandong Statistical, 2021).

4.2. Online social media and dictionary

By using the method of extracting word frequencies based on microblog big data and the individualism/collectivism dictionary, we reached conclusions that are consistent with the research results reported by Bai and Ren (2021). This proved the effectiveness of this method and provided a new research channel for the study of individualism/collectivism. On the one hand, Weibo, as one of the popular social platforms in China, reflected the representativeness of the sample, the objectivity of the content, the convenience and timeliness of data acquisition and so on. The big data from Weibo include a much larger sample size and more provinces (160 million text data for Heilongjiang 15,872, Jilin 9,803, Liaoning 17,988 and Shandong 23,002, respectively) compared to the sample size of only 179, Heilongjiang 104, and Shandong 75 used in

study by Bai and Ren (2021), which to some extent reduces the error caused by sample size. Since our data included decade-long data from 2010 to 2020, this approach has more advantageous in terms of stability in reflecting regional differences and ability to further improve the robustness of the analysis results. With the development of social media, people are increasingly more inclined to use pictures and video materials to express their emotions and psychological states, so future studies should also consider feature extraction and analysis based on pictures and video materials. On the other hand, the iterative individualism/collectivism dictionary was effectively verified again. In this study, we did not consider the relevant extended words in the dictionary when processing text features. E.g., in the individualist vocabulary, we only considered "I" (in Chinese, "我") but did not include its extended word "Wu" (in Chinese, "吾"). In our future work, we plan to use Chinese text analysis software named the "Wenxin" system (Zhao et al., 2016) when extracting text features, as this approach has already been verified, and it might produce different findings.

4.3. Limitations

Although this study solved the problems of small sample size and subjective content encountered in previous studies, there are still some areas for improvement and refinement. First, in terms of sample selection, since most of the microblog users were 28–38 years old and the sample of users in other age groups was relatively small, it remains unclear whether these data truly reflect the people in the Guandong region, which should be comprehensively analyzed in the future by combining data from other channels. However, such problems were also encountered in previous studies. When Chen et al. (2016) analyzed independent self in Shenzhen, the subjects were 238 high school students from Shenzhen and Foshan. The second issue is in the control of individual-level factors, since gender and age are not mandatory fields for Weibo users, the missing values accounted for a large proportion, making it impossible to effectively control these influencing factors in the analysis. This issue can be solved by technical means in future data extraction and preprocessing. Third, the triangulation model mentioned in Kitayama et al. (2006) could be considered to raise the effectiveness of the research method. Since the data we obtained came from Weibo, where the main users were Chinese, and users' locations in other counties were marked as overseas, it was difficult to distinguish a specific country. Thus, it would be useful to obtain the data from other social platforms such as Twitter, to verify the consistency of the two platforms. However, it does not affect the effectiveness of our research method. In Japan's independent culture studies, Ishii (2014), Ishii et al. (2014) considered the different consequences of voluntary settlement were closely related to the specific culture in which voluntary settlement occurred. This means that, since the different cultural backgrounds between Northeast China and the United States, even if the United States is taken into account as the control group, it still cannot not change the fact that the results of the individualism in the Northeast China are higher than those in Shandong. Fourth, the trend of individualism in the past 11 years did not have a horizontal trend, but it fluctuated with years. Future studies should further analyze the reasons or influencing factors of these fluctuations. Fifth, as is well known, after the economic system reform in the 1980s, Northeast China changed from the original net population inflow to outflow region. Especially after the middle 1990s, the speed of the net migration of the population accelerated. Therefore, it is also worth further discussing whether the microblog data after 2010 should be analyzed in combination with population mobility.

5. Conclusion

Our results showed that inhabitants in Northeast China, an area affected by the Chuangguandong historical movement, were more individualistic than their counterparts in Shandong. This finding supported that the Chuangguandong Movement which could be constructed as a historical voluntary frontier settlement in China fostered independent agency, thus, extending and enriching the generalization of the frontier ecology of individualism.

Data availability statement

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

Ethics statement

The studies involving human participants were reviewed and approved by the Research Ethics Committee of the Institute of Psychology, Chinese Academy of Sciences. The patients/participants provided their written informed consent to participate in this study.

Author contributions

XR designed the study and provided critical revision and full guidance of the paper. YW collected and analyzed the data and wrote the manuscript with input from all authors. All authors contributed to the article and approved the submitted version.

Funding

This research was funded by the National Social Science Fund of China project (Grant No. 20BSH142) and the Strategic Priority Research Program of Chinese Academy of Sciences (Grant No. XDA27000000).

Acknowledgments

The authors wish to sincerely thank to all participants for their contributions and help in this research. Special thanks to XR for his professional guidance.

Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

Publisher's note

All claims expressed in this article are solely those of the authors and do not necessarily represent those of their affiliated organizations, or those of the publisher, the editors and the reviewers. Any product that may be evaluated in this article, or claim that may be made by its manufacturer, is not guaranteed or endorsed by the publisher.

References

Bai, J., and Ren, X. (2021). Chuangguandong movement and the independent agency. *Chin. Soc. Psychol. Rev.* 16, 14–37.

Bazzi, S., Fiszbein, M., and Gebresilasse, M. (2020). Frontier culture: the roots and persistence of "rugged individualism" in the United States. *Econometrica* 88, 2329–2368. doi: 10.3982/ECTA16484

Center Sina Weibo Data. (2021). *Development of Sina Weibo Users Report in 2020*. Available at: https://data.weibo.com/report/reportDetail?id=456 (Accessed March 12, 2021).

Chen, X., Ren, X., and Zhang, X. (2019). Shenzhen Spirit fosters independent agency. *Chin. Soc. Psychol. Rev.* 16, 14–37.

Chen, S., Xu, J., and Ren, X. (2016). Voluntary frontier settlement Foster independent agency: evidence from China. *Chin. J. Clin. Psych.* 24, 738–740. doi: 10.16128/j.cnki.1005-3611.2016.04.037

Department of Heilongjiang statistical. (2021). *Heilongjiang Statistical Yearbook of 2021*. Retrieved from http://tjj.hlj.gov.cn/tjjnianjian/2021/zk/indexch.htm

Department of Jilin Statistical. (2021). *Jilin Statistical Yeabook of 2021*. Available at: http://tjj.jl.gov.cn/tjsj/tjnj/2021/ml/indexc.htm (Accessed January 5, 2022).

Department of Liaoning Statistical. (2021). *Liaoning Statistical Yeabook of 2021*. Available at: https://tjj.ln.gov.cn/tjj/tjxx/xxcx/tjnj/otherpages/2021/zk/indexch.htm (Accessed February 28, 2022).

Department of Shandong Statistical. (2021). *Shandong Statistical Yeabook of 2021*. Available at: http://tjj.shandong.gov.cn/tjnj/nj2021/zk/indexch.htm (Accessed December 16, 2021).

Fan, L. (2005). *Northeast Immigrants and Social Changes in Modern Times (1860~1931)*. (Doctor). Zhejiang University.

Fan, L. (2021). Guannei Yimin yu Dongbei Yimin Wenhua zhi Xingcheng. *Stud. Chin. Reg. Cult.* 1, 141–149.

Fan, L., and Jia, B. (2016). The cultural connotation of "the Spirit of braving the journey to the northeast of China" and its value. *Historical Reaserch in Auhui* 4, 24–28+165.

Gao, R., Hao, B., Li, H., Gao, Y., and Zhu, T. (2013). Developing simplified Chinese psychological linguistic analysis dictionary for microblog. *Paper presented at the Brain and Health Informatics*, Cham.

Gottschang, T. R., and Lary, D. (2000). *Swallows and Settlers: The Great Migration from North China to Manchuria*. Ann Arbo: University of Michigan Press.

Hamamura, T. (2012). Are cultures becoming individualistic? A cross-temporal comparison of individualism–collectivism in the United States and Japan. *Personal. Soc. Psychol. Rev.* 16, 3–24. doi: 10.1177/1088868311411587

Hamamura, T., and Xu, Y. (2015). Changes in Chinese culture as examined through changes in personal pronoun usage. *J. Cross-Cult. Psychol.* 46, 930–941. doi: 10.1177/0022022115592968

Ho, P. T. (1959). *Studies on the Population of China, 1368–1953*. Cambridge: Harvard University Press.

Inglehart, R., and Baker, W. E. (2000). Modernization, cultural change, and the persistence of traditional values. *Am. Sociol. Rev.* 65:19. doi: 10.2307/2657288

Ishii, K. (2014). Consequences of voluntary settlement: normative beliefs related to independence in Hokkaido. *J. Cogn. Cult.* 14, 159–169. doi: 10.1163/15685373-12342118

Ishii, K., Kitayama, S., and Uchida, Y. (2014). Voluntary settlement and its consequences on predictors of happiness: the influence of initial cultural context. *Front. Psychol.* 5:1311. doi: 10.3389/fpsyg.2014.01311

Kitayama, S., Conway, L., Pietromonaco, P., Park, H., and Plaut, V. (2010). Ethos of Independence across regions in the United States the production-adoption model of cultural change. *Am. Psychol.* 65, 559–574. doi: 10.1037/a0020277

Kitayama, S., Ishii, K., Imada, T., Takemura, K., and Ramaswamy, J. (2006). Voluntary settlement and the Spirit of Independence: evidence from Japan's "northern frontier". *J. Pers. Soc. Psychol.* 91, 369–384. doi: 10.1037/0022-3514.91.3.369

Kitayama, S., Park, H., Sevincer, A. T., Karasawa, M., and Uskul, A. K. (2009). A cultural task analysis of implicit Independence: comparing North America, Western Europe, and East Asia. *J. Pers. Soc. Psychol.* 97, 236–255. doi: 10.1037/a0015999

Luo, C., and Ren, X. (2018). Ongoing voluntary settlement and independent agency: evidence from several cultural tasks. *Adv. Psychol. Sci.* 26, 1928–1934. doi: 10.3724/SP.J.1042.2018.01928

Na, J., Kosinski, M., and Stillwell, D. J. (2015). When a new tool is introduced in different cultural contexts: individualism–collectivism and social network on Facebook. *J. Cross Cult. Psychol.* 46, 355–370. doi: 10.1177/0022022114563932

NOAA. (2022). *Meteorological Data from 1929–2021*. Available at: https://www.ncei.noaa.gov/data/global-summary-of-the-day/archive/

Oyserman, D., Coon, H. M., and Kemmelmeier, M. (2002). Rethinking individualism and collectivism: evaluation of theoretical assumptions and meta-analyses. *Psychol. Bull.* 128, 3–72. doi: 10.1037/0033-2909.128.1.3

Park, H. (2007). *Socio-cultural Construction of the Self: Effects of Voluntary Settlement, Public Self-presentation, and Cultural Norms for Public Behavior. ProQuest Dissertations Publishing*. (Dissertation/Thesis). Available at: https://www.proquest.com/docview/304851605/abstract/9D1CB4EEAF7F4178PQ/1

Ren, X., Cang, X., and Andrew, G. R. (2021). An integrated ecological approach to mapping variations in collectivism within China: introducing the triple-line framework. *J. Pac. Rim Psychol.* 15:183449092199143. doi: 10.1177/1834490921991436

Ren, X., Han, N., and Zhu, T. (2020). *Covid-19 Increased Collectivistic Expression on Sina Weibo*. International Conference on behavioural and Social Computing.

Ren, X., Xiang, Y., Zhou, Y., and Zhu, T. (2017). Individualism/collectivism map of China based on Weibo. *J. Inner Mong. Norm. Univ.* 46, 59–64. doi: 10.3969/j.issn.1001-7623.2017.06.011

Su, H., and Ren, X. (2014). Regional difference and cross-generational change of individualism. *Adv. Psychol. Sci.* 22, 1006–1015. doi: 10.3724/SP.J.1042.2014.01006

Talhelm, T., Zhang, X., Oishi, S., Shimin, C., Duan, D., Lan, X., et al. (2014). Large-scale psychological differences within China explained by Rice versus wheat agriculture. *Science* 344, 603–608. doi: 10.1126/science.1246850

Turner, F. J. (1920). *The Frontier in American History*. New York: Open Road Integrated Media, Inc.

Uskul, A. K., Kitayama, S., and Nisbett, R. E. (2008). Ecocultural basis of cognition: farmers and fishermen are more holistic than herders. *Proc. Natl Acad. Sci.* 105, 8552–8556. doi: 10.1073/pnas.0803874105

Van de Vliert, E. (2011). Climato-economic origins of variation in Ingroup favoritism. *J. Cross-Cult. Psychol.* 42, 494–515. doi: 10.1177/0022022110381120

Van de Vliert, E., Yang, H., Wang, Y., and Ren, X. (2013). Climato-economic imprints on Chinese collectivism. *J. Cross-Cult. Psychol.* 44, 589–605. doi: 10.1177/0022022112463605

Varnum, M. E. W., and Kitayama, S. (2011). What's in a name? Popular names are less common on frontiers. *Psychol. Sci.* 22, 176–183. doi: 10.1177/0956797610395396

Xu, D., and Wang, G. (2016). A research on the cultural Diferences between Chuang Guandong and American Western development ---a case study oil Chuang Guandong and dancing with the Wolve. *J. Huaqiao Univ.* 5, 132–140. doi: 10.16067/j.cnki.35-1049/c.2016.05.013

Zeng, R., and Greenfield, P. M. (2015). Cultural evolution over the last 40 years in China: using the Google Ngram viewer to study implications of social and political change for cultural values. *Int. J. Psychol.* 50, 47–55. doi: 10.1002/ijop.12125

Zhang, L. (1998). "Chuangguandong" Yi Min Chao Jian Xi. *Zhongguo She Hui Jing Ji Shi Yan Jiu* 2, 57–64.

Zhao, N., Jiao, D., Bai, S., and Zhu, T. (2016). Evaluating the validity of simplified Chinese version of LIWC in detecting psychological expressions in short texts on social network services. *PLoS One* 11, –e0157947. doi: 10.1371/journal.pone.0157947

frontiers | Frontiers in Psychology

TYPE Original Research
PUBLISHED 11 January 2023
DOI 10.3389/fpsyg.2022.1066146

OPEN ACCESS

EDITED BY
Dario Paez,
University of the Basque Country, Spain

REVIEWED BY
Elena Trifiletti,
University of Verona,
Italy
Kimmo Eriksson,
Mälardalen University,
Sweden

*CORRESPONDENCE
Savaş Karataş
✉ savas.karatas2@unibo.it

SPECIALTY SECTION
This article was submitted to Personality and Social Psychology, a section of the journal Frontiers in Psychology

RECEIVED 10 October 2022
ACCEPTED 19 December 2022
PUBLISHED 11 January 2023

CITATION
Karataş S, Rubini M, Prati F, Schwartz SJ and Crocetti E (2023) Intergroup contact in multiple adolescents' contexts: The Intergroup Contact Interactions Scale (ICIS).
Front. Psychol. 13:1066146.
doi: 10.3389/fpsyg.2022.1066146

Intergroup contact in multiple adolescents' contexts: The Intergroup Contact Interactions Scale (ICIS)

Savaş Karataş[1]*, Monica Rubini[1], Francesca Prati[1], Seth J. Schwartz[2] and Elisabetta Crocetti[1]

[1]Department of Psychology, Alma Mater Studiorum University of Bologna, Bologna, Italy, [2]Departments of Kinesiology, Health Education, and Educational Psychology, College of Education, The University of Texas at Austin, Austin, TX, United States

In the present contribution, we aimed to test the psychometric properties of the Intergroup Contact Interactions Scale (ICIS). The ICIS is a tool that can easily be administered to assess ethnic minority and majority adolescents' positive and negative intergroup contact in both school and out-of-school contexts. Study I included 169 adolescents in Italy (40.2% ethnic minority adolescents; 51.5% female; M_{age}=14.41) and provided initial support for the two-factor structure (i.e., positive and negative contact) of the ICIS in both school and out-of-school contexts. Study II, conducted with a sample of 1,037 adolescents in Italy (26.5% ethnic minority adolescents; 59.7% female; M_{age}=14.58), indicated that the fit of the two-factor ICIS structure was excellent for both school and out-of-school contexts. Measurement invariance across ethnic minority and majority adolescents was also established. Convergent validity was also ascertained by highlighting meaningful associations of adolescents' positive and negative contact with the quantity of contact as well as with their perceptions regarding parents' positive and negative contact with outgroup members. Study III, involving a sample of 641 adolescents in Turkey (32.9% ethnic minority adolescents; 69.6% female; M_{age}=15.51), supported the two-factor structure, as well as convergent validity, of the ICIS in both contexts. Measurement invariance across ethnic groups was also established. Overall, these studies suggest that the ICIS is a reliable measure for studying positive and negative intergroup contact among ethnic minority and majority adolescents across school and out-of-school contexts.

KEYWORDS

intergroup contact, positive contact, negative contact, parental contact, adolescence, school, out-of-school contexts

Introduction

International migration is increasing worldwide (International Organization for Migration, 2019). Despite its challenges (e.g., prejudice, ethnocentric and xenophobic tendencies; Crocetti et al., 2021), such a progressive increase in international migration brings out beneficial opportunities for intergroup contact among people with diverse ethnic

and cultural backgrounds (Wagner et al., 2006; Schlueter and Wagner, 2008; Pettigrew et al., 2010). Contact between the members of migrant and host national groups becomes particularly important and salient during the developmental period of adolescence because young people expand their social relationships to include peers and develop their intergroup attitudes based on interactions with peers, especially those of diverse ethnic and cultural backgrounds (Feddes et al., 2009; Wölfer et al., 2016; Elias et al., 2021; Guan et al., 2022). These contact experiences among ethnic minority (i.e., individuals born outside the destination country or who have at least one parent born outside the destination country; European Commission, 2020) and ethnic majority adolescents can take place in several contexts, such as school (e.g., Schachner et al., 2015; Bohman and Miklikowska, 2020) and other important out-of-school contexts (e.g., neighborhood, sports club; Bekhuis et al., 2013; Merrilees et al., 2018). Notably, it is critically important to examine adolescents' intergroup contact both at school (a relatively more structured context where young people spend a great deal of their time) and in out-of-school contexts that may involve relatively less structured contact interactions. As such, there is an urgent need for a valid and reliable scale that can be easily administered to adolescents to assess their intergroup contact across these contexts while maintaining its psychometric properties. Therefore, in the present studies, we aimed to test the psychometric properties of a short and age-appropriate scale to measure positive and negative valence of adolescents' intergroup contact.

Intergroup contact theory

In his seminal conceptualization of intergroup contact, Allport (1954) argued that contact between members of different groups, under the right conditions – i.e., cooperation and equal status of groups in a given context, as well as common goals and support from authorities – would lessen intergroup hostility and lead to more positive intergroup attitudes. A great deal of research has been devoted to testing the basic principles of Intergroup Contact Theory over the last six decades. A key meta-analysis on intergroup contact (Pettigrew and Tropp, 2006, 2008) indicated that, although there may be facilitating conditions that enhance the impact of contact (including Allport's original optimal conditions), engaging in social contact (and particularly positive contact), in and of itself, has a clear and demonstrable positive impact on intergroup attitudes across different contexts.

Nevertheless, in outlining the optimal conditions for intergroup contact, attention has been devoted predominantly to positive valence of contact, even though intergroup contact experiences might also have negative valence (Barlow et al., 2012; Meleady and Forder, 2019; Schäfer et al., 2021). Whereas positive contact is characterized by warm, respectful, friendly, and pleasant interactions between members of different groups, negative contact refers to distant, insulting, intimidating, unfriendly, and unpleasant interactions with outgroup members (Hayward et al., 2017). A pivotal study considering both forms of intergroup contact (Barlow et al., 2012) contended that, although positive contact is more frequent, negative contact has a more substantial effect on prejudice and intergroup attitudes (i.e., positive–negative contact asymmetry; see also Graf et al., 2014; Techakesari et al., 2015). Yet, other studies have failed to provide strong evidence concerning such an asymmetry by suggesting equal and opposite influences of positive and negative contact vis-à-vis various intergroup outcomes (e.g., Visintin et al., 2016; Árnadóttir et al., 2018). However, further evidence is still needed to better understand the mutual dynamics of positive and negative contact, specifically in adolescence, because adolescents' contact directly influences the development of their concurrent and prospective intergroup attitudes (Feddes et al., 2009; Ruck et al., 2011; Wölfer et al., 2016).

Positive and negative contact in adolescence

Most research (e.g., Bagci et al., 2014) with ethnic minority and majority adolescents has focused primarily on the beneficial effects of positive contact by examining cross-ethnic friendships – as one of the most potent forms of positive contact – (Pettigrew, 1998; see also Davies et al., 2011). Along this line, cross-ethnic friendships have been found to provide psychosocial benefits for adolescent development, such as developing more inclusive intergroup attitudes (Turner et al., 2007; Feddes et al., 2009; Wölfer et al., 2016), greater psychological and social well-being (Karataş et al., 2021), more favorable academic outcomes and school adjustment (Baysu et al., 2014; Bagci et al., 2017), together with an increased sense of safety and decreased sense of vulnerability (e.g., Munniksma and Juvonen, 2012; Graham et al., 2014).

Besides these findings, van Zalk et al. (2021) have recently focused on positive intergroup contact between ethnic minority (i.e., Asian British) and majority (i.e., White British) adolescents without referring specifically to cross-ethnic friendships. They found that adolescents' positive contact in ethnically and culturally diverse schools increased positive attitudes toward outgroup members by reducing intergroup anxiety and improving their knowledge about outgroup willingness for contact. A similar finding, indicating the mediating effect of intergroup anxiety in the associations between positive contact and negative intergroup attitudes, also emerged in The Netherlands, although the effect was more substantial for Dutch majority adolescents than for Muslim minority adolescents. In terms of adolescents' negative contact and their correlates, however, both direct or indirect (through intergroup anxiety) associations were found among majority, but not minority, adolescents (Vedder et al., 2017). Despite these latter findings, studies have found that immigrant adolescents tend to indicate less positive intergroup attitudes and a lower sense of belonging to the destination culture when they engage in more negative contact in the form of unequal treatment and discrimination (Kende et al., 2021). In addition to these additive effects of positive and negative contact, a recent study testing the specific interactions between positive and negative

contact (Árnadóttir et al., 2022) has also suggested that negative contact may undermine, at least to some extent, the favorable effects of positive contact among ethnic minority youth. Taken together, these findings underscore that positive and negative contact represent distinct forms of intergroup interactions, and that both deserve attention.

As a result, adopting a context-oriented approach (looking at school and out-of-school contexts separately) could enable to better understand how positive and negative contact and their correlates might be driven by contextual factors. This is specifically relevant in adolescents, whereby developmental changes might be influenced by interactions within and across socialization contexts (Bronfenbrenner and Morris, 2006). Among the different adolescents' contexts, school has been conceived as the primary context because youth spend most of their time there and most of the optimal conditions for positive contact (e.g., equal status of groups) are provided through supportive institutional diversity norms (Tropp et al., 2022; Karataş et al., 2023). Out-of-school contexts, on the other hand, could involve a variety of more or less normative and frequent contact situations for adolescents. Therefore, the effects of adolescents' positive and negative contact on various intergroup outcomes might differ depending on whether their contact occurs in relatively more or less structured socialization contexts (i.e., school and out-of-school contexts, respectively).

Indeed, Bekhuis et al. (2013) have provided initial insights regarding the differential links of perceived ethnic distance with adolescents' positive and negative contact across schools and out-of-school contexts. They found that the effects of positive and negative intergroup contact in class were equally strong, whereas both positive and negative contact at sport clubs were unrelated to prejudiced attitudes toward ethnic outgroup members. This evidence supports our prior contention that positive and negative contact should be studied by considering school and out-of-school contexts, with the aim of better understanding the additive or interactive effects of these two forms of contact in adolescence. To this end, it is of critical importance to measure adolescents' positive and negative contact by employing an age-appropriate scale that can easily be adapted to both school and out-of-school contexts.

Measurement of positive and negative contact in adolescence

So far, different approaches have been used to explore adolescents' intergroup contact. Of these approaches, Social Network Analysis (SNA) has been increasingly applied to evaluate adolescents' intergroup contact (e.g., Titzmann, 2012; Wölfer et al., 2016). Under the heading of SNA, it is essential to highlight the distinction between sociocentric and egocentric networks (Clifton and Webster, 2017). Sociocentric networks consider the direct and indirect social relationships within the naturally existing social structure in a given social setting (e.g., school, classroom) and, thus, represent an accurate and comprehensive way to appraise adolescents' social contacts (Clifton and Webster, 2017; see also O'Donnell et al., 2021). Notwithstanding these advantages, this technique is restricted to a closed network (e.g., a specific classroom); it is, therefore, less suitable for capturing simultaneous contact experiences across multiple contexts. Moreover, it is also susceptible to missing data because missing participants can completely change the social network structure (see Wölfer and Hewstone, 2017). Although most of these drawbacks might be eliminated through alternative egocentric networks, which is an approach to assessing the personal networks of a specific respondent, these networks are completely subjective, like self-reported measures (Clifton and Webster, 2017). Therefore, self-report measures may still represent an essential way for assessing adolescents' intergroup contact, especially when gathering large samples within a small span of time necessary.

However, most previously applied self-report scales have been designed to measure the quality of adolescents' intergroup contact by employing either single (e.g., Mähönen et al., 2011) or multiple items (e.g., Merrilees et al., 2018) but without separating positive and negative contact as distinct yet relevant forms of intergroup contact (for exceptions, see Bagci and Gungor, 2019; Reimer et al., 2021; Árnadóttir et al., 2022). For example, in their studies with adolescents in Finland, Mähönen et al. (2011) assessed the quality of intergroup contact by employing a single-item measure rated on a 5-point-Likert scale to determine whether or not adolescents' intergroup contact was generally pleasant. Merrilees et al. (2018) longitudinally measured intergroup contact quality by assessing positive interactions with outgroup members (i.e., equal, pleasant, friendly, cooperative, close, and intimate), but did not measure negative interactions. However, the advancements in the relevant literature (e.g., Pettigrew, 2008; Barlow et al., 2012, 2019; Aberson, 2015; Hayward et al., 2017) propose treating positive and negative contact as separate constructs so as to facilitate deeper insights into the dynamics of intergroup interactions. Some recent studies have assessed positive and negative contact in adolescence by employing one item for each (e.g., Bagci and Gungor, 2019; Bagci et al., 2022). However, this approach might not fully capture the multifaceted nature of adolescents' contact (for a similar discussion, see Árnadóttir et al., 2022). Hence, testing the psychometric properties of a self-report measure including multiple but similarly structured items capturing positive and negative contact across adolescents' socialization contexts might facilitate a greater understanding of how intergroup contact occurs in the lives of ethnic minority and majority youth.

Overview of the present studies

Considering that several contextual properties (e.g., the ethnic composition of classes and neighborhoods; Merrilees et al., 2018; Lessard et al., 2019) might influence adolescents' intergroup relations, it is critical to design a scale that can be applied across different socialization contexts while preserving its psychometric properties. To this end, we aimed to test the psychometric properties of an age-appropriate multiple-item measure that

distinguishes between positive and negative interactions with outgroup members, as recommended by recent research on intergroup contact (Árnadóttir et al., 2022). More precisely, to capture the adolescents' positive and negative intergroup contact across their multiple socialization contexts (i.e., school and out-of-school), we tested whether the ICIS can be applied to ethnic minority and majority adolescents. Initially, items assessing positive and negative contact based on the particular interactions with the outgroup members were drawn from Hayward et al. (2017). In their study, Hayward and colleagues proposed 37 and 32 items to assess positive and negative contact, respectively. From this pool, we selected eight items (i.e., four items for positive contact and four items for negative contact) assessing frequent positive and negative intergroup contact interactions, which could also be paired in terms of their different valence (e.g., "They have been friendly toward you; They have been unfriendly toward you"). In addition to these items related to specific types of contact-based interactions, we retained two equivalent but opposite items (i.e., The experience you had with host-nationals [foreign people] was positive [negative]") based on prior studies in which these single items have widely been used to assess positive and negative contact (e.g., Barlow et al., 2012; Techakesari et al., 2015; Reimer et al., 2021). In this way, we designed a measurement tool consisting of 10 items (five for positive contact and five for negative contact) that could easily be rated by adolescents to assess their positive and negative contact across school and out-of-school contexts and within various types of studies (e.g., using longitudinal or experimental designs). However, considering that most of these items have been used with adults either separately or in different combinations, it is strictly necessary to test whether the ICIS can be reliably applied to ethnic minority and majority adolescents. Hence, in this set of studies, we aimed to evaluate the validity and reliability of the ICIS to assess adolescents' positive and negative contact in school and out-of-school contexts.

In Study I, we tested the factor structure of the ICIS in both school and out-of-school contexts using Exploratory Factor Analysis (EFA) with ethnic minority and majority adolescents in Italy. Building on the EFA results in Study I, we aimed to provide further evidence for the psychometric properties of scores generated by the ICIS in two different *national contexts* (Kohn, 1987), namely Italy and Turkey (i.e., Studies II and III, respectively). In particular, Italy is a nation in which ethnic minority adolescents are mainly second-generation immigrants with frequent interactions with outgroup members, whereas Turkey has been a primary destination country for first-generation Syrian refugee adolescents who have relatively less frequent experiences with ethnic majority peers. Considering the quite different ethnic compositions of these two countries (see also Karataş et al., 2020; Prati et al., 2021), further testing of the psychometric properties of the ICIS in these countries would allow us to assess the robustness of the present tool.

In Study II, we tested the construct validity of the ICIS in school and out-of-school contexts with a large sample of adolescents in Italy. Furthermore, we evaluated measurement invariance to provide empirical evidence for the extent to which the ICIS can be employed equally well to measure positive and negative contact among ethnic minority and majority adolescents in Italy. Thereafter, in line with the intergroup contact literature, which emphasizes that positive contact is more frequent than negative contact (Barlow et al., 2012; Graf et al., 2014), we aimed to test the convergent validity of the ICIS by examining the associations between the frequency of adolescents' direct contact with outgroup members (i.e., quantity of intergroup contact; Barlow et al., 2012) and their positive and negative contact. In addition, consistent with intergenerational transmission processes (Degner and Dalege, 2013) that suggest potential links of parents' positive and negative contact with corresponding contact experiences among their children (e.g., Bagci and Gungor, 2019), we also aimed to disentangle the associations of adolescents' positive and negative contact in both contexts with their perceptions concerning their parents' positive and negative contact.

In Study III, we examined the psychometric properties of the ICIS in the Turkish context. In doing so, we initially tested its factor structure with a sample including ethnic minority and majority adolescents in Turkey. We then tested ethnic measurement invariance (i.e., ethnic majority and minority adolescents) for the ICIS separately within school and out-of-school contexts. Finally, as in Study II, we examined the convergent validity of scale by investigating the associations of adolescents' positive and negative contact with the quantity of their own intergroup contact, on the one hand, and, on the other hand, with positive and negative intergroup contact of their parents.

Study I: Testing the ICIS in a pilot study

Given that most ICIS items have been mainly used with adults, in this study, we aimed to test the factorial structure of the ICIS with a pilot sample consisting of ethnic minority and majority adolescents in Italy.

Method

Participants

Study I included 169 adolescents (51.5% female; $M_{age}=14.41$, $SD_{age}=0.74$; age range 13–18), of which 101 were ethnic majority (i.e., Italian) adolescents and 68 were ethnic minority adolescents living in Italy (61.8% were second-generation and 38.2% were first-generation immigrants). In terms of language fluency, ethnic minority adolescents self-reported their fluency in Italian on a scale from 0 to 10. The mean scores of the first-generation ($M=8.52$, $SD=1.80$) and second-generation ($M=9.41$, $SD=0.83$) immigrant adolescents indicated that all participants were fluent in Italian.

The majority of participants (79.9%) came from two-parent families, 19.5% indicated that their parents were separated or

divorced, and 0.6% reported other family situations (e.g., one deceased parent). Fathers' educational levels were as follows: 37.5% held less than a high school diploma, 42.9% held a high school diploma, and 19.6% held a university degree. Mothers' educational levels were as follows: 21.9% held less than a high school diploma, 52.7% held a high school diploma, and 25.4% held a university degree.

Measures

After obtaining both active participants' assent and parental consent, participants completed an online questionnaire including socio-demographic questions (e.g., age, gender, and birth country) and the ICIS. The ICIS was translated from English into Italian in three steps: (1) two Italian versions of the scale were generated separately by a member of the authors' team and a research assistant in social psychology; (2) the two translations were compared to each other, and disagreements were discussed until consensus was reached; and (3) the final Italian version was back-translated into English by another researcher, and this back-translated English version was compared to the original English version (Hambleton, 1994; van de Vijver, 2001; see Žukauskienė et al., 2020, for another study utilizing a similar procedure). The complete list of items in Italian is presented in Supplementary Table S3.

Positive and negative contact

The ICIS was used to assess adolescents' positive and negative contact in school and out-of-school contexts. Initially, adolescents were asked to think about their interactions with outgroup members in school (out-of-school) during the last 6 months in response to the following prompt: "The following questions are about interactions you may have had in school (out-of-school contexts) with people of foreign origin (Italian people). Now think about the interactions you had in the last 6 months at school (out-of-school contexts)." The school and out-of-school forms of the ICIS each consisted of 10 items (5 for positive contact and 5 for negative contact), scored on a response scale ranging from 1 (*never*) to 5 (*very often*).

Results

We performed separate EFAs using principal components analysis with oblique (i.e., direct oblimin) rotation in SPSS to test the structural validity of ICIS scores in school and out-of-school contexts. Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy (KMO = 0.871 and KMO = 0.911 for school and out-of-school contexts, respectively), as well as Bartlett's sphericity test (χ^2 [45] = 1341.227, $p < 0.001$ for school context, and χ^2 [45] = 1873.700, $p < 0.001$ for out-of-school contexts), were satisfactory to test ICIS in both contexts. The results of the EFA indicated two factors with eigenvalues greater than 1.00 for the ICIS in each context. The total variance explained for school and out-of-school contexts was 78.1% and 85.9%, respectively. Hence, we retained a two-factor solution for the ICIS in both contexts.

As for the ICIS in school context, the first factor (i.e., positive contact), consisting of five items, explained 50.3% of the total variability among the item responses, and the second factor (i.e., negative contact) consisting of the remaining five items explained 27.8% of the total variability among the item responses. Likewise, the first and second factors (i.e., positive and negative contact with five items per each) for ICIS responses in out-of-school contexts explained 59.6% and 26.3% of the total variance, respectively. As reported in Table 1, the factor loadings for the two-factor solution ranged from 0.750 to 0.944 and from 0.869 to 0.982 for intergroup contact interactions in school and out-of-school contexts, respectively. Pearson correlation coefficients indicated that the mean scores for adolescents' positive and negative contact were negatively interrelated in school ($r = -0.291$, $p < 0.001$) and out-of-school contexts ($r = -0.365$, $p < 0.001$). Item-total correlations are also reported in Supplementary Table S1.

Brief discussion for Study I

Overall, this pilot study provided preliminary support for the two-factor structure (i.e., positive and negative contact) of the ICIS in both school and out-of-school contexts. To confirm the EFA results, additional studies were conducted to test the psychometric properties of this instrument in the additional samples of adolescents in Italy (Study II) and Turkey (Study III).

Study II: Testing psychometric properties of the ICIS in a larger sample of adolescents in Italy

Building upon the promising results from Study I, in Study II, we sought to further test the construct validity of the ICIS with a

TABLE 1 Factor loadings of the ICIS across school and out-of-school contexts in Study I (pilot study in Italy).

Item number	School context		Out-of-school contexts	
	Positive contact	Negative contact	Positive contact	Negative contact
Item 1	**0.089**	0.084	**0.093**	0.051
Item 2	**0.944**	−0.002	**0.928**	−0.061
Item 3	**0.887**	−0.088	**0.953**	−0.040
Item 4	**0.943**	0.093	**0.982**	0.083
Item 5	**0.075**	−0.133	**0.869**	−0.066
Item 6	−0.054	**0.881**	−0.048	**0.891**
Item 7	0.003	**0.859**	0.022	**0.942**
Item 8	0.013	**0.909**	−0.050	**0.907**
Item 9	−0.010	**0.084**	0.032	**0.923**
Item 10	0.033	**0.888**	0.024	**0.913**

Bold indicates the highest factor loadings.

large sample of adolescents living in Italy. First, we examined the factor structure in both school and out-of-school contexts. Second, we tested measurement invariance across ethnic minority and majority adolescents. Third, we tested the convergent validity of the ICIS by examining the associations of adolescents' positive and negative contact with the frequency of their contact in school and out-of-school contexts. In line with the previous findings suggesting that positive contact is usually experienced more frequently than negative contact (e.g., Barlow et al., 2012; Graf et al., 2014), we expected that quantity of contact would be positively related to positive contact across both contexts. Given that experiencing negative contact with the outgroup members triggers avoidance of further contact (e.g., Meleady and Forder, 2019; Bagci et al., 2022), we also hypothesized that quantity of contact would be inversely linked to negative contact in school and out-of-school contexts. Moreover, in accordance with previous literature indicating the correspondence between the parents' and their children's contact experiences (e.g., Bagci and Gungor, 2019; Karataş et al., 2021), we expected to find positive associations of adolescents' positive and negative contact with their perceptions regarding positive and negative contact experienced by their parents.

Method

Participants

Study II included 1,037 adolescents (59.7% female; $M_{age} = 14.58$, $SD_{age} = 0.67$; age range 14–17), of whom 762 were majority Italian adolescents and 275 were ethnic minority adolescents. Participants were attending the first year of secondary high schools located in the North-East of Italy. Regarding family structure, most participants (69.0%) indicated that they came from two-parent families, 23.3% reported that their parents were separated or divorced, and 7.7% indicated other family situations (e.g., one deceased parent). Almost all participants (97.5%) were living with one or both parents. Parents' educational levels were as follows: among fathers, 37.4% held less than a high school diploma, 50.2% held a high school diploma, and 12.4% held a university degree; 28.0% of mothers held less than a high school diploma, 49.5% held a high school diploma, and 22.5% held a university degree.

With respect to the demographic characteristics of ethnic minority adolescents, 72.0% of these youth were second-generation immigrants, and the remainder were first-generation immigrants who had been living in Italy for an average of 7.64 years ($SD = 5.21$) at the time of data collection. As for the language fluency, both first-generation ($M = 8.28$, $SD = 2.27$, range 0–10) and second-generation immigrants ($M = 9.28$ $SD = 1.06$, range 0–10) were fluent in Italian. Most first-generation immigrants (67.5%) were born in other European countries, with Albanians, Moldavians, and Romanians as the most highly represented groups. Similarly, the majority of participants' parents migrated from other European countries (45.4% and 56.6% of fathers and mothers, respectively), with Romanians and Albanians as the most represented groups. Other families migrated from Africa (18.8% and 17.9% of fathers and mothers, respectively), Asia (5.2% and 6.2% of fathers and mothers, respectively), South, North, and Central America (3.6% of fathers, 5.1% of mothers), and the Middle East (1.1% of fathers, 0.4% of mothers). In terms of reasons for migration, the majority of the participants indicated that their parents migrated for economic reasons (40.0% and 33.1% of their fathers and mothers, respectively) and family reunification (7.6% and 24.4% of their fathers and mothers, respectively), and the remainder either reported other reasons (e.g., study) or did not provide an answer to this question.

Procedure

Before initiating the study, we sought permission from school principals to administer the questionnaire at school. Researchers then contacted adolescents to inform them about the study and to ask for their active assent to participate. Participants received oral and written information about the study and were asked to sign the informed consent form. In addition to active youth assent, parental consent was also obtained. Data were collected in May 2019 through a paper-and-pencil questionnaire in adolescents' classrooms during regular school hours.

Measures

Adolescents initially completed the Italian versions of the scales aimed at assessing positive and negative forms of contact. We further asked about adolescents' perceptions regarding the frequency of their own contact with ethnic outgroup members (i.e., the quantity of intergroup contact) and their parents' positive and negative contact.

Adolescents' positive and negative contact

The ICIS was employed to assess positive and negative contact among ethnic minority and majority adolescents across school and out-of-school contexts (see Supplementary Table S3).

Quantity of intergroup contact

The frequency of adolescents' contact in school and out-of-school contexts was measured by using two items ("In the past 6 months, have you met and talked with Italian people [foreign people] at school [out-of-school contexts]?"). These items were answered on a 5-point rating scale (1 = *never*, 5 = *very often*).

Parental positive and negative contact

Adolescents' perceptions regarding their parents' positive and negative contact were measured using two items (see Bagci and Gungor, 2019), one item for positive contact and one another for negative contact (i.e., "How frequently do your parents have positive [negative] contact with people from other ethnic groups?"), that were scored on a 5-point rating scale (1 = *never*, 5 = *very often*).

Results

Preliminary analyses

We initially conducted missing value analyses. Rates of missingness varied between 4.1% to 6.0% across the items. Little (1988) missing completely at random (MCAR) test yielded a significant result, χ^2 (830) = 1632.610, $p < 0.001$. However, the normed χ^2, which can be used to correct the sensitivity of the χ^2 to sample size (Bollen, 1989), was 1.96. This normed value suggests that our data were very likely missing at random. For this reason, all participants were included in the analyses, and missing data were handled using the Full Information Maximum Likelihood (FIML) procedure available in *Mplus* (Muthén and Muthén, 1998-2017; Kelloway, 2015). Means, standard deviations, and Cronbach's alphas are displayed in Table 2.

Main analyses

To test the structural validity of the ICIS, we conducted CFAs in *Mplus* using the maximum likelihood estimator with robust standard errors (MLR; Satorra and Bentler, 2001). We evaluated a solution with two latent variables (i.e., positive and negative contact) and 10 observed variables (i.e., five indicators for each latent variable) for both school and out-of-school contexts. Model fit was evaluated using the following criteria: The Comparative Fit Index (CFI) and Tucker-Lewis Index (TLI), with values higher than 0.90 indicating acceptable fit, and values higher than 0.95 demonstrating excellent fit; the Standardized Root Mean Square Residual (SRMR) and Root Mean Square Error of Approximation (RMSEA) with values below 0.08 representing acceptable fit and values lower than 0.05 suggesting excellent fit (Byrne, 2012). Moreover, the 90% Confidence Interval (CI) for the RMSEA was also examined (i.e., a good fit is indicated by an upper bound lower than 0.10; Chen et al., 2008). The CFA results (see Table 3) indicated an excellent fit for the two-factor model in both contexts. Standardized factor loadings (see Figure 1A) ranged from 0.624 to 0.871 and from 0.766 to 0.936 for intergroup contact interactions in school and out-of-school contexts, respectively. Negative correlations emerged between positive and negative contact in school ($r = -0.604$, $p < 0.001$) and out-of-school contexts ($r = -0.373$, $p < 0.001$). Item-total correlations are presented in Supplementary Table S1.

Measurement invariance

To provide empirical evidence as to whether the ICIS can be applied equally well to assess positive and negative intergroup contact among ethnic minority and majority adolescents, three nested levels of measurement invariance were tested (Chen, 2007; Little et al., 2007; van de Schoot et al., 2012): (a) configural invariance, which requires that the same number of factors and pattern of fixed and freely estimated parameters hold across groups; (b) metric invariance, which indicates the equivalence of factor loadings and emphasizes that respondents from multiple groups attribute the same meaning to the latent construct of interest; and (c) scalar

TABLE 2 Means (M), standard deviations (SD), and Cronbach's alphas (α) of study variables in each study.

	Study I (pilot study in Italy)			Study II (in Italy)			Study III (in Turkey)		
	M	*SD*	α	*M*	*SD*	α	*M*	*SD*	α
1. Quantity of contact in school context				4.01	1.04		3.31	1.16	
2. Positive contact in school context	4.04	0.82	0.93	4.07	0.77	0.09	3.09	0.99	0.88
3. Negative contact in school context	1.69	0.82	0.92	1.64	0.71	0.84	2.28	1.00	0.85
4. Quantity of contact in out-of-school contexts				3.53	1.26		2.84	1.34	
5. Positive contact in out-of-school contexts	3.78	0.99	0.96	3.81	1.02	0.95	3.09	1.15	0.93
6. Negative contact in out-of-school contexts	1.73	0.87	0.95	1.63	0.77	0.09	2.07	1.02	0.89
7. Parents' positive contact				3.03	1.22		3.16	1.16	
8. Parents' negative contact				1.96	1.01		2.03	1.09	

TABLE 3 Fit indices of the confirmatory factor analyses in Studies II and III.

	χ^2	*df*	CFI	TLI	SRMR	RMSEA [90% CI]
Study II (in Italy)						
The ICIS in school context	161.933	34	0.953	0.938	0.044	0.062 [0.052, 0.071]
The ICIS in out-of-school contexts	84.051	34	0.987	0.983	0.003	0.039 [0.028, 0.049]
Study III (in Turkey)						
The ICIS in school context	148.867	34	0.949	0.933	0.035	0.073 [0.061, 0.085]
The ICIS in out-of-school contexts	131.018	34	0.964	0.953	0.024	0.067 [0.055, 0.079]

χ^2, Chi-square; *df*, degrees of freedom; CFI, Comparative Fit Index; TLI, Tucker-Lewis Index; SRMR, Standardized Root Mean Square Residual; RMSEA [90% CI], Root Mean Square Error of Approximation and 90% Confidence Interval.

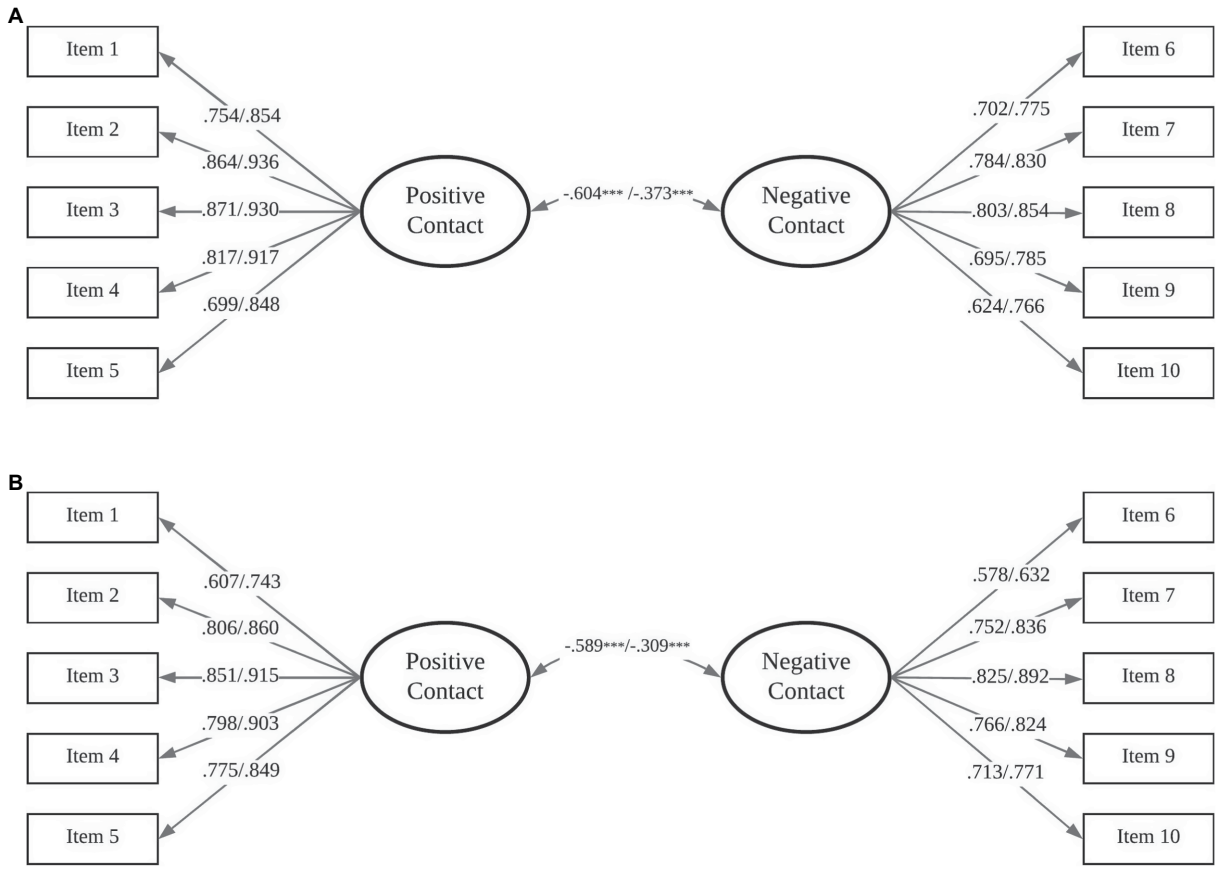


FIGURE 1
Factor loadings for the ICIS in Studies II **(A)**, and III **(B)**. The values presented on the left side of the slash marks indicate the standardized factor loadings of the positive and negative contact in school context, whereas the values displayed on the right side of the slash marks indicate the standardized factor loadings of the positive and negative contact in out-of-school contexts. All factor loadings and correlations are significant at $p<0.001$.

invariance, which implies the equivalence of both factor loadings and item intercepts and indicates that the meaning of the construct and the levels of the underlying items are equal across groups.

To statistically accept the assumption of metric or scalar invariance, at least two of three criteria must be satisfied: non-significant $\Delta\chi^2_{SB}$ (Satorra and Bentler, 2001), $\Delta CFI \leq -0.010$, and $\Delta RMSEA \leq 0.015$ (Chen, 2007). Results of measurement invariance tests (see Table 4) clearly suggested the presence of configural, metric, and scalar invariance for ICIS in both school and out-of-school contexts. Therefore, this instrument can be utilized to compare positive and negative contact among ethnic minority and majority adolescents. Latent mean comparisons indicated that ethnic minority adolescents reported significantly higher positive contact in both school ($p = 0.011$, Cohen's d [95% CI] = 0.19 [0.05, 0.34]) and out-of-school contexts ($p = 0.000$, Cohen's d [95% CI] = 0.62 [0.47, 0.77]), and higher negative contact in the school context ($p = 0.019$, Cohen's d [95% CI] = 0.22 [0.08, 0.37]), compared to ethnic majority adolescents.

Convergent validity

As reported in Table 5, bivariate correlations indicated that the quantity of contact that adolescents report in school context was positively correlated with their positive contact ($r = 0.417$, $p < 0.001$) and weakly negatively correlated with their negative contact ($r = -0.079$, $p < 0.05$) in schools. Similarly, quantity of contact in out-of-school contexts was positively correlated with positive contact in the same context ($r = 0.610$, $p < 0.001$), and was unrelated to negative contact ($r = -0.030$, $p = 0.351$). Regarding the inter-context correlations, the relationship between positive contact in school and out-of-school contexts was large and highly significant ($r = 0.494$, $p < 0.001$). Likewise, a large positive correlation was found between adolescents' negative contact in school and out-of-school contexts ($r = 0.605$, $p < 0.001$).

In addition, as expected (see Table 5), parents' positive contact was positively correlated with adolescents' positive contact in both school ($r = 0.309$, $p < 0.001$) and out-of-school contexts ($r = 0.423$, $p < 0.001$). Similarly, parents' negative contact was also positively associated with adolescents' negative contact across contexts ($r = 0.338$, $p < 0.001$ and $r = 0.313$, $p < 0.001$, for school and out-of-school contexts, respectively). These findings suggest the correspondence between parents' and adolescents' contact. It should be noted, however, that adolescents reported both on their own contact and on their parents' contact.

10.3389/fpsyg.2022.1066146

TABLE 4 Measurement invariance tests of the ICIS in school and out-of-school contexts in Studies II and III.

	Model fit indices							Model comparison				
	χ_{SB}^2	*df*	CFI	TLI	SRMR	RMSEA [90% CI]	Models	$\Delta\chi_{SB}^2$	Δdf	*p*	ΔCFI	ΔRMSEA
Study II (in Italy)												
Ethnic invariance of the ICIS in school context												
M1. Configural model	209.788	68	0.949	0.933	0.046	0.065 [0.055, 0.075]						
M2. Metric model	223.224	76	0.947	0.938	0.054	0.062 [0.053, 0.072]	M2-M1	10.289	8	0.245	−0.002	−0.003
M3. Scalar model	252.335	84	0.094	0.936	0.055	0.063 [0.055, 0.073]	M3-M2	32.262	8	0.000	−0.007	0.001
Ethnic invariance of the ICIS in out-of-school contexts												
M1. Configural model	119.507	68	0.987	0.983	0.031	0.039 [0.027, 0.051]						
M2. Metric model	140.301	76	0.984	0.098	0.061	0.042 [0.031, 0.052]	M2-M1	22.811	8	0.004	−0.003	0.003
M3. Scalar model	166.081	84	0.979	0.977	0.064	0.045 [0.035, 0.055]	M3-M2	32.928	8	0.000	−0.005	0.003
Study III (in Turkey)												
Ethnic invariance of the ICIS in school context												
M1. Configural model	204.459	68	0.942	0.924	0.043	0.079 [0.067, 0.092]						
M2. Metric model	221.584	76	0.938	0.927	0.055	0.078 [0.066, 0.090]	M2-M1	15.91	8	0.044	−0.004	−0.001
M3. Scalar model	333.368	84	0.894	0.887	0.064	0.097 [0.086, 0.108]	M3-M2	119.781	8	0.000	−0.044	0.019
M3a. Partial scalar model[a]	239.985	80	0.932	0.924	0.056	0.079 [0.068, 0.091]	M3a-M2	19.772	4	0.001	−0.006	0.001
Ethnic invariance of the ICIS in out-of-school contexts												
M1. Configural model	178.779	68	0.096	0.948	0.031	0.072 [0.059, 0.084]						
M2. Metric model	192.859	76	0.958	0.095	0.004	0.070 [0.057, 0.082]	M2-M1	12.112	8	0.146	−0.002	−0.002
M3. Scalar model	258.213	84	0.938	0.933	0.054	0.081 [0.070, 0.092]	M3-M2	75.799	8	0.000	−0.002	0.011
M3a. Partial scalar model[a]	221.284	82	0.095	0.945	0.046	0.073 [0.062, 0.085]	M3a-M2	32.448	6	0.000	−0.008	0.003

χ_{SB}^2, Satorra–Bentler scaled Chi-square; *df*, degrees of freedom; CFI, Comparative Fit Index; TLI, Tucker-Lewis Index; SRMR, Standardized Root Mean Square Residual; RMSEA [90% CI], Root Mean Square Error of Approximation and 90% Confidence Interval; Δ = Change in the parameter. [a]Intercepts of items 1, 6, 9, and 10 were released for intergroup contact in schools, whereas intercepts of items 1 and 9 were released for intergroup contact in out-of-school contexts.

Mean differences

We then conducted a repeated measures ANOVA with two within-subject factors, namely contact valence (i.e., positive and negative) and context of contact (i.e., school and out-of-school). This analysis produced a significant interaction effect between the context and valence of adolescents' intergroup contact, F (1, 975) = 31.651, $p < 0.001$, $\eta^2 = 0.031$. That is, the context in which contact occurs appears to exert differential effects on the valence of adolescents' contact (Table 2). Pairwise comparisons indicated that positive contact experiences were significantly more common in school versus out-of-school contexts. In contrast, mean scores for negative contact in school and out-of-school contexts did not significantly differ. Moreover, significant differences also emerged between mean scores of adolescents' positive and negative contact in both contexts, suggesting that positive contact is more common than negative contact. Finally, a repeated measures ANOVA with contact quantity indicated that adolescents had more intergroup contact experiences in

TABLE 5 Bivariate correlations among variables in studies II (in Italy) and III (in Turkey).

	1	2	3	4	5	6	7	8
1. Quantity of contact in school context	–	0.539***	−0.173***	0.348***	0.256***	−0.001	0.174***	0.023
2. Positive contact in school context	0.417***	–	−0.490***	0.302***	0.486***	−0.260***	0.234***	−0.061
3. Negative contact in school context	−0.079*	−0.540***	–	−0.097*	−0.258***	0.594***	−0.118**	0.169***
4. Quantity of contact in out-of-school contexts	0.445***	0.264***	0.000	–	0.632***	−0.083*	0.228***	0.040
5. Positive contact in out-of-school contexts	0.332***	0.494***	−0.256***	0.610***	–	−0.277***	0.255***	−0.066
6. Negative contact in out-of-school contexts	−0.046	−0.326***	0.605***	−0.030	−0.349***	–	−0.126**	0.165***
7. Parents' positive contact	0.346***	0.309***	−0.141***	0.407***	0.423***	−0.178***	–	0.088*
8. Parents' negative contact	−0.071*	−0.218***	0.338***	0.052	−0.091**	0.313***	−0.017	–

Bivariate correlations for Study II (in Italy) are presented below the diagonal, and bivariate correlations for Study III (in Turkey) are presented above the diagonal. *$p < 0.05$, **$p < 0.01$, ***$p < 0.001$.

school than in out-of-school contexts, F (1, 990) = 214.905, $p < 0.001$, $\eta^2 = 0.178$.

Brief discussion for Study II

Overall, consistent with the EFA results from Study I, CFA results from Study II suggested that the two-factor model for positive and negative contact in school and out-of-school contexts fit the data very well. Results from Study II also indicated that the measure could be applied both to ethnic minority and majority adolescents to reliably measure their positive and negative contacts across both contexts. Findings also suggested that positive contact is more common than negative contact (e.g., Pettigrew, 2008; Barlow et al., 2012) and that adolescents' own contact appears to be related to their perceptions of their parents' intergroup contact (e.g., Bagci and Gungor, 2019). Finally, established mean differences for contact quantity and positive contact across school and out-of-school contexts further emphasized the necessity of adopting a context-oriented approach to gain a deeper understanding of adolescents' contact. Even though all these findings together highlighted the robustness of scores generated by the ICIS in a larger group of adolescents from diverse ethnic and cultural backgrounds in Italy, further testing the psychometric properties of the ICIS in another cultural setting would be beneficial to provide more substantial evidence for its validity and reliability. Therefore, in Study III, the psychometric properties of the ICIS were examined in Turkey.

Study III: Testing psychometric properties of the ICIS in Turkey

The main goal of Study III was threefold. The primary aim was to test the factor structure of the ICIS in the Turkish context with a sample of ethnic majority (i.e., Turkish) adolescents and their ethnic minority peers (primarily Syrian refugees). The secondary aim of this study was to examine the ethnic (i.e., Turkish adolescents versus ethnic minority adolescents) measurement invariance of the ICIS in both school and out-of-school contexts separately. The third aim was to examine the convergent validity of the ICIS in the Turkish context. As in Study II, we hypothesized that the quantity of contact would be positively related to positive contact and adversely linked to negative contact. Furthermore, we also expected that adolescents' perceptions of parents' positive and negative contact would be positively related to their children's corresponding contact experiences.

Method

Participants

This study included 641 adolescents (69.6% female; $M_{age} = 15.51$, $SD_{age} = 0.84$; age range 13–18), of whom 430 were ethnic majority adolescents (i.e., Turkish) and 211 were ethnic minority adolescents. Participants were attending the first or second years of different high schools in a large metropolitan area with more than two million inhabitants in the Southeastern Anatolia Region of Turkey. In terms of family structure, the majority of participants (92.0%) reported that their parents were married, 4.1% specified other family situations (e.g., one deceased parent), and 3.9% indicated that their parents were separated or divorced. Almost all participants (99.0%) indicated that they were living with at least one parent. The educational levels of participants' parents were as follows: among fathers, 50.7% held less than a high school diploma, 28.9% held a high school diploma, and 20.4% held a university degree. Among mothers, 69.4% held less than a high school diploma, 21.5% held a high school diploma, and 9.1% held a university degree. Both fathers ($\chi^2(2) = 103.612$, $p < 0.001$) and mothers ($\chi^2(2) = 134.569$, $p < 0.001$) of ethnic minority adolescents were more highly educated than those of Turkish adolescents.

Regarding the demographic backgrounds of ethnic minority adolescents, 98.1% of these youth were first-generation immigrants. Of these first-generation immigrants, 98.6% were born either in Syria or have at least one parent born in Syria. The remaining three participants and their parents were born in other countries in the Middle East (i.e., Iraq, Saudi Arabia) and Africa (i.e., Egypt). On average, adolescents had been in Turkey for 4.59 years ($SD = 1.60$) at the time of data collection, and 38.9% of

them had not visited their home country since their arrival in Turkey. Most participants reported that their parents migrated to Turkey between 2011 and 2019 to escape the war or to avoid serious political or economic difficulties (68.7% and 76.3% of their fathers and mothers, respectively).

Procedure

Following the same procedure used in Study II, the data collection was completed in April 2019 using a paper-and-pencil questionnaire in the classrooms during regular school hours.

Measures

As in Study II, all adolescents completed the same questionnaire. Given that the measures assessing adolescents' perceptions of parents' positive and negative intergroup contact were already available in Turkish (Bagci and Gungor, 2019), the remaining measures (the ICIS and the measure of quantity of contact) were translated from English into Turkish in three steps. First, three independent Turkish versions of the questionnaire were created by one of the authors and by two other bilingual researchers. Second, the three translations were compared to each other by the authors of this study; thereafter, disagreements were discussed, and changes were made accordingly until the author team agreed that the Turkish version of the measure was ready to be finalized. Finally, the Turkish translations of the study measures were cross-checked one last time by a fourth bilingual researcher from the English instruction department and back-translated by a fifth bilingual researcher (Hambleton, 1994; van de Vijver, 2001). The entire questionnaire was also translated from Turkish into Arabic to provide an opportunity for migrant adolescents to complete the questionnaire in the language with which they were most comfortable. A professional Arabic translator produced the Arabic translation of the questionnaire (for a similar approach, see Karataş et al., 2020, 2021). The complete list of the items, both in Turkish and Arabic, is available in Supplementary Table S3.

Results

Preliminary analyses

Missing value analyses indicated that missingness rates varied between 0.8% to 4.7% across items. Little (1988) MCAR test yielded a significant result, χ^2 (788) = 902.079, $p < 0.001$. However, the normed χ^2 (χ^2/df) of 1.14 indicated that data were likely missing at random. As a result, all participants were included in the analyses, and missing data were handled using the FIML procedure in M*plus*. Means, standard deviations, and Cronbach's alphas are presented in Table 2.

Main analyses

To test the structure validity of the ICIS in the Turkish context, we performed CFAs in M*plus* using the MLR estimator. Following the same procedure used in Study II, a solution with two latent variables and 10 observed indicators was tested. The CFA results (see Table 3) indicated that the two-factor ICIS model (i.e., positive and negative contact) fit the data well in both socialization contexts (i.e., school and out-of-school). As displayed in Figure 1B, standardized factor loadings ranged from 0.578 to 0.851 for intergroup contact interactions in the school context and from 0.632 to 0.915 for intergroup contact in out-of-school contexts (for item-total correlations, see Supplementary Table S1). Similar to the findings from Study II, negative correlations emerged between positive and negative contact in school ($r = -0.589$, $p < 0.001$) and out-of-school ($r = -0.309$, $p < 0.001$) contexts.

Measurement invariance

Measurement invariance tests were conducted using the same analytic procedure described in Study II to establish whether the ICIS can be applied to different ethnic groups in the Turkish context. As reported in Table 4, results indicated that both configural and metric invariance held across ethnic majority and minority adolescents. Because ΔCFI exceeded the threshold in the scalar model, ancillary analyses were conducted to identify which item intercepts might be released to obtain partial scalar invariance (Byrne et al., 1989). In this respect, we compared the scalar model with 10 other models. In each of these models, we allowed only one item intercept to vary across groups. Two sets of comparisons were carried out for the school and out-of-school forms of the ICIS across ethnic groups. Results indicated that partial scalar invariance (see Table 4) could be established by releasing intercepts of items 1, 6, 9, and 10 for intergroup contact in school context and items 1 and 9 for intergroup contact in out-of-school contexts. Thus, the ICIS can be applied with *caution* to compare the positive and negative contact of ethnic minority and majority in Turkey. Latent mean comparisons indicated that ethnic minority adolescents reported significantly higher negative contact in out-of-school contexts ($p = 0.003$, Cohen's d [95% CI] = 0.33 [0.16, 0.49]) compared to Turkish adolescents.[1]

Convergent validity

Bivariate correlations (see Table 5) indicated that adolescents' quantity of contact in school context was positively correlated with their positive contact in that context ($r = 0.539$, $p < 0.001$), whereas quantity of contact in school context was inversely correlated with their negative contact ($r = -0.173$, $p < 0.001$). Similarly, quantity of contact in out-of-school contexts was positively correlated with positive contact ($r = 0.632$, $p < 0.001$) and negatively correlated with negative contact ($r = -0.083$, $p < 0.05$) in this setting. As for the inter-context associations, large correlation coefficients

1 Given that most ethnic minority adolescents completed the Arabic version of the ICIS (n=160), hierarchical levels of measurement invariance across linguistic groups (i.e., Turkish and Arabic) were also tested by following the same analytic procedure described for ethnic measurement invariance. As displayed in Supplementary Table S2, the results of the additional analyses indicated the presence of configural, metric, and partial scalar invariance for the ICIS across linguistic groups.

emerged between positive contact in school and out-of-school contexts ($r = 0.486$ $p < 0.001$). Besides, large coefficients also emerged for adolescents' negative contact across both contexts ($r = 0.594$ $p < 0.001$). Consistent with our expectations, significant positive correlations emerged between parents' and adolescents' positive intergroup contact ($r = 0.234$, $p < 0.001$ and $r = 0.255$, $p < 0.001$, for school and out-of-school contexts, respectively) as well as between parents' and adolescents' negative intergroup contact ($r = 0.169$, $p < 0.001$ for school; $r = 0.165$, $p < 0.001$ for out-of-school contexts).

Mean differences

Repeated measures ANOVA with two within-subject factors (i.e., contact valence and contact context) produced a significant interaction effect between the context and the valence of contact, $F(1, 632) = 10.848$, $p < 0.01$, $\eta^2 = 0.017$. Ancillary pairwise comparisons showed that negative contact experiences were significantly more common in school versus out-of-school contexts. In contrast, the mean scores of adolescents' positive contact did not significantly differ across contexts. Besides, significant differences were also found across the mean scores of adolescents' positive contact and negative contact in both contexts, indicating that positive contact is more common than negative contact. Finally, a repeated measures ANOVA with contact quantity also demonstrated that adolescents had experienced more intergroup contact in school than in out-of-school contexts, $F(1, 631) = 67.474$, $p < 0.001$, $\eta^2 = 0.097$.

Brief discussion for Study III

In accordance with findings from Studies I and II in Italy, the CFA results demonstrated that the two-factor model, including positive and negative contact in both school and out-of-school contexts, fit the data very well. Thus, the ICIS can be administered both to ethnic majority adolescents and to ethnic minority adolescents, considering its factorial structure. However, given that equivalence of item intercepts was only partially established, comparisons between the two groups vis-à-vis their positive and negative contact should be interpreted with caution. Furthermore, as documented by a large body of evidence (e.g., Graf et al., 2014), our results also indicated more frequent positive contact in both contexts, as well as positive associations of parents' positive and negative contact with and adolescents' corresponding contact experiences (Bagci and Gungor, 2019). Finally, the results indicating the mean differences across school and out-of-school contexts for contact quantity but, more importantly, for negative contact also emphasized the need to consider the context in which adolescents' intergroup contact occurs.

General discussion

In the present set of studies, we evaluated the psychometric properties of the ICIS to assess positive and negative intergroup contact among ethnic minority and majority adolescents in school and out-of-school contexts (Study I). Thereafter, we examined the psychometric properties (i.e., internal consistency, structure and convergent validity, and ethnic measurement invariance) of the ICIS scores in both contexts across Italy (Study II) and Turkey (Study III). Results indicated that the two-factor structure of the ICIS in school and out-of-school contexts fit the data well in each cultural context. These findings are consistent with a growing body of literature suggesting that positive and negative contact are not "*polar-opposite phenomena*" (Pettigrew, 2008, p. 191); instead, they should be regarded as distinct forms of intergroup interactions (e.g., Paolini et al., 2014; Hayward et al., 2017; Barlow et al., 2019).

Another important aim of the current work was to test the ethnic invariance of the ICIS in both contexts. Except for the lack of full scalar invariance in Study III (in Turkey), the findings of the current set of studies largely suggested that the ICIS can be used to assess positive and negative intergroup contact in school and out-of-school contexts among both ethnic minority and majority adolescents in Italy and Turkey. Overall, these findings imply that we can conduct further studies within these cultural streams to advance the extant knowledge on adolescents' positive and negative intergroup contact and their outcomes (e.g., prejudice, intergroup attitudes; Feddes et al., 2009; Titzmann et al., 2015; Wölfer et al., 2016) across school (Schachner et al., 2015) as well as out-of-school contexts such as peer groups (Albarello et al., 2021) and neighborhood (Merrilees et al., 2018).

Additionally, findings from present studies demonstrated that positive contact was more frequent than negative contact in both school and out-of-school contexts, as has been reported in the extant studies (e.g., Barlow et al., 2012; Graf et al., 2014; Hayward et al., 2017). Moreover, consistent with prior literature emphasizing the correspondence between the quantity and quality of contact (e.g., Brown et al., 2007; Jasinskaja-Lahti et al., 2011), we also found that adolescents' perceptions concerning the quantity of their intergroup contact were positively related to positive contact in school and out-of-school contexts. Likewise, in yet opposite direction, the negative correlations between contact frequency and negative contact, specifically in the Turkish context, could also be detected. Such correlational findings provide initial evidence concerning the convergent validity of ICIS scores. Besides, the latter findings indicating adverse associations of contact frequency with adolescents' negative contact might also be read in light of the undesirable effects of negative contact in triggering to avoid further contact. Indeed, increases in negative contact have been found to be associated with a steeper increase in avoidant tendencies (Bagci et al., 2022).

The current studies also emphasized the correspondence between parents' and adolescents' positive and negative contact, which fully aligns with evidence implying the intergenerational transmission (Degner and Dalege, 2013) of cross-ethnic friendships (Karataş et al., 2021). Supporting our present results, Bagci and Gungor (2019) also showed the positive links between adolescents' positive and negative contact with their perceptions

regarding the corresponding contact experiences of parents. Notably, further studies employing the ICIS would nonetheless facilitate identifying the underlying mechanisms that may account for the positive associations of parents' positive and negative contact with adolescents' corresponding contact experiences. Additionally, validating the ICIS for use directly with parents may also provide more accurate data on parents' intergroup contact.

Finally, it is worth acknowledging that mean scores of adolescents' positive contact differed between school and out-of-school contexts in Italy (Study II), whereas negative contact experiences differed between school and out-of-school contexts in Turkey (Study III). These distinct patterns within each cultural setting might be due to the relatively higher inter-ethnic tensions that mostly stem from negative perceptions towards refugees in Turkey (International Crisis Group, 2019). For example, more than half of the Turkish respondents (62.3%) in a public survey agreed with the statement indicating that Syrian refugees disrupt social morality and peace by being involved in crimes, such as violence, theft, and smuggling (Erdoğan, 2014). Inter-ethnic tensions triggered by such negative views against Syrian refugees in Turkey (as being the most represented ethnic minority group in this study) inevitably lead to more frequent negative contact experiences and their detrimental outcomes (e.g., discrimination and ostracism; Demir and Ozgul, 2019) across multiple socialization contexts. Herein, employing the ICIS in further cross-cultural studies might mirror a more nuanced picture of how perceived inter-ethnic tensions within various countries might drive such differential patterns regarding adolescents' positive and negative contact across contexts and their essential outcomes.

Limitations, directions for future research, and concluding remarks

The current work should be considered in light of some shortcomings. The primary limitations of the present studies stem from their cross-sectional designs, on the one hand, and the use of adolescent reports to assess parental positive and negative contact, on the other. Therefore, future longitudinal studies with multi-informant designs in which the data of parents' contacts are directly obtained from them enable us to overcome the possible single reporter bias that might cause shared report variance. Conducting such studies by employing the ICIS would facilitate the achievement of more robust conclusions about the directionality of relationships between adolescents' and parents' positive and negative contact.

Another shortcoming pertains to the contexts whereby adolescents might experience both forms of contact because, in each of these studies, we examined the positive and negative contact of adolescents in one specific (i.e., school) and one broader context (i.e., out-of-school). Given that the ICIS could be easily adapted for use in other specific contexts, future studies might investigate the positive and negative forms of intergroup contact within particular out-of-school contexts such as neighborhoods, sports clubs, and peer groups to expand our understanding of adolescents' intergroup contact. It is quite possible that the adolescents' positive and negative intergroup contact may vary across these and other contexts.

Given that Italy and Turkey have received migrants from various ethnic groups, positive and negative contact of Italian and Turkish adolescents were measured without specifying particular ethnic groups with whom they would be in contact. However, future studies might specify particular groups in these cultural streams (e.g., Moroccans in Italy; Cicognani et al., 2018) and beyond. Given that some European countries (e.g., Poland and Germany) have recently begun to host war refugees from Ukraine (United Nations High Commissioner for Refugees, 2022), further investigating the intergroup contact in these cultural streams would expand the knowledge of the antecedents and consequences of positive and negative intergroup contact. Considering that the ICIS was designed as an instrument consisting of items assessing both adolescents' specific intergroup interactions and their overall perspectives about positive and negative contact, the latter overall items enable assessing both forms of contact in day-to-day studies to monitor fluctuations in positive and negative contact. As such, employing the ICIS in longitudinal studies with daily assessments might also enhance a better understanding of adolescents' positive and negative contact vis-à-vis essential intergroup outcomes, specifically in those nations and regions that host the recent Ukrainian war refugees.

Despite these and other limitations, the current set of studies provides evidence that the ICIS can be used to assess adolescents' positive and negative intergroup contact across school and out-of-school contexts in Italy and Turkey. Besides, the present studies also indicate that the ICIS can reliably be applied to both ethnic minority and majority adolescents in these cultural settings. It is expected that the ICIS can enhance the development of further insights into the multi-faceted nature of adolescents' intergroup contact in contemporary societies.

Data availability statement

The datasets presented in this study can be found in online repositories. The names of the repository/repositories and accession number(s) can be found at: https://osf.io/wfhqe/?view_only=1b3da2d223e84131bf2b770bde276644.

Ethics statement

The studies involving human participants were reviewed and approved by the ethical board of Alma Mater Studiorum University of Bologna and local authorities in Turkey. Written informed consent to participate in this study was provided by the participants' legal guardian/next of kin.

Author contributions

SK, MR, and EC conceptualization. SK data curation and formal analysis. MR and EC funding acquisition, resources, and supervision. SK and EC investigation and methodology. SK, FP, and EC writing – original draft. MR, FP, EC, and SJS writing – review and editing. All authors contributed to the article and approved the submitted version.

Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

Publisher's note

Supplementary material

The Supplementary material for this article can be found online at: https://www.frontiersin.org/articles/10.3389/fpsyg.2022.1066146/full#supplementary-material

References

Aberson, C. L. (2015). Positive intergroup contact, negative intergroup contact, and threat as predictors of cognitive and affective dimensions of prejudice. *Group Process. Intergroup Relat.* 18, 743–760. doi: 10.1177/1368430214556699

Albarello, F., Crocetti, E., and Rubini, M. (2021). Developing identification with humanity and social well-being through social identification with peer groups in adolescence. *J. Youth Adolesc.* 50, 1157–1172. doi: 10.1007/s10964-020-01214-0

Allport, G. W. (1954). *The Nature of Prejudice*. Cambridge: Addison-Wesley.

Árnadóttir, K., Kende, J., Phalet, K., and Tropp, L. R. (2022). The interplay of positive and negative intergroup contact: experiences of Latino/a youth in the U.S. *Int. J. Intercult. Relat.* 86, 190–202. doi: 10.1016/j.ijintrel.2021.12.004

Árnadóttir, K., Lolliot, S., Brown, R., and Hewstone, M. (2018). Positive and negative intergroup contact: interaction not asymmetry. *Eur. J. Soc. Psychol.* 48, 784–800. doi: 10.1002/ejsp.2365

Bagci, S. C., Baysu, G., Tercan, M., and Turnuklu, A. (2022). Dealing with increasing negativity toward refugees: a latent growth curve study of positive and negative intergroup contact and approach-avoidance tendencies. *Personal. Soc. Psychol. Bull.* 014616722211103. doi: 10.1177/01461672221110325

Bagci, S. C., and Gungor, H. (2019). Associations between perceived positive and negative parental contact and adolescents' intergroup contact experiences. *Int. J. Intercult. Relat.* 69, 76–86. doi: 10.1016/j.ijintrel.2019.01.002

Bagci, S. C., Kumashiro, M., Rutland, A., Smith, P. K., and Blumberg, H. (2017). Cross-ethnic friendships, psychological well-being, and academic outcomes: study of south Asian and White children in the UK. *Eur. J. Dev. Psychol.* 14, 190–205. doi: 10.1080/17405629.2016.1185008

Bagci, S. C., Rutland, A., Kumashiro, M., Smith, P. K., and Blumberg, H. (2014). Are minority status children's cross-ethnic friendships beneficial in a multiethnic context? *Br. J. Dev. Psychol.* 32, 107–115. doi: 10.1111/bjdp.12028

Barlow, F. K., Hornsey, M. J., Hayward, L. E., Houkamau, C. A., Kang, J., Milojev, P., et al. (2019). Why do we hold mixed emotions about racial out-groups? A case for affect matching. *Psychol. Sci.* 30, 917–929. doi: 10.1177/0956797619844269

Barlow, F. K., Paolini, S., Pedersen, A., Hornsey, M. J., Radke, H. R. M., Harwood, J., et al. (2012). The contact caveat: negative contact predicts increased prejudice more than positive contact predicts reduced prejudice. *Personal. Soc. Psychol. Bull.* 38, 1629–1643. doi: 10.1177/0146167212457953

Baysu, G., Phalet, K., and Brown, R. (2014). Relative group size and minority school success: the role of intergroup friendship and discrimination experiences. *Br. J. Soc. Psychol.* 53, 328–349. doi: 10.1111/bjso.12035

Bekhuis, H., Ruiter, S., and Coenders, M. (2013). Xenophobia among youngsters: the effect of inter-ethnic contact. *Eur. Sociol. Rev.* 29, 229–242. doi: 10.1093/esr/jcr057

Bohman, A., and Miklikowska, M. (2020). Does classroom diversity improve intergroup relations? Short- and long- term effects of classroom diversity for cross-ethnic friendships and anti-immigrant attitudes in adolescence. *Group Process. Intergroup Relat.* 24, 1372–1390. doi: 10.1177/1368430220941592

Bollen, K. A. (1989). *Structural Equations with Latent Variables*. New York: Wiley.

Bronfenbrenner, U., and Morris, P. A. (2006). "The bioecological model of human development" in *Handbook of Child Psychology: Theoretical Models of Human Development*. eds. R. M. Lerner and W. Damon (Hoboken: John Wiley & Sons Inc.), 793–828.

Brown, R., Eller, A., Leeds, S., and Stace, K. (2007). Intergroup contact and intergroup attitudes: a longitudinal study. *Eur. J. Soc. Psychol.* 37, 692–703. doi: 10.1002/ejsp.384

Byrne, B. M. (2012). *Structural Equation Modeling with Mplus: Basic Concepts, Applications, and Programming. 2nd Edn*. New York: Routledge.

Byrne, B. M., Shavelson, R. J., and Muthén, B. (1989). Testing for the equivalence of factor covariance and mean structures: the issue of partial measurement invariance. *Psychol. Bull.* 105, 456–466. doi: 10.1037/0033-2909.105.3.456

Chen, F. F. (2007). Sensitivity of goodness of fit indexes to lack of measurement invariance. *Struct. Equ. Model.* 14, 464–504. doi: 10.1080/10705510701301834

Chen, F., Curran, P. J., Bollen, K. A., Kirby, J., and Paxton, P. (2008). An empirical evaluation of the use of fixed cutoff points in RMSEA test statistic in structural equation models. *Sociol. Methods Res.* 36, 462–494. doi: 10.1177/0049124108314720

Cicognani, E., Sonn, C. C., Albanesi, C., and Zani, B. (2018). Acculturation, social exclusion and resistance: experiences of young Moroccans in Italy. *Int. J. Intercult. Relat.* 66, 108–118. doi: 10.1016/j.ijintrel.2018.07.002

Clifton, A., and Webster, G. D. (2017). An introduction to social network analysis for personality and social psychologists. *Soc. Psychol. Personal. Sci.* 8, 442–453. doi: 10.1177/1948550617709114

Crocetti, E., Albarello, F., Prati, F., and Rubini, M. (2021). Development of prejudice against immigrants and ethnic minorities in adolescence: a systematic review with meta-analysis of longitudinal studies. *Dev. Rev.* 60:100959. doi: 10.1016/j.dr.2021.100959

Davies, K., Tropp, L. R., Aron, A., Pettigrew, T. F., and Wright, S. C. (2011). Cross-group friendships and intergroup attitudes: a meta-analytic review. *Personal. Soc. Psychol. Rev.* 15, 332–351. doi: 10.1177/1088868311411103

Degner, J., and Dalege, J. (2013). The apple does not fall from the tree or does it? A meta-analysis of parent-child similarity in intergroup attitudes. *Psychol. Bull.* 139, 1270–1304. doi: 10.1037/a0031436

Demir, S. B., and Ozgul, V. (2019). Syrian refugees minors in Turkey. Why and how are they discriminated against and ostracized. *Child Indic. Res.* 12, 1989–2011. doi: 10.1007/s12187-019-9622-3

Elias, M. J., DeLaney, E. N., Williams, C. D., Hawa, S., Walker, C. J., Lozada, F. T., et al. (2021). Cultural socialization and ethnic-racial identity mediated by positive and negative conversations about race: exploring differences among Asian American, African American, Latinx, multiracial, and white students. *Identity Int. J. Theory Res.* 22, 282–297. doi: 10.1080/15283488.2021.1999815

Erdoğan, M. M. (2014). Available at: https://fs.hacettepe.edu.tr/hugo/dosyalar/TurkiyedekiSuriyeliler-Syrians%20in%20Turkey-Rapor-TR-EN-19022015.pdf

European Commission (2020). Person with a Migratory Background. Available at: https://ec.europa.eu/home-affairs/what-we-do/networks/european_migration_network/glossary_search/person-migratory-background_en

Feddes, A. R., Noack, P., and Rutland, A. (2009). Direct and extended friendship effects on minority and majority children's interethnic attitudes: a longitudinal study. *Child Dev.* 80, 377–390. doi: 10.1111/j.1467-8624.2009.01266.x

Graf, S., Paolini, S., and Rubin, M. (2014). Negative intergroup contact is more influential, but positive intergroup contact is more common: assessing contact prominence and contact prevalence in five central European countries. *Eur. J. Soc. Psychol.* 44, 536–547. doi: 10.1002/ejsp.2052

Graham, S., Munniksma, A., and Juvonen, J. (2014). Psychosocial benefits of cross-ethnic friendships in urban middle schools. *Child Dev.* 85, 469–483. doi: 10.1111/cdev.12159

Guan, T., Luo, N., and Wang, L. (2022). Ethnic identity, Chinese national identity, and intergroup attitudes of adolescents from an ethnic autonomous region in China. *Identity Int. J. Theory Res.* 22, 135–149. doi: 10.1080/15283488.2021.1919114

Hambleton, R. K. (1994). Guidelines for adapting educational and psychological tests: a progress report. *Eur. J. Psychol. Assess.* 10, 229–244.

Hayward, L. E., Tropp, L. E., Hornsey, M. J., and Barlow, K. F. (2017). Toward a comprehensive understanding of intergroup contact: descriptions and mediators of positive and negative contact among majority and minority groups. *Personal. Soc. Psychol. Bull.* 43, 347–364. doi: 10.1177/0146167216685291

International Crisis Group (2019). Turkey's Syrian Refugees: Defusing Metropolitan Tensions. Available at: https://www.crisisgroup.org/tr/europe-central-asia/western-europemediterranean/turkey/248-turkeys-syrian-refugees-defusing-metropolitan-tensions

International Organization for Migration (2019). International Migration Report 2020. International Organization for Migration. Available at: https://publications.iom.int/system/files/pdf/wmr_2020.pdf

Jasinskaja-Lahti, I., Mähönen, T. A., and Liebkind, K. (2011). Ingroup norms, intergroup contact and intergroup anxiety as predictors of the outgroup attitudes of majority and minority youth. *Int. J. Intercult. Relat.* 35, 346–355. doi: 10.1016/j.ijintrel.2010.06.001

Karataş, S., Crocetti, E., Schwartz, S. J., and Rubini, M. (2020). Understanding adolescents' acculturation processes: new insights from the intergroup perspective. *New Dir. Child Adolesc. Dev.* 2020, 53–71. doi: 10.1002/cad.20365

Karataş, S., Crocetti, E., Schwartz, S. J., and Rubini, M. (2021). Psychological and social adjustment in refugee adolescents: the role of parents' and adolescents' friendships. *New Dir. Child Adolesc. Dev.* 2021, 123–139. doi: 10.1002/cad.20395

Karataş, S., Eckstein, K., Noack, P., Rubini, M., and Crocetti, E. (2023). Meeting in school: cultural diversity approaches of teachers and intergroup contact among ethnic minority and majority adolescents. *Child Dev.* 94, 237–253.doi: 10.1111/cdev.13854

Kelloway, E. K. (2015). *Using Mplus for Structural Equation Modeling: A Researcher's Guide*. Thousand Oaks: Sage.

Kende, J., Baysu, G., Van Laar, C., and Phalet, K. (2021). Majority group belonging without minority group distancing? Minority experiences of intergroup contact and inequality. *Br. J. Soc. Psychol.* 60, 121–145. doi: 10.1111/bjso.12382

Kohn, M. L. (1987). Cross-national research as an analytic strategy: American Sociological Association, 1987 presidential address. *Am. Sociol. Rev.* 52, 713–731. doi: 10.2307/2095831

Lessard, L. M., Kogachi, K., and Juvonen, J. (2019). Quality and stability of cross-ethnic friendships: effects of classroom diversity and out-of-school contact. *J. Youth Adolesc.* 48, 554–566. doi: 10.1007/s10964-018-0964-9

Little, R. J. A. (1988). A test of missing completely at random for multivariate data with missing values. *J. Am. Stat. Assoc.* 83, 1198–1202. doi: 10.1080/01621459.1988.10478722

Little, T. D., Card, N. A., Slegers, D. W., and Ledford, E. C. (2007). "Representing contextual effects in multiple-group MACS models" in *Modeling Contextual Effects in Longitudinal Studies*. eds. T. D. Little, J. A. Bovaird and N. A. Card (Mahwah: Erlbaum), 121–147.

Mähönen, T. A., Jasinskaja-Lahti, I., and Liebkind, K. (2011). The impact of perceived social norms, gender, and intergroup anxiety on the relationship between intergroup contact and ethnic attitudes of adolescents. *J. Appl. Soc. Psychol.* 41, 1877–1899. doi: 10.1111/j.1559-1816.2011.00793.x

Meleady, R., and Forder, L. (2019). When contact goes wrong: negative intergroup contact promotes generalized outgroup avoidance. *Group Process. Intergroup Relat.* 22, 688–707. doi: 10.1177/1368430218761568

Merrilees, C. E., Taylor, L. K., Baird, R., Goeke-Morey, M. C., Shirlow, P., and Cummings, E. M. (2018). Neighborhood effects of intergroup contact on change in youth intergroup bias. *J. Youth Adolesc.* 47, 77–87. doi: 10.1007/s10964-017-0684-6

Munniksma, A., and Juvonen, J. (2012). Cross-ethnic friendships and sense of social-emotional safety in a multiethnic middle school: an exploratory study. *Merrill-Palmer Q.* 58, 489–506. doi: 10.1353/mpq.2012.0023

Muthén, L. K., and Muthén, B. O. (1998-2017). *Mplus User's Guide. 8th Edn*. Los Angeles, CA: Muthén & Muthén.

O'Donnell, A. W., Friehs, M.-T., Bracegirdle, C., Zúñiga, C., Watt, S. E., and Barlow, F. K. (2021). Technological and analytical advancements in intergroup contact research. *J. Soc. Issues* 77, 171–196. doi: 10.1111/josi.12424

Paolini, S., Harwood, J., Rubin, R., Husnu, S., Joyce, N., and Hewstone, M. (2014). Positive and extensive intergroup contact in the past buffers against the disproportionate impact of negative contact in the present. *Eur. J. Soc. Psychol.* 44, 548–562. doi: 10.1002/ejsp.2029

Pettigrew, T. F. (1998). Intergroup contact theory. *Annu. Rev. Psychol.* 49, 65–85. doi: 10.1146/annurev.psych.49.1.65

Pettigrew, T. F. (2008). Future directions for intergroup contact theory and research. *Int. J. Intercult. Relat.* 32, 187–199. doi: 10.1016/j.ijintrel.2007.12.002

Pettigrew, T. F., and Tropp, L. R. (2006). A meta-analytic test of intergroup contact theory. *J. Pers. Soc. Psychol.* 90, 751–783. doi: 10.1037/0022-3514.90.5.751

Pettigrew, T. F., and Tropp, L. R. (2008). How does intergroup contact reduce prejudice? Meta-analytic tests of three mediators. *Eur. J. Soc. Psychol.* 38, 922–934. doi: 10.1002/ejsp.504

Pettigrew, T. F., Wagner, U., and Christ, O. (2010). Population ratios and prejudice: modelling both contact and threat effects. *J. Ethn. Migr. Stud.* 36, 635–650. doi: 10.1080/13691830903516034

Prati, F., Kenfack, C. S. K., Koser Akcapar, S., and Rubini, M. (2021). The role of positive and negative contact of migrants with native people in affecting their future interactions. Evidence from Italy and Turkey. *Int. J. Intercult. Relat.* 85, 191–203. doi: 10.1016/j.ijintrel.2021.09.015

Reimer, N. K., Love, A., Wölfer, R., and Hewstone, M. (2021). Building social cohesion through intergroup contact: evaluation of a large-scale intervention to improve intergroup relations among adolescents. *J. Youth Adolesc.* 50, 1049–1067. doi: 10.1007/s10964-021-01400-8

Ruck, M. D., Park, H., Killen, M., and Crystal, D. S. (2011). Intergroup contact and evaluations of race-based exclusion in urban minority children and adolescents. *J. Youth Adolesc.* 40, 633–643. doi: 10.1007/s10964-010-9600-z

Satorra, A., and Bentler, P. M. (2001). A scaled difference chi-square test statistic for moment structure analysis. *Psychometrika* 66, 507–514. doi: 10.1007/BF02296192

Schachner, M. K., Brenick, A., Noack, P., van de Vijver, F. J. R., and Heizmann, B. (2015). Structural and normative conditions for interethnic friendships in multiethnic classrooms. *Int. J. Intercult. Relat.* 47, 1–12. doi: 10.1016/j.ijintrel.2015.02.003

Schäfer, S. J., Kauff, M., Prati, F., Kros, M., Lang, T., and Christ, O. (2021). Does negative contact undermine attempts to improve intergroup relations? Deepening the understanding of negative contact and its consequences for intergroup contact research and interventions. *J. Soc. Issues* 77, 197–216. doi: 10.1111/josi.12422

Schlueter, E., and Wagner, U. (2008). Regional differences matter: examining the dual influence of the regional size of the immigrant population on derogation of immigrants in Europe. *Int. J. Comp. Sociol.* 49, 153–173. doi: 10.1177/0020815207088910

Techakesari, P., Barlow, F. K., Hornsey, M. J., Thai, M., and Chak, J. L. Y. (2015). An investigation of positive and negative contact as predictors of intergroup attitudes in the United States, Hong Kong, and Thailand. *J. Cross Cult. Psychol.* 46, 454–468. doi: 10.1177/0022022115570313

Titzmann, P. F. (2012). Growing up too soon? Parentification among immigrant and native adolescents in Germany. *J. Youth Adolesc.* 41, 880–893. doi: 10.1007/s10964-011-9711-1

Titzmann, P. F., Brenick, A., and Silbereisen, R. K. (2015). Friendships fighting prejudice: a longitudinal perspective on adolescents' cross-group friendships with immigrants. *J. Youth Adolesc.* 44, 1318–1331. doi: 10.1007/s10964-015-0256-6

Tropp, L. R., White, F., Rucinski, C. L., and Tredoux, C. (2022). Intergroup contact and prejudice reduction: prospects and challenges in changing youth attitudes. *Rev. Gen. Psychol.* 26, 342–360. doi: 10.1177/10892680211046517

Turner, R. N., Hewstone, M., and Voci, A. (2007). Reducing explicit and implicit outgroup prejudice via direct and extended contact: the mediating role of self-disclosure and intergroup anxiety. *J. Pers. Soc. Psychol.* 93, 369–388. doi: 10.1037/0022-3514.93.3.369

United Nations High Commissioner for Refugees. (2022). Operational Data Portal: Ukraine Refugee Situation. Available at: https://data.unhcr.org/en/situations/ukraine

van de Schoot, R., Lugtig, P., and Hox, J. (2012). A checklist for testing measurement invariance. *Eur. J. Dev. Psychol.* 9, 486–492. doi: 10.1080/17405629.2012.686740

van de Vijver, F. J. R. (2001). "The evolution of cross-cultural research methods" in *Handbook of Culture and Psychology*. ed. D. Matsumoto (Oxford: Oxford University Press), 77–97.

van Zalk, M. H. W., Kotzur, P. F., Schmid, K., Al Ramiah, A., and Hewstone, M. (2021). Adolescent development of interethnic attitudes following a social intervention to increase intergroup contact: the moderating role of affective forecasting. *Dev. Psychol.* 57, 1000–1017. doi: 10.1037/dev0001194

Vedder, P., Wenink, E., and van Geel, M. (2017). Intergroup contact and prejudice between Dutch majority and Muslim minority youth in the Netherlands. *Cult. Divers. Ethn. Minor. Psychol.* 23, 477–485. doi: 10.1037/cdp0000150

Visintin, E. P., Green, E. G. T., Pereira, A., and Miteva, P. (2016). How positive and negative contact relate to attitudes towards Roma: comparing majority and high-status minority perspectives. *J. Community Appl. Soc. Psychol.* 27, 240–252. doi: 10.1002/casp.2309

Wagner, U., Christ, O., Pettigrew, T. F., Stellmacher, J., and Wolf, C. (2006). Prejudice and minority proportion: contact instead of threat effects. *Soc. Psychol. Q.* 69, 380–390. doi: 10.1177/019027250606900406

Wölfer, R., and Hewstone, M. (2017). Beyond the dyadic perspective: 10 reasons for using social network analysis in intergroup contact research. *Br. J. Soc. Psychol.* 56, 609–617. doi: 10.1111/bjso.12195

Wölfer, R., Schmid, K., Hewstone, M., and van Zalk, M. (2016). Developmental dynamics of intergroup contact and intergroup attitudes: long term effects in adolescence and early adulthood. *Child Dev.* 87, 1466–1478. doi: 10.1111/cdev.12598

Žukauskienė, R., Kaniušonytė, G., Nelson, L. J., Crocetti, E., Malinauskienė, O., Hihara, S., et al. (2020). Objective and subjective markers of transition to adulthood in emerging adults: their mediating role in explaining the link between parental trust and life satisfaction. *J. Soc. Pers. Relat.* 37, 3006–3027. doi: 10.1177/0265407520948621

frontiers | Frontiers in Psychology

TYPE Original Research
PUBLISHED 27 January 2023
DOI 10.3389/fpsyg.2022.1084731

OPEN ACCESS

EDITED BY
Huseyin Çakal,
Keele University,
United Kingdom

REVIEWED BY
Ionel Bostan,
Ștefan cel Mare University of Suceava,
Romania
Ahmet Maslakcı,
Bahçeşehir Cyprus University,
Cyprus

*CORRESPONDENCE
Wilter C. Morales-García
✉ wiltermorales@upeu.edu.pe
Jacksaint Saintila
✉ saintilajack@crece.uss.edu.pe

SPECIALTY SECTION
This article was submitted to Personality and Social Psychology, a section of the journal Frontiers in Psychology

RECEIVED 30 October 2022
ACCEPTED 15 December 2022
PUBLISHED 27 January 2023

CITATION
Estela-Delgado B, Montenegro G, Paan J, Morales-García WC, Castillo-Blanco R, Sairitupa-Sanchez L and Saintila J (2023) Personal well-being and financial threats in Peruvian adults: The mediating role of financial well-being.
Front. Psychol. 13:1084731.
doi: 10.3389/fpsyg.2022.1084731

Personal well-being and financial threats in Peruvian adults: The mediating role of financial well-being

Bertha Estela-Delgado[1], Gilmer Montenegro[1], Jimmy Paan[1], Wilter C. Morales-García[2,3]*, Ronald Castillo-Blanco[4], Liset Sairitupa-Sanchez[5] and Jacksaint Saintila[6]*

[1]Unidad de Administración, Escuela de Posgrado, Universidad Peruana Unión, Lima, Peru, [2]Unidad de Salud Pública, Escuela de Posgrado, Universidad Peruana Unión, Lima, Peru, [3]Escuela de Medicina Humana, Facultad de Ciencias de la Salud, Universidad Peruana Unión, Lima, Peru, [4]Departamento de Gestión del Aprendizaje, Universidad del Pacífico, Lima, Peru, [5]Escuela Profesional de Psicología, Facultad de Ciencias de la Salud, Universidad Peruana Unión, Lima, Peru, [6]Escuela de Medicina Humana, Universidad Señor de Sipán, Chiclayo, Peru

Crises negatively affect the economy of a country, increasing financial risk, as they affect work activities and the well-being of the population. This study aimed to examine the mediating role of financial well-being in the relationship between personal well-being and financial threats. A predictive cross-sectional study was conducted. The variables analyzed were personal well-being, financial threats, and financial well-being. A total of 416 Peruvian adults from the three regions of Peru participated. The mean age was M=35.36, SD=8.84, with a range of 19–62years. To represent the statistical mediation model, a structural equation model (SEM) was used. The analysis showed that the variables were significantly related (p<0.001). The theoretical model indicated a perfect mediation, also obtaining a good fit, χ^2(168)=394.3, CFI=0.931, RMSEA=0.057, SRMR=0.062. The study showed that personal well-being serves as a basis for promoting financial well-being and this contributes to the reduction of financial threats.

KEYWORDS

personal well-being, financial, threats, Peruvian adult, mediation

1. Introduction

Health crises such as COVID-19 have led to unstable labor situations and increased labor concerns, negatively affecting the global and Peruvian economy (Barraza, 2020; Wilson et al., 2020; Durst et al., 2021). Financial risks have had an impact on labor and business activities, causing negative consequences due to temporary layoffs, business closures, and job insecurity (Alcover et al., 2020). The increase in unemployment was more constant along with the financial difficulties of micro and small businesses. Families were affected by economic uncertainty, expressing greater pessimism about the economic situation, and there was less financial well-being (Barrafrem et al., 2020). Informal workers

are unable to earn income due to public health restrictions and depending on government assistance and food donations, these financial threats affect their financial well-being (Salameh et al., 2020; Botha et al., 2021). However, the more experience one has with economic hardship, the more financial threats to the population increase (Fiksenbaum et al., 2017b). Social scientists indicate that personal finances are related to well-being; therefore, financial crises predict poor physical and psychological health outcomes for the population (Richardson et al., 2013).

Financial well-being is considered as an objective condition when considering material economic resources, and it is also a subjective experience when considering and evaluating one's own economic condition (Sorgente and Lanz, 2017; Kaur et al., 2021). Not all people have the same perception of their financial situation. Some people with few resources are satisfied with their lives, while others, full of opportunity and wealth, struggle because they don't have enough finances (Grezo and Sarmany-Schuller, 2015). Financial well-being has been an important variable during the COVID-19 pandemic, due to the effect on occupational, economic, and health vulnerability during the quarantine period (Chori et al., 2021). Making good decisions has an impact on financial well-being, but you need to plan for the long term, saving, in order to establish short-term security (Fan, 2021). People often find it difficult to administer or manage their finances, which leads to behaviors that have a negative effect on their savings and increase their financial threats, as they become vulnerable to financial crises (Braunstein and Welch, 2002; Ullah and Yusheng, 2020). Studies show that adults lack financial knowledge and skills, as they are faced with many financial areas such as spending, savings, housing, retirement, and credit cards that could ensure their financial well-being, yet they possess low financial education that causes debts, savings, retirement plans to affect their future financial well-being (Rutherford and Fox, 2010; Sinha et al., 2018). In fact, being financially educated may help acquire attitudinal and behavioral roles related to financial well-being and alleviate or reduce the anxiety or stress that accompanies crises (Shim et al., 2009).

Personal well-being allows when the person faces challenges or threats, to go through a process of adaptation in order to balance demands such as psychosocial health and to have some coping strategies. This allows the person to emerge with adaptive resources for future challenges (Gonzalez et al., 2022). Whereas, constraints such as concerns about money or financial resources affect personal well-being (Rea et al., 2018). During the pandemic, parents have promoted well-being, health, and ability to cope with internal and external factors (Russell et al., 2020). Therefore, decreasing the factors that affect financial states allows for better financial well-being and improved personal well-being. Decreased personal well-being influences financial well-being due to crises and can have lasting effects on physical health, increased heart disease, lower job performance, and shorter life expectancy (Ferreira et al., 2021).

Financial problems contribute to an increase in negative psychosocial outcomes, such as psychological distress, depression, suicidal intent, and dissatisfaction with life, among others (Mamun et al., 2020). The financial threat is the way in which the person evaluates stressful situations and usually produces fear, worry, or uncertainty of financial stability and security, because as there is a financial crisis, financial situations also deteriorate (Marjanovic et al., 2015). It is important to make a primary assessment to establish the harm that some stressors may cause in the future. Therefore, the higher the estimation of harm, the higher the perception of the different stressors as threatening (Fiksenbaum et al., 2017b). The analysis of threat levels is followed by an evaluation of the potential aspects to address financial threats. Financial threats increase in times of crisis or financial deterioration (Folkman, 2013; Mamun et al., 2020).

1.1. Review of literature

1.1.1. Financial well-being

Financial well-being is a person's objective and subjective assessment of his or her current situation. A person's dynamic assessment of his or her own well-being is determined by various personal and contextual factors that are changeable (Brüggen et al., 2017). Financial literacy has become an essential skill due to unstable global markets (Philippas and Avdoulas, 2019). Several studies have found that the influence of personal factors is important in financial well-being, since financial well-being allows control over finances and is able to absorb financial threats, the freedom to make decisions that promote the well-being of the individual (Zhang and Cao, 2010; Ponchio et al., 2019). Financial well-being results from meeting financial commitments, financial resilience for future events. In addition, behavioral factors such as spending restraint, active savings, and no borrowing for daily expenses, allow for greater financial well-being (Carton et al., 2022). Stress can lead to short-term credit decisions that can aggravate initial debt problems (Gathergood and Weber, 2014). Furthermore, the literature indicates that there is a detrimental relationship between financial hardship and mental health (Bialowolski et al., 2021). Thus, financial well-being can be a mediator between personal well-being and financial threats.

1.1.2. Personal well-being

Subjective well-being is the cognitive appraisals of general satisfaction, emotional appraisals of happiness, and emotional balance (Diener et al., 1999; Diener and Oishi, 2009). Personal well-being has been evaluated in different ways such as life satisfaction, happiness, and general well-being, it also involves activities subject to finances, as there are a large number of factors that contribute to personal well-being. Personal well-being is a predictor of financial well-being (Gerrans et al., 2013). Models such as Joo (2008) indicate that financial well-being is a component of personal well-being. However, there is a causal link between financial well-being and personal well-being, since an increase in financial well-being is associated with an increase in personal well-being (Gerrans et al., 2013).

1.1.3. Financial threats

Financial threat refers to fearful-anxious uncertainty regarding current or future conditions. In the midst of economic crises, financial threat tends to increase more than normal. This to the likelihood of economic deterioration, high unemployment rates, and declining quality of life (Marjanovic et al., 2013; Fiksenbaum et al., 2017a). Likewise, Lazarus and Folkman (2013) indicate that threatening perceptions are not always based on reality, but more of a perceived danger of stress and focus on coping skills. In the face of this people whose financial well-being has been eroded their financial stability as a result of economic instability allows them to experience greater financial threat and leads to greater psychological distress. Likewise, people who experience greater financial threat are those who experience situations such as job loss, financial difficulties, loss of income, and stress (de Miquel et al., 2022; Figure 1).

Based on the above, it is proposed that financial well-being mediates the relationship between personal well-being and financial threats, considering the following hypotheses:

> *Hypothesis 1*: Personal well-being will have an effect on financial threat.
>
> *Hypothesis 2*: Financial well-being mediates the relationship between personal well-being and financial threat.

2. Materials and methods

2.1. Study design and population

A cross-sectional and explanatory study was designed considering latent variables represented by a system of structural equations (Ato et al., 2013). The number of participants was determined using Soper software that considers the number of observed and latent variables for structural equation models (SEM), whereby the anticipated effect size ($\lambda = 0.3$), statistical power levels ($1 - \beta = 0.95$), and the desired probability ($\alpha = 0.05$), indicated a number of 184 of participants (Soper, 2021). The final sample consisted of 416 Peruvian adults from the 3 regions of Peru (coast, highlands, and jungle) using a convenience sampling method, taking into account the absence of data and lack of response.

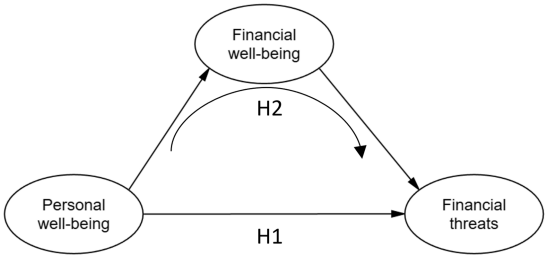


FIGURE 1
Theoretical model.

2.2. Procedure

After approval by the ethics committee of the University (Cod: 2021- CE-EPG-000078), participants were invited to complete the questionnaire available from 21 November 2021, to 20 February 2022 *via* Google Forms, which allowed online sharing. Prior to data collection, the guidelines stipulated in the Declaration of Helsinki and the norms of confidentiality were considered by informing participants about the nature of the project, followed by obtaining informed consent. The completeness of the questionnaires presented below was evaluated.

2.3. Measurements

Measures of personal well-being, financial threat, and financial well-being adopted from existing research were considered and translated into Spanish according to established guidelines for the translation and cross-cultural validation of instruments (Tsang et al., 2017).

1. Initially, three PhDs with expertise in business administration and finance and accounting, fluent in English and Spanish, made a direct and independent translation of the three measures into Spanish (Peru)
2. Second, the first Spanish version was independently translated into English by two translators whose native language was English and who were fluent in Spanish
3. Third, based on both versions, the research team, together with the translators mentioned above, evaluated the translated versions and performed a comparative analysis with this existing version, considering some linguistic and cultural similarities. The items were evaluated by financial and management experts in the field who considered that the items were appropriate and that the instrument was relevant to the Peruvian population, so the initial version of the measures of personal well-being, financial threat, and financial well-being was developed
4. Fourth, a pilot test was conducted, in which the initial version was applied to 10 students to check the readability and comprehension of the items
5. In fifth place, the research group evaluated the pilot, test and no modifications were suggested, which made it possible to have the version of personal well-being, financial threat, and financial well-being (Annex 1). The instruments are described below.

2.3.1. Financial well-being

Financial well-being was measured using the inventory that included six of the items from the Prawitz et al. (2012) measure of financial distress/financial well-being. Participants were asked to indicate their degree of financial stress on a scale of 1–10. For example, "on a scale of 1–10, where one is" overwhelmingly stressed "and ten is" no stress at all." In this study, the model presented adequate reliability indices on the total scale (ordinal α = 092, ω = 0.89, H = 0.92), and the model presented adequate validity indices (χ^2 = 85.732; df = 9; p = 0.000; CFI = 0.998, TLI = 0.997, RMSEA = 0.073, SRMR = 0.028).

2.3.2. Personal well-being

Personal well-being will be measured using the PWI-A (International Wellbeing Group, 2006), which contained 8 items and a general well-being question that was used by the International Wellbeing Group to validate the index. Participants indicated their degree of satisfaction in different areas of life: life as a whole, standard of living, health, life achievements, personal relationships, present security, feeling part of a community, future security, and spirituality or religion. For each item, participants were asked to indicate a value from 0 (completely dissatisfied) to 10 (completely satisfied), with 5 being neutral. Cronbach's alpha ranged from 0.70 to 0.85. In this study, 6 items were considered (see Appendix 1), the model presented adequate reliability indices (ordinal α = 0.90, ω = 0.92, H = 0.93), and the model presented adequate validity indices (χ^2 = 73.556; df = 9; p = 0.000; CFI = 0.999, TLI = 0.998, RMSEA = 0.066, SRMR = 0.021).

2.3.3. Financial threats

The five-element FTS was developed in accordance with existing threat measures and threat research (Marjanovic et al., 2013). The aim is to cover a wide range of the hypothetical financial threat construct with as few elements as possible. Its five items cover areas of uncertainty, risk, perceived threat (included to reinforce face validity), worry, and cognitive concern with current personal finances. The five items are supported along five-point scales, the endpoints of which change slightly to reflect the content of the item. A Cronbach's alpha of 0.89 was obtained. In this study, the model presented adequate reliability indices (ordinal α = 0.98, ω = 0.87 and H = 0.96), and the model presented adequate validity indices (χ^2 = 14.689; df = 2; p = 0.000; CFI = 0.999, TLI = 0.998, RMSEA = 0.064, SRMR = 0.020).

2.4. Data analysis procedure

The theoretical model under study was analyzed using structural equation modeling with the MLR estimator, which is appropriate for numerical variables and is robust to inferential normality deviations (Muthen and Muthen, 2017). The evaluation of the fit was performed with the comparative fit index (CFI), the root mean square error of approximation (RMSEA), and the standardized root mean square residual (SRMR). CFI values of >0.90 were used (Bentler, 1990), RMSEA <0.080 (MacCallum et al., 1996), and SRMR <0.080 (Browne and Cudeck, 1992). For the mediation analysis, the bootstrapping method was used with 5,000 iterations and a 95% confidence interval (Yzerbyt et al., 2018). Regarding reliability analysis, the internal consistency method was used with the alpha coefficient (α), ordinal α, and coefficient ω (McDonald, 1999; Hancock and Mueller, 2001; Pascual-Ferrá and Beatty, 2015) expecting magnitudes greater than 0.80 (Raykov and Hancock, 2005; Dominguez-Lara, 2016).

The structural equation modeling analysis was performed with the "R" software in version 4.0.5 and the "lavaan" library was used (Rosseel, 2012). The organization of the initial database and the first descriptive results were obtained with IBM SPSS Statistics 26 software.

3. Results

3.1. Sociodemographic

The final sample was comprised 416 Peruvian adults. The mean age was M = 35.36 (SD = 8.84) ranging from 19 to 62 years. Among them (Table 1), it is shown that the majority were between 29 and 38 years old (42.3%), with an income level of 0 to 930 (33.7%), from the coastal region (76.0%), with a high school technical education (32.7%), self-employed (50.7%), with an average financial education (57.9), and savings (56.3).

3.2. Preliminary analysis

The scores of the study variables were scaled between values between 0 and 30 in order to facilitate their reading. Table 2 shows the correlation matrix and the descriptive results, where the correlation results are between 0.24 and 0.50 in absolute value. In addition, this table also shows the internal consistencies that were found between the values of 0.87 and 0.94.

3.3. Structural model

In the theoretical model analysis, an adequate fit was obtained, 2 (167) = 393.4, p < 0.001, CFI = 0.931, RMSEA = 0.057, SRMR = 0.057, results that can be visualized in the left model in Figure 2 (model a). Given the close to null value of the effect of personal well-being on financial threats, and in consideration of the parsimony criteria of the model proposal, we chose to restrict this relationship to zero, also obtaining a good fit, 2 (168) = 394.3, p < 0.001, CFI = 0.931, RMSEA = 0.057, SRMR = 0.062. This model is presented on the right side of the Figure 2 (model b).

For the mediation analysis, bootstrapping of 5,000 iterations was used. Then, with respect to $H2$, the mediating effect of financial well-being on the effect of Personal Well-Being on Financial Threats is confirmed, β = −0.22, p < 0.001, 95% CI [−0.12, −0.05].

4. Discussion

The financial crises resulting from the COVID-19 pandemic have resulted in considerable losses not only in the health aspect but also in the economy in Peru and worldwide. Peru had been suffering economic problems and these were aggravated by the various measures adopted by the government, where many companies had to close and there was a massive layoff of personnel, which increased unemployment (Barreto et al., 2021). Subsequently, due to the normalization of economic activities and the new measures taken by the government, the economy recovered after a downturn; however, the drop in formal employment and loss of income continue without a visible recovery (Barreto et al., 2021). The purpose of this study was to examine how personal well-being influences financial threats through financial well-being. The results supported that personal well-being was positively associated with financial well-being, which, in turn, was negatively associated with financial threats. The study contributes to a more complete understanding of the process of personal well-being through the underlying mechanism of how personal well-being affects financial threats during a crisis.

As expected, personal well-being was positively associated with financial well-being. The result was consistent with previous studies (Nanda and Banerjee, 2021), as they indicate a healthy balance between savings and expenses crucial to personal and financial well-being (Brüggen et al., 2017). So financial well-being allows for a state of overall happiness or satisfaction with financial situations, and encompasses greater security with income or savings and thus maintaining material security (Mahdzan et al., 2020). Thus, proper financial behavior and self-control allow for greater financial well-being (Strömbäck et al., 2017). Therefore, credit counseling can help in having positive financial behaviors, which results in better health and greater financial well-being (O'Neill et al., 2013).

Likewise, the results indicated that financial well-being was negatively associated with financial threat. Previous studies indicate that the results are consistent, since financial well-being indicates an adequate standard of living without financial disruption or instability, while in times of financial crisis or threat, it tends to increase and may be higher than normal due to economic deterioration (Marjanovic et al., 2013). This may also be due to the pessimistic economic outlook people have about the future. Thus, those who assess their own economic situation in comparison with the national or global situation have better ways of coping with financial threats. Unlike pessimistic people who are less prepared for negative economic shocks, the negative effect of financial threats is increased (Barrafrem et al., 2020).

Finally, our results indicated that financial well-being mediated the relationship between personal well-being and financial threats. This indicates that those with decreased personal well-being report greater economic problems and increased financial distress (Fiksenbaum et al., 2017a). The

TABLE 1 Sociodemographic information.

Characteristics		*n*	%
Age	19–28	92	22.1
	29–38	176	42.3
	39–62	148	35.6
Sex	Female	269	64.7
	Male	147	35.3
Level of income	5,001 or more	13	3.1
	2,500–5,000	50	12.0
	1,501–2,500	88	21.2
	931–1,500	125	30.0
	0–930	140	33.7
Region of origin	Coast	48	11.5
	Jungle	316	76.0
	Sierra	52	12.5
Level of education	Graduate	118	28.4
	None	10	2.4
	Postgraduate	27	6.5
	Primary	19	4.6
	Secondary	106	25.5
	Technical Bachelor's Degree	136	32.7
Work modality	Dependent	205	49.3
	Independent	211	50.7
Financial education	Under	63	15.1
	Elevated	9	2.2
	Below average	69	16.6
	Above average	34	8.2
	Average	241	57.9
Savings	No	182	43.8
	Yes	234	56.3

TABLE 2 Descriptive statistics, internal consistencies, and correlations for the study variables.

Variables	*M*	*SD*	A	α	1	2	3
1. Financial well-being	18.2	5.4	−0.1	0.88	-		
2. Personal well-being	22.5	4.9	−0.5	0.94	**0.50*****	-	
3. Financial threats	27.6	9.3	0.1	0.87	**−0.36*****	**−0.24*****	-

M = Mean, SD = Standard Deviation and A = Skewness, α = Cronbach's Alpha.
***$p < 0.001$.

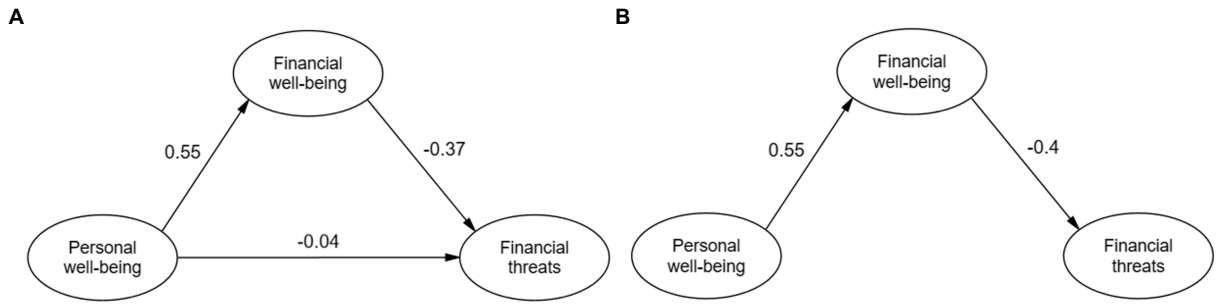


FIGURE 2
Results of the structural model: **(A)** Including direct effect and **(B)** excluding direct effect.

study also showed that there is no indirect relationship between personal well-being and financial threats. This suggests that financial well-being mediates individual well-being resources and financial threats due to the fact that the individual could change his or her behavior in the midst of financial crises by reducing spending and increasing income, seeking employment (de Miquel et al., 2022). Therefore, financial well-being has a function in which it allows the evaluation of personal resources for stress management. However, more studies are needed to extend the assessment of coping and motivations in adverse situations to reduce financial and psychological distress.

Generally, people often make decisions to improve their state and well-being financially. These decisions include spending responsibly, opening savings accounts, and borrowing in order to grow assets and protect financial resources (Sehrawat et al., 2021). However, in the current national and global financial context, financial decisions can be particularly challenging. On the one hand, at the national level, the political crisis that the country (Peru) is going through is challenging for the economic life of Peruvian households, considering that financial well-being depends to a certain extent on political stability and people's confidence in the government (Barrafrem et al., 2021). In fact, trust or distrust in public institutions is an important pillar to face financial challenges and improve financial well-being (Algan and Cahuc, 2010). On the other hand, at the global level, there is a concern on the part of political leaders to find effective strategies to improve the financial sector, financial well-being, and stability of households (World Bank, 2013). Whereas citizens can easily find themselves trapped in an unfavorable economic situation if not managed with responsible financial behavior, therefore, it is imperative to adopt financial measures such as identifying personality traits, improving financial literacy or specific economic behaviors through appropriate financial education to help people cope in these times of difficult economic and health crises to ensure their financial well-being (Netemeyer et al., 2018; Riitsalu and Murakas, 2019). Moreover, to increase or improve financial well-being, it is necessary to adopt adequate financial strategies that lead to an increase in satisfaction in relation to the financial situation; these strategies include having defined financial objectives in such a way that they help to have a systematic saving for future emergencies, having control over income and expenses through a budget, not generating unnecessary debts, and making expenses according to the financial possibilities that are available; all of these are fundamental to increase financial well-being (Netemeyer et al., 2018; Riitsalu and Murakas, 2019).

4.1. Implications

The results may be useful to organizations or professionals capable of formulating public policies. Variables such as financial well-being and threats make it possible to develop financial education programs that have an impact on families affected by crises. Because better management of financial affairs could help to control, improve financial skills and decisions, and achieve financial and personal well-being. Likewise, programs should raise awareness among teachers and children in order to motivate them to save from childhood, so that as adults they can increase their level of confidence and make better financial decisions. More cross-cultural studies are needed due to the scarcity of studies and the performance of studies with other sociodemographic characteristics that allow greater representativeness of the adult population. Thus, financial phenomena such as well-being and other variables with different characteristics and dynamics could be tested.

4.2. Limitations

This study has some limitations to consider. First, the study was cross-sectional and cannot adequately explore the causal relationships between variables, hence a more robust analysis. Therefore, longitudinal studies are recommended to test for causal connections. Second, political, social, and economic factors may be different in other countries, which may lead to different results. Third, the self-administered instruments used together may not represent a measure of an individual's financial behavior and threat.

5. Conclusion

Personal well-being provides greater overall satisfaction with financial matters, in turn, appropriate financial behavior results in greater financial well-being. Financial well-being provides a standard of living with greater financial stability and makes it possible to cope with financial crises. So lower financial well-being can cause greater financial problems due to the inability to cope with financial threats. Thus, when a person perceives greater well-being, it serves as a basis for promoting financial well-being and contributes to the reduction of financial threats.

Data availability statement

The data on which this study is based can be requested from the corresponding author.

Ethics statement

The studies involving human participants were reviewed and approved by the study was reviewed by the ethics committee of the Universidad Peruana Unión (Cod: 2021-CE-EPG-000078). The patients/participants provided their written informed consent to participate in this study.

Author contributions

BE-D, GM, JP, and WM-G participated in the conceptualization. WM-G, JS, and LS-S were in charge of the methodology and software. WM-G and RC-B performed validation, formal analysis, and research and commissioned data and resource conservation. First draft writing, review, and editing, visualization, and supervision were handled by WM-G, RC-B, JS, and LS-S. All authors contributed to the article and approved the submitted version.

Acknowledgments

The authors would like to thank Varisier Noel during the manuscript writing process.

Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

Publisher's note

All claims expressed in this article are solely those of the authors and do not necessarily represent those of their affiliated organizations, or those of the publisher, the editors and the reviewers. Any product that may be evaluated in this article, or claim that may be made by its manufacturer, is not guaranteed or endorsed by the publisher.

Supplementary material

The Supplementary material for this article can be found online at: https://www.frontiersin.org/articles/10.3389/fpsyg.2022.1084731/full#supplementary-material

References

Alcover, C.-M., Salgado, S., Nazar, G., Ramírez-Vielma, R., and González-Suhr, C. (2020). Job insecurity, financial threat and mental health in the COVID-19 context: the buffer role of perceived social support *MedRxiv*, 1–30. doi: 10.1101/2020.07.31.20165910

Algan, Y., and Cahuc, P. (2010). Inherited trust and growth. *Am. Econ. Rev.* 100, 2060–2092. doi: 10.1257/aer.100.5.2060

Ato, M., López, J. J., and Benavente, A. (2013). Un sistema de clasificación de los diseños de investigación en psicología. *An. Psicol.* 29, 1038–1059. doi: 10.6018/ANALESPS.29.3.178511

Barrafrem, K., Tinghög, G., and Västfjäll, D. (2021). Trust in the Government Increases Financial Well-Being and General Well-Being during COVID-19. *J. Behav. Exp. Financ.* 31:100514. doi: 10.1016/j.jbef.2021.100514

Barrafrem, K., Västfjäll, D., and Tinghög, G. (2020). Financial well-being, COVID-19, and the financial better-than-average-effect. *J. Behav. Exp. Finance* 28:100410. doi: 10.1016/J.JBEF.2020.100410

Barraza, B. J. S. (2020). Crisis económica mundial del 2008 y su impacto en la evolución de la economía peruana. *Quipukamayoc* 28, 35–42. doi: 10.15381/quipu.v28i57.15135

Barreto, I. B., Sánchez, R. M. S., and Marchan, H. A. S. (2021). Consecuencias económicas y sociales de la inamovilidad humana bajo COVID – 19 caso de estudio Perú. *Lect. Econ.* 94, 285–303. doi: 10.17533/UDEA.LE.N94A344397

Bentler, P. (1990). Comparative fit indices in structural models. *Psychol. Bull.* 107, 238–246. doi: 10.1037/0033-2909.107.2.238

Bialowolski, P., Weziak-Bialowolska, D., Lee, M. T., Chen, Y., VanderWeele, T. J., and McNeely, E. (2021). The role of financial conditions for physical and mental health. Evidence from a longitudinal survey and insurance claims data. *Soc. Sci. Med.* 281:114041. doi: 10.1016/J.SOCSCIMED.2021.114041

Botha, F., New, J. P. d., New, S. C. d., Ribar, D. C., and Salamanca, N. (2021). Implications of COVID-19 labour market shocks for inequality in financial wellbeing. *J. Popul. Econ.* 34, 655–689. doi: 10.1007/S00148-020-00821-2

Braunstein, S., and Welch, C. (2002). Financial literacy: an overview of practice, research, and policy. *Fed. Reserv. Bull.* 88, 445–457. doi: 10.17016/BULLETIN.2002.88-11

Browne, M. W., and Cudeck, R. (1992). Alternative ways of assessing model fit. *Sociol. Methods Res.* 21, 230–258. doi: 10.1177/0049124192021002005

Brüggen, E. C., Hogreve, J., Holmlund, M., Kabadayi, S., and Löfgren, M. (2017). Financial well-being: a conceptualization and research agenda. *J. Bus. Res.* 79, 228–237. doi: 10.1016/J.JBUSRES.2017.03.013

Carton, F. L., Xiong, H., and McCarthy, J. B. (2022). Drivers of financial well-being in socio-economic deprived populations. *J. Behav. Exp. Financ.* 34:100628. doi: 10.1016/J.JBEF.2022.100628

Chori, A., Bai, N., and Ghezelsofloo, H. (2021). The role of job insecurity during the Corona virus pandemic on the mental health of football schools' coaches with the mediating role of financial well-being. *Sport Psychol. Stud.* 11, 295–320. doi: 10.22089/SPSYJ.2021.11312.2232

Miquel, C.de, Domènech-Abella, J., Felez-Nobrega, M., Cristóbal-Narváez, P., Mortier, P., Vilagut, G., et al. (2022). The mental health of employees with job loss and income loss during the COVID-19 pandemic: the mediating role of perceived financial stress. *Int. J. Environ. Res. Public Health*, 19:3158. doi: 10.3390/IJERPH19063158

Diener, E., Lucas, R., and Smith, H. L. (1999). Subjective Weil-being: three decades of Progress. *Psychol. Bull.* 125, 276–302. doi: 10.1037/0033-2909.125.2.276

Diener, E., and Oishi, S. (2009). TARGET ARTICLE: the nonobvious social psychology of happiness. *Int. J. Adv. Psychol. Theory* 16, 162–167. doi: 10.1207/S15327965PLI1604_04

Dominguez-Lara, S. A. (2016). Evaluación de la confiabilidad del constructo mediante el coeficiente H: breve revisión conceptual y aplicaciones. *Psychologia. Av. Discip.* 10, 87–94.

Durst, S., Palacios Acuache, M. M. G., and Bruns, G. (2021). Peruvian small and medium-sized enterprises and COVID-19: time for a New start! *J. Entrep. Emerg. Econ.* 13, 648–672. doi: 10.1108/JEEE-06-2020-0201

Fan, L. (2021). A conceptual framework of financial advice-seeking and short- and long-term financial behaviors: an age comparison. *J. Fam. Econ. Issues* 42, 90–112. doi: 10.1007/S10834-020-09727-3

Ferreira, M. B., Almeida, F. d., Soro, J. C., Herter, M. M., Pinto, D. C., and Silva, C. S. (2021). On the relation between over-indebtedness and well-being: an analysis of the mechanisms influencing health, sleep, life satisfaction, and emotional well-being. *Front. Psychol.* 12:1199. doi: 10.3389/FPSYG.2021.591875

Fiksenbaum, L., Marjanovic, Z., and Greenglass, E. (2017a). Financial threat and individuals' willingness to change financial behavior. *Rev. Behav. Finance* 9, 128–147. doi: 10.1108/RBF-09-2016-0056

Fiksenbaum, L., Marjanovic, Z., Greenglass, E., and Garcia-Santos, F. (2017b). Impact of economic hardship and financial threat on suicide ideation and confusion. *J Psychol.* 151, 477–495. doi: 10.1080/00223980.2017.1335686

Folkman, S. (2013). "Stress: appraisal and coping", in *Encyclopedia of Behavioral Medicine*. eds. M. D. Gellman and J. R. Turner New York, NY: Springer.

Gathergood, J., and Weber, J. (2014). Self-control, financial literacy and the co-holding puzzle. *J. Econ. Behav. Organ.* 107, 455–469. doi: 10.1016/J.JEBO.2014.04.018

Gerrans, P., Speelman, C., and Campitelli, G. (2013). The relationship between personal financial wellness and financial wellbeing: a structural equation modelling approach. *J. Fam. Econ. Iss.* 35, 145–160. doi: 10.1007/S10834-013-9358-Z

Gonzalez, M. R., Brown, S. A., Pelham, W. E., Bodison, S. C., McCabe, C., Baker, F. C., et al. (2022). Family well-being during the COVID-19 pandemic: the risks of financial insecurity and coping. *J. Res. Adolesc.*, 1–16. doi: 10.1111/JORA.12776

Grezo, M., and Sarmany-Schuller, I. (2015). Coping with economic hardship: a broader look on the role of dispositional optimism. *J. Psychol.* 2, 6–14.

Hancock, G. R., and Mueller, R. O. (2001). "Rethinking construct reliability within latent variable systems" in *Structural Equation Modeling: Present and Future—A Festschrift in Honor of Karl Joreskog*. eds. R. Cudeck, S. D. Toit and D. Soerbom (Lincolnwood, IL: Scientific Software International), 195–216.

International Wellbeing Group (2006). *Personal Wellbeing Index*, Melbourne: Australian Centre on Quality of Life, Deakin University.

Joo, S. (2008). "Personal financial wellness" in *Handbook of Consumer Finance Research*. ed. J. J. Xiao (New York, NY: Springer), 21–33.

Kaur, G., Singh, M., and Singh, S. (2021). Mapping the literature on financial well-being: a systematic literature review and bibliometric analysis. *Int. Soc. Sci. J.* 71, 217–241. doi: 10.1111/ISSJ.12278

Lazarus, R. S., and Folkman, S., (1984). *Stress, Appraisal, and Coping*, New York: Springer.

MacCallum, R. C., Browne, M. W., and Sugawara, H. M. (1996). Power analysis and determination of sample size for covariance structure modeling of fit involving a particular measure of model. *Psychol. Methods* 13, 130–149.

Mahdzan, N. S., Zainudin, R., Abd Sukor, M. E., Zainir, F., and Wan Ahmad, W. M. (2020). An exploratory study of financial well-being among Malaysian households. *J. Asian Bus. Econ. Stud.* 27, 285–302. doi: 10.1108/JABES-12-2019-0120

Mamun, M. A., Akter, S., Hossain, I., Faisal, M. T. H., Rahman, M. A., Arefin, A., et al. (2020). Financial threat, hardship and distress predict depression, anxiety and stress among the unemployed youths: a Bangladeshi Multi-City study. *J. Affect. Disord.* 276, 1149–1158. doi: 10.1016/J.JAD.2020.06.075

Marjanovic, Z., Greenglass, E. R., Fiksenbaum, L., and Bell, C. M. (2013). Psychometric evaluation of the financial threat scale (FTS) in the context of the great recession. *J. Econ. Psychol.* 36, 1–10. doi: 10.1016/J.JOEP.2013.02.005

Marjanovic, Z., Greenglass, E. R., Fiksenbaum, L., Witte, H.De, Garcia-Santos, F., Buchwald, P., et al., (2015). Evaluation of the financial threat scale (FTS) in four European, non-student samples. *J. Behav. Exp. Econ.* 55, 72–80. doi:10.1016/J.SOCEC.2014.12.001

McDonald, R. P., (1999). *Test Theory: A Unified Treatment*. Mahwah, NJ: Lawrence Erlbaum.

Muthen, L., and Muthen, B., (2017). *Mplus User' Guide*. Los Angeles, CA: Muthén & Muthén

Nanda, A. P., and Banerjee, R. (2021). Consumer's subjective financial well-being: a systematic review and research agenda. *Int. J. Consum. Stud.* 45, 750–776. doi: 10.1111/IJCS.12668

Netemeyer, R. G., Warmath, D., Fernandes, D., and Lynch, J. G. (2018). How Am I Doing? Perceived financial well-being, its potential antecedents, and its relation to overall well-being. *J. Consum. Res.* 45, 68–89. doi: 10.1093/jcr/ucx109

O'Neill, B., Sorhaindo, B., Xiao, J. J., and Garman, E. T. (2013). Financially distressed consumers: their financial practices, financial well-being, and health. *J. Financ. Couns. Plann.* 16, 1–15.

Pascual-Ferrá, P., and Beatty, M. J. (2015). Correcting internal consistency estimates inflated by correlated item errors. *Commun. Res. Rep.* 32, 347–352. doi: 10.1080/08824096.2015.1089858

Philippas, N. D., and Avdoulas, C. (2019). Financial literacy and financial well-being among generation-Z university students: evidence from Greece. *Eur. J. Finance* 26, 360–381. doi: 10.1080/1351847X.2019.1701512

Ponchio, M. C., Cordeiro, R. A., and Gonçalves, V. N. (2019). Personal factors as antecedents of perceived financial well-being: evidence from Brazil. *Int. J. Bank Mark.* 37, 1004–1024. doi: 10.1108/IJBM-03-2018-0077

Prawitz, A. D., Kalkowski, J. C., and Cohart, J. (2012). Responses to economic pressure by low-income families: financial distress and hopefulness. *J. Fam. Econ. Iss.* 34, 29–40. doi: 10.1007/S10834-012-9288-1

Raykov, T., and Hancock, G. R. (2005). Examining change in maximal reliability for multiple-component measuring instruments. *Br. J. Math. Stat. Psychol.* 58, 65–82. doi: 10.1348/000711005X38753

Rea, J. K., Danes, S. M., Serido, J., Borden, L. M., and Shim, S. (2018). "Being able to support yourself": young adults' meaning of financial well-being through family financial socialization. *J. Fam. Econ. Issues* 40, 250–268. doi: 10.1007/S10834-018-9602-7

Richardson, T., Elliott, P., and Roberts, R. (2013). The relationship between personal unsecured debt and mental and physical health: a systematic review and meta-analysis. *Clin. Psychol. Rev.* 33, 1148–1162. doi: 10.1016/J.CPR.2013.08.009

Riitsalu, L., and Murakas, R. (2019). Subjective financial knowledge, prudent behaviour and income. *Int. J. Bank Mark.* 37, 934–950. doi: 10.1108/IJBM-03-2018-0071

Rosseel, Y. (2012). Lavaan: an R package for structural equation modeling. *J. Stat. Softw.* 48, 1–36. doi: 10.18637/jss.v048.i02

Russell, B. S., Hutchison, M., Tambling, R., Tomkunas, A. J., and Horton, A. L. (2020). Initial challenges of caregiving during COVID-19: caregiver burden, mental health, and the parent–child relationship. *Child Psychiatry Hum. Dev.* 51, 671–682. doi: 10.1007/S10578-020-01037-X

Rutherford, L. G., and Fox, W. S. (2010). Financial wellness of young adults age 18–30. *Fam. Consum. Sci. Res. J.* 38, 468–484. doi: 10.1111/J.1552-3934.2010.00039.X

Salameh, P., Hajj, A., Badro, D. A., Abou Selwan, C., Aoun, R., and Sacre, H. (2020). Mental health outcomes of the COVID-19 pandemic and a collapsing economy: perspectives from a developing country. *Psychiatry Res.* 294:113520. doi: 10.1016/J.PSYCHRES.2020.113520

Sehrawat, K., Vij, M., and Talan, G. (2021). Understanding the path toward financial well-being: evidence from India. *Front. Psychol.* 12:638408. doi: 10.3389/fpsyg.2021.638408

Shim, S., Xiao, J. J., Barber, B. L., and Lyons, A. C. (2009). Pathways to life success: a conceptual model of financial well-being for young adults. *J. Appl. Dev. Psychol.* 30, 708–723. doi: 10.1016/J.APPDEV.2009.02.003

Sinha, G., Tan, K., and Zhan, M. (2018). Patterns of financial attributes and behaviors of emerging adults in the United States. *Child Youth Serv. Rev.* 93, 178–185. doi: 10.1016/J.CHILDYOUTH.2018.07.023

Soper, D. (2021). A-priori Sample Size Calculator for Structural Equation Models [Software]. Free Statistics Calculators (2020). Available at: https://www.danielsoper.com/statcalc/calculator.aspx?id=89

Sorgente, A., and Lanz, M. (2017). Emerging adults' financial well-being: a scoping review. *Adolesc. Res Rev* 2, 255–292. doi: 10.1007/s40894-016-0052-x

Strömbäck, C., Lind, T., Skagerlund, K., Västfjäll, D., and Tinghög, G. (2017). Does self-control predict financial behavior and financial well-being? *J. Behav. Exp. Financ.* 14, 30–38. doi: 10.1016/j.jbef.2017.04.002

Tsang, S., Royse, C. F., and Terkawi, A. S. (2017). Guidelines for developing, translating, and validating a questionnaire in perioperative and pain medicine. *Saudi J. Anaesth.* 11, S80–S89. doi: 10.4103/SJA.SJA_203_17

Ullah, S., and Yusheng, K. (2020). Financial socialization, childhood experiences and financial well-being: the mediating role of locus of control. *Front. Psychol.* 11:2162. doi: 10.3389/FPSYG.2020.02162

Wilson, J. M., Lee, J., Fitzgerald, H. N., Oosterhoff, B., Sevi, B., and Shook, N. J. (2020). Job insecurity and financial concern during the COVID-19 pandemic are associated with worse mental health. *J. Occup. Environ. Med.* 62, 686–691. doi: 10.1097/JOM.0000000000001962

World Bank (2013). Financial Capability Surveys Around the World: Why Financial Capability Is Important and How Surveys Can Help (No. 80767). Available at: https://documents1.worldbank.org/curated/en/693871468340173654/pdf/807670WP0P14400Box0379820B00PUBLIC0.pdf (Accessed September 15, 2022).

Yzerbyt, V., Muller, D., Batailler, C., and Judd, C. M. (2018). New recommendations for testing indirect effects in mediational models: the need to report and test component paths. *J. Pers. Soc. Psychol.* 115, 929–943. doi: 10.1037/pspa0000132

Zhang, X. A., and Cao, Q. (2010). For whom can money buy subjective well-being? *Role Face Conscious.* 29, 322–346. doi: 10.1521/JSCP.2010.29.3.322

frontiers | Frontiers in Psychology

TYPE Original Research
PUBLISHED 01 February 2023
DOI 10.3389/fpsyg.2023.1038612

OPEN ACCESS

EDITED BY
Agustin Espinosa,
Pontifical Catholic University of Peru, Peru

REVIEWED BY
Thiago Carneiro,
Câmara dos Deputados,
Brazil
Angela Vera,
Pontifical Catholic University of Peru, Peru
Domenico Hur,
Universidade Federal de Goiás, Brazil

*CORRESPONDENCE
Julak Lee
✉ julaklee71@cau.ac.kr

SPECIALTY SECTION
This article was submitted to Personality and Social Psychology, a section of the journal Frontiers in Psychology

RECEIVED 07 September 2022
ACCEPTED 10 January 2023
PUBLISHED 01 February 2023

CITATION
Kim H and Lee J (2023) A critical review of the US Senate examination report on the 2021 US Capitol riot.
Front. Psychol. 14:1038612.
doi: 10.3389/fpsyg.2023.1038612

A critical review of the US Senate examination report on the 2021 US Capitol riot

Hakkyong Kim[1] and Julak Lee[2]*

[1]Department of Convergence Security Engineering, Sungshin Women's University, Seoul, Republic of Korea, [2]Department of Industrial Security, Chung-Ang University, Seoul, Republic of Korea

The US Capitol riot on January 6, 2021, is currently regarded as an unprecedented armed occupation of the US Capitol that left an irreparable stain on the history of American democracy. Fivemonths later, as part of reflective practice, the US Senate released an examination (review) report on the response failures of federal and local law enforcement agencies, along with corresponding recommendations. This research seeks to critically analyze not only response failures but also recommendations made by the US Senate with a comprehensive theoretical framework incorporating concepts of (1) legitimacy and power, (2) procedural justice, and (3) crowd psychology and the protest policing model. In the end, the research tries to present a practical cooperative dialogue or at least a dialogic approach as a means of strengthening legitimacy based on procedural justice, given that not only European countries but also the Republic of Korea currently operate '(Korean and Swedish) Dialogue Police' and (British) 'Police Liaison Officer' in practice.

KEYWORDS

US Capitol riot, legitimacy and power, procedural justice, dialogic approach, negotiated management, dialogue police

Introduction

The First Amendment to the United States Constitution comprehensively guarantees the freedom of religion, freedom of speech, freedom of the press, freedom of peaceful assembly, and the freedom to petition. The US Capitol Riot that broke out on January 6, 2021, also began with a seemingly peaceful protest based on the First Amendment to the Constitution mentioned above. However, what had begun as a peaceful protest quickly escalated into an armed occupation of the Capitol, unprecedented in the history of American democracy, resulting in four deaths and hundreds of injuries. On June 8, 2021, the US Senate examination report, which examined the issues with the response of federal law enforcement agencies and the United States Capitol Police (USCP) and made recommendations for improvement regarding the Capitol riot, was finally released.

In the US Senate examination report mentioned above, only four issues were listed as problems with the response of the USCP, which has jurisdiction over the Capitol: (1) lack of riot control training and equipment, (2) absence of a comprehensive response plan at an organizational level, (3) negligence of riot control equipment management, (4) issues with the analysis and distribution of information about the risks (only being shared within the organization). Furthermore, the recommendations for improvement are solely focused on reinforcing the ability to respond reactively, such as (1) establishing a permanent Civil Disturbance Unit (similar to the South Korean riot police), (2) reinforcing both basic and advanced riot control training, and (3) preparing a holistic response and police force deployment plan (US Senate, 2021).

Professor Clifford Stott, a British expert on crowd psychology, explains the mechanism by which protests degenerate into riots using the theories of Legitimacy and Power (Stott, 2009; Reicher and

Stott, 2020). Examining the contents of the Senate report with this theoretical framework, it can be argued that the problems with response and recommendations for improvement presented in the Senate report are drawn solely from the perspective of *Power*. Nevertheless, no prior studies have critically analyzed the power-based recommendations for improvement.

Taking these problems and limitations into account, this study aims to examine the overview of the US Capitol riot incident, the issues with the response (of related organizations), and the recommendations for improvement (on such problems) based on the contents of the US Senate report and analyze them with the theoretical framework of Legitimacy and Power. Furthermore, beyond the psychological change mechanism of Legitimacy and Power, this study attempts to comprehensively apply the theory of Procedural Justice from criminal policy, the Elaborated Social Identity Model from crowd psychology, and Negotiated Management from protest control models as a framework of critical analysis. In this study, the documentary analysis research methodology was used mostly to achieve the aforementioned research purpose. This is because documents can capture even the smallest information about systems, policies, and events beyond our comprehension, as we cannot directly experience them each in detail. In this context, document analysis is often referred to as a key methodology that allows the researcher to dig deep down to the truth of the systems, policies, and events. First, in this study, we attempted to thoroughly analyze the US Senate report (mentioned above) as a document for documentary analysis. Second, the protocols of Sweden's Dialog Polis, the UK's Police Liaison Officers, and Korean dialogue police were examined through documentary analysis based on Legitimacy (not 'Power'), Procedural Justice, the ESIM theory, and Negotiated Management. Finally, we attempted to present these protocols as a supplementary alternative based on 'Legitimacy' (not 'Power') to the US Senate report's conclusion. Official documents or reports were used to analyze the specific protocols of each organization. Below, the framework of analysis used in this study will be examined as a theoretical background.

Theoretical background – Framework of analysis

As will be explained afterwards, Sweden, the UK, and South Korea have a dedicated unit that alleviates conflict through dialogue and negotiation with the protest organizer before the protest takes place. Such dedicated units adopt the Elaborated Social Identity Model as a crowd psychology theory and the Negotiated Management model as a protest control model. However, the means that such dedicated units utilize, dialogue and negotiation, can also be linked to the Legitimacy theory and the Procedural Justice theory. Therefore, in this study, we will examine the contents of Legitimacy, Procedural Justice through Dialogic Approach, the ESIM Theory, and the Negotiated Management theory as the framework of analysis (Figure 1).

Legitimacy and power

Professor Clifford Stott presents two concepts, legitimacy and power, regarding the mechanism through which peacefully initiated protests degenerate into radical and unlawful violent riots. This mechanism, referred to as the Change Mechanism (of crowd psychology), is characterized by the breakdown of the typical crowd psychology into disorder and chaos (Stott, 2009, 2011).

Assuming that the crowd violates the law during a protest, the police have no choice but to perceive their actions as illegitimate, as they violate the current law. From the crowd's point of view, however, their actions (regardless of whether they violate the law) are bound to be perceived as legitimate (necessary to achieve their goals). In such instances of legitimacy conflict, the mechanism that regulates the shift in crowd psychology leads to a problem of power. However, in the early stages, the police inevitably have a deterrent advantage in terms of power due to their trained police forces, sufficient resources such as riot suits and riot control gear, and particularly the legal authorization for the use of physical force and forceful dispersal.

However, the police's indiscriminate or excessive use of physical force against a violation of the law will cause the crowd to perceive such intervention as 'Illegitimate', thus transforming the crowd into an 'Entity' with a united identity to fight against the police. The problem, however, is that in large-scale protests and events, the crowd usually outnumbers the police. For instance, assume the crowd comprises 1,000 people, and 200 riot police officers are mobilized. At the beginning of the protest, the crowd is not composed of a single group but of individual crowd groups with multiple social identities. In other words, although there are a total of 1,000 people, not all of them initially perceive each other as the same crowd with a single social identity. The 1,000 people are a gathering (each with different social identities) of separate individual groups of 50–100. At this juncture, it is apparent that the well-armed and highly-trained 200 riot police officers are superior in 'Power' to a crowd of 1,000 people composed of individual groups with diverse identities.

In this case, if the crowd psychology transforms into a single entity with a unified identity due to factors such as the police's excessive use of physical force, the crowd gains 'Power'. This phenomenon is called 'Empowering', and causes a psychological conflict of 'Us vs. Them' because of the perception of the police's reaction as being illegitimate (Stott, 2009, 2011; Cheung, 2021). Under this structure, the police are outmatched in terms of power when confronting a crowd with a united social identity. Of course, in a situation that the police fall behind the crowd in a power conflict, they may reinforce deterrence by employing additional police forces or higher levels of physical force to reach a position of power superiority. The crowd, however, will again stand up against the police by raising the level of violence and unlawful activities, and if this happens, the power conflict between the two sides will eventually result in a vicious cycle of violence and confrontation (Vitale, 2005; Vitale et al., 2011).

According to Stott et al. (2012), the proactive prevention of chaos and disorder is significantly more important than a reactive response to the occurrence of extreme chaos and disorder. Furthermore, they emphasize that communication and negotiation may be the most effective methods in terms of the proactive prevention model. Furthermore, they argue that communication and negotiation have a positive impact on the (crowd's) perception of the 'Legitimacy' of police action and that these means are crucial in preventing an ordinary protest crowd psychology from turning into a radical, illegal, and violent single-identity crowd psychology.

Procedural justice theory and dialogic approach theory

As previously mentioned, Stott et al. (2012) emphasize communication and negotiation as a proactive model for preventing

	Change Mechanism Model	Legitimacy Model	Crowd Psychology Model	Protest Control Model	Practices
Proactive Prevention Strategy	Legitimacy	Dialogic Approach as Procedural Justice	Elaborated Social Identity Model	Negotiated Management Model	Emphasis on communications and negotiations with protesters (rather than use of force)

FIGURE 1
Theoretical background – framework of analysis.

chaos and disorder. Here, the question "When the crowd and the police have different perceptions of legitimacy, on what theoretical basis can communication and negotiation narrow the gap in the perception of legitimacy?" may be posed. One of the theoretical answers to this question is the Procedural Justice (PJ) theory on police legitimacy.

According to Tyler (2006), one of the leading scholars on police legitimacy, citizens comply with the law not out of fear of punishment but because they respect the legitimate authority of the government (such as the police) or the system that enforces the law. Furthermore, many previous studies on police legitimacy, including by Tyler (2006), empirically demonstrate a correlation between the perception of procedural justice (PJ) and increased police legitimacy, resulting in increased cooperation with the police (e.g., Sunshine and Tyler, 2003; Tyler and Fagan, 2006; Hough et al., 2010). However, the existing studies on legitimacy based on procedural justice have limitations in that the discussions were conducted primarily from the Audience Legitimacy (e.g., Beetham, 1991; Coicaud, 2009).

Recognizing these limitations, many studies have attempted to analyze the legitimacy based on procedural justice not only from the perspective of citizens but also at the level of power holder legitimacy, i.e., the legitimacy of the police who carry out the actions (e.g., Jacinta and Rod, 2010; Bottoms and Tankbe, 2012; Mazerolle et al., 2013; Martin and Bradford, 2021). Since then, the assertion that a dialogic approach (DA) is one of the preventative measures the police should employ to ensure legitimacy has gained persuasive power. The findings of these studies indicate that dialogue, or in other words, a 'Dialogic Approach (DA)' between citizens and the police (concerning the police's act of disposition), is the essence of justification procedural justice (Jacinta and Rod, 2010).

To summarize, the police's active effort to communicate, or the dialogue process, forms one of the components of legitimacy based on procedural justice. Such efforts at initiating dialogue are a means of narrowing the gap *vis-à-vis* perceptions of legitimacy between the police and citizens. Furthermore, engaging in the dialogue can simultaneously improve both the legitimacy based on procedural justice and the 'Cooperation with the Police.' Ironically, even if such dialogue efforts do not narrow the gap in the perception of legitimacy, the police's active and sincere effort to communicate or the dialogue process itself is an important means of attaining legitimacy. Due to the fact that the theory of legitimacy based on procedural justice itself is already being applied at protest sites (Maguire, 2015; Tyler et al., 2018; Snipes et al., 2019), the police's dialogic approach is another important means to ensure legitimacy based on procedural justice.

Elaborated social identity model and negotiated management theory

Among protest control methods, theories such as legitimacy, procedural justice, and dialogic approach can be regarded as being (relatively) close to the proactive prevention model. Such a preventive model is also connected to the Elaborated Social Identity Model (ESIM) theory (a protest crowd psychology model) and the negotiation management theory (as a protest control method; Stott et al., 2012; Radburn et al., 2018). In contrast, the use of force based on power corresponds to a reactive response model, which is associated with the Classic Crowd Psychology (CCP) theory. This was developed as a protest control method in the late 19th century by a French scholar named 'Gustave Le Bon and is associated with the escalated force (EF) model (Stott, 2011).

In contrast, the use of force based on 'Power' corresponds to a 'Reactive Response' strategy, which is linked to the Classic Crowd Psychology (CCP) theory, which was developed by a French scholar named Gustave Le Bon in the late 19th century, and is connected to the Escalated Force (EF) model as a protest control method. However, since none of the advanced nations employ the 'Escalated Force' model in its purest form, most of the current protest control methods based on 'Power' should be viewed as 'Command and Control (CC)' or 'Strategic Incapacitation' (Vitale, 2005; Gillham, 2011; Vitale et al., 2011).

The Classic Crowd Psychology (CCP) theory views the crowd as an irrational group with a single identity. It holds that crime or deviant behavior occurs naturally as a result of individuals losing self-control upon entering the crowd due to anonymity. It is predicated, in particular, on the premise that if a minor illegal activity is tolerated, a contagion of illegality and violence would readily spread throughout the crowd due

to anonymity. For this reason, when a minor illegal activity occurs, the Escalated Force (EF) model (based on the Classic Crowd Psychology (CCP) theory), the Command and Control (CC) model (partially), or the Strategic Incapacitation (SI) model focus on quickly preventing the spread of such activities through the immediate use of force (Vitale, 2005; Gillham, 2011; Vitale et al., 2011).

The ESIM theory, on the other hand, regards the crowd as a heterogeneous group with diverse identities capable of rational judgment, communication, and self-policing (Reicher et al., 2004; Her Majesty's Chief Inspector of Constabulary [HMCIC], 2009). External stimuli or responses, notably police responses, are considered significant influencing factors as several groups of individuals with different tendencies merge into a (single) crowd of people with a single social identity. If the police use physical force in a way that is neither immediate nor proportional to minor illegality or violence committed by some groups of the crowd, the social identity of the entire crowd unifies and forms a structure in which it fights against the police. Therefore, the ESIM theory places emphasis on promoting self-policing through means such as negotiation, dialogue, communication, and tolerance of minor illegalities.

Therefore, the negotiated management (NM) model based on the crowd psychology of the ESIM theory emphasizes dialogue and negotiation with the organizers and participants to minimize unnecessary stimulation and confrontation, with the use of force being the last resort in accordance with the principle of subsidiarity (Porta and Reiter, 2006). Furthermore, the group that commits illegality is differentiated from the rest of the peaceful crowd, and the use of force is restricted to the former.

Content of investigation of the US Senate report on the US Capitol riot

Problem in response

On June 8, 2021, the US Senate published an examination report the failures in response to the US Capitol occupation (riot) on January 6, 2021. The report presented the following response problems of the federal law enforcement agencies, including the FBI and the USCP.

Problems of collecting, analyzing, and distributing threat information

Federal law enforcement agency level

The Department of Homeland Security (DHS) is the primary federal law enforcement agency in the United States that collects and evaluates protest-related threats. However, none of the agencies had issued or a formal threat assessment or intelligence bulletin regarding the possibility of a Capitol occupation on January 6. These federal agencies presumed that a simple and typical protest would be held in accordance with the First Amendment, which guarantees the freedom of peaceful assembly. In this regard, Steven Sund, the director of the USCP at the time, testified that the response failure was primarily due to the failure of federal law enforcement agencies to provide accurate information. In particular, he testified that he had an emergency meeting with the FBI, Secret Service, DCNG, and others the day before the occupation; yet no mention was made of the possibility of the protests degenerating into riots at these meetings.

United States capitol police level

According to the Senate report, the Intelligence and Interagency Coordination Division (IICD) of the USCP had already collected several social media posts inciting illegalities and violence, including Capitol intrusion, at a protest scheduled for January 6. Furthermore, it has been confirmed that they received multiple anonymous reports prior to January 6, indicating that protesters would break into the Capitol and that far-right groups such as the Proud Boys would participate in the January 6 protest. They had already compiled a report stating that the likelihood of illegal violence would increase if these far-right groups were to participate in the protest.

Nevertheless, the Daily Intelligence Report issued by the IICD regarding the January 6 protest did not accurately reflect the previous report on the Proud Boys. As a result, the probability range of specific risks, such as civil disturbances and riots, was predicted to be, remote (low probability of occurrence) or improbable at most. To put it another way, the USCP did not thoroughly assess or process its own intelligence.

Lack of comprehensive response plans and riot control training, and problems with the provided equipment

Lack of comprehensive response plans at a United States capitol police level

The Senate report also notes that the USCP was unprepared for a comprehensive response to the probability of violent riots during the January 6 protest. Particularly, there were no department-wide plans for response or police force deployments, only security measures for individual departments, such as USB and the Civil Disturbance Unit (CDU), a temporary riot response unit. However, given that these documents were only one or two pages long, they could not be deemed effective security measures.

Lack of riot control training and equipment

It was also confirmed that the on-site police officers mobilized in response to the protest did not receive proper riot control training and were not adequately equipped with equipment such as riot suits. Moreover, only seven platoons of 'Civil Disturbances Units' (CDU) were initially mobilized on January 6, with a total of 160 officers; however, only four of these platoons were equipped with riot suits and shields. The remaining three were pre-deployed (without protective clothing or riot control equipment) and, despite being members of the CDU, they had only received basic riot control training rather than advanced riot control training. As the situation deteriorated, a total of 1,200 police officers were mobilized; however, only 300 had received proper riot control training and protective equipment, while the remaining 900 had received no protective equipment, let alone any proper riot control training since their recruit training.

Negligent management of riot control equipment

The negligent management of riot control equipment was mentioned as another issue. For example, many shields were shattered on the first impact since the riot shields supplied to the police officers mobilized on January 6 had not been maintained for a long time. Furthermore, despite the fact that the protests were degenerating into riots, only equipment such as the rubber ball gun (FN-303) and pepper balls were allowed, while the use of less-lethal weapons such as sting

ball grenades and grenade launchers that are effective for crowd control was prohibited.

Problems of delay in requesting DCNG mobilization and dispatch

The US Senate report confirms that despite the worsening of the situation on January 6, both the request for the DCNG and its actual dispatch were delayed for a considerable period of time.

Delay in approval of the request for the District of Columbia National Guard (DCNG)

As was stated earlier, for the USCP to receive assistance from other institutions, such as the DCNG, the director must first request a written approval from the Capitol Police Board (CPB). The CPB must then declare a state of emergency before approving requests for DCNG mobilization. On January 6, as the situation worsened, Steven Sund, the director of the USCP at the time, submitted a written request to the CPB for approval of DCNG mobilization. However, the CPB, which has the authority to approve, disagreed over whether to base its approval on a majority or unanimity, causing a delay in the approval itself.

Delay in DCNG dispatch

Since the Black Lives Matter (BLM) protests of 2020, the DCNG's riot control procedures have become more stringent. These are: (1) The DCNG must obtain prior approval from the US Secretary of Defense in advance to use weapons, police rods, or protective equipment. (2) The Quick Reaction Force (QRF) should only be mobilized as a last resort. (3) A concept of operation must be prepared before mobilizing the DCNG, and the US Secretary of the Army must approve the concept of operation for the QRF to be mobilized.

Recommendations for improving the problems

This section will review the general recommendations for improvement made in the US Senate examination report regarding the identified response issues.

Capitol police board

The following recommendations were made to the CPB: (1) Consider revising the relevant laws so that the head of the CPB may request the *ex officio* mobilization of the DCNG to the US Army in the event of an emergency. (2) Ensure that the board members regularly review the various policies and procedures of the USCP to fully understand and become familiar with their contents.

United States capitol police

First and foremost, the Senate report states that all USCP officers must receive basic riot control training annually. It also recommends providing them with the most up-to-date riot control equipment and routine management. Second, a department-wide plan for response and police force deployment should be prepared. These plans are recommended to include a comprehensive list of threat assessments for the event, police deployment strategies, operational objectives, incident command systems, authorized levels of the use of force, and related emergency plans. Third, it is proposed to establish a permanent Civil Disturbance Unit (CDU) with dedicated police officers receiving annual advanced riot control training and equipped with professional riot control equipment. Finally, it is proposed to establish a new Intelligence Bureau (IB) to integrate the USCP's decentralized information collection and analysis functions and provide police officials with regular and professional training in information collection and analysis.

Federal law enforcement agencies

The following are the recommendations for federal law enforcement agencies, including the FBI: (1) Re-examine and evaluate the process of analyzing and processing public information (such as social media content containing violent threats). (2) Re-examine and evaluate the standards for issuing and distributing information reports to consumer agencies, such as the USCP. (3) Comply with statutory reporting requirements for Congress regarding domestic terrorism-related information, such as threat levels.

DC national guard

Finally, the following recommendations are made for the DCNG: (1) prepare (in advance) a concept of operation for riots and terrorist incidents to enable immediate mobilization. (2) Conduct training on the mobilization of National Guard units from other jurisdictions to provide immediate assistance in the event of an emergency. (3) In the event of an emergency in the Capitol, Proximity and Response time should be given top priority when deciding where to deploy the QRF. (4) Establish a clearer final approval procedure for DCNG mobilization to avoid approval-related mobilization delays.

Criticism and alternatives to US Senate recommendations for improvement

The problem of focusing only on power and a suggestion for improvement

As stated previously, the mechanisms of change in crowd psychology can be categorized broadly into legitimacy and power. First, legitimacy, a mechanism of change, is associated with procedural justice, and procedural justice is associated with a dialogic approach. It is related to the ESIM theory as a crowd psychology model and to the negotiated management model as a method of controlling protests. Consequently, all theories pertaining to legitimacy fall into the category of proactive prevention. However, power, another mechanism of change, is based on the deterrence theory, which emphasizes using physical force. Such suppressive concepts are associated with the Classic Crowd Psychology (CCP) theory (as a crowd psychology theory) and the Command and Control (CC) theory or the Strategic Incapacitation (SI) model (as a protest control method). Therefore, the theories on power appear to be generally consistent with the reactive response (suppression) model.

The proactive prevention model, which strengthens legitimacy, should therefore serve as a guiding principle of protest control methods. However, in exceptional cases where legitimacy-strengthening tactics fail or the time to deploy legitimacy tactics is limited due to immediate occurrence of specific threats, power-based reactive response tactics (including the use of physical force) may be used as pre-emptive measures. To put it another way, when discussing the police's approach to protest, power is essential for maintaining public peace and order, but legitimacy is just as important

as power for protecting constitutional rights. In other words, a balanced approach to preparation is essential.

All of the problems regarding response presented in the US Senate report stem solely from the perspective of power. As a result, all recommendations for improvement focused solely on improving strategies or tactics based on power. The issue is that no content or analysis regarding strengthening legitimacy as a proactive prevention model was suggested. Such facts demonstrate how the 'command and control' model and the 'classic crowd psychology' theory based on 'physical force' are deeply ingrained in the inherent considerations of US law enforcement agencies (including the US Senate).

Furthermore, as a problem associated with 'Crowd Psychology' it can be criticized that the report does not contain an analysis of the process of change in crowd psychology. The Senate Report, which relies solely on 'Power', appears to presuppose the intrinsic crowd psychology (based on CCP) as a violent social identity already unified with the intention of occupying the US Capitol from the beginning. However, based on this premise, it is difficult to explain the relatively peaceful crowd psychology of the protest from January 5 to the morning of January 6. In contrast, according to the 'ESIM Theory', it can be interpreted that at some point, the subgroups with diverse individual social identities present at the rally on January 6 evolved into a crowd psychology with a violent social identity (especially due to external factors).

If this analysis is to be valid, the US Capitol Police missed the opportunity for a differentiated response (to the former) by separating groups instigating unlawful violence (riot) from groups that had gathered to support President Trump (without the intention of rioting) before the social identity of the crowd was unified. Eventually, such responses that only consider "Power" (especially if the ESIM Theory is applied) lead to overreactions to minor infractions or disturbances, which can lead to adversarial tension of "Us vs. Them" between the police and the protesters. As a result, there could be a continual cycle of violence and physical conflict.

Numerous prior studies have criticized the propensity of US law enforcement agencies to prefer power-based strategies or tactics. Maguire and Oakley (2020) and Maguire et al. (2021) specifically point out that the US police's approach to handling protests relies heavily on tactical methods to suppress riots and neglects the more comprehensive strategies required to prevent conflicts or violence. In light of this, the studies of Maguire and Oakley (2020) and Maguire et al. (2021) emphasize that protest response training of US law enforcement agencies should place a greater emphasis on prevention and de-escalation strategies to minimize the use of physical and deterrent force.

Complementary alternatives – Strengthening legitimacy through dialogue and negotiation

The UK, Sweden, and South Korea have established and are operating a dedicated unit (as a separate unit from the Riot Police) that alleviates conflict through dialogue and negotiation by contacting the protest organizers (before the protest). We propose this system as an alternative (in terms of establishing Legitimacy) to the protest control method of the US police agencies (which relies only on Power). Below, we will take a closer look at the police units in each country that alleviate conflict on the protest sites and the specific protocols of these units.

1.1.1. Sweden – Dialog Polis

In 2001, when the EU summit was held in Gothenburg, Sweden, over 50,000 anti-globalization protesters from all over Europe, including Sweden, gathered to protest against the summit's agenda, internationalization, and globalization. This protest, however, degenerated into violent clashes with the police, resulting in the arrest of 575 protesters and the wounding of approximately 400 police officers. Three more were wounded as a result of the police's use of firearms. These riots remain in the memory of the Swedish people as a national trauma. In 2004, the Swedish National Police Board established Special Police Tactics (SPT) based on the ideas of Dialogue, De-escalation, and Non-confrontation (Swedish National Police Board, 2010; Holgersson and Knutsson, 2011; Knutsson, 2017). The Dialog Polis is the key unit of the SPT, and their roles and responsibilities are based on five principles, (a) Negotiation, (b) Mediation, (c) Suggesting, (d) Communication, and (e) Monitoring. The activities of the Dialog Polis can be divided into 3 stages in chronological order, and are as follows: (a) Activities before a protest, (b) Activities in the protest site, and (c) Activities after a protest. One of the important attitudes that Dialog Polis officers must equip in these activities is "seeing the police action from the protester's point of view." The specific activities of Swedish Dialog Polis unit are as follows.

1.1.1.1. Before a protest

First, the police must attempt to build trust by reducing irritation in the messages of their media statements. This is because a negative prejudice against the protest organizers in the police's media statement can lower the possibility of a peaceful protest. In addition, if the protest contains a considerable risk of conflict, it is necessary to coordinate the time and site of the protest, whether a march is planned and the march route if so. At the same time, the requirements of the protesters must be negotiated with. Furthermore, they must intervene to ensure that the tactical commander of the security operation and the protest organizers can exchange information. They must also provide the tactical commander of the security operation with a number of probable scenarios based on the situation or police action. Finally, for smooth coordination and negotiation, involving "external actors" such as civic organizations, religious groups, and volunteer groups must also be considered.

1.1.1.2. During a protest

At this stage, the main task of the Dialog Polis is to act as a link between the organizers or protesters and the tactical commander of the security operation. Even if no meaningful dialogue is made, the presence of the Dialog Polis wearing a vest on-site, plays a significant role itself.

Particularly, wearing plain clothes with a 'Dialog Polis' vest on-site while performing activities publicly reduces the police's anonymity and has the effect of moderating the protesters' behavior. Due to this public activity, Swedish Dialog Polis officers can observe the progress of the protest from the protesters' point of view (and not the police), and assess the actions of the public security police more objectively.

The Dialog Polis officer should ensure that the results of negotiation with the protest organizers before the protest are being kept on-site, and if necessary, should make a new negotiation through dialogue. During the protest, they must identify the police's response and the change in protester atmosphere (such as changes in crowd psychology) responding to it, and if necessary, provide the tactical commander of

the security operation with a way to minimize violence and additional information about it. If the external actors are at the protest site, it is necessary to provide them with the relevant information as well. The Dialog Polis are responsible for coordinating the activities of these groups as well.

1.1.1.3. After a protest

It is also important to hold a follow-up meeting with the protesters for "feedback" on the police operation or the Dialog Polis action. An explanation to the protest organizers about the police actions that occurred during protest may also be required if necessary. On the other hand, it is also necessary to receive feedback on the protesters' behavior from the public security police. Finally, after the protest is over, a "Debriefing" should be held between the police officers involved in the protest operation.

1.1.2. UK – Police Liaison Officers

Currently, in the UK, protest-related communication or conflict management is handled by Police Liaison Officers (PLO) (Her Majesty's Chief Inspector of Constabulary [HMCIC], 2009; College of Policing, 2015). In addition to conflict management, PLOs provide security commanders with information such as the atmosphere of the protest or changes in crowd psychology. Similar to the Swedish Dialogue Police, the PLO system is considered to promote peaceful protests while reducing on-site disturbance. The UK's Police Liaison Officer's activities and responsibilities are similar to that of the Swedish Dialog Polis, based on the five principles: (1) "Negotiation," (2) "Mediation," (3) "Initiation," (4) "Communication," and (5) "Sensing." We intend to analyze the activities and responsibilities of the Police Liaison Officers divided into 3 stages in chronological order: (a) Before a protest, (b) During a protest, and (c) After a protest. The specific activities of these Police Liaison Officers are as follows.

1.1.2.1. Before a protest

Before the protest, it is strongly encouraged that the Police Liaison Officers hold a pre-event engagement with the protest organizer. This is because such pre-event engagement helps build a relationship between the two entities. From the protester's point of view, they can learn the point of contact with the police and how the police will respond to their requirements. Such pre-event engagement can increase communication with the police, and in particular, can inform the police on precisely what they want through their protest and gain the police's cooperation in this regard. On the other hand, when mobilized to a protest site without any pre-event engagement or meeting, there is a chance that the Police Liaison Officer's presence could be perceived as a "hindrance" to the protest organizers.

The police can also know what the protesters will be doing at the protest in advance and they can dialogue with the protest organizers about "unacceptable behavior" based on this. This method is known as the "No surprises approach." Also, from a police tactical commander's point of view, it is advantageous in that it can lead to a more efficient distribution of the input resources based on the contents of negotiation acquired through dialogue and discussion.

1.1.2.2. During a protest

Police Liaison Officers should be deployed mainly near the protest site, and the riot control police force should be deployed at some distance from the site so that the riot control police force may focus only on the 'consequential' situations. Especially from a tactical commander's point of view, since "the perception made by observing the crowd from the inside can be quite different from that of the outside," a Police Liaison Officers may provide more accurate information on the crowd's psychology or the reciprocal relations. On the other hand, by communicating with the on-site Police Liaison Officers rather than with several police officers, the protester can connect with the entire police force and receive feedback on the overall situation.

1.1.2.3. After a protest

Since the "end" of one protest becomes the 'beginning' of another, maintaining a relationship with the protest organizer is crucial even after a protest. To do so, it is necessary that the police and the protest organizers exchange feedback on each other's actions. Local traders in the vicinity of the protest site also prefer feedback from these protest organizers since they want to check whether their actions may trigger protesters, and avoid doing it if so.

1.1.3. South Korea – Korean dialogue police

Korea has also been running a system known as the Korean dialogue police since October 2018, modeled after the Swedish Dialogue Police system. After undergoing professional training, the police officers (from the police intelligence department) who have been managing protests on-site (in civilian clothes) now work as dialogue police officers. Unlike before, they work in public and wear uniforms marked 'Dialogue Police'. Like their foreign counterparts, their role is to improve communication with protest organizers and participants to alleviate conflicts and promote peaceful protests (McPhail, 1997; Jeong, 2020; Korean National Police Agency [KNPA], 2020a). Another role of the Korean dialogue police is to stay either close to or within the crowd, accurately detect shifts in crowd psychology, and alert the riot police of the shift.

The five main tasks performed by the Korean dialogue police are as follows: (a) negotiation, (b) mediation, (c) communication, (d) monitoring (gathering public information, not secret criminal intelligence), and (e) suggesting practical alternative resolutions. The execution of these five tasks is a manifestation of the role that the dialogue police play in minimizing the risk of potential conflicts and confrontations at protest sites and ensuring peaceful and secure public gatherings. Like the Swedish Dialog Polis and the UK's Police Liaison Officers, its work can be distinguished into three stages: (a) before a protest (Proactive), (b) during a protest (Active), and (c) after a protest (Reactive; Korean National Police Agency [KNPA], 2020b; Ministry of the Interior and Safety (in Korea), 2020; Kim, 2022).

1.1.3.1. Before a protest (Proactive)

In order to organize a protest or march in Korea, the organizer is required by law to submit a written notice or report to the local police station with jurisdiction over the protest site or march route. Before the protest, a senior Korean dialogue police officer with authority contacts the organizer(s) and tries to establish rapport. If necessary, the details, such as protest locations and march routes, etc., can be discussed with the protest organizers to keep them informed of potential police actions. To minimize complaints and conflicts, they work on a compromise or an acceptable alternative to potentially problematic plans until the senior Korean dialogue police officer agrees to the specific requirements of protest organizers. Some senior Korean dialogue police officers even form networks with organizers to negotiate the details of upcoming protests before the organizers even submit a written notice. At this point,

keeping communication channels with the protest organizers open and transparent is crucial.

1.1.3.2. During a protest (Active)

To ensure peaceful protests, Korean dialogue police officers serve as a liaison not only between the police and protest organizers but also between the protesters and bystanders in the crowd (members of the general public affected by current rallies and marches) during the protest. Most importantly, they maintain rapport and mutual understanding by continuing the constructive dialogue and negotiation with the protest organizers in the crowd or nearby. In order to build rapport effectively, Korean dialogue police officers act in a humanitarian manner, such as caring for sick protesters or offering water bottles to some (weak) protestors during the hot and humid summer.

Korean dialogue police officers must separate potential agitators or aggressive protesters in the crowd from peaceful protestors and approach them individually to deal with them while closely monitoring the outcomes of self-policing. The Dialogue police officers must also make an effort to notice and analyze even the smallest alterations in crowd atmosphere and dynamics. They can explain potential police actions to the protest organizers based on respectful dialogue and cooperation, which can help tone down or minimize unnecessary tension and distrust. Dialogue Police officers can gather observable information during an event that can assist their commanders in making better decisions for the best possible outcomes for everyone involved. Based on dynamic risk assessment, despite these efforts at dialogue and negotiation ('legitimacy'), there may still be a very high risk of confrontation(s) or violence. Proactive micro-management of demonstrations or protests using models like command and control or strategic incapacitation may be used in these circumstances, with the use of force ('power') at a corresponding level reserved as a last resort.

1.1.3.3. After a protest (Reactive)

After an incident, the Korean dialogue police officers' responsibilities shift to ensuring protesters' safety and safe return until the crowd disperses completely. Afterward, in order to get constructive feedback and define areas for improvement, dialogue officers hold hot and cold (formal/informal) debriefing sessions (or follow-up meetings) with both key protest organizers and their police colleagues (dialogue police officers and riot police officers). In order to be prepared for future protests or marches, it is still important to maintain some sort of communication with protest organizers (at least, lose contact) even after the protest is over.

Globally, these dedicated units for dialogue are based on the negotiated management theory of protest control methods and the ESIM theory of crowd psychology. Therefore, they assume that the crowd psychology of the protest is not initially unified and consists of sub-groups with diverse social identities. Thus, the purpose of these dedicated units is the mitigation of violence or management of conflicts through dialogue and negotiation, thereby preventing the crowd psychology from developing into a unified identity that fights against the police.

Another objective of a dedicated unit (other than strengthening legitimacy) is to stay close to or within the crowd, appropriately sense changes in crowd psychology, and alert the riot police of the change. In case the dialogue police on-site determine that the crowd psychology of the protest is developing into a unified identity due to external stimuli, the minority that instigates illegal violence (riot) and the majority that only expresses their opinion (without the intent of rioting) must be separated. This allows the riot police to execute a differentiated response exclusively against the former group of protesters.

Policy implications and conclusions

In terms of protest response strategies, legitimacy is directed toward the proactive prevention model, whereas power is directed toward the reactive response model based on physical force. Therefore, procedural justice must be guaranteed to ensure legitimacy. Nonetheless, when citizens and police have different perceptions of legitimacy or when the gap between these perceptions is wide, it is necessary that the police actively communicate, for example, by adopting a dialogic approach, since ensuring power holder legitimacy is also essential.

The above dialogic approach is actively utilized not only in Korea but also in the UK and Sweden. In practice, they have established and are operating dedicated units for dialogue, such as Dialogue police and/or (similar) PLO or Dialog Polis to ensure procedural justice. Regarding legitimacy, the dedicated units associated with the dialog police are strictly separated from the riot police (that manage Power), as demonstrated in the specific protocols. These units are based on the negotiated management theory as a protest control method and the ESIM theory as a crowd psychology theory.

Based on the theoretical background and the specific protocols of the European countries, the failure of agencies to respond appropriately and the fact that the recommendations for improvement are solely from a perspective of power are the two most problematic aspects of the US Senate examination report on the US Capitol riot. In this regard, it can be understood that the US Senate and some US law enforcement agencies view crowds on the basis of the classic crowd psychology theory, which posits that due to the anonymity of the crowd, individuals commit illegality and use violence more easily, and that such illegality is contagious, quickly spreading to the entire crowd. However, such response strategies based on power pose an inherent risk of triggering a vicious cycle of violence and confrontations between the police and the protesters, should BLM-like protests occur again in the future.

In conclusion, the US Senate Report focuses solely on the response after the protest has degenerated into a riot. In order to respond to such riots, it only considers power to identify problems and make recommendations for improvements. In other words, it can be assumed that the US Senate report perceives protests as a threat as opposed to a constitutional right that must be protected. As a result, the focus is on reactive responses to such threats. As explained above, legitimacy is a key mechanism through which protests degenerate into riots. To conclude, the US urban police, including the USCP, should actively consider implementing a protest response policy, such as the dialogic approach, to strengthen not only their power but also their legitimacy in responding to changes in crowd psychology.

Data availability statement

The original contributions presented in the study are included in the article/supplementary material, further inquiries can be directed to the corresponding author.

Author contributions

HK: conceptualization, methodology, and writing—original draft preparation. JL: formal analysis, writing—review and editing, and funding acquisition. All authors have read and agreed to the published version of the manuscript.

Funding

This study was supported by the BK21 FOUR program (Education and Research Center for Securing Cyber-Physical Space) through the National Research Foundation (NRF) funded by the Ministry of Education of Korea (5199990314137).

Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

Publisher's note

All claims expressed in this article are solely those of the authors and do not necessarily represent those of their affiliated organizations, or those of the publisher, the editors and the reviewers. Any product that may be evaluated in this article, or claim that may be made by its manufacturer, is not guaranteed or endorsed by the publisher.

References

Beetham, D. (1991). *The Legitimation of Power*, London: Macmillan Education.

Bottoms, A., and Tankbe, J. (2012). Beyond procedural justice: a dialogic approach to legitimacy in criminal justice. *J. Crim. L. Criminol.* 102, 119–170.

Cheung, H. (2021). George Floyd death: why do some protests turn violent? *BBC*. Available at: https://www.bbc.com/news/world-us-canada-52869563 (Accessed November 1, 2021).

Coicaud, J. (2009). *Legitimacy and Politics: A Contribution to the Study of Political Right and Political Responsibility*. Cambridge: Cambridge University Press.

College of Policing (2015). *The Use of Police Liaison Teams in the Policing of Events: A Review of Practice*, Harrogate: College of Policing.

Gillham, P. (2011). Securitizing America: strategic incapacitation and the policing of protest since the 11 September 2001 terrorist attacks. *Sociol. Compass* 5, 636–652. doi: 10.1111/j.1751-9020.2011.00394.x

Her Majesty's Chief Inspector of Constabulary [HMCIC]. (2009). Adapting to protest - nurturing the British model of policing. Available at: https://www.justiceinspectorates.gov.uk/hmicfrs/publications/adapting-to-protest-nurturing-the-british-model-of-policing/ (Accessed November 16, 2021).

Holgersson, S., and Knutsson, K. (2011). "Dialogue policing – a means for less collective violence?" in *Preventing Crowd Violence*. eds. T. Madensen and J. Knutsson (Boulder, CO: Lynne Rienner Publishers), 191–216.

Hough, M., Jackson, J., Bradford, B., Myhill, A., and Quinton, P. (2010). Procedural justice, trust, and institutional legitimacy. *Policing* 4, 203–210. doi: 10.1093/police/paq027

Jacinta, M. G., and Rod, K. B. (2010). Procedural justice and order maintenance policing: a study of inner-city young men's perceptions of police legitimacy. *Justice Q.* 27, 255–279. doi: 10.1080/07418820902763889

Jeong, J. S. (2020). A study on the meaning of the 'Korean dialogue police' system in the policy of managing assembly and demonstration. *J. Police Sci.* 20, 151–180. doi: 10.22816/POLSCI.2020.20.2.006

Kim, H. (2022). *Learning from the Korean Dialogue Police for Fostering Peaceful Protest Culture: Focused on History, Experience, Effectiveness & the Future (2021/22 KSP Police Note: Issue and Implication)*. Yeongi-gun: Ministry of Economy and Finance & Korea Development Institute

Knutsson, J. (2017). "Advancing policing by using producing and diffusing evidence" in *Advances in Evidence-Based Policing*. eds. T. D. Madensen and J. Knutsson (Milton Park: Routledge), 157–174.

Korean National Police Agency [KNPA] (2020a). *2021 Korean Dialogue Police Operations Guide*. Seoul: KNPA.

Korean National Police Agency [KNPA] (2020b). *2021 Operational Guide of the Korean Dialogue Police (Written in Korean)*. Seoul: Korean National Police Agency.

Maguire, E. R. (2015). New directions in protest policing. *Saint Louis Law Rev.* 35, 67–108.

Maguire, E. R., Barak, M., Wells, W., and Katz, C. (2021). Attitudes towards the use of violence against police among Occupy Wall street protesters. *Policing* 14, 883–899. doi: 10.1093/police/pay003

Maguire, E., and Oakley, M. (2020). Policing protests: lessons from the occupy movement, Ferguson and beyond. Available at: https://www.hfg.org/hfg_reports/policing-protests-lessons-from-the-occupy-movement-ferguson-and-beyond/ (Accessed: November 16, 2021).

Martin, R., and Bradford, B. (2021). The anatomy of police legitimacy: dialogue, power and procedural justice. *Theor. Criminol.* 25, 559–577. doi: 10.1177/1362480619890605

Mazerolle, L., Bennett, S., Davis, J., Sargeant, E., and Manning, M. (2013). Procedural justice and police legitimacy: a systematic review of the research evidence. *J. Exp. Criminol.* 9, 245–274. doi: 10.1007/s11292-013-9175-2

McPhail, C. (1997). "Stereotypes of the crowds and collective behavior: looking backward, looking forward" in *Constructing Complexity: Symbolic Interaction and Social Forms*. eds. D. E. Miller, M. A. Katovich and S. L. Saxton (Stamford, CT:JAI Press)

Ministry of the Interior and Safety (in Korea) (2020). Cases of good governance in Korea 2020. Available at: https://www.mois.go.kr/eng/bbs/type002/commonSelectBoardArticle.do?bbsId=BBSMSTR_000000000022&nttId=82236 (Accessed July 2, 2022).

Porta, D., and Reiter, H. (2006). "The policing of transnational protest: a conclusion" in *The Policing of Transnational Protest*. eds. D. Porta, A. Peterson and H. Reiter (Farnham: Ashgate Publishing Limited), 175–190.

Radburn, M., Stott, C., Bradford, B., and Robinson, M. (2018). When is policing fair? Groups, identity and judgements of the procedural justice of coercive crowd policing. *Polic. Soc.* 28, 647–664. doi: 10.1080/10439463.2016.1234470

Reicher, S., and Stott, C. (2020). On order and disorder during the COVID-19 pandemic. *Br. J. Soc. Psychol.* 59, 694–702. doi: 10.1111/bjso.12398

Reicher, S., Stott, C., Cronin, P., and Adang, O. (2004). An integrated approach to crowd psychology and public order policing. *Policing* 27, 558–572. doi: 10.1108/13639510410566271

Snipes, J. B., Maquire, E. R., and Tyler, D. H. (2019). The effects of procedural justice on civil disobedience: evidence from protesters in three cities. *J. Crime Justice* 42, 32–44. doi: 10.1080/0735648X.2018.1559128

Stott, C. (2009). Crowd psychology & public order policing: an overview of scientific theory and evidence (submission to the HMIC policing of public protest review team). Available at: https://issuu.com/rborum/docs/crowd_psychology_and_public_order_policing (Accessed October 7, 2021).

Stott, C. (2011). "Crowd dynamics and public order" in *Preventing Crowd Violence*. eds. T. Madensen and J. Knutsson (Boulder, CO: Lynne Rienner Publishers), 25–46.

Stott, C., Hoggett, J., and Pearson, G. (2012). 'Keeping the peace': social identity, procedural justice and the policing of football crowds. *Br. J. Criminol.* 52, 381–399. doi: 10.1093/bjc/azr076

Sunshine, J., and Tyler, T. R. (2003). The role of procedural justice and legitimacy in shaping public support of policing. *Law Soc. Rev.* 37, 513–548. doi: 10.1111/1540-5893.3703002

Swedish National Police Board (2010). *Dialogue Police: Experiences, Observations and Opportunities*. Stockholm: Swedish National Police Board.

Tyler, T. R. (2006). *Why People Obey the Law*. Princeton, NJ: Princeton University Press.

Tyler, D. H., Barak, M., Maguire, E. R., and Wells, W. (2018). The effects of procedural injustice on the use of violence against police by Occupy Wall street protesters. *Police Pract. Res. Int. J.* 19, 138–152. doi: 10.1080/15614263.2018.1418153

Tyler, T. R., and Fagan, J. (2006). Legitimacy and cooperation: why do people help the police fight crime in their communities. *Soc. Sci. Res. Netw.* 6, 231–275. doi: 10.2139/ssrn.887737

US Senate. (2021). Examining the US capitol attack: A review of the security planning, and response failure on January 6. Available at: https://www.loc.gov/item/lcwaN0039641/ (Accessed: August 8, 2021).

Vitale, A. S. (2005). From negotiated management to command and control: how the New York police department polices protests. *Polic. Soc.* 15, 283–304. doi: 10.1080/10439460500168592

Vitale, A. S., Kim, H., and Choi, N. B. (2011). A case study on the Korean national police's G20 protest policing. *J. Police Policies* 25, 27–53. doi: 10.35147/knpsi.2011.25.2.27

frontiers | Frontiers in Psychology

TYPE Original Research
PUBLISHED 10 February 2023
DOI 10.3389/fpsyg.2023.1095763

OPEN ACCESS

EDITED BY
Agustin Espinosa,
Pontifical Catholic University of Peru, Peru

REVIEWED BY
Isabel R. Pinto,
University of Porto,
Portugal
Flor Sánchez,
Autonomous University of Madrid, Spain
Fuad Hatibovic,
Universidad de Valparaiso,
Chile

*CORRESPONDENCE
Jon Zabala
✉ jon.zabalaa@ehu.eus

SPECIALTY SECTION
This article was submitted to Personality and Social Psychology, a section of the journal Frontiers in Psychology

RECEIVED 11 November 2022
ACCEPTED 18 January 2023
PUBLISHED 10 February 2023

CITATION
Zabala J, Conejero S, Pascual A, Zumeta LN, Pizarro JJ and Alonso-Arbiol I (2023) *Korrika*, running in collective effervescence through the Basque Country: A model of collective processes and their positive psychological effects.
Front. Psychol. 14:1095763.
doi: 10.3389/fpsyg.2023.1095763

Korrika, running in collective effervescence through the Basque Country: A model of collective processes and their positive psychological effects

Jon Zabala[1]*, Susana Conejero[1], Aitziber Pascual[1], Larraitz N. Zumeta[2], José J. Pizarro[2,3] and Itziar Alonso-Arbiol[4]

[1]Department of Basic Psychological Processes and Development, University of the Basque Country, Donostia-San Sebastián, Spain, [2]Department of Social Psychology, University of the Basque Country, Donostia-San Sebastián, Spain, [3]Escuela de Psicología, Universidad Católica del Norte, Antofagasta, Chile, [4]Department of Clinical and Health Psychology and Research Methods, University of the Basque Country, Donostia-San Sebastián, Spain

The neo-Durkheimnian model suggests that feedback and emotional communion between participants during a collective gathering (i.e., perceived emotional synchrony: PES) is one of the key mechanisms of collective processes. This shared emotional experience gives rise, in turn, to more intense emotions, this being one of the explanatory models of the positive psychological effects of collective participation. Through a quasi-longitudinal design of three measurement-times (N =273, 65.9% women; age: 18–70, M =39.43, SD =11.64), the most massive social mobilization that is celebrated in favor of the Basque language in the Basque Country (*Korrika*) was analyzed. Repeated measures and sequential mediation analyzes supported the model. The effect of participation on social integration was mediated by the increase in emotions of enjoyment through PES; the effect on social acceptance, social contribution, and social actualization was mediated by increased kama muta through PES; the effect on collective empowerment was mediated by the increase in self-transcendent emotions through PES; and the effect on remembered well-being was partially mediated by PES. Finally, it was also verified for the first time that the effect of participation on social integration, social acceptance and social actualization was maintained through PES (but not through emotions) for at least 6–7 weeks after the event ended. Also, it is concluded that Kama muta is a relevant emotion during collective gatherings.

KEYWORDS

Durkheim, collective gatherings, perceived emotional synchrony, self-transcendent emotions, kama muta, collective empowerment, well-being, belongingness

1. Introduction

The social isolation measures taken in different countries around the world to deal with the pandemic have been associated with higher rates of stress, anxiety, and depression (Marroquín et al., 2020; Bueno-Notivol et al., 2021). Fortunately, these measures have been lifted in most countries of the world, allowing the population to return to social interactions or collective gatherings — social situations in which two or more people meet in one place with a common goal (McPhail and Wohlstein, 1983)—which have been shown to be important for people's psychological health

(Dimmock et al., 2021; Macdonald and Hülür, 2021). Although it has been found that collective participation has a wide variety of positive psychological effects, more efforts have to be made to explain how these effects are generated during collective gatherings.

Through a quasi-longitudinal design, this work aims to analyze the positive psychological effects of participation in *Korrika*, the most important and massive event held in the Basque Country in favor of *euskera* (Basque language). Based on the neo-Durkheimnian model of collective processes proposed by Páez et al. (2015) we will analyze the mechanisms involved in the development of these effects, as well as their durability over time.

1.1. Collective gatherings and social movements

Massive collective gatherings contain a high emotional and symbolic charge, and can profoundly mark the individual and collective life of people (Collins, 2004; Durkheim, 1912/1915; Wlodarczyk et al., 2020). A series of studies, in line with Durkheim's theory (1912/1915), have shown that participation in collective gatherings has a wide variety of positive psychological effects. For example, it has been found that participation in collective gatherings is related to an increase in social cohesion —e.g., integration and social identity, perceived social support and solidarity—, leading to positive effects on social beliefs, such as the benevolence of people and society, and to an increase in empowerment at the individual level —e.g., self-esteem and life satisfaction— and, at the collective level, to a higher collective self-esteem and perceived collective efficacy (Drury and Reicher, 2009; Páez et al., 2011, 2013, 2015; Tewari et al., 2012; Khan et al., 2016; Zumeta L. et al., 2016; Wlodarczyk et al., 2017b; Bouchat et al., 2020).

Among these psychological effects, collective identity has been highlighted as one of the most important factors that predict collective action, which in turn predicts collective efficacy, another of the most important factors of social mobilizations (van Zomeren et al., 2008; Agostini and van Zomeren, 2021). Therefore, collective gatherings could be considered important fuels for social mobilizations (Pizarro et al., 2022).

Finally, collective gatherings have also been shown to be important resources to counteract the negative effects of painful and traumatic events such as attacks, natural disasters, or social isolation during pandemic. In the face of these events, the strengthening of solidarity, support, and social cohesion during collective gatherings helps in the post-traumatic process (Páez et al., 2007; Wlodarczyk et al., 2016, 2017a; Pelletier, 2018; Zlobina and Dávila, 2022).

However, it is still necessary to clarify the psychological mechanisms involved in producing these effects. Because mere participation in collective gatherings does not necessarily provoke particular effects (see Thonhauser, 2022; see also Collins, 2004), outcomes generated in these instances of social life should involve the activation of one or more mechanisms.

1.2. Collective effervescence

Durkheim's theoretical model (Durkheim, 1912/1915) on collective processes provides a series of key elements to answer this question. Durkheim, who was interested in knowing what makes people stick together in society, developed the theory of collective effervescence. He maintained that collective gatherings are fundamental pillars for the individual and collective life of people. These gatherings, periodically held, fulfill the role of recreating the social group and reviving shared values. Participation in such gatherings fosters social cohesion and leaves participants with a renewed confidence in society and a sense of energy on an individual and collective level.

For these positive psychological effects to take place, collective effervescence is necessary. Durkheim described collective effervescence as a collective emotional exaltation that arises from contagion and emotional feedback between the people gathered. Each emotion resonates and feeds back among the participants, reaching a point of exaltation and emotional communion. Regardless of the type of affect that predominates during the collective gathering —for example, sadness at a funeral, joy at a celebration or anger at a demonstration—, the positive psychological effects of collective participation are the result of emotional communion, that is, from the shared emotional experience and the feelings of unity derived from it (Páez et al., 2015).

1.3. Perceived emotional synchrony

Páez et al. (2015), intending to empirically contrast Durkheim's approaches, proposed the Perceived Emotional Synchrony (PES) as a measure of collective effervescence; it is described "as an emotional experience felt by participants during group gatherings, involving a sense of togetherness" (Wlodarczyk et al., 2021, p. 3). Various meta-analyses have shown that experimentally induced synchronous behaviors foster perceived social bonding and positive affect (e.g., Rennung and Göritz, 2016; Mogan et al., 2017). Synchronous behaviors such as singing, dancing, and repeating the same gestures and shouts are common during gatherings. These synchronous and symbolic behaviors during collective meetings awaken an emotional energy that intensifies and feeds back among the participants, giving rise to a shared emotional experience, reciprocal empathy and collective consciousness, that is, collective effervescence or PES (Durkheim, 1912/1915; Collins, 2004; Páez et al., 2015; Wlodarczyk et al., 2020, 2021).

Through this neo-Durkheimian model proposed by Páez et al. (2015) and subsequent studies that have followed this line of research, it has been found that the psychological effects of collective gatherings do not take place by mere collective participation, but rather that these effects are facilitated by the PES (Páez et al., 2015; Zumeta L. N. et al., 2016; Pelletier, 2018; Pizarro et al., 2019; Bouchat et al., 2020; Wlodarczyk et al., 2020; Zumeta et al., 2020; Castro-Abril et al., 2021; Wlodarczyk et al., 2021; Pizarro et al., 2022). These studies suggest that the PES is one of the most important mechanisms of collective processes. The emotional communion generated from the emotional feedback between the participants gives rise, in turn, to more intense emotions during the collective gathering. As a result of this process, the participants return to their daily lives revitalized, that is, with a greater sense of social cohesion or integration, trust and empowerment at the individual and collective level (Páez et al., 2015; Wlodarczyk et al., 2020; Zumeta et al., 2020, 2021; Wlodarczyk et al., 2021; Pizarro et al., 2022).

In the quasi-longitudinal study by Wlodarczyk et al. (2021), the relationships between PES, enjoyment emotions and self-transcendent emotions and their effects in a folk ritual were analyzed through structural equation models. PES acted as a direct predictor of increased self-transcendent emotions and emotions of enjoyment, as well as increased social integration, beliefs of a benevolent world and collective self-esteem. However, indirect effects of PES were also found through

self-transcendent emotions on benevolent world beliefs and ingroup solidarity, as well as through enjoyment emotions on social integration.

These results show that the self-transcendent emotions and the emotions of enjoyment fostered by the PES during a gathering can also facilitate the effects of collective participation (i.e., the effects that the participants carry with them after leaving the collective situation). Based on this process, and on the existing literature on the effects of collective effervescence, we may refer to *proximal and distal effects* of PES (Wlodarczyk et al., 2020; Zumeta et al., 2020; Pizarro et al., 2022).

1.3.1. Positive emotions and kama muta during collective effervescence

The most immediate or proximal effects of PES are those that occur during the same effervescence or collective situation, for example, positive self-transcendent emotions (Pizarro et al., 2022). Self-transcendent emotions (e.g., hope, inspiration, and feeling grateful and amazed) bring a person out of their reverie by making them more receptive to stimuli from the social and natural world around them (Haidt, 2006; Fredrickson, 2009; Van Cappellen and Rimé, 2014). These emotional states induce an experience of self-transcendence, that is, a mental state in which the salience of the self decreases or in which feelings of connection with other people or entities increase (Yaden et al., 2017). This transcendence or connection induced by self-transcendent emotions facilitates, for example, the acceptance of people and the society they make up, as well as interest in their well-being (Aquino et al., 2011; Stellar et al., 2017; Pizarro et al., 2021). Likewise, specifically in the case of the feeling of being moved and hope, these are significant factors related to collective efficacy and the action implied in social movements (Wlodarczyk et al., 2017b; Cohen-Chen and Van Zomeren, 2018; Landmann and Rohmann, 2020; Zumeta et al., 2021).

Another possible proximal effect of the PES, and to which a self-transcendental character can be attributed, is *kama muta*. Kama muta is an emotion used to refer to being moved by love of others (Fiske et al., 2017; Zickfeld et al., 2019). It is based on the horizontal sharing of relationships and arises from the sudden activation of these relationships in which people perceive each other as an equal in some essential aspect that they share (Fiske, 1992; Fiske et al., 2017; Seibt et al., 2019). For example, reunions, reconciliations and acts of friendship are some of the experiences that can evoke kama muta (Alfaro-Beracoechea and Contreras-Tinoco, 2021). During the emotional experience of kama muta, people feel mutual love, identification, solidarity, pity, kindness and devotion, promoting the desire to commit more strongly in those relationships (Fiske et al., 2017; Zickfeld et al., 2019).

We currently have no evidence of previous studies that have analyzed the role of kama muta during collective gatherings; however, it has been shown that one of the evocative experiences of kama muta are the big collective gatherings (Alfaro-Beracoechea and Contreras-Tinoco, 2021). In addition, some works suggest that social movements can arouse kama muta and induce a sense of moral commitment toward other people, for example, arousing the motivation to support causes related to a group (Fiske et al., 2017; Seibt et al., 2019; Landmann and Rohmann, 2020; Lizarazo Pereira et al., 2022). We believe that PES can be a strong trigger for kama muta, especially during a collective gathering in which people come together for a common cause, as in the case of this study.

Lastly, the emotions of enjoyment, such as joy and fun, are expressed collectively during collective gatherings; although they cannot be considered self-transcendent emotions, in some studies they have also been related to feelings of unity and increased social integration (Novelli et al., 2013; Wlodarczyk et al., 2021).

1.3.2. Well-being and collective empowerment after collective effervescence

Distal effects are the effects that last or extend beyond the collective effervescence (i.e., the effects that the participants take with them into their daily lives after leaving the gathering). As mentioned above, people's evaluation of social cohesion, social beliefs and empowerment usually improve after collective gatherings (Pizarro et al., 2022). These aspects are often closely related to people's psychological health, for example, to *social well-being*.

Social well-being is the evaluation that people make of the circumstances and functioning they have within society (Keyes, 1998), and is made up of five dimensions: social integration, social acceptance, social contribution, social actualization and social coherence. *Social integration* refers to the feeling of belonging and being accepted by other people who constitute their social reality and the degree of similarity perceived with them. Social belonging is a good indicator of people's psychological health, and a factor that protects against anxiety, stress and depression (Postmes et al., 2019; Zabala et al., 2020; Páez and Oyanedel, 2021). *Social acceptance* refers to the positive view of human nature and trust in others. According to Keyes (1998), this belief about people's benevolence is also an important indicator of people's health, since psychologically healthier people tend to attribute their own benevolence and personal acceptance —acceptance of bad things and good— also to other people. This trust placed in other people is accompanied by *social contribution*: the belief that oneself is also a useful member of society. This dimension is based on perceived self-efficacy and sense of control (Bandura, 1997; Keyes, 1998), relevant factors in people's psychological health. As for *social actualization*, this refers to the belief that society progresses in a beneficial direction for people. Lastly, the psychologically healthier people, in addition to placing trust in oneself, in the people and the society they make up, also tend to worry about knowing and understanding the social life that surrounds them; this is what Keyes (1998) named *social coherence,* the feeling that one is able to understand what is happening around him.

After collective gatherings, people's evaluation of quality of life tends to improve even in such personal aspects as self-esteem, sense of control and autonomy, as well as meaning and satisfaction with life (Páez et al., 2015; Zumeta L. et al., 2016; Wlodarczyk et al., 2021), aspects included in the *remembered well-being* of Hervás and Vázquez (2013).

Finally, collective gatherings in addition to being beneficial at the individual level, can also be beneficial at the collective level, and increase perceived collective efficacy —the shared belief of a group in its ability to organize and execute the actions required to reach certain levels of achievement (Bandura, 1997; Zumeta L. et al., 2016; Zumeta et al., 2020, 2021). When it comes to minority or discriminated groups, and this perceived efficacy is aimed at counteracting existing power relations and influencing social change, it is referred to as *collective psychological empowerment* (Drury and Reicher, 2009), which may also be strongly related to the well-being of people (Zabala et al., 2020).

1.4. The durability of the effect of participation

Durkheim stresses the importance of the regular practice of collective gatherings since the effect of participation is diluted over time.

The durability of the effect of collective participation has been analyzed on very few occasions. In the study by Pizarro et al. (2019) the effect of participation in a mindful-dancing program dissipated within 1 week of participation. In contrast, in other studies, the effect of participation was maintained for at least 3 weeks (Páez et al., 2007, 2015; Rimé et al., 2010) and 4 weeks after participation (Páez et al., 2011; Tewari et al., 2012; Khan et al., 2016). In the study by Bouchat et al. (2020) the distal effects of the PES during the most massive event of scouts were analyzed. PES during the encounter predicted scores for some of the distal effects after 10 weeks of participation. In the present study, we will analyze the effects of participation up to 6–7 weeks after having participated.

1.5. Current study: Korrika, the claim of the language and the culture on the territory

Korrika[1] is a crowded race of a leisure nature that every 2 years crosses the Basque Country (a region currently split between Spain and France) for 11 days without interruption. The objective of this ritual is to raise funds to promote Euskera, a minority[2] and isolated language spoken in the Basque Country, whose origin is a mystery and that continues to challenge many scholars to decipher it. Basque is an essential element, almost sacralized for the identity of Basque speakers, and is estimated that around six hundred thousand people participate in Korrika, making this ritual a highly emotional and indescribable celebration for many participants (del Valle, 1988).

Korrika contains all the elements of a collective ritual and therefore the conditions for the collective effervescence to arise (i.e., PES), as well as the emotions of enjoyment, self-transcendent emotions and kama muta. The ritual, as a whole, is made up of symbolic behaviors that represent and claim the territory of the Basque language and the entire Basque culture. Each group of participants travels a section of the route while carrying a baton with a secret message inside that is revealed in the massive celebration at the end of the route. This act of going through the entire territory with a baton that passes from hand to hand symbolizes the legacy of Basque —that Basque does not stop, does not disappear as long as there are runners (i.e., speakers) who practice it—. Both at the beginning and at the end, as well as throughout the race, repetitive, stereotyped and synchronous behaviors are expressed, such as clapping, singing and shouting. This is accompanied by music and symbolic elements that express shared values, such as flags and traditional elements in clothing (del Valle, 1988). This great social mobilization around the Basque language is likely to be explained by the strong identity and collective empowerment of the Basque society. However, we believe that between these factors and the collective effervescence there is mutual feedback that strengthens the social movement, and that is also crucial.

1.6. Objectives and hypotheses

The present study has three objectives:

(1) To test whether participation in the Korrika collective ritual fosters social well-being, remembered well-being and collective empowerment (dependent variables).

(2) To examine if the effect (if any) of the quality of participation on the dependent variables is mediated by the PES and its proximal effects (emotions of enjoyment, self-transcendent emotions and kama muta) in this sequence, and after controlling the effect of the dependent variables before having participated in Korrika.

(3) To analyze the durability of the effect of participation up to 6–7 weeks after having participated, and analyze the effect of the same mediators variables (PES and proximal effects) on that dependent variables where the effect of the participation still endures.

Related to these objectives, the following hypotheses were formulated:

> *H1*: Participants are expected to express higher social well-being, remembered well-being and collective empowerment after having participated in Korrika.
>
> *H2*: The effect of the quality of participation on the dependent variables is expected to be mediated by the PES, or by the increase in the emotions of enjoyment, self-transcendent emotions and kama muta through the PES.
>
> *H3*: The durability of the effect of participation up to six-seven weeks after Korrika has finished will be explored. No assumptions are made in this regard. However, if the effect of participation persists on some dependent variables, it is expected that the PES or its proximal effects will predict positively that effect.

2. Materials and methods

2.1. Participants

Three questionnaires were administered in three times. The number of people who answered the questionnaire of Time 1 was 748 (63.1% women and 36.9% men), aged between 18 and 73 years ($M = 39.28$; $SD = 12.13$). From that sample only 404 people (66.1% women and 32.2% men), aged between 18 and 73 years ($M = 39.79$, $SD = 11.74$) answered also the questionnaire of Time 2. Finally, from that sample (T1-T2), 273 people answered the questionnaire of Time 3 (65.9% women and 33.01% men), aged between 18 and 70 years ($M = 39.43$, $SD = 11.64$). All the participants were citizens from the historical territory of the Basque Country.

2.2. Procedure

Given that our objective in this study was to test hypotheses of causal relationships, and despite the limitations posed by quasi-experimental studies, and the reality that we intended to study, we believed that it was the most appropriate design to achieve our objectives. Data was collected in three times. The first survey was administered 3 weeks before starting Korrika (Time 1: T1). The second survey was administered between the first and seventh days after

1 Korrika is organized by the Literacy and Euskaldunization Coordinator (AEK, in its acronym in Basque) and also seeks to raise funds for its network of Basque teaching centers (euskaltegiak). AEK is the most important organization in the field of euskaldunization and literacy of adults, and the only one that develops its activity throughout Basque Country, above administrative divisions. https://www.aek.eus/es-es/servicios/korrika

2 Basque speakers whose mother tongue is Euskera account for 15.35% of the Basque Country's population However, 29.62% of the inhabitants of the Basque Country have acquired language ability in Euskera, even though it is only practiced by 12.6% in public life (Sociolinguistic cluster, 2020).

participating in Korrika (Time 2: T2). Finally, the third survey was administered between 6 and 7 weeks after Korrika had finished (Time 3: T3). The data of the dependent variables —i.e., measures of the distal effects— (social well-being, remembered well-being and collective empowerment) were collected at T1, T2, and T3. Data on quality of participation, PES, enjoyment emotions, self-transcendent emotions, and kama muta were collected at T2.

Once the approval of the Ethics Committee of the university to which the authors belong was obtained (M10_2019_004), there were collected the emails of those people who intended to participate in Korrika 2019 and in the research. *Alfabetatze eta Euskalduntze Koordinakundea* (AEK; the association that organizes the Korrika event) collaborated with the research team by sending an email invitation to all Korrika collaborators, requesting their voluntary participation in the research. On the other hand, researchers went to the capitals of the Basque Country and collected the emails from those who had been willing to participate in Korrika and in this research. Participants answered all questionnaires online through the *Qualtrix XM* platform.

2.3. Instruments

Quality of participation (Páez et al., 2015). The involvement of the participants in Korrika was measured with three items on a 7-point scale (1 = *Not at all*, 7 = *Very much*). For example: "How intense was your participation? ". Obtained reliability indexes were satisfactory ($\alpha = 0.83$; $\Omega = 0.84$).

Perceived Emotional Synchrony (PES; Páez et al., 2015, brief version by Wlodarczyk et al., 2020). Through four items, the extent to which the participants experienced collective effervescence was analyzed on a 7-point scale (1 = *Not at all*, 7 = *A lot*). For example: "We felt a strong shared emotion." Obtained reliability indexes were satisfactory ($\alpha = 0.92$; $\Omega = 0.92$).

Enjoyment and Self-Transcendent Emotions (Modified Differential Emotions Scale – MDES; Fredrickson, 2009). The extent to which participants felt two enjoyable emotions (amusement/entertainment and joy/happiness) and four self-transcendent positive emotions (wondered, grateful, inspired, and hopeful) was analyzed on a 5-point ordinal scale (1 = *Not at all*, 2 = *A little bit*, 3 = *Moderately*, 4 = *Quite a bite* y 5 = *Extremely*). For example: "What is the most joyful, glad, or happy you felt?" or "What is the most grateful, appreciative, or thankful you felt?." Obtained reliability indexes were satisfactory: $r = 0.53$ ($\alpha = 0.68$) and $\alpha = 0.78$ ($\Omega = 0.78$) respectively.

Kama muta (KAMUS; Zickfeld et al., 2019). The extent to which participants had experienced kama muta was analyzed on a 7-point scale (1 = *Not at all*, 7 = *Very much*). The data of the evaluation dimensions, of four items, were analyzed; for example: "An exceptional sense of closeness appear" and of motivation (also made up of four items); for example: "I wanted to hug someone." Obtained reliability indexes were satisfactory, $\alpha = 0.92$ ($\Omega = 0.93$).

Social Well-Being (SWB; Keyes, 1998, adapted by Blanco and Díaz, 2005). Using a 5-point scale (1 = *Strongly disagree*, 5 = *Strongly agree*), the following dimensions were analyzed: social integration (e.g., "I feel close to other people in my community"), social acceptance (e.g., "I think that people are basically good"), social contribution (e.g., "I have something valuable to give the world") and social actualization (e.g., "Society is making progress, getting better"). Each dimension was made up of three items, as in the original version of 15 items (Keyes, 2002). We did not analyze the social coherence dimension. The reliability indices in social integration ranged from $\alpha = 0.69$ ($\Omega = 0.70$) at T1 and $\alpha = 0.84$ ($\Omega = 0.85$) at T3. In social contribution range was between $\alpha = 0.75$ ($\Omega = 0.76$) and $\alpha = 0.81$ ($\Omega = 0.82$), and in social actualization between $\alpha = 0.83$ ($\Omega = 0.83$) and $\alpha = 0.85$ ($\Omega = 0.86$). For social acceptance, reliability indices were lower: between $\alpha = 0.48$ ($\Omega = 0.50$) at T1 and $\alpha = 0.62$ ($\Omega = 0.64$) at T2.

Remembered Well-Being (The Pemperton Happiness Index – PHI; Hervás and Vázquez, 2013). Through 10 items, the participants' recalled well-being was analyzed on a 10-point scale (1 = *Strongly disagree*, 10 = *Strongly agree*). Data on general well-being (e.g., "I am very satisfied with my life"), eudaimonic (e.g., "I think my life is useful and worthwhile") and hedonic (e.g., "I enjoy a lot of little things every day") was collected. However, the hedonic dimension was removed from the analysis, because the only inverse item (i.e., "I have a lot of bad moments in my daily life") showed a considerably small factor loading, and this negatively affected the fit indices. Indeed, we found that a lot of participants responded to this item in the opposite direction in which the answer should have been given. Both dimensions were treated as an only measure of well-being. Obtained reliability indexes were satisfactory, ranging between $\alpha = 0.90$ ($\Omega = 0.90$) in T1 and $\alpha = 0.93$ ($\Omega = 0.93$) in T3.

Collective Empowerment (Collective Efficacy Questionnaire for Sports – CEQS; Martínez et al., 2011). The group efficacy (that is, as Basque speakers) perceived by the participants was measured with four items on a 10-point scale (1 = *Not at all capable*, 10 = *Very capable*). For example, "To carry out actions." In addition, we added two items elaborated *ad hoc* to capture Drury and Reicher's (2009) concept of collective psychological empowerment, specifically: "To promote social change" and "To achieve common goals." Obtained reliability indexes were satisfactory, ranging between $\alpha = 0.89$ ($\Omega = 0.89$) in T1 and $\alpha = 0.91$ ($\Omega = 0.91$) in T3.

2.4. Data analysis

We conducted ANOVA repeated measures analysis in order to test Objectives 1 and 3. To analyze the effects of the mechanisms involved in changes from T1 to T2 (i.e., Objective 2), we conducted several structural equation models using the quality of participation as the main predictor, and a sequential mediation approach from PES to the emotional aspects (i.e., emotions of enjoyment, self-transcendent emotions and kama muta). Finally, for each dependent variable we included the score in T1 to calculate specifically possible changes due to having participated in the ritual. Finally, to analyze the durability of the effect of the mechanisms until T3 (i.e., Objective 3), we first performed linear regressions on the dependent variables where the effect of participation persisted, to then carry out a series of structural equation models that were most consistent with the previous results and the fit indicators. For these models, no outliers were excluded, and the proposed theoretical model was compared with other alternative models, which was shown to be more adequate both theoretically and statistically (See Supplementary Tables S2, S3).

To evaluate the fit of the models, we included the chi-square test[3] together with CFI (Comparative Fit Index) and TLI (Tucker–Lewis

3 The first number between parentheses refers to the sample and the second number refers to the number of estimates (see Figures 1–6).

TABLE 1 Results of repeated measures of dependent variables in T1 and T2.

Dependent variables	T1	T2			
	M (SD)	*M* (SD)	*F*(1, 403)	*p*	η_p^2
Social integration	3.98 (0.60)	4.15 (0.64)	31.626	0.001	0.07
Social acceptance	3.20 (0.60)	3.41 (0.67)	37.390	0.001	0.09
Social contribution	3.60 (0.67)	3.74 (0.73)	19.377	0.001	0.05
Social actualization	2.52 (0.77)	2.94 (0.83)	134.870	0.001	0.25
Remembered well-being	7.89 (1.10)	7.97 (1.17)	3.303	0.070	0.01
Collective empowerment	7.78 (1.27)	8.02 (1.34)	14.143	0.001	0.03

Index), whose values over 0.90 are considered acceptable. Likewise, RMSEA (Root Mean Square Error of Approximation) and SRMR (Standardized Root Mean Square Residual) were taken into account, whose values below 0.05 indicate a good model, and with values between 0.05 and 0.08 indicating that the model is reasonably good (Hu and Bentler, 1999). The applied estimation procedure was *Maximum Likelihood* and all analyses were conducted through JASP 0.15.

Concerning the participants, Objective 1 and Objective 2 were accomplished with the sample of participants who responded to T1 and T2. Instead, Objective 3 was accomplished with the sample of participants who had answered the questionnaires in T1, T2, and T3. There were no statistically significant differences between these groups neither in gender, nor in age, nor in the dependent variables before having participated in Korrika (see Supplementary Table S1).

3. Results

3.1. Descriptive and preliminary analyses

Means and standard deviations, correlations, and collinearity statistics are shown in Supplementary Tables S2–S4. All the analyzed variables in T2 were related significantly and positively. Correlation ranged from $r = 0.16$ between the quality of participation and social actualization to $r = 0.70$ between enjoyment and self-transcendent emotions; all $ps < 0.001$ (see Supplementary Table S3).[4]

3.2. Effect of participation on dependent variables

The results of the repeated measures ANOVAs (see Table 1) show that the scores of the dependent variables in T1 increase significantly in T2, except in the case of remembered well-being. Furthermore, it is worth mentioning that the other effect sizes —except for collective empowerment— are satisfactory, especially in the case of social actualization. In general, we observed an increase in the scores of the dependent variables from T1 to T2; therefore, Hypothesis 1 was confirmed.

4 Collinearity analysis showed adequate indices (tolerance >0.2, variance inflation factor<4; Rovai et al., 2013). See Supplementary Table S5.

3.3. Sequential mediation analysis

We tested whether the effect of quality of participation (QP) on the dependent variables was mediated by increased enjoyment emotions, self-transcendent emotions, and kama muta through PES. The structural equation models can be seen in Figures 1–6 (the coefficients shown in the figures are standardized coefficients and the solid arrows indicate that the coefficient is statistically significant). To check the sequential mediation, we calculated the indirect effects of the QP through PES and the proximal effects (emotions of enjoyment, self-transcendent emotions and kama muta) in this sequence (standardized effects and confidence intervals are presented).

3.3.1. Emotions of enjoyment, self-transcendent emotions and kama muta

As it can be seen in all the figures mentioned above, the QP predicts the increase in PES and, in turn, PES acts as a direct predictor of the increase in emotions of enjoyment, of emotions of self-transcendent and kama muta. It is worth mentioning that in another alternative model enjoyment emotions did not predict PES, and that the betas of self-transcendent and kama muta emotions on PES were lower than the betas of PES on them (see Supplementary Table S3). This result further reinforces the proposed model.

3.3.2. Effects on social well-being: Social integration, social acceptance, social contribution, and social actualization

In Figure 1 we can see that there is a direct effect of enjoyment emotions on social integration ($B = 0.34$, $SE = 0.14$, $p = 0.017$, 95% CI [0.060, 0.611]). In the absence of the direct effect of PES on social integration, we analyzed the indirect effect of QP through PES and enjoyment emotions in this sequence. The indirect effect was statistically significant ($B = 0.19$, $SE = 0.04$, $p = 0.020$, 95% CI [0.015, 0.177]); therefore, we could state that the PES mediated the effect of the QP on social integration through of increased emotions of enjoyment.

In Figure 2–4 we can see that there is a direct effect of kama muta on social acceptance ($B = 0.26$, $SE = 0.04$, $p = 0.008$, 95% CI [0.029, 0.190]), social contribution ($B = 0.20$, $SE = 0.04$, $p = 0.011$, 95% CI [0.022, 0.165]) and social actualization ($B = 0.27$, $SE = 0.04$, $p = 0.001$, 95% CI [0.058, 0.202]). Again, in the absence of the direct effect of PES, we calculated the indirect effect of QP through PES and kama muta, which was statistically significant in all three cases: on social acceptance ($B = 0.13$, $SE = 0.03$, $p = 0.009$, 95% CI [0.019, 0.137]), social contribution ($B = 0.10$, $SE = 0.03$, $p = 0.012$, 95% CI [0.014, 0.119]), and social actualization ($B = 0.13$, $SE = 0.03$, $p = 0.001$, 95% CI [0.040, 0.147]). In these cases, PES mediated the effect of QP on the three variables through the increase in kama muta.

3.3.3. Effect on remembered well-being

In Figure 5 we can see that there is a direct effect of the QP on remembered well-being ($B = 0.15$, $SE = 0.08$, $p = 0.029$, 95% CI [0.018, 0.333]), and unlike the previous models, neither the PES neither did proximal effects mediate the effect of QP on remembered well-being. However, in the absence of direct effects of PES and proximal effects, we calculated its total indirect effect, which was statistically significant ($B = 0.09$, $SE = 0.04$, $p = 0.010$, 95% CI [0.026, 0.195]). Alternatively, we also performed a simple mediational analysis [$\chi^2 = (404, 223) = 603.384$, $p < 0.001$, CFI = 0.933, TLI = 0.923, RMSEA = 0.065, SRMR = 0.054], in which PES partially mediated the relationship

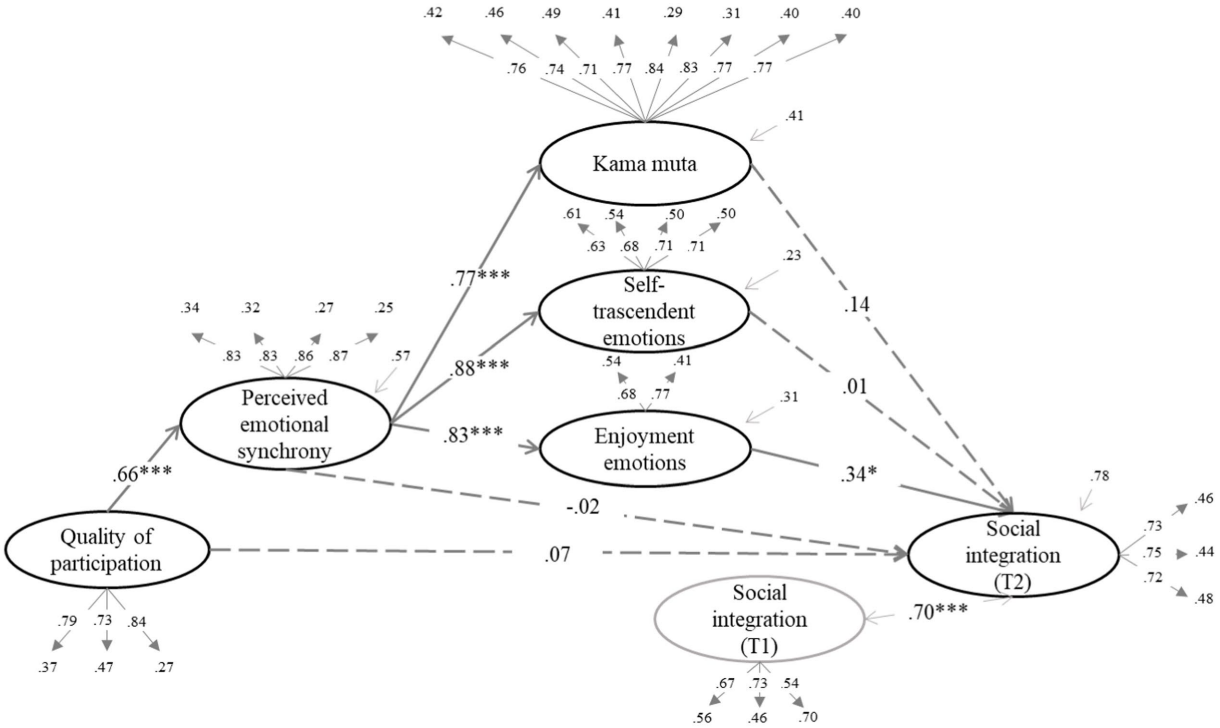


FIGURE 1
Perceived emotional synchrony and emotions as mediators of the effect of quality of participation on social integration controlling for pre-participation scores. Model fit: χ^2=(404, 313)=811.975, p<0.001, CFI=0.920, TLI=0.910, RMSEA=0.063, SRMR=0.058.

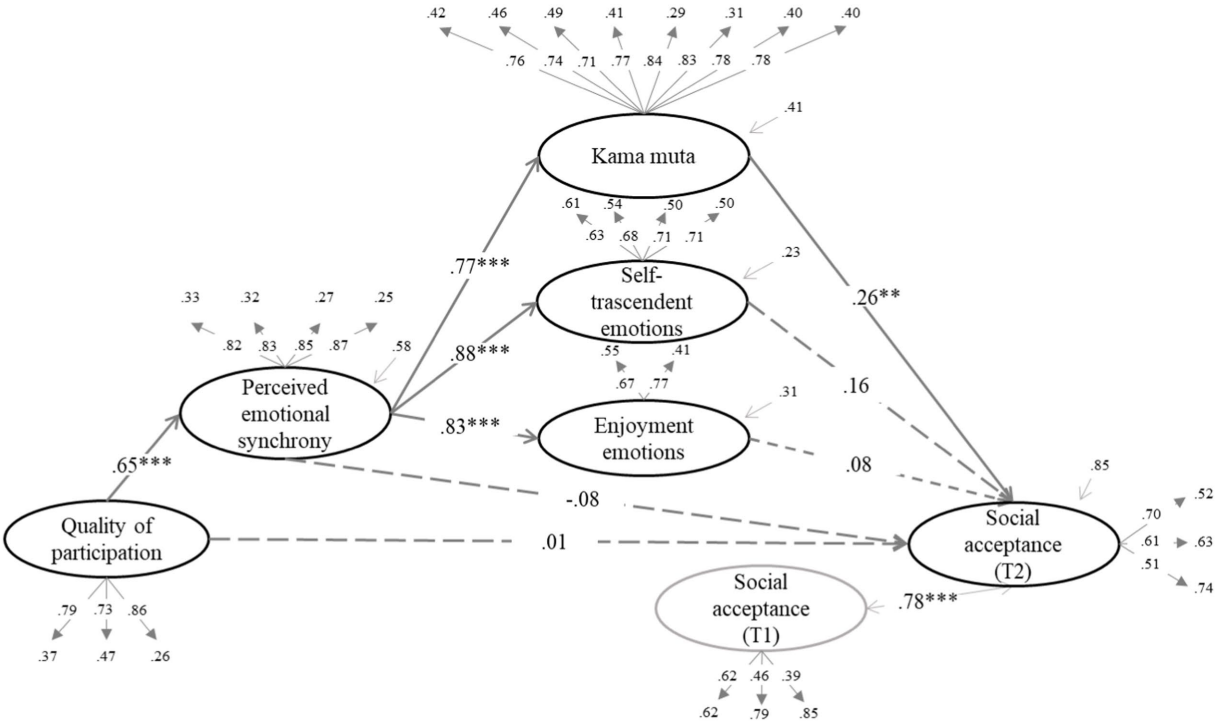


FIGURE 2
Perceived emotional synchrony and emotions as mediators of the effect of quality of participation on social acceptance controlling for pre-participation scores. Model fit: χ^2=(404, 313)=904.186, p<0.001, CFI=0.900, TLI=0.888, RMSEA=0.068, SRMR=0.060.

between QP and remembered well-being (B = 0.13, SE = 0.06, p = 0.007, 95% CI [0.045, 0.286]). Therefore, we can say that PES and proximal effects also influenced the effect of QP on remembered well-being.

3.3.4. Effect on collective empowerment

In Figure 6 we can observe a direct effect of self-transcendent emotions on collective empowerment (B = 0.33, SE = 0.33, p = 0.031,

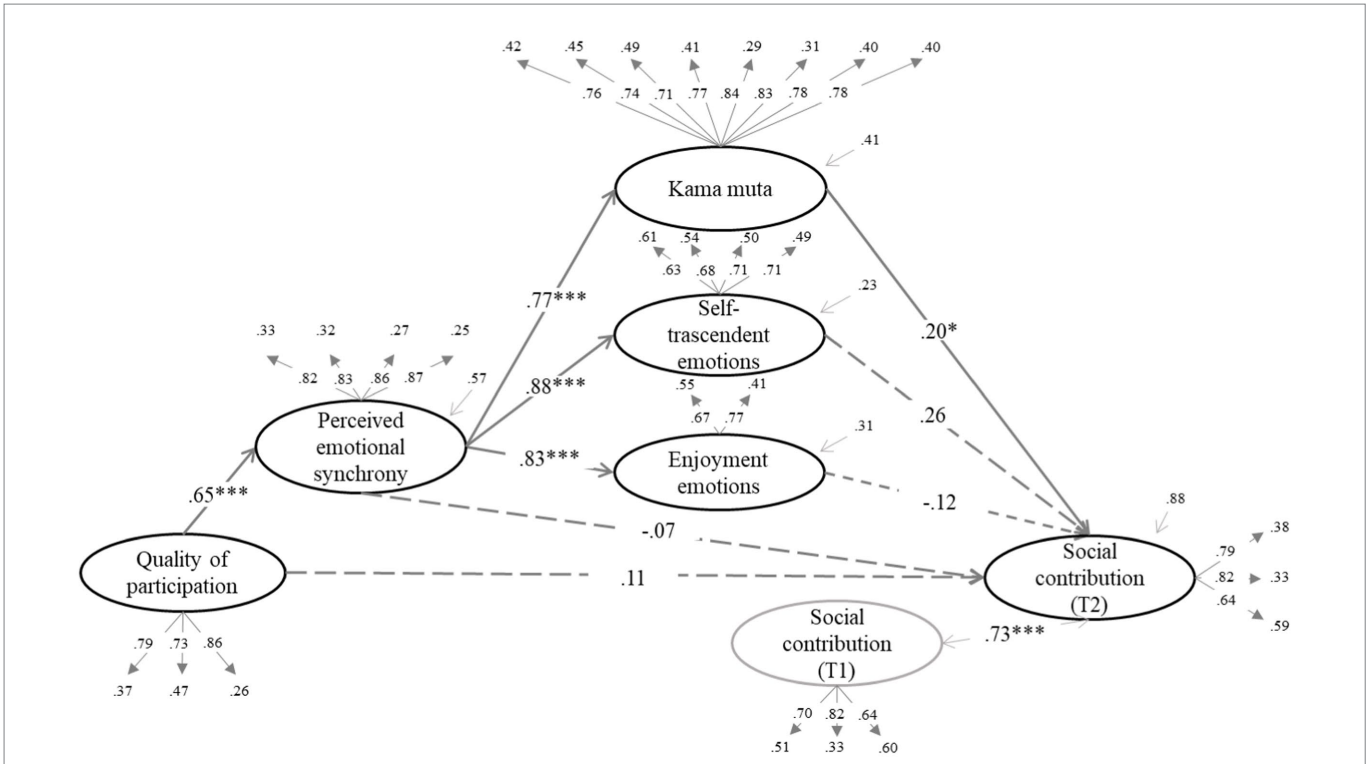


FIGURE 3
Perceived emotional synchrony and emotions as mediators of the effect of quality of participation on social contribution controlling for pre-participation scores. Model fit: χ^2=(404, 313)=881.122, p<0.001, CFI=0.912, TLI=0.901, RMSEA=0.067. SRMR=0.074.

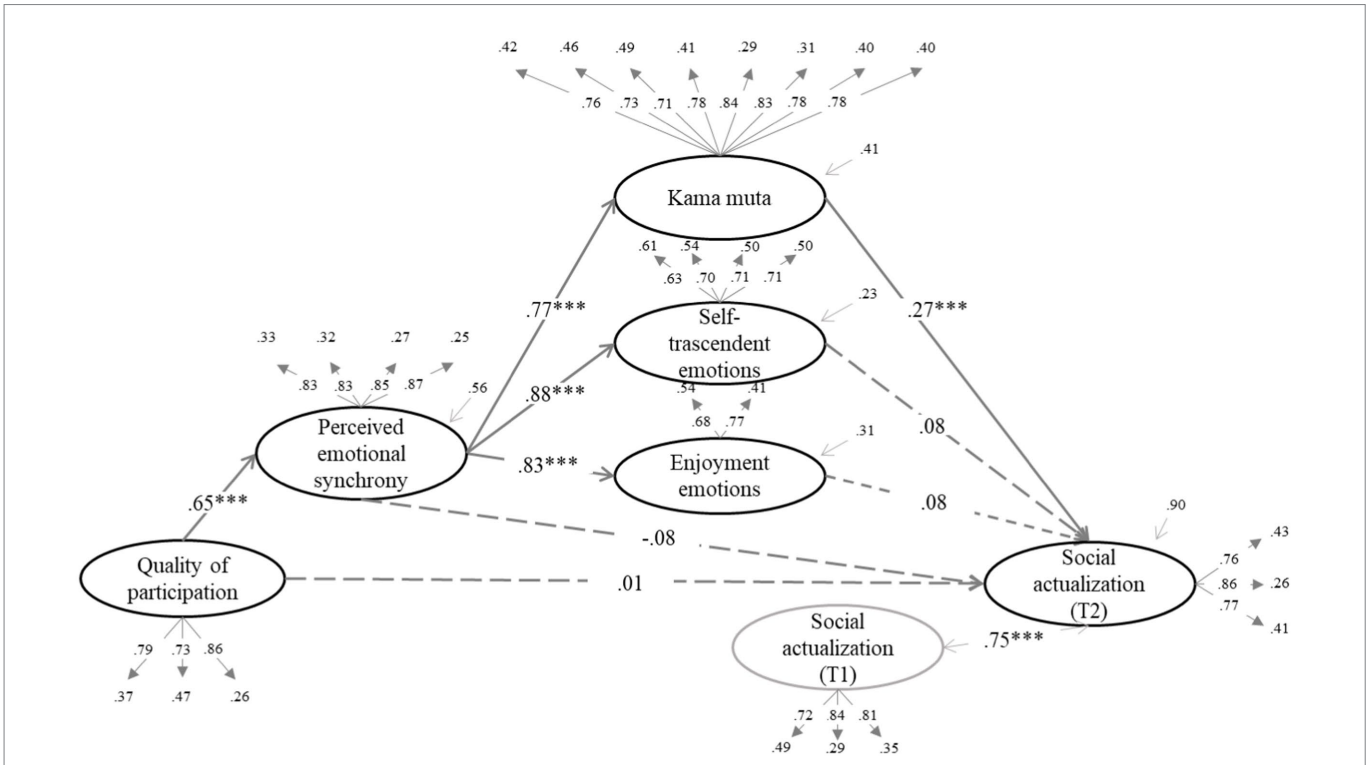


FIGURE 4
Perceived emotional synchrony and emotions as mediators of the effect of quality of participation on social actualization controlling for pre-participation scores. Model fit: χ^2=(404, 313)=816.599, p<0.001, CFI=0.925, TLI=0.916, RMSEA=0.063. SRMR=0.056.

95% CI [0.065, 1.351]). In turn, we calculated the indirect effect of QP through PES and self-transcendent emotions, which also turned out to be statistically significant (B = 0.19, SE = 0.12, p = 0.033, 95% CI [0.020, 0.476]). In this case, we can say that PES mediated the effect of QP on collective empowerment through self-transcendent emotions.

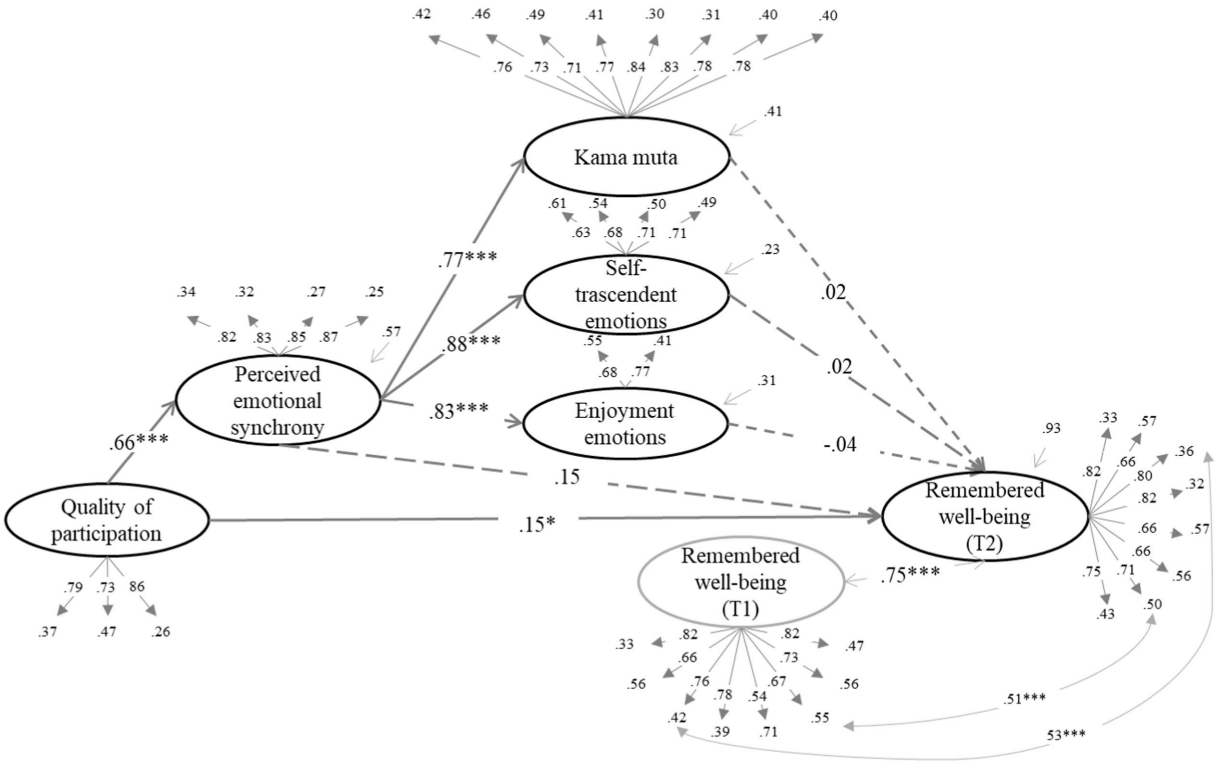


FIGURE 5
Perceived emotional synchrony and emotions as mediators of the effect of quality of participation on remembered well-being controlling for pre-participation scores. Model fit: χ^2=(404, 616)=1419.787, p<0.001, CFI=0.914, TLI=0.907, RMSEA=0.057, SRMR=0.056.

3.4. Durability of effect of participation

As can be seen in Figure 7, scores of social contribution, remembered well-being, and collective empowerment return to their pre-participation status after 6–7 weeks. However, scores for social integration, social acceptance and social actualization remain higher at T3 (i.e., 6–7 weeks after Korrika) than in T1.

In addition, as we can see in Table 2 the unique predictor variable of the scores of social integration, social acceptance and social actualization at T3 is PES, and not the proximal effects. These results were also supported by structural equation modeling (see Supplementary Figures S1–S3), where the PES is the unique predictor of social integration[5] (B = 0.28, SE = 0.06, p = 0.004, 95% CI [0.059, 0.304]), social acceptance[6] (B = 0.33, SE = 0.05, p = 0.010, 95% CI [0.031, 0.219]), and social actualization[7] (B = 0.22, SE = 0.07, p = 0.037, 95% CI [0.009, 0.282]). Enjoyment emotions do not mediate the effect of PES on social integration (B = −0.02, SE = 0.12, p = 0.835, 95% CI [−0.270, 0.218]), and kama muta neither mediates the effect of PES on social acceptance (B = −0.07, SE = 0.03, p = 0.543, 95% CI [−0.080, 0.042]), nor on social actualization (B = −0.12, SE = 0.05, p = 0.214, 95% CI [−0.148, 0.033]).

In summary, the changes in the dependent variables from T1 to T2 are positive and statistically significant except for remembered well-being. All QP effects were mediated by some proximal effect of PES, except for remembered well-being. However, even in this case, apart from being a total indirect effect of PES and proximal effects, in simple mediational analyses PES partially mediated the effect of QP; therefore, in these cases Hypothesis 2 was partially confirmed. Finally, the effect of PES —but not of the proximal effects— was maintained on social integration, social acceptance and social actualization until T3 (i.e., at least up to 6–7 weeks after participation), also confirming Hypothesis 3.

4. Discussion

The Korrika collective ritual offers an excellent setting to investigate collective processes. This ritual symbolizes the vindication and legacy of the Basque language and culture over the historical territory and it contains a great emotional and symbolic charge, as well as all the essential elements for the collective effervescence to arise. The results of this semi-longitudinal and quasi-experimental study support the neo-Durkheimnian model of collective processes proposed by Páez et al. (2015).

On the one hand, it has been found that participation in Korrika effectively fosters social cohesion, renews trust in society and empowers individuals and groups. Specifically, we have found an

5 Enjoyment emotions as mediator of the effect of PES on social integration in T3 controlling for pre-participation scores. Model fit: χ^2=(273, 49)=111.382, p<0.001, CFI=0.964, TLI=0.952, RMSEA=0.068, SRMR=0.040.

6 Kama muta as mediator of the effect of PES on social acceptance in T3 controlling for pre-participation scores. Model fit: χ^2=(273, 130)=376.737, p<0.001, CFI=0.910, TLI=0.894, RMSEA=0.083, SRMR=0.060.

7 Kama muta as mediator of the effect of PES on social actualization in T3 controlling for pre-participation scores. Model fit: χ^2=(273, 130)=312.372, p<0.001, CFI=0.945, TLI=0.935, RMSEA=0.072, SRMR=0.041.

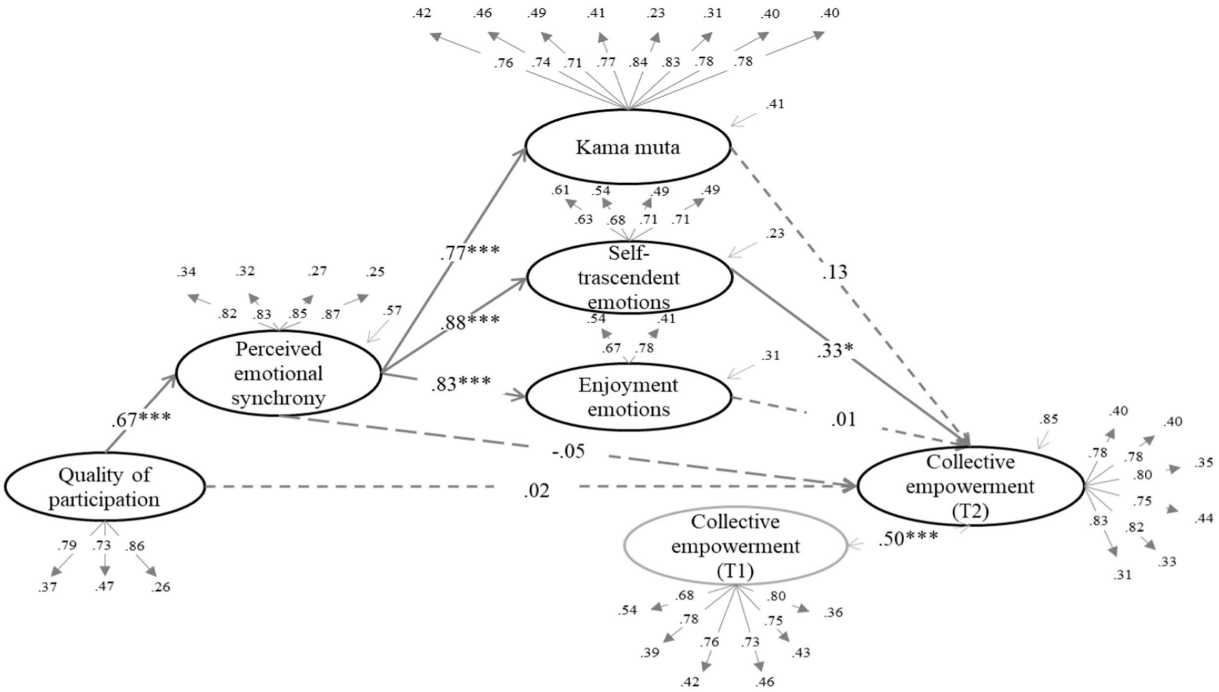


FIGURE 6
Perceived emotional synchrony and emotions as mediators of the effect of quality of participation on collective empowerment controlling for pre-participation scores. Model fit: χ^2=(404, 484)=1237.669, p<0.001, CFI=0.912, TLI=0.904, RMSEA=0.062. SRMR=0.062.

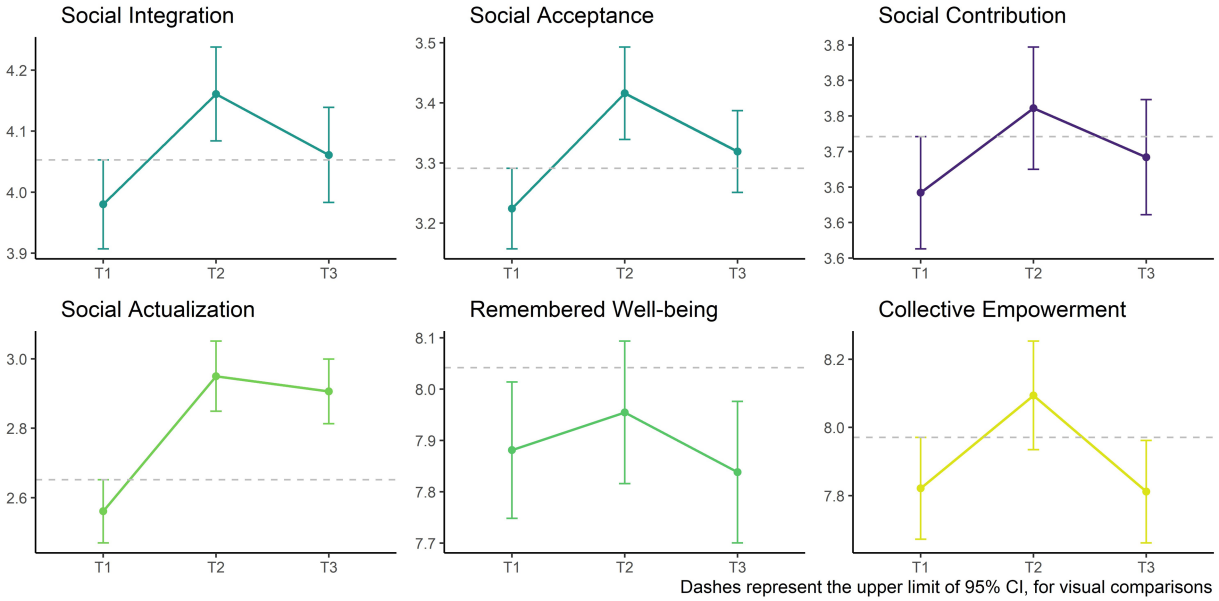


FIGURE 7
Results of repeated measures of dependent variables in T1, T2, and T3.

increase in social integration after participation in Korrika, as well as positive effects on acceptance and social actualization. In turn, empowerment at the individual level, that is, social contribution, and empowerment at the collective level have also been favored. The trend increase in remembered well-being may be due to the fact that T1 scores were already high before participating in Korrika. In any case, previous studies show statistically significant effects on remembered well-being (Páez et al., 2015; Zumeta L. et al., 2016; Wlodarczyk et al., 2021).

On the other hand, in line with the neo-Durkheimian model, the results show that PES and its proximal effects (Páez et al., 2015; Wlodarczyk et al., 2020, 2021) facilitate these positive psychological

TABLE 2 Multiple linear regressions of the effect of the quality of participation, of perceived emotional synchrony and of proximal effects on social integration, social acceptance and social actualization on T3, controlling for T1 scores.

	S. Integration^{T3}		S. Acceptance^{T3}		S. Actualization^{T3}
	B		*B*		*B*
S. Integration^{T1}	0.51***	S. Acceptance^{T1}	0.43***	S. Actualization^{T1}	0.58***
Quality of participation	−0.08	Quality of participation	−0.12	Quality of participation	−0.06
PES	0.13*	PES	0.21**	PES	0.16*
Enjoyment emotions	0.03	Kama muta	0.02	Kama muta	−0.10
R^2	0.31		0.24		0.35
$F(4, 268)$	29.357***		20.753***		36.689***

B, standardized beta; *$p < 0.05$; **$p < 0.01$; ***$p < 0.001$.

effects. First, QP predicted PES, and PES was shown to be a predictor of enjoyment emotions, self-transcendent emotions, and kama muta. Thus, the proximal effects of PES facilitated all the effects of collective participation in Korrika, although partially in the case of remembered well-being.

In line with the work of Wlodarczyk et al. (2021), the effect on social integration was facilitated by the indirect effect of QP through PES and enjoyment emotions. Emotions such as fun and joy are experienced and expressed collectively during collective gatherings, and it seems that they can also lead to a greater connection with other people.

The effect on social acceptance, social contribution and social actualization was facilitated by the indirect effect of QP through PES and kama muta. Kama muta can be considered a self-transcendent emotion directly oriented to horizontal relationships, relationships in which people feel like neighbors or similar in certain essential aspects of the Self (Zickfeld et al., 2019). In turn, it is likely that kama muta has also fueled the desire to take responsibility for the people and society they build (Fiske et al., 2017; Seibt et al., 2019; Landmann and Rohmann, 2020; Lizarazo Pereira et al., 2022), probably strengthening social contribution, that is, the feeling of being valuable and capable of improving society. Undoubtedly, kama muta emerges as a relevant emotion during collective gatherings whose further study seems valuable.

Regarding the effect on collective empowerment, this was facilitated by the indirect effect of QP through PES and self-transcendent emotions —wondered, grateful, inspired and hopeful—. Hope and inspiration, as well as awe or amazement at the vastness of social movements (in this case Basque) can be powerful emotions in fostering a sense of being able to achieve common goals and change the collective situation (Wlodarczyk et al., 2017b; Cohen-Chen and Van Zomeren, 2018; Landmann and Rohmann, 2020; Zumeta et al., 2021). These data support the idea that collective effervescence can be an important fuel for social movements, since one of the most important factors that explain collective action is collective efficacy.

The effect on recalled well-being was mainly facilitated by QP and not by PES or its proximal effects. However, the indirect total effect of PES and proximal effects was statistically significant, suggesting that the effect on remembered well-being is not only explained by mere collective participation, but also by collective effervescence. Indeed, PES partially mediated the relationship between QP and remembered well-being in a simple mediation.

It was expected that PES would show higher effects on the dependent variables. The lack of direct effects of PES on them may be explained because the brief scale only measures a small part of the original construct (Wlodarczyk et al., 2020). It's possible, too, that the proximal effects overlap the effects of the PES because of the strong relationships between them, or that its effects act differently. Despite this, the proposed model has shown to be theoretically and empirically adequate.

Regarding the durability of the effect of participation, Durkheim underlined the need to repeat collective gatherings, since the effects dissipate over time. The few works that have analyzed this issue shows that the effects of participation in collective gatherings can last between 1 and 4 weeks (Páez et al., 2007, 2011, 2015; Rimé et al., 2010; Tewari et al., 2012; Khan et al., 2016), but even also up to 10 weeks (Bouchat et al., 2020). According to the data from our study, the effects of participation on social contribution, remembered well-being and collective empowerment dissipate at least 6–7 weeks after having participated. However, the effect of participation on social integration, social acceptance and social actualization is maintained (although it decreases). Thus, the participants of Korrika came back to their daily life with a greater feeling of belonging and being accepted by their community, with a better view of people, and with a greater trust in humanity and social progress. These are important indicators of the psychological health of people (Keyes, 1998; Postmes et al., 2019; Zabala et al., 2020; Páez and Oyanedel, 2021) that need to be taken into account.

Another interesting outcome that deserves to be highlighted from the results is the fact that while the effects of enjoyment emotions and kama muta on these variables (i.e., social integration, social acceptance and social actualization) dissipated before the 6–7 weeks after the participation, PES maintained its effect over this time. This suggests, that both enjoyment and self-transcendent emotions (kama muta included) have a powerful but fleeting effect. That is, they act tied to the moment where collective effervescence occurs (up to least 1 week according to the data of this study). Instead, the effect of PES can reach far beyond that instance, even up to 10 weeks according to the study of Bouchat et al. (2020). Therefore, it seems that the PES is what matters to maintain these positive psychological effects over time. However, further investigations are needed to confirm this relatively fleeting effect of emotions and the long-lasting effect of PES.

4.1. Limitations and future studies

The first limitation of this study is that, despite the fact that the model presented —PES as a central mechanism of collective

processes— has shown to be both theoretically and statistically more adequate than other models (see Supplementary Table S3) and in line with both the theory and the results of previous studies, we cannot confirm a causality between the PES and the proximal and distal effects for methodological reasons. However, these results provide a basis to guide future studies in which this possible causal relationship is analyzed experimentally. As for the instruments used, it would probably have been more appropriate to use the full versions, as well as instruments that more fully measure the more specific aspects of personal well-being. In addition, it is likely that the instrument used to measure the PES did not measure the construct in its entirety (Wlodarczyk et al., 2020), and perhaps, for this reason, it has shown fewer effects than expected. Anyway, these instruments were selected with the aim of avoiding participant fatigue and the sample loss that commonly happen in longitudinal studies. Another limitation refers to the low reliability indices that social acceptance has shown, especially in T1, which in turn has had a negative influence on the fit indices of the social acceptance models. Therefore, this result should be viewed with caution. On the other hand, the relationships between the proximal effects of the PES and the dependent variables should also be considered with caution, as well as the possible explanations that have been presented, since these relationships could be different depending on the type of collective gathering analyzed. However, the results show a clear influence of collective effervescence on the effects of collective participation. Finally, in future studies, it would be fruitful to have a control group that had not participated in the meeting, since this would allow a better assessment of the results.

5. Conclusion

From the results of this study we can conclude, first, that participation in Korrika has positive psychological effects on social well-being and collective empowerment. In addition, the effects on social integration, social acceptance and social actualization can last for at least 6–7 weeks after participation. Second, we conclude that PES can be considered one of the central mechanisms of the effects of collective participation, and of special importance for their maintenance. Third, that kama muta emerges as a relevant emotion that should be paid attention to in future studies. And, finally, given the effect that collective gatherings (and their absence) have on people's psychological health, we conclude that collective participation should be considered as another factor to be valued in health prevention programs.

Data availability statement

The original contributions presented in the study are included in the article/Supplementary material, further inquiries can be directed to the corresponding author.

Ethics statement

The studies involving human participants were reviewed and approved by University of the Basque Country's Ethics Committee for Research involving Human Beings. The patients/participants provided their written informed consent to participate in this study.

Author contributions

JZ, SC, and AP contributed to the design and implementation of the research. JZ collected the study's data and analyzed and interpreted the data together with LZ and JP. JZ created the first draft of the manuscript which was then translated by IA-A. JZ, SC, AP, JP, LZ, and IA-A discussed the results, commented on the manuscript and contributed to the writing and editing of the final version of this manuscript. All authors contributed to the article and approved the submitted version.

Funding

This research was carried out with funding provided by a Pre-doctoral Grant to JZ (PRE_2020_1_0338), by a Post-doc Grant from the UPV/EHU to LZ (DOCBERRI 20/23), by a grant from the Basque Government for Research Groups (Ref. IT-1598-22) and by a grant from the Spanish Ministry of Science and Innovation (Ref. PID2020-115738GB-I00).

Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

Publisher's note

Supplementary material

The Supplementary material for this article can be found online at: https://www.frontiersin.org/articles/10.3389/fpsyg.2023.1095763/full#supplementary-material

References

Agostini, M., and van Zomeren, M. (2021). Toward a comprehensive and potentially cross-cultural model of why people engage in collective action: a quantitative research synthesis of four motivations and structural constraints. *Psychol. Bull.* 147, 667–700. doi: 10.1037/bul0000256

Alfaro-Beracoechea, L. N., and Contreras-Tinoco, K. A. (2021). Experiencias evocadoras de la emoción kama muta en jóvenes mexicanos: sentirse conmovido por amor [Evocative experiences of kama muta emotion in young Mexicans: feeling moved by love]. *RELACES* 3, 65–76.

Aquino, K., McFerran, B., and Laven, M. (2011). Moral identity and the experience of moral elevation in response to acts of uncommon goodness. *J. Pers. Soc. Psychol.* 100, 703–718. doi: 10.1037/a0022540

Bandura, A. (1997). *Self-Efficacy: The Exercise of Control*. New York, NY: WH Freeman/Times Books/Henry Holt & Co.

Blanco, A., and Díaz, D. (2005). El bienestar social: su concepto y medición [Social well-being: its concept and measurement]. *Psicothema* 17, 582–589.

Bouchat, P., Rimé, B., Van Eycken, R., and Nils, F. (2020). The virtues of collective gatherings: a study on the positive effects of a major scouting event. *J. Appl. Soc. Psychol.* 50, 189–201. doi: 10.1111/jasp.12649

Bueno-Notivol, J., Gracia-García, P., Olaya, B., Lasheras, I., López-Antón, R., and Santabárbara, J. (2021). Prevalence of depression during the COVID-19 outbreak: a meta-analysis of community-based studies. *Int. J. Clin. Health Psychol.* 21:100196. doi: 10.1016/j.ijchp.2020.07.007

Castro-Abril, P., da Costa, S., Navarro-Carrillo, G., Caicedo-Moreno, A., Gracia-Leiva, M., Bouchat, P., et al. (2021). Social identity, perceived emotional synchrony, creativity, social representations, and participation in social movements: the case o the 2019 chilean populist protests. *Front. Psychol.* 12:764434. doi: 10.3389/fpsyg.2021.764434

Cohen-Chen, S., and Van Zomeren, M. (2018). Yes we can? Group efficacy beliefs predict collective action, but only when hope is high. *J. Exp. Psychol.* 77, 50–59. doi: 10.1016/j.jesp.2018.03.016

Collins, R. (2004). *Interaction Ritual Chains* Princeton University Press.

del Valle, T. (1988). *Korrika: Rituales de la Lengua en el espacio [Korrika: rituals of the language in the space]*. Barcelona: Anthropos Editorial.

Dimmock, J., Krause, A. E., Rebar, A., and Jackson, B. (2021). Relationships between social interactions, basic psychological needs, and wellbeing during the COVID-19 pandemic. *Psychol. Health* 37, 457–469. doi: 10.1080/08870446.2021.1921178

Drury, J., and Reicher, S. (2009). Collective psychological empowerment as a model of social change: researching crowds and power. *J. Soc. Issues* 65, 707–725. doi: 10.1111/j.1540-4560.2009.01622.x

Durkheim, É. (1912/1915). *The Elementary Forms of Religious Life*. ed. J. D. Swan transl (London: Georges Allen & Unwin Ltd) Original work published 1912.

Fiske, A. P. (1992). The four elementary forms of sociality: framework for a unified theory of social relations. *Psychol. Rev.* 99, 689–723. doi: 10.1037/0033-295X.99.4.689

Fiske, A. P., Seibt, B., and Schubert, T. W. (2017). The sudden devotion emotion: kama muta and the cultural practices whose function is to evoke it. *Emot. Rev.* 11, 74–86. doi: 10.1177/1754073917723167

Fredrickson, B. L. (2009). *Positivity*. New York: Three Rivers Press.

Haidt, J. (2006). *The Happiness Hypothesis*. New York: Basic Books.

Hervás, G., and Vázquez, C. (2013). Construction and validation of a measure of integrative well-being in seven languages: the Pemberton happiness index. *Health Qual. Life Outcomes* 11:66. doi: 10.1186/1477-7525-11-66

Hu, L., and Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: conventional criteria versus new alternatives. *Struct. Equ. Model. Multidiscip. J.* 6, 1–55. doi: 10.1080/10705519909540118

Keyes, C. L. M. (1998). Social well-being. *Soc. Psychol. Q.* 61, 121–140. doi: 10.1177/0038040712456559

Keyes, C. L. M. (2002). The mental health continuum: from languishing to flourishing in life. *J. Health Soc. Behav.* 43, 207–222. doi: 10.2307/3090197

Khan, S. S., Hopkins, N., Reicher, S., Tewari, S., Srinivasan, N., and Stevenson, C. (2016). How collective participation impacts social identity: a longitudinal study from India. *Polit. Psychol.* 37, 309–325. doi: 10.1111/pops.12260

Landmann, H., and Rohmann, A. (2020). Being moved by protest: collective efficacy beliefs and injustice appraisals enhance collective action intentions for forest protection via positive and negative emotions. *J. Environ. Psychol.* 71:101491. doi: 10.1016/j.jenvp.2020.101491

Lizarazo Pereira, D. M., Schubert, T. W., and Roth, J. (2022). Moved by social justice: the role of Kama muta in collective action toward racial equality. *Front. Psychol.* 13:780615. doi: 10.3389/fpsyg.2022.780615

Macdonald, B., and Hülür, G. (2021). Well-being and loneliness in swiss older adults during the COVID-19 pandemic: the role of social relationships. *Gerontologist* 61, 240–250. doi: 10.1093/geront/gnaa194

Marroquín, B., Vine, V., and Morgan, R. (2020). Mental health during the COVID-19 pandemic: effects of stay-at-home policies, social distancing behavior, and social resources. *Psychiatry Res.* 293:113419. doi: 10.1016/j.psychres.2020.113419

Martínez, J., Guillén, F., and Feltz, D. (2011). Psychometric properties of the Spanish version of the collective efficacy questionnaire for sports. *Psicothema* 23, 503–509.

McPhail, C., and Wohlstein, R. T. (1983). Individual and collective behaviors within gatherings, demonstrations, and riots. *Annu. Rev. Sociol.* 9, 579–600. doi: 10.1146/annurev.so.09.080183.003051

Mogan, R., Fischer, R., and Bulbulia, J. A. (2017). To be in synchrony or not? A meta-analysis of synchrony's effects on behavior, perception, cognition and affect. *J. Exp. Soc. Psychol.* 72, 13–20. doi: 10.1016/j.jesp.2017.03.009

Novelli, D., Drury, J., Reicher, S., and Stott, C. (2013). Crowdedness mediates the effect of social identification on positive emotion in a crowd: a survey of two crowd events. *PLoS One* 8, 1–7. doi: 10.1371/journal.pone.0078983

Páez, D., Basabe, N., Ubillos, S., and González-Castro, J. L. (2007). Social sharing, participation in demonstrations, emotional climate, and coping with collective violence after the march 11th Madrid bombings. *J. Soc. Issues* 63, 323–337. doi: 10.1111/j.1540-4560.2007.00511.x

Páez, D., Bilbao, M. A., Bobowik, M., Campos, M., and Basabe, N. (2011). ¡Feliz Navidad y próspero año nuevo! El impacto de los rituales de Navidad en el bienestar subjetivo y en el clima emocional familiar [merry Christmas and happy new year! The impact of Christmas rituals on subjective well-being and family's emotional climate]. *Rev. Psicol. Soc.* 26, 373–386. doi: 10.1174/021347411797361347

Páez, D., Javaloy, F., Wlodarczyk, A., Espelt, E., and Rimé, B. (2013). El movimiento 15-M: Sus acciones Como rituales, compartir social, creencias, valores y emociones [the 15-M movement: actions as rituals, social sharing, beliefs, values and emotions]. *Rev. Psicol. Soc.* 28, 19–33. doi: 10.1174/021347413804756078

Páez, D., and Oyanedel, J. C. (2021). Social belongingness and well-being: international perspectives [monograph]. *Front. Psychol.* doi: 10.3389/978-2-88971-501-5

Páez, D., Rimé, B., Basabe, N., Wlodarczyk, A., and Zumeta, L. (2015). Psychosocial effects of perceived emotional synchrony in collective gatherings. *J. Pers. Soc. Psychol.* 108, 711–729. doi: 10.1037/pspi0000014

Pelletier, P. (2018). The pivotal role of perceived emotional synchrony in the context of terrorism: challenges and lessons learned from the march 2016 attack in Belgium. *J. Appl. Soc. Psychol.* 48, 477–487. doi: 10.1111/jasp.12526

Pizarro, J. J., Basabe, N., Amutio, A., Telletxea, S., Harizmendi, M., and Van Gordon, W. (2019). The mediating role of shared flow and perceived emotional synchrony on compassion for others in a mindful-dancing program. *Mindfulness* 11, 125–139. doi: 10.1007/s12671-019-01200-z

Pizarro, J. J., Basabe, N., Fernández, I., Carrera, P., Apodaca, P., Man Ging, C. I., et al. (2021). Self-transcendent emotions and their social effects: awe, elevation and Kama muta promote a human identification and motivations to help others. *Front. Psychol.* 12:709859. doi: 10.3389/fpsyg.2021.709859

Pizarro, J. J., Zumeta, L. N., Bouchat, P., Wlodarzyck, A., Rimé, B., Basabe, N., et al. (2022). Emotional processes, collective behavior, and social movement: a meta-analytic review of collective effervescence outcomes during collective gatherings and demostrations. *Front. Psychol.* 13:97468. doi: 10.3389/fpsyg.2022.97468

Postmes, T., Wichmann, L. J., van Valkengoed, A. M., and van der Hoef, H. (2019). Social identification and depression: a meta-analysis. *Eur. J. Soc. Psychol.* 49, 110–126. doi: 10.1002/ejsp.2508

Rennung, M., and Göritz, A. S. (2016). Prosocial consequences of interpersonal synchrony: a meta-analysis. *Z. Fur Psychol.* 224, 168–189. doi: 10.1027/2151-2604/a000252

Rimé, B., Páez, D., Basabe, N., and Martinéz, F. (2010). Social sharing of emotion, post-traumatic growth, and emotional climate: follow-up of Spanish citizen's response to the collective trauma of march 11th terrorist attacks in Madrid. *Eur. J. Soc. Psychol.* 40, 1029–1045. doi: 10.1002/ejsp

Rovai, A. P., Baker, J. D., and Ponton, M. K. (2013). *Social Science Research Design and Statistics: A Practitioner's Guide to Research Methods and IBM SPSS*. Chesapeake, VA: Watertree Press LLC

Seibt, B., Schubert, T. W., Zickfeld, J. H., and Fiske, A. P. (2019). Touching the base: heart-warming ads from the 2016 U.S. election moved viewers to partisan tears. *Cogn. Emot.* 33, 197–212. doi: 10.1080/02699931.2018.1441128

Sociolinguistic cluster (2020). Euskararen datu soziolinguistikoen biltegia [Sociolinguistic Database on Euskera]. Available at: http://www.soziolinguistika.eus/edb/index.php?erakus=aurkezpena.

Stellar, J. E., Gordon, A. M., Piff, P. K., Cordaro, D., Anderson, C. L., Bai, Y., et al. (2017). Self-transcendent emotions and their social functions: compassion, gratitude, and awe bind us to others through orosociality. *Emot. Rev.* 9, 200–207. doi: 10.1177/1754073916684557

Tewari, S., Khan, S., Hopkins, N., Srinivasan, N., and Reicher, S. (2012). Participation in mass gatherings can benefit well-being: longitudinal and control data from a north Indian Hindu pilgrimage event. *PLoS One* 7:e47291. doi: 10.1371/journal.pone.0047291

Thonhauser, G. (2022). Towards a taxonomy of collective emotions. *Emot. Rev.* 14, 31–42. doi: 10.1177/17540739211072469

Van Cappellen, P., and Rimé, B. (2014). "Positive emotions and self-transcendence" in *Religion, personality, and social behavior*. ed. V. Saroglou (New York, NY: Psychology Press), 123–145.

Van Zomeren, M., Postmes, T., and Spears, R. (2008). Toward an integrative social identity model of collective action: a quantitative research synthesis of three socio-psychological perspectives. *Psychol. Bull.* 134, 504–535. doi: 10.1037/0033-2909.134.4.504

Wlodarczyk, A., Basabe, N., Páez, D., Reyes, C., Villagrán, L., Madariaga, C., et al. (2016). Communal coping and posttraumatic growth in a context of natural disasters in Spain, Chile, and Colombia. *Cross Cult. Res.* 50, 325–355. doi: 10.1177/1069397116663857

Wlodarczyk, A., Basabe, N., Páez, D., Villagrán, L., and Reyes, C. (2017a). Individual and collective posttraumatic growth in victims of natural disasters: a multidimensional perspective. *J. Loss Trauma* 22, 371–384. doi: 10.1080/15325024.2017.1297657

Wlodarczyk, A., Basabe, N., Páez, D., and Zumeta, L. (2017b). Hope and anger as mediators between collective action frames and participation in collective mobilization: the case of 15-M. *J. Soc. Polit. Psychol.* 5, 200–223. doi: 10.5964/jspp.v5i1.471

Wlodarczyk, A., Zumeta, L., Basabe, N., Rimé, B., and Páez, D. (2021). Religious and secular collective gatherings, perceived emotional synchrony and self-transcendent emotions: two longitudinal studies. *Curr. Psychol.* doi: 10.1007/s12144-021-01826-0

Wlodarczyk, A., Zumeta, L., Pizarro, J. J., Bouchat, P., Hatibovic, F., Basabe, N., et al. (2020). Perceived emotional synchrony in collective gatherings: validation of a short scale and proposition of an integrative measure. *Front. Psychol.* 11, 11:1721. doi: 10.3389/fpsyg.2020.01721

Yaden, D. B., Haidt, J., Hood, R. W., Vago, D. R., and Newberg, A. B. (2017). The varieties of self-transcendent experience. *Rev. Gen. Psychol.* 21, 143–160. doi: 10.1037/gpr0000102

Zabala, J., Conejero, S., Pascual, A., Alonso-arbiol, I., Amutio, A., Torres-Gómez, B., et al. (2020). Basque ethnic identity and collective empowerment: two key factors in well-being and community participation. *Front. Psychol.* 11:606316. doi: 10.3389/fpsyg.2020.606316

Zickfeld, J. H., Schubert, T. W., Seibt, B., Blomster, J. K., Arriaga, P., Basabe, N., et al. (2019). Kama muta: conceptualizing and measuring the experience often labelled being moved across 19 nations and 15 languages. *Emotion* 19, 402–424. doi: 10.1037/emo0000450

Zlobina, A., and Dávila, M. C. (2022). Preventive behaviours during the pandemic: the role of collective rituals, emotional synchrony, social norms and moral obligation. *Br. J. Soc. Psychol.* 61, 1332–1350. doi: 10.1111/bjso.12539

Zumeta, L., Basabe, N., Wlodarczyk, A., Bobowik, M., and Páez, D. (2016). Shared flow and positive collective gatherings. *An. Psicol.* 32, 717–727. doi: 10.6018/analesps.32.3.261651

Zumeta, L. N., Bobowik, M., Basabe, N., and Wlodarczyk, A. (2021). Participation in multicultural awareness-raising community actions: positive effects on well-being and group efficacy. *Cult. Divers. Ethn. Minor. Psychol.* 28, 413–426. doi: 10.1037/cdp0000426

Zumeta, L. N., Castro-Abril, P., Méndez, L., Pizarro, J. J., Włodarczyk, A., Basabe, N., et al. (2020). Collective effervescence, self-transcendence, and gender differences in social well-being during 8 March demonstrations. *Front. Psychol.* 11:607538. doi: 10.3389/fpsyg.2020.607538

Zumeta, L. N., Oriol, X., Telletxea, S., Amutio, A., and Basabe, N. (2016). Collective efficacy in sports and physical activities: perceived emotional synchrony and shared flow. *Front. Psychol.* 6:1960. doi: 10.3389/fpsyg.2015.01960

frontiers | Frontiers in Psychology

TYPE Original Research
PUBLISHED 11 April 2023
DOI 10.3389/fpsyg.2023.1145121

OPEN ACCESS

EDITED BY
Juan Carlos Oyanedel,
Andres Bello University, Chile

REVIEWED BY
Isabel Menezes,
University of Porto, Portugal
Nekane Basabe,
University of the Basque Country, Spain
Carolina Beatriz Alzugaray,
Santo Tomás University, Chile

*CORRESPONDENCE
Emilio Moyano-Díaz
✉ emoyano@utalca.cl

SPECIALTY SECTION
This article was submitted to Personality and Social Psychology, a section of the journal Frontiers in Psychology

RECEIVED 15 January 2023
ACCEPTED 13 March 2023
PUBLISHED 11 April 2023

CITATION
Moyano-Díaz E, Palomo-Vélez G, Olivos-Jara P and Maya-López Y (2023) Anomie, irritation, and happiness in the Chilean society post-social outbreak. *Front. Psychol.* 14:1145121. doi: 10.3389/fpsyg.2023.1145121

Anomie, irritation, and happiness in the Chilean society post-social outbreak

Emilio Moyano-Díaz[1]*, Gonzalo Palomo-Vélez[2], Pablo Olivos-Jara[3] and Yuxa Maya-López[3]

[1]University of Talca, Talca, Chile, [2]Universidad de O'Higgins, Rancagua, Chile, [3]Universidad Castilla la Mancha, Albacete, Spain

On 18 October 2019, the Chilean people witnessed an unprecedented social outbreak across most of their country. We argue that a state of anomie is a factor associated with the weakening of states, and an anomic state might negatively influence people's well-being through an increased feeling of irritation. Convenience recruitment *via* social networks allowed us to form a sample of 194 Chilean participants from the center-south region of the country (M=36.53years old, SD=17.48; 56.7% women). All participants completed testing instruments to measure anomie, irritation, happiness, and political beliefs. Descriptive scores suggest situating Chile in the quadrant of high anomie. Two mediation analyses were conducted. The main results showed a negative indirect effect of the breakdown of the social fabric and leadership on happiness through irritation, although the findings for the former dimension were more robust. Additionally, the breakdown of the social fabric was positively related to the belief that left and right-wing democratic governments are helpless when it comes to fighting delinquency. The breakdown of leadership, on the other hand, was negatively related to political interest. The results should be interpreted with caution due to the limitations of the sample type and the construction validity of some instruments.

KEYWORDS

anomie, social outbreak, political irritation, happiness, well-being, mediation

1. Introduction

On 18 October 2019, the Chilean people witnessed an unprecedented social outbreak across most of their country. Thousands took to the streets to demand social changes—with the biggest public demonstration bringing together more than 1.2 million people just a few days later in Chile's capital city, Santiago (BBC News Mundo, 2019). Indeed, the outbreak was of such magnitude that it even threatened the continuity of the right-wing government of the time. The tipping point was represented by a somewhat minor incident—as is typically the case (Paez and Da Costa, 2022), namely, a 30-peso increase (i.e., 0.03 USD) in Santiago's public transport system fares. Although the citizen demands during the outbreak did not insist on profound and/or structural changes to the dominant model—as was seen, for example, during the education-related Chilean social outbreak of 2011 (Mira, 2011), they did call for improvements in the quality of education for all, increases in pensions, better health care, and, especially, a halt to abuse and undignified treatment. However, the political class channeled these demands by agreeing to a change to the current Constitution, the origin of which lies in the dictatorship of Pinochet (enacted in 1980), through a democratically elected constituent convention of 154 members.

This agreement for a new political constitution and the advent of the COVID-19 pandemic in March 2020 led to an abatement of the frequent demonstrations and street disorders to the point of just a few isolated cases. That said, in September 2022, the new proposal for the constitution was overwhelmingly rejected in a national plebiscite, obtaining only 38% approval. The country is currently immersed in the process of building a new constitution, in an uncertain and socially divided environment.

In the current research, we argue that a state of anomie, understood as a generalized perception of normlessness—mostly derived from the perceived lack of effective leadership and the erosion of moral standards (Teymoori et al., 2016, 2017), is a factor associated with the weakening of states and which affects people's well-being. First, theoretical considerations of anomie and the relationship of the phenomenon to the social outbreak are described. We then delve into how an anomic state might negatively influence people's well-being through an increased feeling of irritation.

1.1. Societal and individual factors behind the Chilean social outbreak

It has been suggested that different factors underlie the social outbreak, including a long-standing anomic process (Moyano-Díaz et al., 2021), and the dominant neoliberal socioeconomic model and its consequences (i.e., neoliberalism; Garretón, 2021). These include inequalities, and, particularly, the irritation of those who feel marginalized and exploited (Castro-Abril et al., 2021) and whose dignity has been wounded. Different explanations have been proposed—although most are ideological or political rather than empirical—regarding the reasons that led to the social outbreak of 2019.

Morales (2020), for instance, suggests that a social outbreak of these characteristics was foreseeable, as the country was in the grip of four significant crises: (1) a crisis of participation—exacerbated by voluntary voting since 2012, (2) a crisis of representation, that is, lower adherence to political parties and loss of confidence in key democratic institutions (e.g., government, courts, and congress), (3) a crisis of trust in public institutions and those related to social order (e.g., police, the church), and finally, (4) a crisis of probity, with frequent cases of irregular funding of politics and business collusions. In a similar vein, a recent study also points to the lack of trust and confidence in municipal political institutions and a general misidentification with the elite and the government, as factors leading to the outbreak (Castro-Abril et al., 2021). Particularly, analyzes of nationally representative survey data on Chilean adults from 2015 to 2019 suggested that perceived corruption in key institutions (e.g., parliament, army, police, municipalities, churches, congress, courts of justice, political parties, and even in sports organizations) significantly increased during the 6-year period observed (Moyano-Díaz et al., 2021). This lack of trust in institutions, however, does not seem to be recent (Segovia et al., 2008; Mira, 2011) or to be seen only in Chile. Indeed, the Chilean social outbreak is not an isolated case at global level. Social outbreaks of similar characteristics have been reported in Africa (e.g., Blanes, 2017), Asia (e.g., Lytkina, 2015), the Middle East (e.g., Leila et al., 2010), and other Latin-American countries (Amador-Baquiro and Muñoz-González, 2020). More importantly, however, massive social demonstrations seen in countries such as Haiti, Honduras, Peru, Venezuela, Colombia, Ecuador, Chile, and Bolivia seem to respond to specific problems and needs felt by the public, with a common factor being widespread discontent with those who govern (Marín and Mesa, 2019). Indeed, in a qualitative sociological interpretation of the Chilean social outbreak, irritation is proposed as the trigger. The process is considered to begin with excesses in societal demands, of inequalities in interactions, or in the use of power—all characteristics closely related to the emergence of anomic states, followed by disenchantment due to unfulfilled social promises, leading, in turn, to irritation and anger. Irritation is also seen as being linked to inequalities, heightened awareness of abuse, and lack of courtesy and civility, and aggressiveness in daily urban life (Araujo, 2019).

Despite the emergence and topicality of the subject, in Chile, the social sciences in general, and social psychology in particular, have shown very little interest in the study of anomie. One exception is a study comparing the levels of anomie reported by a sample of high school students during the Chilean dictatorship in 1989, and those reported by a relatively comparable sample of high school students in democracy, in 2007 (Aceituno et al., 2009). The results suggested that, despite democracy having been recovered, anomie levels among the students did not differ from those seen in a period of great social instability. Furthermore, Aceituno et al. (2009) understood anomie as a state in which society stops exercising a regulatory role over the passions and aspirations of individuals, diminishing its ability to impose limits on what people can want or do. Thus, the sense of social cohesion is weakened, where the rules, norms and social purposes are not valid in daily life. This could well characterize Chilean society today.

1.2. Anomie and well-being

From its origins, the concept anomie was described as the effects on groups and individuals of the absence of norms in institutionalized social structures (Durkheim, 1933; Merton and Merton, 1968). It is a shared social perception at the macro-social level and whose causes may lie in political, economic, or social realities, such as rapid growth, structural crises, economic inequality, war, or severe social conflicts. Currently, in addition to the classic economic factors, such as inequality, other factors, such as the crisis of political representation and others already mentioned, an economic crisis (inflation and low growth) exacerbated by the pandemic, the globalized economic effects of a war (Ukraine-Russia), together with a dramatic increase in homicides, have incorporated into anomie a measure of social disorganization and, above all, fear and insecurity.

The Chilean economy is suffering its worst inflation in 30 years (Banco Central, 2022), and will be, along with Brazil, one of the lowest growing Latin-American economies in 2023 (World Bank, 2022). Feelings of insecurity and fear due to uncontrolled crime—particularly in the specific form of homicides, are common (Ajzenman et al., 2021).

In addition, the inadequate leadership of the (right-wing) government authorities shortly before the social outbreak may also have contributed to an anomic process, with ministers (especially those of health and the economy), making statements in the media that could easily be interpreted as irony or mockery of the common citizen, demonstrating an extraordinary distance and lack of empathy with the population (Moyano-Díaz et al., 2021).

Conceptually, for Teymoori et al. (2017), anomie has two dimensions: perception of a break or fracture in the "social fabric," that is, disintegration as a lack of trust and moral standards, and a perceived break or collapse in leadership (deregulation as lack of legitimacy and leadership effectiveness). Building on Haslam et al. (2020) and on Reicher et al. (2005), and Teymoori et al. (2017) propose that these two dimensions are orthogonal and tend to reinforce each other. An effective and legitimate leadership promotes and bolsters the social fabric, and if this social fabric is strong—that is, cohesive and unified—people are likely to choose leaders that are more prototypical or representative of the collective. The possibilities are then four: (1) when both dimensions are perceived as having little or no fracture, anomie is low; (2) when leadership is perceived as highly fractured but the social fabric is perceived as healthy, there is disintegration; (3) when leadership is perceived as healthy but the social fabric is highly fractured, there is deregulation; and finally (4) when people perceive both the social fabric and leadership as highly fractured, then society is experiencing anomie.

Teymoori et al. (2016) argue that anomie emerges when both a breakdown in leadership and a breakdown in the social fabric co-occur, and that anomie primarily undermines well-being and life satisfaction.

To measure anomie, Teymoori et al. (2016) proposed their perception of anomie scale (PAS), which was applied in 28 countries, including Chile (151 students), before the social outbreak of 18 October. The results showed that the PAS correlates positively with national indicators of social functioning and predicts national identification and well-being. In the case of the sample of Chilean students, the participants reported a moderately high level of anomie with an average score of 4.53 (out of 7) on the global scale and similar rates in both its core dimensions (i.e., 4.47 for the breakdown of the social fabric and 4.6 for the breakdown of leadership). Furthermore, the authors suggest that countries with less strong or developing economies, such as Chile, tended to score higher on anomie, while others, from Northern Europe, with higher GDP and development, tended to show less anomie (i.e., averages lower than 4; Teymoori et al., 2016). Indeed, such results are aligned with those of Aceituno et al. (2009), who reported relatively high levels of anomie among Chilean students in both 1989 and 2007, and with those of Muratori et al. (2013) in Argentina. The authors reported high levels of anomie, suggesting individuals' difficulties in perceiving themselves as engaged with their environment, that is, feelings of distance from leaders, perceived disorganization of society, and the impossibility of meeting individual and trivial goals. Moreover, authors have also suggested that trust in institutions (Inglehart et al., 2004) is negatively associated to perceptions of anomie. Finally, a Mexican study has shown negative associations between perceptions of anomie and social well-being (e.g., the feeling that one is an important part of the community), rejection of democratic institutions, and interest in politics (Laca Arocena et al., 2011). Regarding this last variable, we hope to find a relationship in the same negative direction in the present study. Inspired by Teymoori et al. (2016), it is expected to find an association between anomie and political hopelessness regarding the fight against crime.

1.3. The path from anomie to well-being: The role of irritation

The construct "irritation" was first introduced in Germany by Mohr (1986), who described it as dealing with the experience of uncertainty and corresponding reactions. In psychological terms, uncertainty may arise when an individual experiences a discrepancy between a given situation and an important personal goal. Irritation can be viewed as a deteriorating state of mind, resulting from a perceived mismatch of goals (Mohr et al., 2006). It is of great interest to test the hypothesis of irritation as a possible component of the malaise attributed to Chilean society, and its relationship to anomie and, particularly to happiness, a virtually unexplored variable in this regard.

It is also unknown, if the existence of anomie were confirmed, in which quadrant Chilean society would be located. Determining this could help explain the social turbulence present in Chile, because, on the one hand, ideological, rather than scientific, explanations predominate and, on the other, the local social sciences community has failed to delve deeply into the empirical study of these dimensions. Nor is it known how anomie is related to irritation and happiness, although a positive relationship may be expected with the former and a negative relationship with the latter. Thus, our purpose is twofold: (i) to determine whether there is a perception of anomie, in its two dimensions, in Chilean adults and how much, and (ii) to identify the eventual mediating role of irritation in the effects of anomie on happiness.

2. Methods

2.1. Participants

A convenience sampling method was used to recruit participants *via* social networks. The sample comprised 194 Chilean participants from the center-south region of the country, whose ages varied between 18 to 81 years old ($M = 36.53$, $SD = 17.48$). Of these participants, 56.7% were women. Regarding education, 26.3% had primary/secondary studies, 13.9% had vocational training, and 59.8% had university studies.

2.2. Instruments

An online questionnaire was developed using the Google Docs software. Three instruments measuring anomie, irritation, and happiness were used. Furthermore, the participants also responded to single items measuring political beliefs and socio-demographic data (sex, age).

Anomie: To measure anomie, a Spanish version of the Perception of Anomie Scale was used (PAS; Teymoori et al., 2016). The PAS consists of 12 seven-point Likert-type items (1 = totally disagree to 7 = totally agree) that measure general anomie and its two core dimensions; the breakdown of the social fabric (e.g., "People think there are no clear moral standards to follow," "Everyone thinks of him/herself and does not help others in need") and the breakdown of leadership (e.g., "Some laws are not fair," "Politicians do not care about the problems of the average person"). The PAS has shown adequate reliability for each of its dimensions as well as for the overall scale (Teymoori et al., 2016). In the current study, the PAS also showed an adequate reliability for each dimension (α social fabric = 0.68; α leadership = 0.74) and for the complete scale (α social fabric = 0.74). Exploratory Factor Analysis (principal axes, oblique rotation) yielded three factors that explain 53.96% of the variance. Eigenvalues and content analysis of their items suggest a reduction to the two factors

expected, and new studies to improve two items of the breakdown of leadership in the future.

Irritation: To measure irritation, an adapted Spanish version of the Irritation Scale was used (Mohr et al., 2006). The Irritation Scale consists of 8 seven-point Likert-type items (1 = totally disagree to 7 = totally agree) that measure irritation in occupational contexts. For this study, we adapted the scale to measure irritation with the Chilean political context. For instance, the item "Even on my vacations, I think about my problems at work" was modified to "Even on my vacations, I think about the political problems of my country or city," the item "I anger quickly" was modified to "I anger quickly, especially when I hear politicians talk" (for the complete adapted scale, see Annex 1). The Irritation scale has shown adequate reliability in past literature (Mohr et al., 2006) and our adapted version also showed adequate reliability ($\alpha = 0.79$). An Exploratory Factor Analysis forcing the extraction of a factor (principal components) yielded an explained variance of 42% with eigenvalues greater than.400.

Annex 1.- Irritation scale (Mohr et al., 2006) adapted to the political context.

1. Tengo dificultad para relajarme después de ver o leer entrevistas a políticos en TV (Irritación cognitiva).
2. Incluso estando en casa pienso a menudo en los problemas políticos nacionales (Irritación cognitiva).
3. Me pongo de mal humor cuando otros se me acercan (Irritación emocional).
4. Incluso en mis vacaciones pienso en los problemas políticos de mi país o de mi ciudad (Irritación cognitiva).
5. De vez en cuando me siento como un atado de nervios (Irritación emocional).
6. Me enojo rápidamente, especialmente cuando escucho hablar a políticos (Irritación emocional).
7. Me irrito fácilmente aunque no quiero que esto suceda. (Irritación emocional).
8. Cuando llego a casa cansado, después del trabajo, me siento bastante irritable (Irritación emocional).

2.2.1. Happiness

To measure happiness, the Happiness Scale for Adults (EFPA in its Spanish acronym) was used (Moyano et al., 2018). The EFPA was initially developed and validated with Chilean adult participants and consists of 21 five-point Likert-type items (1 = totally disagree to 5 = totally agree) that measure overall happiness and three happiness-relevant dimensions: Psychological State (e.g., "I do not feel happy most of the time." Reverse item), Family (e.g., "I have the support of my family"), and Accomplishment-Optimism (e.g., "I have met the objectives that I have set for myself"). In the current study, as our predictions point to effects on overall happiness, only scores on the total scales were used. The EFPA has shown adequate reliability in the past (Moyano-Díaz, et al., 2021), and, in the current study, its reliability was also adequate ($\alpha = 0.92$).

2.2.2. Political beliefs

To measure participants' political interest, electoral participation, and political hopelessness, three single seven-point Likert-type items were used (1 = totally disagree to 7 = totally agree). Following the European Social Survey (2006), political interest was measured by asking participants to indicate: "To what extent would you say that you are interested in politics?" as a single value item using the Likert-type response format from 1 (not at all) to 5 (a lot). Similarly, electoral participation was measured by asking participants to indicate to what extent they agree with the statement "I always vote in elections" with a single seven-point Likert-type item were used (1 = totally disagree to 7 = totally agree). Finally, to evaluate participants' belief of political hopelessness concerning delinquency, they were asked to indicate to what extent they agree with the statement "Left- and right-wing democratic governments are helpless when it comes to fighting delinquency" with a single seven-point Likert-type item were used (1 = totally disagree to 7 = totally agree).

2.3. Procedure

The participants were contacted through social networks and emails between January and April 2022, inviting them to answer an online survey with questions about what Chile is like today. A link (http) was sent to respond to the survey and those who agreed to participate did so through informed consent. They then proceeded to complete the instruments related to anomie, irritation, and happiness and a series of questions associated with their political beliefs (interest, voting and helplessness). Finally, they were asked to provide demographic information (age, sex) and were thanked for their participation.

3. Results

3.1. Presence of anomie and its relationship to irritation and happiness

Following Teymoori et al. (2017), Figure 1 shows that, in our sample, people experience great anomie, represented by relatively high perceptions of the breakdown of leadership and of the social fabric.

Additionally, we expected to find anomie was positively related to irritation and negatively related to happiness, with both having been verified. The means and standard deviations, as well as correlations, between anomie, its core dimensions, irritation, and happiness are presented in Table 1. Both anomie and its core dimensions—breakdown of the social fabric and of leadership—were positively associated with irritation and negatively associated with happiness. Furthermore, irritation showed a moderate negative association with happiness.

To evaluate whether the associations between happiness and the breakdown of the social fabric and of leadership are explained by an increase in irritation, two mediation analyzes were conducted (Hayes, 2012). As can be seen in Figure 2 (Model A), the breakdown of the social fabric positively influenced irritation, $b = 0.22$, SE = 0.09, $p = 0.016$, 95% CI [0.04, 0.40], and irritation, in turn, was negatively related to happiness, $b = -0.26$, SE = 0.03, $p < 0.001$, 95% CI [− 0.33, − 0.19]. Importantly, the results showed a negative indirect effect of the breakdown of the social fabric on happiness through irritation, $b = -0.05$, SE = 0.02, 95% CI [− 0.10, − 0.01]. In other words, the influence of the

breakdown of the social fabric on happiness was explained by its negative association with irritation.

Similarly, as can be seen in Figure 2 (Model B), the results showed that the breakdown of leadership also positively influenced irritation, $b = 0.19$, SE = 0.08, $p = 0.021$, 95% CI [0.30, 0.35], and this, in turn, negatively affected happiness, $b = -0.27$, $SE = 0.03$, $p < 0.001$, 95% CI [− 0.34, − 0.19]. Although the results showed neither a direct effect, $b = -0.02$ $SE = 0.04$, $p = 0.62$, 95% CI [− 0.10, 0.06] nor a total effect, $b = -0.07$, $SE = 0.04$, $p = 0.12$, 95% CI [− 0.17, 0.02], of the breakdown of leadership on happiness, they did reveal a negative indirect effect through irritation, $b = -0.05$, $SE = 0.02$, 95% CI [− 0.10, − 0.01].

Finally, regarding the overall measure of anomie, and as seen in Figure 2 (Model C), while irritation was positively influenced by anomie, $b = 0.32$, $SE = 0.10$, $p = 0.003$, 95% CI [0.11, 0.53], irritation itself was negatively related to happiness, $b = -0.26$, $SE = 0.03$, $p = 0.62$, 95% CI [− 0.34, − 0.19]. Importantly, in a similar way to our findings for the effects of the breakdown of the social fabric, the results showed a negative indirect effect of global anomie on happiness through irritation, $b = -0.08$, SE = 0.03, 95% CI [− 0.15, − 0.03].

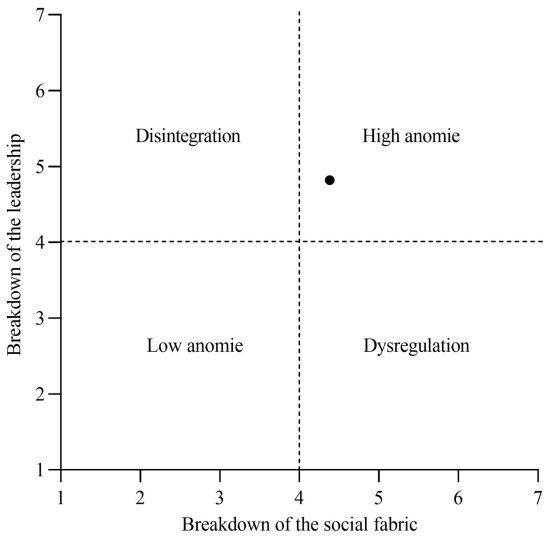


FIGURE 1
State of anomie based on means for rupture of the social fabric (4.38) and rupture of leadership (4.82) where the black dot indicates the location of Chile. Adapted from "Towards a psychological analysis of anomie" by Teymoori et al. (2017), *Political Psychology*, 38:1014 (doi: 10.1111/pops.12377).

3.2. Associations between anomie and political interest, electoral participation, and political hopelessness concerning delinquency

Correlation analyzes were conducted to test how anomie and its core dimensions relate to indicators of political interest, electoral participation, and political hopelessness. While the overall measure of anomie was not related to any political belief, $r_{interest} = -0.10$, $p = 0.158$; $r_{participation} = -0.08$, $p = 0.236$; $r_{hopeless} = 0.10$, $p = 0.151$, both of its core dimensions—breakdown of the social fabric and breakdown of leadership—showed significant associations with political hopelessness and political interest, respectively. In particular, the breakdown of the social fabric was positively related to a belief that left and right-wing democratic governments are helpless when it comes to fighting delinquency, $r = 0.15$, $p = 0.027$. The breakdown of leadership, on the other hand, was negatively related to political interest, $r = -0.18$, $p = 0.010$. No other significant associations were observed.

4. Discussion

The Chilean social outbreak of 18 October 2019 mobilized collective action across the country. Although the tensions decreased with the agreement for a new political constitution (which was later electorally rejected by the citizens) and the advent of the COVID-19 pandemic, we argue that there is a long-standing anomic process of which the social outbreak is part, and at the same time, dialectically, it feeds back into anomie (Moyano-Díaz et al., 2021), which still persists today, negatively affecting people's well-being through greater irritation.

This study has some methodological limitations that encourage us to interpret its results with caution. For example, the type of sampling, which is not representative of the Chilean population; and its correlational design, which does not allow a comparison of longitudinal changes in the participants. However, with the purpose of highlighting the theoretical scope of the concepts treated according to the data obtained, we will develop some conclusions based on the analytical richness offered by the concept of anomie and its relationship with irritation and well-being.

TABLE 1 Descriptive statistics and inter-correlations between anomie and its core dimensions, irritation, and happiness.

	1	2	3	4	5
1. Anomie	--	0.77**	0.82**	0.21**	− 0.17*
2. Breakdown of social fabric		--	0.27**	0.17*	− 0.17*
3. Breakdown of leadership			--	0.16*	− 0.10
4. Irritation				--	−0.47**
5. Happiness					--
M	4.60	4.38	4.82	3.78	3.91
SD	0.77	0.92	1.01	1.19	0.69

*$p < 0.05$, **$p < 0.01$

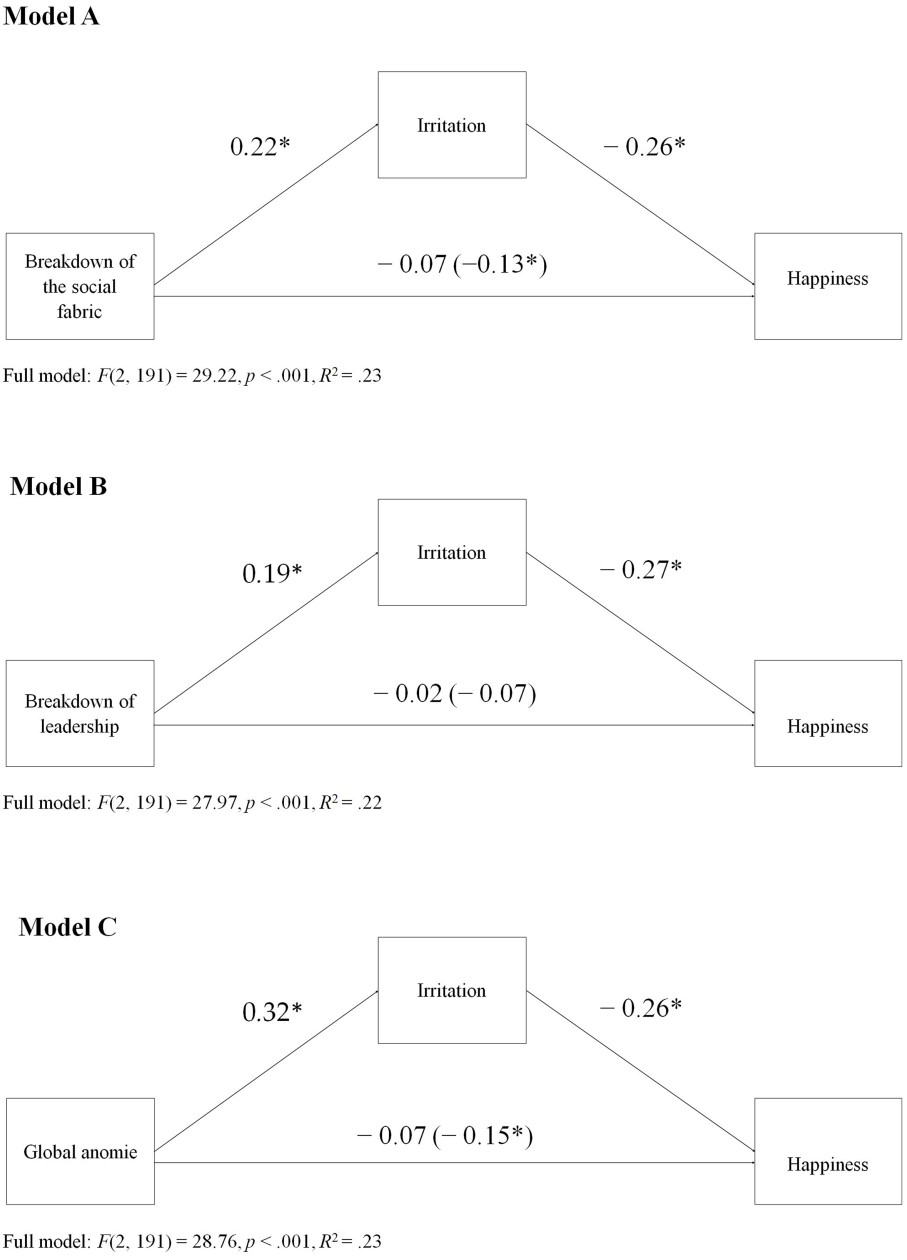


FIGURE 2
Influence of anomie and its core dimensions on happiness through irritation.

4.1. An anomic process in Chile

People perceive both the social fabric and leadership to be fractured. Descriptively, our results show that Chile is located in the quadrant of high anomie. The average perception of a breakdown of leadership was higher than that of a breakdown in the social fabric (4.82 vs.4.38). Provocative and/or sarcastic statements made by right-wing government ministers, such as making improper jokes regarding the increase in fares in public transport (for example, the Minister of Transport during the last right-wing government said that people should "get up earlier" to use cheaper tickets), or regarding the few products that were actually cheaper during that time (Minister of Finance of the right-wing government, "buy flowers") or suggesting that improving the public infrastructure of schools is the responsibility of the users and not the state (for example, the right-wing Minister of Education said "why do not they run a bingo? Why do I have to leave Santiago to fix the roof of a gym?"), could have contributed to this difference. Our results also showed that, while the breakdown of both the social fabric and of leadership were negatively related to happiness, the negative relationship between the former and happiness was stronger than that of the latter and happiness. Apparently, then, there is a greater negative effect on citizens' happiness when they perceive a breakdown in the social fabric rather than in leadership. Possible explanations for this may lie in a growing distrust in State law enforcement agencies, such as the police, and the qualitative change in robberies, in which, over the last 2 years, criminals have shown a greater disregard for life, with insecurity and

social distrust on the increase. Additionally, as regards leadership, Chilean politics, in recent years, has taken on a tone that is sometimes "showbiz" and sometimes sarcastic. Political leaders are frequently seen on various television entertainment shows and are not taken seriously by viewers. This is aligned with national surveys in which politicians and political parties often receive the lowest ratings of trust and respectability from citizens (24 Horas, 2022). Thus, while, in 1990 and 2000, 22% of citizens agreed that most people could be trusted; this fell to only 14% in 2018. Regarding whether Congress could be trusted somewhat or a lot, in 1990, 63% agreed with this, but, in 2018, this dropped to just 18%, with political parties down from 28 to 16%, the government down from 50 to 37%, and the judiciary falling from 45 to 30% (World Values Survey, Séptima Ola, 2018).

Furthermore, following Teymoori et al. (2017), the breakdown of leadership may have facilitated the weakening of the social fabric. Leaders that are perceived as ineffective and unfair constitute a threat to social cohesion, with nepotism and despotism particularly leading to marginalization, eroding the sense of belonging to a community, trust in others, and the perception of agreed moral standards. Additionally, viewers, and citizens in general, may distance themselves from politicians who indulge in disputes on daily media shows over issues that have little or nothing to do with the interests of the people, and then do not allow their well-being or happiness to be affected by this. In addition, it is an enormously vicarious experience, since, in reality, ordinary people have very few possibilities of interaction with political leaders.

4.2. Anomie, irritation, and well-being

Our results provided partial evidence in favor of our hypothesis. As mentioned, both anomie and its core dimensions—the breakdown of the social fabric and breakdown of leadership—were negatively related to happiness. These results are consistent with those of Laca Arocena et al. (2011), who found that anomie was negatively associated with social well-being, and with those reported by Teymoori et al. (2016). Furthermore, anomie and its core dimensions were positively associated with irritation, providing preliminary evidence of its role as a possible mediator. However, while irritation explained the association between global anomie and happiness, and between the breakdown of the social fabric and happiness, the results on the relationship between the breakdown of leadership and happiness were less clear. Specifically, while the results did show an indirect effect of irritation on the relationship between the breakdown of leadership and happiness, they showed neither a total nor a direct effect. One possible explanation is other (unmeasured) constructs might be at play. Indeed, this indirect-only effect (Zhao et al., 2010) might occur in the presence of a competing mediator that has yet to be identified. This competing mechanism would likely be positively influenced by anomie but positively related to happiness, and would thus cancel out a potential direct effect of anomie on the dependent variable (e.g., inconsistent mediation; MacKinnon et al., 2000). More research is needed to explore this alternative.

4.3. Anomie and political beliefs

Our results showed that perceptions of anomie relate to political beliefs. In particular, the more people perceive a breakdown of the social fabric, the more they come to believe that governments are helpless to fight against delinquency. Additionally, within Latin America, Chile has historically been a country with low crime rates, and in recent years, as mentioned, the emergence of gangs and organized crime have driven its crime rate to unprecedented levels. Underlying this may be what Dolliver (2015) describes as anomic cultural pressures to succeed interacting with an economically dominated institutional balance of power, with the result likely being high crime rates. In the same way, the greater people's perception of a breakdown in leadership, the less political interest they report, which coincides with the findings of Laca Arocena et al. (2011).

In this study, we observed that anomie and irritation are negatively and significantly correlated with happiness, although irritation has a stronger negative correlation with happiness than anomie. Thus, it is of interest to determine the specific aspects of breakdown in leadership and in the social fabric that most irritate citizens. It would be useful to verify, for example, what generates more irritation, sarcasm by authorities or government leaders, or the incompetence and procrastination of parliamentarians in the formulation of laws relevant to life in society. Bills on crime, social security and pension system, immigration, and the environment remain dormant for long periods in Congress. More recently, the excessive time taken to reach an agreement on the mechanism to formulate a new constitutional project, or the inappropriate use of money in parliamentary functions, are new and likely highly significant sources of citizen irritation. Could factors such as those mentioned herein eventually help predict new social outbreaks? It is necessary to measure these specific aspects to identify their relative weight in the irritation of citizens.

4.4. Limitations and future developments

First, although our sample of adults enriches the analysis with respect to previous Chilean studies carried out only with students, as we mentioned it is limited in terms of representativeness of the Chilean population. Future developments should build on our results and explore the mechanisms linking anomie and happiness in a larger and more diverse national sample. Second, while here it is hypothesized and verified that anomie impacts happiness through increased irritation, as we also mentioned the correlational design used does not allow causal conclusions to be drawn. Future studies could get around this problem by applying longitudinal designs and performing natural experiments that allow researchers to test whether changing levels of anomie before and after major political and social cycles lead to varying levels of happiness. Third, from a conceptual and explanatory point of view, the anomie expressed in a significant increase in crime and in social outbreaks with street violence consisting of the destruction of street furniture, burning of busses, churches, and commercial establishments generates fear, and its contribution as a mediating mechanism—in addition to irritation—on the decrease in happiness could be evaluated in future studies.

Finally, although we report the reliability of the measures used here, the current study was not intended as a psychometric exploration of the anomie and irritation scales in a Chilean sample, and therefore a deeper exploration of the psychometric properties of these measures is required.

Data availability statement

The datasets presented in this article are not readily available because the datasets include the private information of participants. The datasets will be available upon request to researchers who are members of official institutions, after contact and identification with the corresponding author.

Ethics statement

The studies involving human participants were reviewed and approved by Comité de Ética de la Facultad de Psicología de Universidad de Talca. The patients/participants provided their written informed consent to participate in this study.

Author contributions

EM-D designed the research and data collection, and wrote the article. GP-V analyzed the data and contributed to writing the article. PO-J contributed to the analysis and interpretation of data and to writing the paper, and YM-L contributed to writing the article and preparing the manuscript format for submission and corrections.

Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

Publisher's note

All claims expressed in this article are solely those of the authors and do not necessarily represent those of their affiliated organizations, or those of the publisher, the editors and the reviewers. Any product that may be evaluated in this article, or claim that may be made by its manufacturer, is not guaranteed or endorsed by the publisher.

References

24 Horas. (2022). *Partidos Políticos Son la Institución que Menos Confianza da en Chile Según CEP*. Available at: https://www.24horas.cl/actualidad/nacional/partidos-politicos-son-la-institucion-que-menos-confianza-da-en-chile

Aceituno, R., Asún, R., Ruiz, S., Venegas, J. I., Corbalán, F., and Reinoso, A. (2009). Anomia y Alienación en Estudiantes Secundarios de Santiago de Chile: Resultados Iniciales de un Estudio Comparativo 1989-2007. *Psykhe* 18, 3–18. doi: 10.4067/S0718-22282009000200001

Ajzenman, N., Dominguez-Rivera, P., and Undurraga, R. (2021). *Immigration, Crime, and Crime (mis)Perceptions. IZA Institute of Labor Economics: Discussion Paper Series IZA DP No. 14087*, pp. 1–55.

Amador-Baquiro, J., and Muñoz-González, G. (2020). Del alteractivismo al estallido social: Acción juvenil colectiva y conectiva (2011 y 2019). *Rev. Latin. Cien. Soc. Niñez Juventud* 19, 1–28. doi: 10.11600/rlcsnj.19.1.4588

Araujo, K. (2019). "Desmesuras, desencantos, irritaciones y desapegos" in *Hilos Tensados. Para Leer el Octubre Chileno*. ed. K. Araujo (Chile: Colección Idea/Editorial USACH, Universidad de Santiago de Chile).

Banco Central. (2022). *Informe de Política Monetaria. Banco Central de Chile*. Available at: https://www.bcentral.cl/web/banco-central/areas/politica-monetaria/informe-de-politica-monetaria

BBC News Mundo. (2019). *Protestas en Chile: La histórica marcha de más de un millón de personas que tomó las calles de Santiago*. BBC. Available at: https://www.bbc.com/mundo/noticias-america-latina-50190029

Blanes, R. (2017). The current state of anomie in Angola. *Durkheimian Stud.* 23, 26–39. doi: 10.3167/ds.2017.230103

Castro-Abril, P., Da Costa, S., Navarro-Carrillo, G., Caicedo-Moreno, A., Gracia-Leiva, M., Bouchat, P., et al. (2021). Social identity, perceived emotional synchrony, creativity, social representations, and participation in social movements: the case of the 2019 Chilean populist protests. *Front. Psychol.* 12:764434. doi: 10.3389/fpsyg.2021.764434

Dolliver, D. S. (2015). Cultural and Institutional Adaptation and Change in Europe: A Test of Institutional Anomie Theory Using Time Series Modelling of Homicide Data Get access Arrow. *The British Journal of Criminology* 55, 747–768. doi: 10.1093/bjc/azu092

Durkheim, E. (1933). "The division of labor" in *Society*. ed. G. Simpson (New York: Free Press).

European Social Survey. (2006). *ESS3-2006 Documentation Report: The ESS Data Archive (edition 3.7)*.

Garretón, M. A. (2021). Del "Estallido" al Proceso Refundacional. El Nuevo Escenario de la Sociedad Chilena. *Asian Journal of Latin American Studies* 34, 39–62. doi: 10.22945/ajlas.2021.34.2.39

Haslam, A., Reicher, S., and Platow, M. (2020). *The New Psychology of Leadership: Identity, Influence and Power. 2nd Edn*. Abingdon: Routledge.

Hayes, A. (2012). *Process: A Versatile Computational Tool for Ob-served Variable Mediation, Moderation, and Conditional Pro-cess Modeling [White Paper]*. Available at: http://www.af-hayes.com/public/process2012.pdf

Inglehart, R., Basanez, M., Diez-Medrano, J., Halman, L., and Luijkx, R. (2004). *Human Beliefs and Values: A Cross-cultural Sourcebook Based on the 1999–2002 Values Surveys*. Bilbao, Spain: Fundacion BBVA.

Laca Arocena, F. A., Santana Aguilar, H., Ochoa Madrigal, Y., and Mejía Ceballos, J. C. (2011). Percepciones de bienestar social, anomia, interés e impotencia política en relación con las actitudes hacia la democracia. *Liberabit* 17, 7–18.

Leila, K., Maryam, H., Massod, S., Isa, B. N., and Ali, M. (2010). The theory of structural anomie and law breaking: case of Ahvaz's scientific applied university (Iran). *SIASAT* 5, 10–14. doi: 10.33258/siasat.v5i1.25

Lytkina, E. (2015). *Anomie and Alienation in the Post-Communist Area: A Reapplication of the Middleton Scale in Russia and Kazakhstan*. Higher School of Economics Research Paper No. WP BRP PSY 2015, 32.

MacKinnon, D. P., Krull, J. L., and Lockwood, C. M. (2000). Equivalence of the mediation, confounding and suppression effect. *Prev. Sci.* 1, 173–181. doi: 10.1023/A:1026595011371

Marín, N., and Mesa, J. (2019). *América Latina Está Enojada de Mil Maneras*. El Espectador. Available at: https://www.elespectador.com/mundo/mas-paises/america-latina-esta-enojada-de-mil-maneras-article-891270/

Merton, R. K., and Merton, R. C. (1968). *Social Theory and Social Structure*. New York: Simon and Schuster.

Mira, A. (2011). Crisis de representatividad y estallido social. *Polis Rev. Latinoam.* 30, 1–11.

Mohr, G. (1986). "Die erfassung psychischer befindensbeeinträchtigungen bei industriearbeitern" in *The Assessment of Mental Strain of Industrial Workers*. ed. V. I. Reihe (New York: Lang).

Mohr, G., Müller, A., Rigotti, T., Aycan, Z., and Tschan, F. (2006). The assessment of psychological strain in work contexts: concerning the structural equivalency of nine language adaptations of the irritation scale. *Eur. J. Psychol. Assess.* 22, 198–206. doi: 10.1027/1015-5759.22.3.198

Morales, M. (2020). Estallido social en Chile 2019: Participación, representación, confianza institucional y escándalos públicos. *Anál. Pol.* 33, 3–25. doi: 10.15446/anpol.v33n98.89407

Moyano, E., Dinamarca, D., Mendoza-Llanos, R., and Palomo-Vélez, G. (2018). Escala de Felicidad para Adultos (EFPA). *Ter. Psicol.* 36, 37–49. doi: 10.4067/s0718-48082017000300033

Moyano-Díaz, E., Mendoza-Llanos, R., and Pineida, A. (2021). Exploración del malestar social: Hacia una explicación psicosocial del estallido social chileno. *Rev. Am. Psicol.* 9, 83–110. doi: 10.29344/2318650X.2.2984

Muratori, M., Delfino, G. I., and Zubieta, E. M. (2013). Percepción de anomia, confianza y bienestar: La mirada desde la psicología social. *Rev. Psicol.* 31, 129–150. doi: 10.18800/psico.201301.005

Paez, D., and Da Costa, S. (2022). *Movimentos Sociais*. Biblioteca de Psicologia: Correio da Manha.

Reicher, S., Haslam, S. A., and Hopkins, N. (2005). Social identity and the dynamics of leadership: leaders and followers as collaborative agents in the transformation of social reality. *Leadersh. Self Identity* 16, 547–568. doi: 10.1016/j.leaqua.2005.06.007

Segovia, C., Haye, A., Gonzalez, R., Manzi, J., and Carvacho, H. (2008). Confianza en instituciones políticas en Chile: Un modelo de los componentes centrales de juicios de confianza. *Rev. Cien. Pol.* 28, 39–60. doi: 10.4067/S0718-090X2008000200002

Teymoori, A., Bastian, B., and Jetten, J. (2017). Towards a psychological analysis of anomie. *Polit. Psychol.* 38, 1009–1023. doi: 10.1111/pops.12377

Teymoori, A., Jetten, J., Bastian, B., Ariyanto, A., Autin, F., Ayub, N., et al. (2016). Revisiting the measurement of anomie. *PLoS One* 11, e0158370–e0158327. doi: 10.1371/journal.pone.0158370

World Bank. (2022). *Global Economic Prospects, June 2022*. World Bank Group, World Bank. Washington, DC.

World Values Survey, Séptima Ola. (2018). *Informe World Values Survey Séptima Ola Enero 2018*. MORI.

Zhao, X., Lynch, J. G. Jr., and Chen, Q. (2010). Reconsidering baron and Kenny: myths and truths about mediation analysis. *J. Consum. Res.* 37, 197–206. doi: 10.1086/651257

frontiers | Frontiers in Psychology

TYPE Review
PUBLISHED 21 April 2023
DOI 10.3389/fpsyg.2023.1096877

OPEN ACCESS

EDITED BY
R. David Hayward,
Ascension St. John Hospital, United States

REVIEWED BY
Zafer Özkan,
Ordu University, Türkiye
Halime Ünver Aba,
Ankara Haci Bayram Veli University, Türkiye

*CORRESPONDENCE
Silvia da Costa
✉ sdacosta@unizar.es

RECEIVED 12 November 2022
ACCEPTED 29 March 2023
PUBLISHED 21 April 2023

CITATION
da Costa S, Páez D, Martí-González M, Díaz V and Bouchat P (2023) Social movements and collective behavior: an integration of meta-analysis and systematic review of social psychology studies.
Front. Psychol. 14:1096877.
doi: 10.3389/fpsyg.2023.1096877

Social movements and collective behavior: an integration of meta-analysis and systematic review of social psychology studies

Silvia da Costa[1]*, Dario Páez[2,3], Mariacarla Martí-González[4,5], Virginia Díaz[2] and Pierre Bouchat[6]

[1]Faculty of Social and Human Sciences, Department of Psychology and Sociology, University of Zaragoza, Teruel, Spain, [2]Faculty of Psychology, Department of Social Psychology, University of Basque Country, San Sebastian, Spain, [3]Faculty of Education and Social Sciences, Andrés Bello University, Santiago, Chile, [4]Department of Psychology and Sociology, University of Zaragoza, Zaragoza, Spain, [5]Department of Education, University of Cantabria, Santander, Spain, [6]Laboratoire Perseus, University of Lorraine, Nancy, France

Background: The impact of social movements (SMs) and collective behavior (CB) supports the relevance of approaching this phenomenon from social psychology. Several systematic reviews (10) and meta-analyses (6) have been carried out in the 21st century, but there is a lack of integration.

Aim: This study seeks to review the patterns of CB and corroborate the psychosocial factors that explain participation in CB and SMs, as well as the long-term psychological effects of participating in them.

Method: A systematic search was carried out in the databases Web of Science, Scopus, ProQuest, ScienceDirect, Willey Online Library, EBSCO, and JSTOR for articles dated between 1969 and 2022. We searched for meta-analyses and systematic reviews that empirically evaluated social movements and collective behavior. Of the 494 initial records, after scanning and eligibility phases, 16 meta-analyses and systematic reviews were analyzed in the present work.

Results: The evidence reviewed shows that participation in collective gatherings and CB are common. A cross-cultural survey suggests that collective gatherings are mostly of a leisure type, to a lesser extent religious and sporting, and to an even lesser extent, demonstrations and large religious rites. World Value surveys found that one to three persons out of 10 participate in protests or CB related to SMs and four out of 10 movements achieved some kind of success. Studies challenged that CBs were characterized by unanimity of beliefs, identification and behavior, generalized excitement, as well as mass panic and riot after catastrophes. Only two out of 10 CB are violent. Meta-analysis and systematic reviews confirm that participation in CB and SMs was associated with (a) intergroup conflict and realistic threat ($r = 0.30$); (b) positive attitudes, expectations, or agreement with goals or collective motive ($r = 0.44$); (c) cognitive fraternal relative deprivation ($r = 0.25$); (d) collective efficacy ($r = 0.36$); (e) collective identity ($r = 0.34$); (f) emotions and affective relative deprivation ($r = 0.35$); (g) moral conviction and threat to moral ($r = 0.29$); and (h) disagreement with system justification belief ($r = -0.26$). Participation in successful CB and SMs provokes positive changes in emotions, social identity and social relationships, values and beliefs, and empowerment, as well as negative effects such as depression, stress, burnout, and disempowerment related to the failures of SMs.

Conclusion: Studies confirm the importance of explanatory factors for SMs, with data from various cultural regions. There is a lack of systematic studies of CB as well as meta-analyses and more culturally diverse studies of the effects of participation in them.

KEYWORDS

collective behaviors, collective gatherings, meta-analysis, systematic review, social psychology, social movements

1. Introduction

This study examines the conceptualizations of collective behaviors (CB) and social movements (SMs). The study aims to provide an integrative vision of all types of CB, not only those related to social protest movements. On the one hand, demonstrations and collective gatherings linked to festivities, sports, and other "non-political" events share behavioral and psychological patterns with protest demonstrations. On the other hand, ludic events such as carnivals or mass sports easily become channels of expression of social protest. Classical studies such as those of Bakhtin, and also contemporary studies, show how carnivals serve as a form of social protest (see, for example, the carnivals in Uruguay, Remedi, 2020). The text is organized following the main explanatory theories of SMs based on the macrosocial organizing principles of social movements (van Zomeren, 2016), such as identity, opposition, and totality (Touraine, 1978), and the resources and opportunities for collective action (Tarrow, 1997). It also draws on the more micro-social and psychological theories of CB and SMs, such as the role of expectations, expected value, and rational logic of collective action (Klandermans, 1984; Gamson, 1992). It is also based on the Social Identity Model of Collective Action (van Zomeren et al., 2008). This model includes, as motivational explanatory variables of SMs, social and collective identities (Tajfel and Turner, 1986; Drury and Reicher, 2020, collective relative deprivation and efficacy (Vestergren et al., 2017), and positive emotions such as hope and negative ones such as moral anger (Jasper, 2011) and moral obligation (Sabucedo et al., 2018). Finally, ideological factors of CBs and SMs are taken into account, such as system justification beliefs (Jost et al., 2017) and collective action frames (Benford and Snow, 2000). From a psychosocial articulation perspective, structural factors determine psychological processes (motivational, affective, and thinking), which in turn produce group phenomena, such as CB—in a retroactive loop. Finally, the short-term effects of CB as well as medium- and long-term psychological effects of participation in SMs will be examined.

1.1. Conceptualization of social movements and collective behaviors

Before and during the COVID-19 pandemic, collective outbursts of protest and large mobilizations have shaken Chile, Colombia, and other countries. In recent decades, CB of protests and SMs have occurred in more than 180 countries, including 99% of the world's population. It is estimated that nearly 5,000 revolts that have occurred in 158 countries during the COVID-19 have demanded recognition of economic and social rights, in addition to showing the underlying vulnerability and social inequities with a negative economic impact of losses of 15 billion dollars (Ortiz et al., 2022). According to Tarrow (1997), SMs are collective challenges based on common goals and on social solidarity, which both occur in sustained interaction with elites, opponents, and authorities. Long-lasting mass movements emerge as a collective response to the discomfort created by a social problem or around a social conflict. SMs can be defined as a collective or group in which there is interaction—largely informal—that acts with some continuity to promote or resist change in the society of which it is a part. Acting with continuity implies a certain degree of organization, while at the same time, it makes possible prolongation of group identity, allowing the development of shared beliefs and values, i.e., an ideology. The development of a sense of unity or collective identity enables common action or social mobilization both institutionally and extra-institutionally (Touraine, 1978; Tremblay et al., 2017).

The SMs or mass movements are built accordingly to the principle of identity (a), the principle of opposition (b), and the principle of totality (c). The first (a) refers to the people who define themselves as participants in it, the second (b) explains what the movement is fighting against, and the last (c) refers to the worldview or the objective it is trying to impose (Touraine, 1978). In addition, SMs: (1) rely on a strong organizational base—involving leaders, members, or followers, and formal or informal organizations and coalitions—to build and organize the movement; (2) pursue a political agenda or "common cause"; (3) engage in collective actions oriented toward clear objectives and use a variety of strategies to achieve their goals; (4) use interpretive frameworks to define a problematic situation in need of change to articulate a solution and raise awareness or motivate others to act or manifest their support; (5) develop themselves in relation to specific opportunities and follow a long life cycle that maintains some continuity over time; (6) take advantages of the tangible and intangible resources of individuals and groups; and (7) seek political, social, or cultural change (Touraine, 1978; Tremblay et al., 2017; Páez and da Costa, 2022). A classic example of this is the labor movement, which developed extra-institutional actions or revolts to bring about legal and political changes (right to unionize, 8-h day, limitation of child labor, and others). In the 19th century in Great Britain and the 20th century in Brazil, the labor movement developed itself not only in SMs of trade unionism but also became a party with political issues, the Labor party and the Working

People's Party, respectively. Thus, urban movements of students, feminists, and ecologists, as well as those of political, religious, and ideological orientation are the most frequent ones (Páez and da Costa, 2022).

Collective behavior of protests can be considered as belonging to the action repertoire of SMs. In this way, participation in demonstrations, protests, meetings, or collective mass gatherings make up the field of CB. In turn, demonstrations or protests are forms of collective action linked to SMs and are defined as any temporary occupation by several people in an open space, public or private, which directly or indirectly includes the expression of political opinions (Filleule and Tartakowski, 2013). Thus, in collective gatherings, people are oriented toward an object of attention and possess some shared belief or objective. At the same time, the action is directed by formalized norms prescribed by the culture, although it can also arise as an emergent norm (Páez and da Costa, 2022). Some examples of these collective gatherings are the May 1st demonstration, the National holidays of different countries, concerts, and festivals. Durkheim (1912/2008) was one of the classical authors who studied this social arena (Pizarro et al., 2022 in this monograph).

According to McPhail and Wohlstein (1983, p. 581): Gatherings are not synonymous with collective behavior but provide circumstances in which it may occur. People in gatherings engage in a variety of individual behaviors and may also, occasionally, engage in what we term collective behavior—i.e., two or more persons engaged in one or more behaviors (e.g., orientation, locomotion, gesticulation, tactile manipulation, and/or vocalization) that can be judged common or convergent on one or more dimensions (e.g., direction, velocity, tempo, and/or substantive content).

In short, CB is defined as those behaviors determined by a person's membership in a social group and carried out together with members of that group.[1] They have been characterized by their ephemeral, extra-institutional, and emergent (spontaneous, unplanned) nature. However, there is a continuity between conventional and extra-institutional forms of ceremonies and political protests—a rally or a legal protest can deviate into demonstrations that question institutions, as, for example, the demonstration that occurred in Washington that led to the occupation of the parliament (Páez and da Costa, 2022). We have taken into account that CB can also be developed in scenarios such as crowd and audience. The people who make up the crowd are together—face-to-face and acting spontaneously—sharing some object of attention or common purpose, such as expressing a workers' protest in front of a public building. LeBon (1986) was one of the classic authors who studied this theme. Finally, a collective of people who attend to a common object but who do not have to be in immediate physical proximity constitutes a public or audience. Media audiences and social networks for the public can be considered prototypical examples of mass behavior. Likewise, Tarde (2011) was one of the authors who studied the psychology of the masses as audiences.

If the collective gatherings are protest rallies, it is a demonstration generally framed within SMs. Similarly, if the collective gathering is a party or celebration, it is a parade or expressive collective ritual (e.g., the May Day or Gay Pride parade or Carnivals). However, these expressive collective rituals, such as Carnivals, can also express SMs of protest (Bennett et al., 2015; Han, 2022; Hernandez Burgos and Rina Simón, 2022; Páez and da Costa, 2022). Riots are collective gatherings involving crowds that commit individual or collective violence against people or property. Crowds can become demonstrations and demonstrations can become riots (McPhail and Wohlstein, 1983). In addition, hooliganism by sports fans is close to rioting. This is because hooligans not only use violence in their attempts to humiliate competing gangs supporting other club teams but also to draw attention to their social background and express grievances related to their social position (Drury, 2020). In addition, audiences can be remote participants of collective gatherings (for example, they participate vicariously in a funeral mourning such as that of Queen Elizabeth II of England or "Lady Di"), reacting spontaneously through social networks and generating a virtual crowd, as well as convening mass demonstrations or collective gatherings from them (Castells, 2012). Thus, SMs based on digital technologies are CB of audiences (Akfirat et al., 2021).

The impact of mass movements on social change is important and often positive too. General suffrage, including women's suffrage, the end of racist regimes, laws, and practices, as well as addressing climate change are all changes that are products of large SMs. A review of protests around the world during the 21st century found that more than four out of 10 movements achieved some kind of success, mostly on political, legal, and social rights issues, and to a lesser extent economic ones (Ortiz et al., 2022). We should bear in mind that six out of 10 protests are unsuccessful and that five to six out of 10 people refuse to participate in collective actions. In agreement, the World Values Survey studies, conducted during the years 2000, 2010, and 2017–2022, show that a minority mobilizes: to the question "have you participated in a peaceful demonstration last year", between 12.5 and 15% respond affirmatively, in an illegal strike from 19 to 6%, have occupied buildings or factories 13%, and participated in boycotts 9%. About 30% agree that they could carry out these actions, but those who refuse to do so are between 57 and 63%.[2]

Social psychology literature has proposed different psychosocial explanatory factors for participation in CB and SMs, such as fraternal relative deprivation, socio-political opportunities and resources for mobilization, rational decisions, attitudes and expectations, collective efficacy, collective identity, frames of mobilization, emotions related to mobilization, moral conviction and threat to moral, and disagreement with system justification beliefs (Páez and da Costa, 2022). It has also been proposed that participation has medium- and long-term effects like positive changes in emotions, social identity and social relationships, values and beliefs, and empowerment, as well as negative effects

1 The definition of CB as a coordinated interaction of a group of people in a collective gathering seems valid to us. This does not exclude that a protest CB can be carried out by members of a group in favor of disadvantaged outgroups (men who support the feminist movement, or whites who mobilize against anti-black racism). But McPhail and Wohlstein's definition refers to what happens in the micro context of a demonstration.

2 Data obtained from https://www.worldvaluessurvey.org/WVSOnline.jsp.

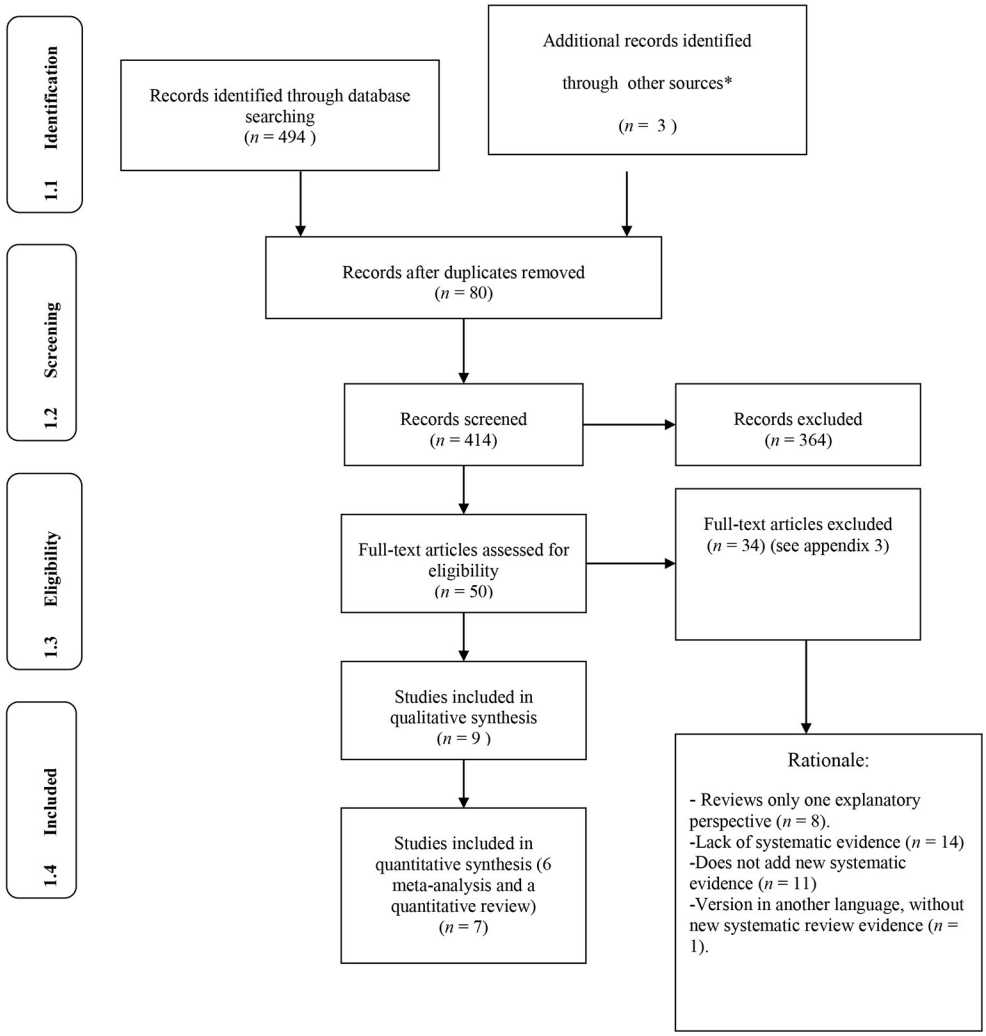


FIGURE 1
Systematic review PRISMA. *Blogs and personal communication.

such as depression, stress, burnout, and disempowerment related to failures (Vestergren et al., 2017; see Pizarro et al., 2022 in this monograph).

This study examines meta-analyses, systematic reviews, and specific studies that exist to date on the main variables and their correlates with the objectives of (1) reviewing common patterns of behavior, emotion, and cognition during CB, (2) psychosocial factors that explain participation in SMs and CB, and (3) the medium- and long-term psychological effects of participation in them.

This is, to our knowledge, the first text that integrates the classical observational literature on collective behavior, with the studies of social movements. In addition, also in a novel way to our understanding, studies on the collective behavior of all kinds are combined, not limited to the manifestations of political protests. It is also the first article to carry out an integration of meta-analysis, estimating a weighted average effect size for each psychosocial factor of the SMs, generally based on three pooled databases. A synthesis of systematic reviews is combined with all existing meta-analyses on factors linked to social mobilization showing a global panorama of these issues—as was done in the classic text by Milgram and Toch (1969)—escaping from the highly focused and limited approach of much of contemporary social psychology. Also noteworthy is the presentation of a glossary of terms (Appendix 1), of a protocol that provides operationalization of predictor variables, the frequency of participation in CB and SMs and outcomes (Appendix 2), and the provision of documents excluded in this article (see Figure 1 and Appendix 3).

2. Method

2.1. Procedure

2.1.1. Protocol and registry

A protocol was drafted for this *a priori* review and inclusion criteria were developed before starting the search. For this, the guidelines and recommendations of PRISMA-P (Moher et al., 2015) were followed. The guiding questions for the systematic review have been: 1. Which are the factors that explain participation in CB and

SMs and 2. Which are the psychological effects of participation in them?

2.1.1.1. Eligibility criteria

Meta-analyses and systematic and specific reviews were included that described (a) studies on CB and SMs; (b) there was no limitation of age or type of CB or SMs; and (c) works published in Spanish, English, French, Portuguese, and Italian.

Concerning the exclusion criteria, the following were excluded: (a) those that were individual or single-case studies; (b) documents that were not peer-reviewed publications, including doctoral theses or gray literature; (c) those written in languages other than the five designated for selection; and (d) documents for which the full text was not available, nor the corresponding databases, nor through professional networks of academic personnel (e.g., "Google Scholar," "ResearchGate," or "Academia Edu").

2.1.1.2. Data sources and search

For the systematic search of the scientific literature, the following databases were consulted: Web of Science, Scopus, ProQuest, Science Direct, Willey Online Library, EBSCO, and JSTOR. The key words "Collective Behavior," "Social Psychology," "Social Movements," "Meta-Analysis," and "Systematic Review" (as well as their equivalents in the search languages) were used in the search strategies. Those terms were searched in combination using the Boolean connector "AND" and "OR", specifying field category "Social Psychology" AND "Social Movements" AND "Meta-Analysis" OR "Systematic Review"; "Social Psychology" AND "Collective Behavior" AND "Meta-Analysis" OR "Systematic Review", and with temporal limitation of publication. Terms such as collective action and political action were not included because we wanted to maintain the historical tradition of referring to collective behaviors and social movements—as defined in the classic chapter by Milgram and Toch in the Handbook of social psychology of 1969. The search years were from 1969, the last year in which a chapter on CB and SMs appeared in the Handbook of Social Psychology (Milgram and Toch, 1969, in Lindzey and Aronson, 1969), until 2022. The search took place in two periods of time, the first between January and May 2022 (Páez and da Costa, 2022) and the second between July and October 2022, by the authors of this article. Identified records to which some of the persons in the article had access, through academic contact, were added manually.

2.1.1.3. Study selection and data extraction

The articles used in the review were selected from the PRISMA-P Search Diagram (Moher et al., 2015). Figure 1 shows the process of study selection. In the initial search, after applying the search strategy, 494 potential articles or chapters were found. Of those, 80 duplicate articles were eliminated and of the remaining 414, all those that were systematic reviews or meta-analyses ($n = 50$) were selected for an assessment of their eligibility by searching for information in the full text. Those that did not meet the inclusion criteria were discarded ($n = 34$), resulting in a total of 16 documents that met the requirements to be included in the systematic review.

2.1.1.4. Quality assessment

Once it was ascertained that the articles examined the patterns of CB, motivational factors for participation in SMs and CB, and the psychological effects of participation in them, the full content of the articles was analyzed to see to what extent they met the quality criteria. The articles finally selected were published in peer-reviewed journals or chapters in books recognized for their quality (Handbook, Annual Review) and were meta-analyses, systematic narrative reviews of evidence-based studies, integrative reviews of theories on SMs, and classical reviews on CB. The information was coded in Excel for subsequent analysis and discussion. The chosen criteria were: (a) type of document, (b) authorship, (c) year of publication, (d) title, (e) journal or book in which the results were published, (f) country in which the research was conducted, (g) objectives of the study, (h) study design, (i) sample size and composition (N and/or K), (j) data collection instruments, (k) language of publication, and (l) main results. Table 1 lists the most relevant characteristics of the included studies.

2.1.1.5. Data synthesis

The years of review and number of studies or *K*, samples or *N,* and effect sizes are described above.

Conceptualization and measurement of variables and effect sizes are discussed when examining the different psychosocial explanatory factors for SMs participation (see next Tables 1–7 and Figures 1–9). All meta-analyses used correlation as the effect size and did not overlap in years or types of studies.

3. Results

Synthesizing the studies reviewed, we first present how participation in SC and SMs is measured, the patterns found in CBs, psychosocial factors for participation in CB and SMs, and the long-term effects of participation in SMs. See the glossary defining motivational constructs in the Appendix 1.

3.1. How participation in CB and SMs is measured

The review of systematic studies and meta-analysis found that CB studies use as indicators the following questions: (a) Intentional sabotage of work performance; (b) willingness to block a road, willingness to block bulldozers, or set up barricades; (c) willingness to approve civil disobedience; (d) willingness to sign petitions and join strikes; and (e) participation in self-reported riots (Smith et al., 2012) or attitude in favor of violent political action (Jahnke et al., 2021). Observational CB data were used in the past and are now rarely used (Drury, 2020).

More general instruments, not limited to protest CB or demonstrations related to socio-political demands, have also been developed to measure the frequency of collective encounters. Participants are asked to express the frequency of their participation in nine major types of collective gatherings in which people usually participate (e.g., "How often do you attend ceremonies or social gatherings?"), among which were included (1) family gatherings, (2) lunches or dinners, (3) concerts or musicals, (4) movies, (5) union meetings, (6) neighborhood meetings, (7) community meetings, (8) party meetings, (9) association meetings, and (10) attendance at public religious rituals. For frequency of attendance,

TABLE 1 Studies and characteristics of the records included in the systematic review.

Type of document	Years	References	Explanatory factor	*N*	*K*	Dependent variable	Main results
Meta-analysis	2007–2019	Agostini and van Zomeren (2021)	Relative deprivation Identity Effectiveness Moral conviction System justification Beliefs	123,707	403	Attitudes, behavioral intentions and collective informed behavior	Confirms the strong effects of the 4 motivational factors of participation in collective action and SM
	2011–2020	Akfirat et al. (2021)	Identity movements network	18,242	46	Attitudes, behavioral intentions and collective informed behavior	Confirms that social identity is associated with a medium effect size on participation in network-based CB and SM
	Up to 2020	Jahnke et al. (2021)	Identity Relative deprivation Threat Symbolic or moral		Between 10 and 30	Attitudes, behavioral intentions and informed violent political behavior	Concludes that RD, identity, symbolic or moral threat are associated with intentionally violent political behavior.
	1961–2010	Smith et al. (2012)	Relative deprivation	49,242	99	Intention, attitude and informed extra-institutional collective behavior	Confirms that RD is associated with a medium effect to CB—among other variables.
	1961–2016	Smith et al. (2018)	Relative deprivation	200578		It includes 303 effect sizes from 231 different nations and measures of individualism and distance to power.	Concluding that the association between RD and CB is greater in countries with an individualistic culture.
	Up to 2008	van Zomeren et al. (2008)	Relative deprivation Identity Efficiency	Between 10,051 and 15,805	Between 64 and 65		Confirms the strong effects of the 3 motivational factors of participation in collective action and SM
Classic review	Up to 1969	Milgram and Toch (1969)	SM and CB				Reviews CB patterns questioning unanimity beliefs and behavior, and describes SM.
	1983	McPhail and Wohlstein (1983)	CB				Reviews CB patterns questioning unanimity of beliefs, behavior and defines collective meetings, CB, riots, rallies, etc.
	Up to 1994	Snow and Oliver (1995)	SM and CB				It critically reviews theories of CB based on masses and people without identity and describes developments in the theory of resource mobilization and its emphasis on organizations, rational action, the importance of social networks, and the narrative frameworks approach to collective action. It discusses the evidence that supports and limits these explanations of CB and SM.

(Continued)

TABLE 1 (Continued)

Type of document	Years	References	Explanatory factor	*N*	*K*	Dependent variable	Main results
Recent review	Up to 2014	Reicher and Drury (2015)	CB in disasters, manifestations and collective rituals from the point of view of social identity theory and self-categorization (SCT).				Questions the predominance of panic and selfish behaviors and postulates SCT-based explanation of CB
	Up to 2019	Drury and Reicher (2020)	CB similar to previous review				Reviews Anglo-Saxon studies CB questions irrationality and purposeless violence
	Up to 2019	Drury (2020)	CB similar to previous review				Idem—Review on CB in disasters, demonstrations and collective rituals from the point of view of social identity and SCT theory
Evidence-based systematic review	Up to 2012	van Stekelenburg and Klandermans (2013)	Explanatory factors for the emergence of SM				Reviews SM explanatory factors such as resource theory for mobilization, RD, collective identity, emotions and social networks.
Evidence-based systematic review and referral to meta-analysis	Up to 2012	van Stekelenburg et al. (2013)	Explanatory factors of SM, based on meta-analysis (van Zomeren et al., 2008)				Systematic review and synthesis of the above-mentioned explanatory factors and the development of SM, based on the meta-analysis of van Zomeren et al. (2008)
Narrative review of long-term effects	1967–2015	Vestergren et al. (2017)	Participation in SM	57Artics 39 in the U.S. and only two from non-Western nations			Narrative systematic review of the effects of SM participation based on dozens of articles. Shows positive effects on emotionality, identity, social integration, ideological anchoring, and empowerment, but also negative effects such as burnout and negative effects of SM participation that fail.
Review of epidemiological studies impact on mental health	Up to 2018	Ni et al. (2020)	Effect of CB on public and demonstrators' mental health	57,487	52		Studies found a 7% risk increase in depression after CB 6 longitudinal studies Not related to direct participation in CB

RD, Relative deprivation; SCT, self-categorization theory.

the responses ranged from 0 (*never*) to 4 (*more than once a week*) (Cusi et al., 2022) (see Appendix 2).

Social psychology SM studies operationalize these as (a) attitudes toward collective action (e.g., "being a supporter of collective action"), (b) intentions or action tendencies to participate in collective action (e.g., "willingness to participate in collective action"), (c) self-reports on past behavior (e.g., "the number of petitions signed last year") or actual behavior (e.g., "sign a petition to improve the current situation of XXX in Y", "participate in a demonstration") (van Zomeren et al., 2008; Agostini and van Zomeren, 2021) (see Appendix 2).

Population survey studies, such as the World Values Survey (WVS) or the European Social Survey (ESS) collect data on the differences between SMs and CB participants and non-participants. For example, the World Values Survey asks about participation in "legal' or institutional and "illegal" or

extra-institutional social mobilizations. Its questions are "Indicate for each of the following actions, whether you have done them, would be willing to do them, or would do them under no circumstances". "Have you participated in the past year (or are you willing)" to (a) sign a petition; (b) participate in a boycott; (c) participate in a legal demonstration; (d) participate in a legal strike; (e) participate in an illegal strike; (f) occupy buildings or factories, via three response alternatives "Has done," "Could do it," and "Would never do it". These studies provide little information on the dynamics of demonstrations and their effects. The protest survey method advocated by Klandermans and colleagues consists of surveying a large number of demonstrators during a protest and, at the same time, recording the characteristics of the context, the police, and the mobilizing actor (van Stekelenburg et al., 2018).

3.2. Patterns of CB

A cross-cultural study surveyed student samples from 40 countries on participation in seven specific types of group gatherings, finding that the vast majority (87%) attended three or more types of events per year. The mode was four types of events. "Concerts, dance performances or musicals" were attended by 92% once a year; "festivals" (music, art, etc.) by 81%; "local folk/folklore events" by 73%; "religious events" (i.e., regular religious services, except baptism, marriage and funeral services) by 59%; "sporting events" (soccer and football) by 43%; "street demonstrations" by 31%; and "large religious ceremonies", such as Fatima, Lourdes, Czestochowa, and Mecca, by 24%. The results show that most people never go alone to any type of event, except for normal religious events. People are more likely to always participate in religious events with family members than in any of the other types of crowded events. However, at all types of events, the majority of respondents always or sometimes attend with family members. The importance of friendship emerges for one-third of the respondents at the other types of events, who say that they always attend events with friends. Attending with acquaintances is less frequent, even though the majority of the sample claims to do so always, often, or rarely. For leisure, recreational, and less ideologically charged collective gatherings, such as concerts, festivals, and folkloric and sporting events, the reasons for participating were because they liked the activity and to share and experience happy moments. For religious collective gatherings and demonstrations, "to have a better life" is more often invoked as a reason to participate (Cintra Torres et al., 2018). Another study inquired about the frequency of participation in collective gatherings. It found two dimensions, one of the large gatherings similar to the previous ones (political, union, neighborhood, and community) and another of gatherings with friends and family. The mean attendance at large meetings was lower ($M = 0.91$) than that of informal meetings ($M = 2.28$, range 0 never to 4 very frequent). Both types of encounters were associated with collective effervescence (Cusi et al., 2022).

Next, we will review the behavioral, cognitive, and emotional patterns or regularities of CB. These studies, although observational and descriptive in nature, are important because, first, they provide information that questions and clarifies psychosocial explanations of SMs. Second, the review of the outcomes of CB or positive effects of participation in demonstrations and collective gatherings on identity, emotions, and social integration serves as support, and as a microsocial explanation, of the medium- and long-term psychological effects of participation in SMs.

3.3. CB and the myth of excessive emotionality and the illusion of unanimity of beliefs and behaviors

Earlier systematic observation studies (McPhail and Wohlstein, 1983) and older and recent studies using *in vivo* interviewing of demonstration participants (Milgram and Toch, 1969; van Stekelenburg et al., 2018) challenged that CBs were characterized by unanimity of beliefs, identification, and behavior, as well as pervasive emotionality.

Four studies, which sought to contrast the hypothesis that sharing a common set of beliefs was a necessary condition and was associated with participation in mass demonstrations, found that a dispersion of beliefs was prevalent (Milgram and Toch, 1969; Quarantelli and Hundley, 1969; Marx, 1970; Stallings, 1973; Ladd et al., 1983). These studies concluded that an ideological consensus is not a necessary precondition for participation in collective action. In doing so, they criticized Smelser's "generalized beliefs" and, in a modernized but still similar version, the dominant collective action frames approach to SMs (see below).

A study of 81 demonstrations, including collective rituals such as gay pride on May Day, questioned whether there was homogeneous collective identification: two-thirds of the demonstrators were found to identify with the organizers or the SMs and three-fourths with the other demonstrators or participants in that collective behavior. Three-fifths were identified with the organizers and the participants, one-fifth only with the other protesters, and less than one out of 10 only with the organizers. In addition, one person out of six did not identify with either the organizers or the protesters (Klandermans and van Stekelenburg, 2019). Systematic observations of spontaneous collective behavior have shown that only in a proportion of <1%, all participants acted in the same way (Milgram and Toch, 1969). Sequences of action indicating the existence of unanimity in crowds are never observed since participation in activities is sequential rather than simultaneous. More generally, three patterns of action can be identified: certain actions (singing and making certain gestures) are preceded by a suggestion by an organizer; others are generated interdependently through consultation or interaction between close individuals (conversations, formation of small groups, which are particularly visible in the phases before and after the procession); finally, certain actions are initiated independently by individuals at more or less the same time [e.g., cheers and applause (Filleule and Tartakowski, 2013)]. Concerning the perception of expressive and emotional behavior, cheering and excitement characterize a limited time of a typical manifestation (McPhail and Wohlstein, 1983). However, studies found that collective effervescence or intense emotional shared activation is

TABLE 2 Explanatory factors of CB and SM.

	Relative deprivation	Collective efficacy or efficiency	Collective identity	Emotions	Convictions and moral beliefs	Ideology and system justification beliefs
Why people take part in SM?	Because they are aggrieved as a group	Because they perceive their group can change the environment	Because they identify with the group	Anger, affective RD Hope and positive emotions Perceive Emotional climate favorable to SM	Their moral beliefs have been challenged and feel morally obligated	They do not believe that the social system is fair and people do not get what they deserve
Who are the participants?	People altered by unfair ingroup treatment	People with High political Efficiency High collective efficacy Distrust institutions	Identified with group, class In particular with emergent politized identity	People feeling anger but also pride and hope	Even if they are not part of the group aggrieved, they feel a moral obligation to mobilize	People disagree with system justifications beliefs In conservative SM people share beliefs that social system is fair

common and related to positive outcomes, including increased creativity (Castro-Abril et al., 2021) (see Appendix 2).

3.4. CB and disasters: the myth of panic and collective resilience

Studies show that looting in disasters is rare (see Table 2). When they do occur, it is most often a reflection of existing social forces, not a collapse. Appropriate or "pro-social" behavior is more likely to emerge—people take food or fuel as a way of helping themselves. A collective resilience or predominance of rational, altruistic, and solidarity actions is generally manifested after catastrophes, in addition to the absence of mass panic and riots (Quarantelli and Dynes, 1977; Drury et al., 2019). This euphoric, altruistic community, heroic phase and "honeymoon" stage, as it has been called, in response to catastrophes, is characterized by: (i) increased internal solidarity, (ii) a sense of unity, (iii) the disappearance of community conflicts, (iv) a mood of democratic utopia, and (v) a general sense of altruism and heroic action (Matthewman and Uekusa, 2021). This altruistic "compassionate" stage usually ceases after a few weeks. Moreover, this internal solidarity response does not occur in all situations, nor does it eliminate social differences and conflicts (Páez and da Costa, 2022). Immediately after the impact of a catastrophe or traumatic event, there is an emergency or heroic phase that lasts 2–3 weeks. This phase is characterized by high anxiety, intense social contact, and repetitive thoughts about what has happened, followed by the second phase of inhibition, which lasts between 3 and 8 weeks. This phase is characterized by a significant decrease in the frequency of expressing or sharing socially about what happened. People seek to talk about their difficulties but are "burned out" from listening to others talk. In this phase, anxiety and arguments increase, and people choose to avoid talking, followed by silence and a "burnout" from talking about the issue. Finally, 2–4 months after the catastrophe, the level of talking and thinking converges and decreases, producing an assimilation of the event in the general collective and a return to routine functioning—this refers to people not directly affected (Pennebaker and Harber, 1993; Rimé, 2020).

3.5. CB in riots: the myth of blind violence discharge

The relationship between collective encounters and violence has also been examined. Observational studies found that most CB was non-violent—in US samples in general (McPhail and Wohlstein, 1983). A study of major protests in the 21st century, which analyzed in-depth 2,809 protests occurring between 2006 and 2020 in 101 countries covering more than 93% of the world's population, confirmed that the dominant forms of protest were nonviolent: they were demonstrations or marches in 61% of the cases and assemblies in 59%. In a significant minority, there were more violent forms of protest: barricades in 22%, occupations in 21%, looting/vandalism in 19%, and violence in 15% (Ortiz et al., 2022). Postmes and Spears (1998) conducted a meta-analysis of 60 studies of deindividuation, a state supposedly induced by being in a collective gathering or crowd, confirming that it provokes anti-normative or violent behavior although not always—and the association was shown to be weak ($r = 0.09$). These experiments confirmed that larger group size and anonymity to the out-group, i.e., responses being anonymous to the experimenter or to the people who are the victims of the anti-normative behavior, are associated with greater aggression or deviant behavior. Experimental studies also found that reduced public self-awareness (i.e., being aware that one is present or in front of others) is also associated with more aggression or deviant behavior. Field studies confirmed the effect of group size on lynchings in the US, with the larger the crowd size, the more heinous and brutal the aggression (Leader et al., 2007). The results reviewed by Postmes and Spears (1998) suggest that aggression and antisocial behavior are not inevitable by-products of situations analogous to being in a crowd, of anonymity, and the presence of many people. When norms and standards promote aggressive behavior (e.g., being dressed in uniform or Ku Klux Klan-style clothing that may trigger norms associated with fighting and aggression), antisocial behavior is facilitated. However, when norms and standards promote positive behavior (e.g., nursing uniforms that are associated with norms associated with caring and helping), pro-social behavior was facilitated. In other words, deindividualized behavior increases adherence to situationally salient norms. Overall, it has been

concluded that individuals in a "crowd situation" act as a function of their salient collective identity (e.g., "nurses") and social norms (e.g., "one must help") (Reicher et al., 1995).

Studies on crowds and collective violence draw three major conclusions (Allen, 1970; Drury, 2020). First, people are predisposed to riot when they have a sense of being treated illegitimately and of the futility of making polite complaints or conventional protests. Second, the events that initiate riots embody these beliefs, but they also unite people, give them a sense of shared outrage, and empower them to fight back. Third, riots themselves are not mindless explosions in which anything is possible. Rather, the behavioral patterns of the crowds reflect the protesters' worldview: their sense of who is a friend and who is a foe. For example, in the St. Paul's riots in Bristol, England, which occurred on 2 April 1980, only those perceived to be inimical to St. Paul's identity were attacked, primarily by the police. Second, there were defined geographic boundaries: police were only attacked while they were within St. Paul's boundaries and were left alone once they left (Drury and Reicher, 2005).

Studies also suggest that collective violence follows a logic of moral legitimacy. Analyses of ethno-racial collective violence (such as lynchings) showed that participants in violence against people of different ethnicity or race and "inferior" status, including brutal crimes, such as the lynching of alleged rapists or snitches or simple scapegoats, or the killing of children and the elderly in ethnic riots, were carried out by members of semi-organized groups and not mobs, who believed in the morality and justice of their action. These actions of collective violence functioned as a means of social control by indicating to the members of the attacked groups that their marginal status and position were "real"—regardless of official legal changes. The torture, murder, and public mutilation of lower-class black males accused of sexually assaulting white women were not only aimed at restoring the purity of white women and the "moral integrity" of that race but also served to maintain the hierarchy between whites and blacks (Javaloy et al., 2001, 2007; Leader et al., 2007; Páez and da Costa, 2022). Indeed, it has been posited that collective violence against people labeled as deviants (e.g., people who violate religious rules) originates from fear, justified anger, and punitive desire for retaliation stemming from violations of moral imperatives (Asif and Weenink, 2019).

Recent CB reviews (Reicher et al., 1995; Drury et al., 2012; Drury and Reicher, 2020), developed by social psychologists framed in the SCT tradition, have emphasized that crowd formation and collective behavior are underpinned by the development of a shared social identity whereby people see themselves and others in terms of belonging to a common category. This results in three psychological transformations: members perceive the world in terms of collective values and belief systems; they coordinate effectively; and, therefore, they are empowered to realize their collective goals. These transformations explain the social form of crowd action. At the same time, the acts of crowds are intergroup phenomena. It is through the intergroup dynamics between the crowd and an external group (usually the police or other opposing groups of protesters) that the social identity of crowd members can change through the way outgroups understand and respond to their actions, reinforcing or resulting in the creation of a collective identity (Drury and Reicher, 2020).

3.6. CB and wellbeing

Reviews of studies show that public and multitudinous religious or secular rituals (in India, in Mecca, etc.), including collective encounters of positive valence and without ideological or vindictive charge, such as folkloric parades, can reinforce wellbeing, empowering people, increasing collective identity and self-esteem (Drury, 2020), fusion with the group (Henríquez et al., 2020), increasing social cohesion (Hawdon and Ryan, 2011), and reinforcing agreement with values and beliefs, with effect sizes between $r = 0.20$ and 0.30 at least in the short-medium term (Páez et al., 2015; see Pizarro et al., 2022 in this issue). A systematic review states: "Festivals provide economic, social, and cultural benefits to the communities in which they occur" (Tanford and Jung, 2017, p. 209). Festival observance was associated with low psychological distress in a study in Japan. Festivals provide entertainment and cultural interaction in the community and strengthen social integration or social capital, which reinforces wellbeing (Minamizono et al., 2013). Partially confirming the positive effects of participation in collective gatherings, a review of 49 longitudinal studies confirmed that participation in public religious activities (going to mass) weakly predicted good mental health, $r = 0.08$ (Garssen et al., 2020).

3.7. Conclusion: CB studies and psychosocial theories of SMs

CB studies have implications for psychosocial theories or explanatory factors of SMs (see below), like collective action frames, rational logic of collective action, collective identity, moral convictions, and emotions. Studies on patterns of CB questions, partially, collectively frame explanations of SMs, because of a lack of evidence of generalized beliefs. Second, CB in catastrophes and riots shows that people and rioters act in an adaptive or functional goal-oriented way. Evidence on CB during riots and catastrophes supports explanations of SMs by the rationality logic of collective action (Klandermans, 1984). Collective identity played a prominent role in CB patterns during the riots. Moreover, the approach based on Tajfel and Turner's theory of social identity was applied to catastrophes and riots, and a Social Identity Model of Crowd Behavior was developed (Drury et al., 2019). The review of violent collective behaviors, even the most despicable ones, such as lynchings, suggests that they follow a moral logic—supporting the importance of moral convictions as an explanatory factor of SMs. Finally, although moments of intense emotionality are limited, collective effervescence or shared emotional activation is associated with greater creativity and empowerment. These results of the CB studies support the theories that emphasize the role of emotions in SMs.

3.8. Factors of participation in SMs and CB

The explanations that have been given in temporal order about the motives that lead to participation in SMs and CB are presented. The following table, inspired by van Stekelenburg and

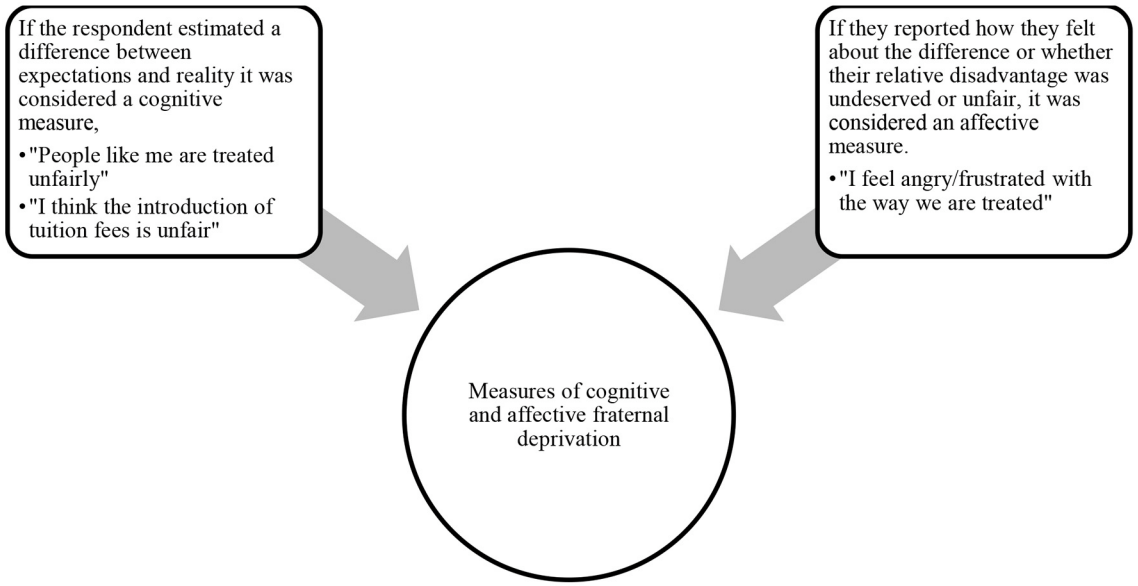


FIGURE 2
Measures of relative deprivation (Agostini and van Zomeren, 2021).

Klandermans (2013) and Páez and da Costa (2022), synthesizes the explanations reviewed by meta-analyses of SMs. For the approaches of opportunities and resources mobilization, rational action, expectations, and motives for action, as well as collective action frameworks, no meta-analyses were found and are examined below (see Table 2).

3.9. Relative deprivation, grievances, and injustice

Relative deprivation (RD) theories attempted to explain the causes of the feeling of discontent or dissatisfaction, which can eventually lead to collective action and the development of SMs, and were developed in the 1960s. This explanation holds that people evaluate what they have in comparison with what they believe, in fairness, they should have. If they get less than they expect, they consider it unfair and discontent spreads among them. RD is linked to Tocqueville's idea of the circumstances in which revolutions arise. According to this classic 19th-century French essayist, revolutions do not occur in periods of decline or stagnation—stable and permanent misery produces despair rather than rebellion. Collective protest behaviors occur when, after a period of improvement, the situation worsens. Four key features of the experience of RD are as follows: first, people must care about what they lack. RD involves both wanting and deserving. Second, people must believe that the current situation is unlikely to change without intervention. Otherwise, the possibility of improvement may temper anger and increase hope for the future. Third, people should not see themselves as responsible or to blame for the deprivation. Fourth, people should see the process that produced the deprivation as illegitimate. However, these appraisals have rarely been measured independently in research (Agostini and van Zomeren, 2021). A distinction is made between personal RD (i.e., the perceived discrepancy between personal expectations and achievements) and fraternal or collective RD (i.e., the perceived discrepancy between what our group has compared to others). Studies show that personal frustration or deprivation leads to apathy rather than mobilization. What motivates participation in collective behavior is fraternal or group-focused deprivation. People who perceived that their social group (not themselves individually) received less than they expected or thought they deserved, relative to other groups, were those who showed the greatest tendency to social mobilization—for example, French-speaking citizens of Quebec relative to English speakers (Smith et al., 2012). See Figure 2 for operational measurements of RD.

Affective RD measures address judgments related to the person's situation including measures of unfairness, negative mood, frustration, discontent, dissatisfaction, anger, and resentment. The purely cognitive measures asked respondents to estimate differences between their current situation and a comparison with a referent—such as another group (Smith et al., 2012). The relationship between fraternal RD and participation in mobilizations or CB has been corroborated by van Zomeren et al. (2008) and Agostini and van Zomeren (2021), and by another synthesis of studies, although in this meta-analysis, the relationship is weak to medium, at $r = 0.15$ (Smith et al., 2012). Another meta-analysis (Jahnke et al., 2021) examined the relationship between relative group deprivation and participation in violent political action in youth—which in part is shaped by violent CB. In this meta-analysis, the favorable attitude or willingness to engage in violent political action was the dependent variable rather than actual violent behavior. Based on 11 studies, it found a correlation of $r = 0.19$ between relative deprivation and participation in violent political action—similar to the result of Smith et al. (2012). The smaller effect size of Smith et al. (2012) and Jahnke et al. (2021)

TABLE 3 Relationship of relative deprivation and injustice with SM and CB.

Meta-analysis	Factor	Years	*N*	*K*	$\bar{r}$
van Zomeren et al. (2008)	Injustice deprivation	Until 2007	15,855	65	0.35
	RD cognitive			38	0.34
Smith et al. (2012)	Deprivation with collective behavior	From 1961 to 2010	49,242	99	0.148
	RD cognitive			60	0.077
Agostini and van Zomeren (2021)	Injustice deprivation	2008 up to the present	82,326	329	0.38
	RD cognitive			108	0.33
					$\bar{r}$ = 0.296

RD, relative deprivation.
Values in bold indicates weighted mean effect size.

is probably explained by the fact that the criterion variable was extra-institutional and more violent CB.

According to two reviews (van Zomeren et al., 2008; Agostini and van Zomeren, 2021), the association of RD with SMs or collective actions is stronger with affective deprivation ($r = 0.49$ and $r = 0.39$) than with cognitive deprivation ($r = 0.33$ and $r = 0.34$), a finding corroborated by Smith et al. (2012) meta-analysis ($r = 0.17$ vs. $= 0.077$, Smith et al., 2012).

Meta-analytic integration of meta-analysis was performed using CMA 3.0 and used *N* to weigh each study. This analysis is helpful to have a global effect size estimation—even if we are not working with individual studies and effect sizes—and the procedure has limitations. The following dashboard describes results based on $N = 284{,}254$ and $k = 687$ studies. An effect of deprivation/injustice on SM participation is found—random model $r = 0.296$ CI 0.13–0.45. Based on $k = 216$ studies, an effect of cognitive deprivation/injustice on SM participation is found—random model $r = 0.25$ CI 0.055–0.43 on *r* in bold is the weighted estimate. Jankhe's meta-analysis was excluded because some criterion variables were not CB (see Table 3).

Explanations of participation in SMs due to relative deprivation and comparative grievances were questioned since grievances are not a sufficient reason to participate in SMs. Indeed, grievances abound while protest does not. Therefore, why do some aggrieved people mobilize and others do not?

3.10. Collective and political effectiveness

Another social-psychological answer to the question of why some people mobilize and others do not is efficacy. To what extent do people expect group-related problems to be solved through joint efforts? For the perception of the possibility of change to take hold, people must perceive that the group is capable of uniting and that the political context will be receptive to their group's demands. The first refers to group efficacy: the belief that group-related problems can be solved through collective efforts; and the second refers to political efficacy: the sense that political actions can have an impact on the political process. Political efficacy is conceptualized with two dimensions: internal efficacy, or the extent to which someone believes they understand politics and therefore participates in it; and external efficacy: citizens' faith and trust in government. Negatively related to political efficacy is political cynicism—defined as the opposite of political efficacy and inversely related to trust in government. van Zomeren et al. (2008) identified perceived efficacy as a main predictor of collective action, that correlates strongly with collective behavior ("people participate in collective action if they believe that this will make it more likely that the relevant goals will be achieved", p. 506). See Figure 3 for operational measurements of this conceptual variable.

Based on $N = 69{,}542$ and $k = 154$ studies, we find an effect of efficacy on participation in SMs—CMA 3.0 randomized model $r = 0.356$, CI 0.33–0.34 (see Table 4). This process can be illustrated by the studies on Basque radical nationalists in the 80s and 90s of the last century who supported illegal mobilizations, compared with people living in the Basque Autonomous Community who were not in favor of them. The former was characterized by (a) a negative perception of institutional political channels; (b) perception of high political efficacy or internal control of the environment; that is, they perceived themselves as having socio-political resources but institutionally blocked, which legitimized extra-institutional action. They valued the efficacy of their participation more highly, had higher expectations of the participation of others in mobilizations, and believed more in the probability of their success than people who did not participate in mobilizations (Valencia, 1990).

3.11. Collective identity

In the 1980s, it became clear in SMs research that the instrumental logics of grievances and efficiency are not sufficient reasons to participate in a protest. Increasingly, the importance of collective identity as a factor stimulating participation in a protest was highlighted. Sociologists argue that the generation of a collective identity is crucial for a movement to emerge (Touraine, 1978). Similarly, social psychology studies concluded that the more people identify with a group, the more inclined they are to protest on behalf of that group. This relationship has also been confirmed by three meta-analyses (van Zomeren et al., 2008; Agostini and van Zomeren, 2021; Akfirat et al., 2021). van Zomeren et al.'s (2008) and Agostini and van Zomeren (2021) review found that social identity predicted participation in collective action, correlating with

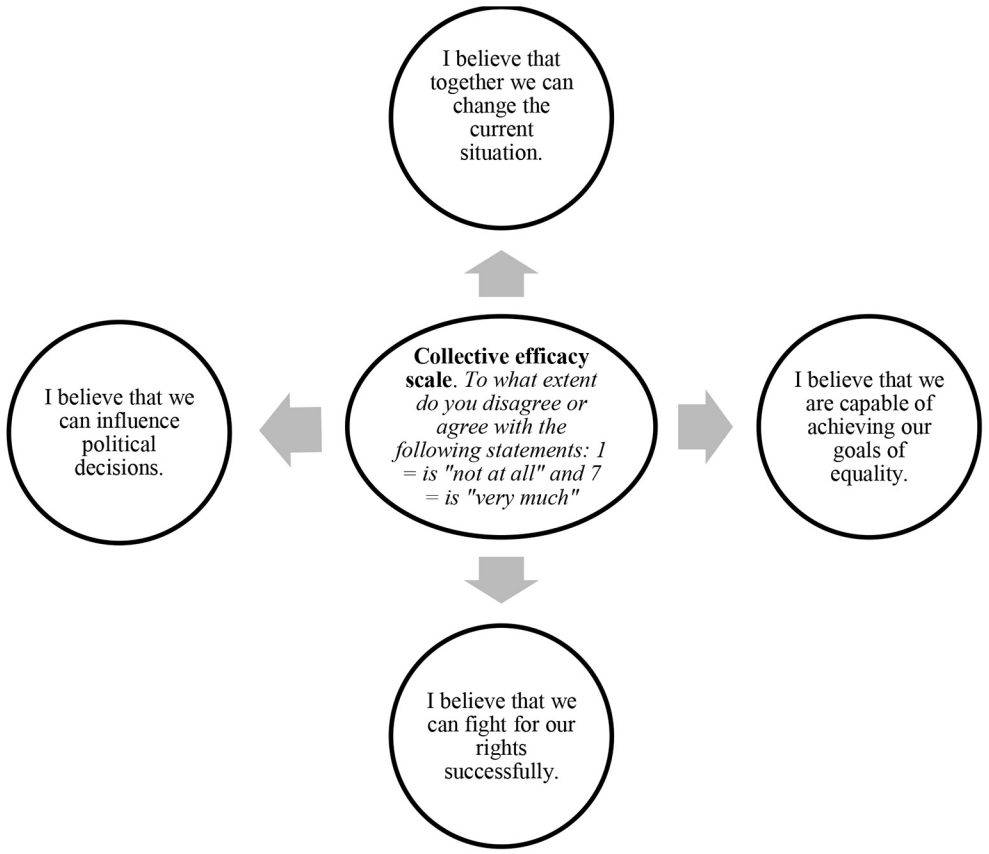


FIGURE 3
Measures of collective efficacy. Source: van Zomeren et al. (2010) and Zumeta et al. (2020).

TABLE 4 Efficiency relationship with SM and CB.

Meta-análisis	Factor	Years	*N*	*K*	$\bar{r}$
van Zomeren et al. (2008)	Efficacy	Until 2007	12,758	53	0.34
Agostini and van Zomeren (2021)	Efficacy	2008 up to the present	56,784	101	0.37
					$\bar{r}$ = 0.365

Values in bold indicates weighted mean effect size.

collective behavior ("if group members perceive the intergroup status difference to be illegitimate and unstable, they are more likely to identify with their group and participate in collective action to change the intergroup status difference", p. 507). See Figure 4 for operational measurements of this conceptual variable.

A meta-analysis examined the role of identity in social network-based mobilizations or large-scale collective actions that are known to mobilize overwhelmingly through digital platforms (e.g., the Occupy Wall Street movements, the Arab Spring, the Yellow Vests in France, and the social outburst in Chile). It has been argued that, compared to conventional SMs, network-based collective action is much more personalized, and its underlying psychological mechanism does not require the symbolic construction of a united we. These digital connections are made based on interpersonal relationships such as friendship or family. Participants in an action coordinated by networks would not need to develop a shared ideological framework to establish connections (Akfirat et al., 2021). Therefore, these digital movements differed significantly from traditional collective actions in terms of the characteristics of the organizations that developed (newly created, without formal membership, and with scarce resources). However, contrary to the idea that collective identity is less relevant in mass movements in the digital era, the results of the meta-analysis by Akfirat et al. (2021) revealed that there is a strong relationship between social identification and participation in collective action, r = 0.45. The relationship between collective action participation and identification with emergent groups was also found to be stronger than identification with pre-existing groups, of r = 0.52 and r = 0.34, respectively. Identification with an emerging group (e.g., protest groups and opinion groups) better predicts participation in collective action (Agostini and van Zomeren, 2021; Akfirat et al., 2021; pooled r = 0.48) than identification with pre-existing social groups (e.g., nations, religious groups, and ideological groups; pooled r = 0.34). The meta-analysis by Jahnke et al. (2021) that

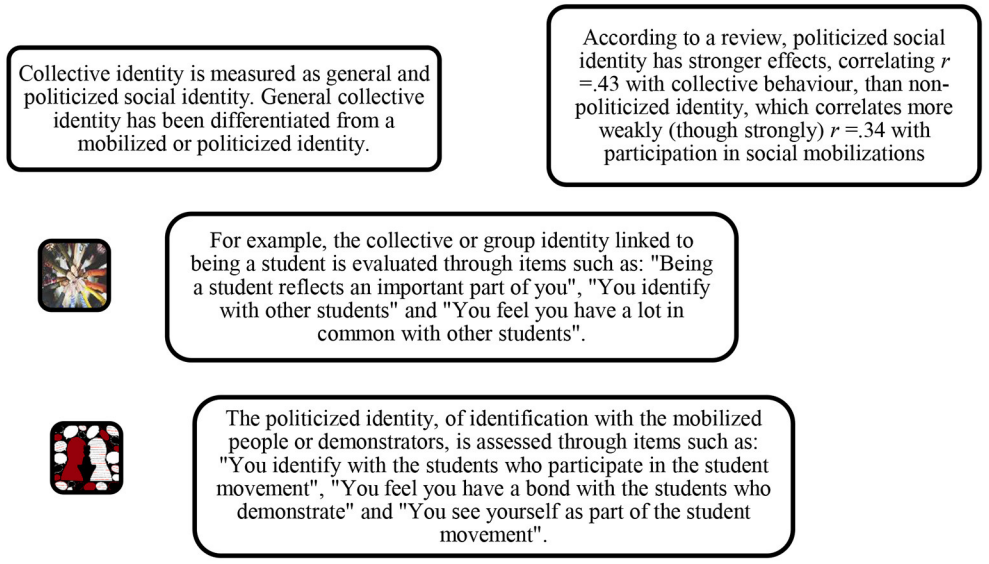


FIGURE 4
Measures of collective identity. Source: van Zomeren et al. (2008).

TABLE 5 Relationship of identity with SM and CB.

Meta-análisis	Factor	Years	*N*	*K*	$\bar{r}$
van Zomeren et al. (2008)	Identity	Until 2007	10,051	64	0.38
Akfirat et al. (2021)	Identity movements network	2011 until 2020	18,242	46	0.45
Agostini and van Zomeren (2021)	Identity	2008 up to the present	77,315	329	0.40
					$\bar{r} = 0.41$

Values in bold indicates weighted mean effect size.

examined the relationship between identity and participation in violent political action, based on 11 studies, found a correlation of $r = 0.21$. This smaller effect size reaffirms the idea that motivational factors are more associated with institutional SMs and CB than with riot or violent behavior.

Based on $N = 105{,}608$ and $k = 439$ studies, a strong effect of collective identity on participation in SMs was found—random model $r = 0.41$, CI 0.37–0.45 (see Table 5). The meta-analysis by Jahnke et al. (2021) was excluded from the final calculation for the reasons described above.

The Social Identity Model of Collective Action (SIMCA) that was developed from the meta-analysis of van Zomeren et al. (2008) postulated that each of the motivations (RD or injustice, identity, and efficacy) has a unique effect on collective action and that social identity plays a central role in mediating between efficacy and injustice (see Figure 5).

3.12. Emotions and SMs

Factors that are embedded in frames of reference of identity, injustice, and efficacy (see discussion of collective action frames below) will activate and motivate people if they have an emotional impact (as already suggested by the fact that relative affective deprivation is more important than cognitive deprivation). Recently, since the end of the 20th century, personal and collective emotions have been included as factors explaining social mobilization (Bou Zeineddine and Leach, 2021).

Injustices exist permanently in society and people, even though they are aware of them, do not mobilize. The emotions of indignation and anger will fill the framework of injustice with motivational content. Anger is considered the prototypical protest emotion (van Stekelenburg and Klandermans, 2007). Group anger can be conceived as an emotion that responds to the perception that there is an illegitimate negative event or a breach of norms, made intentionally by another group, a positive evaluation of one's resources and perception of control, and is associated with the tendency to attack. Anger reinforced the mobilization of peasants for their situation in Holland and Spain (Sabucedo et al., 2017). Indignation is righteous anger at something wrong, bad, and immoral and moral outrage is anger at the violation of a moral norm. Moral outrage shares with anger the perception of injustice or oppression that is a moral transgression, although it differs from anger because the injustice or wrong is not necessarily experienced personally. Some studies suggest that being impacted by immoral events (such as corruption of power, in the case of Spain 15-M) activates moral anger, which reinforces participation in SMs (Sabucedo et al., 2018). There is also a relationship between anger

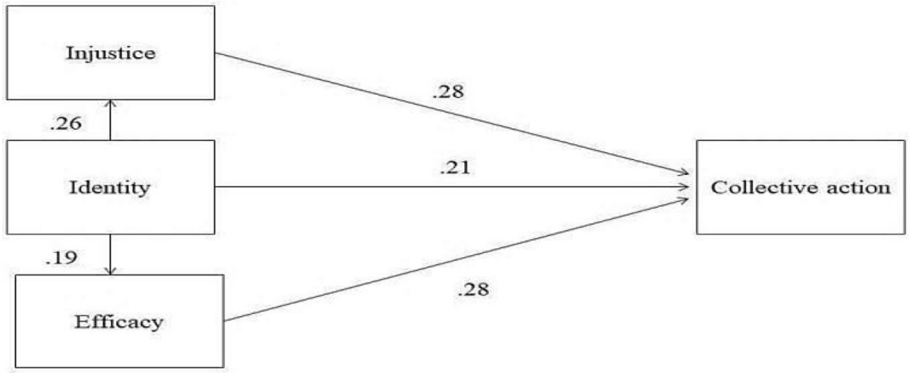


FIGURE 5
SIMCA model. Source: van Zomeren et al. (2008).

TABLE 6 Relationship of affective deprivation and injustice with SM and CB.

Meta-análisis	Factor	Years	*N*	*K*	$\bar{r}$
van Zomeren et al. (2008)	Injustice Affective deprivation	Until 2007	6,344*	26	0.49
Smith et al. (2012)	Affective deprivation	1961 to 2010	90,903*	157	0.165
Agostini and van Zomeren (2021)	Affective Injustice	2008 up to the present	65,826*	207	0.39
					$\bar{r} = 0.35$

*Estimated *N*.
Values in bold indicates weighted mean effect size.

and efficacy: people who perceive the ingroup as strong are more likely to experience anger and desire to act out; people who perceive the ingroup as weak are more likely to feel fear and withdraw from the outgroup. Using relative deprivation or affective injustice as a proxy for anger and as an indicator of the influence of negative valence emotions on participation in social protest, a very strong estimate of its importance is obtained (see Figure 2 for affective RD measures and Table 6). The emotional experience of group-based relative deprivation is more strongly related to collective action than its perception because the emotional experience of injustice (e.g., anger) reinforces the motivation to act, and the perception of injustice is central to emotions such as anger. In line with this, van Zomeren et al. (2008), Smith et al. (2012), and the meta-analysis of Agostini and van Zomeren (2021) found that felt injustice produces a larger effect than perceived or cognitive injustice. It should be mentioned that the effect size of affective RD on collective behavior was smaller in Smith et al. (2012) than in the two meta-analyses on SMs. In the same vein, the meta-analysis by Jahnke et al. (2021), which examined the relationship between negative intergroup emotions and participation in violent political action, based on nine studies found a correlation of $r = 0.25$, closer to that of Smith et al. (2012). This smaller effect size reaffirms the idea that motivational factors are less strongly associated with riot or violent behavior than with institutional or less radical SMs and CB.

Based on $N = 163{,}073$ subjects and $k = 390$ studies, we find an effect of affective injustice and anger emotion on SMs participation of $r = 0.35$, CI 0.17–0.52, random model.

Although anger is considered the prototypical protest emotion, other emotions such as contempt, shame, sympathy, and indignation have also been linked to protest. Recent research has also found that hope felt before and pride felt after collective action are important predictors of future participation in collective action (Tausch and Becker, 2013). The emotional climate of SMs is generally characterized by a mixture of festive joy and pride in mobilizing, anger at the injustices being fought, and hope that one can effectively change the situation (Rimé et al., 2017; Sabucedo et al., 2017). Hope transforms a framework of efficacy into actual mobilization. Hope is felt in the face of a negative and uncertain situation, as an alternative positive emotion to sadness and hopelessness. It emerges when one fears the worst but strives for the best or least bad. It is associated with the tendency to feel inspired and to plan for a better future, to be motivated to apply one's skills to the maximum to change negative circumstances. It is the emotion linked to aspiring with some probability that certain desirable group goals will be obtained. Hope can lead to "going beyond the existing", to building a future that "is not a mere prolongation of the present". Studies have shown that the emotion of hope is associated with collective efficacy and social mobilization (Sabucedo et al., 2017; Wlodarczyk et al., 2020). The following Figure 6 integrates the emotions of anger and hope into the SIMCA model described above.

3.13. Obligation and moral conviction

Collective action research has recently emphasized concepts of moral conviction, based on values, moral principles or beliefs, or ideology. If people have moral convictions about an issue (e.g., education as a universal human right) and these

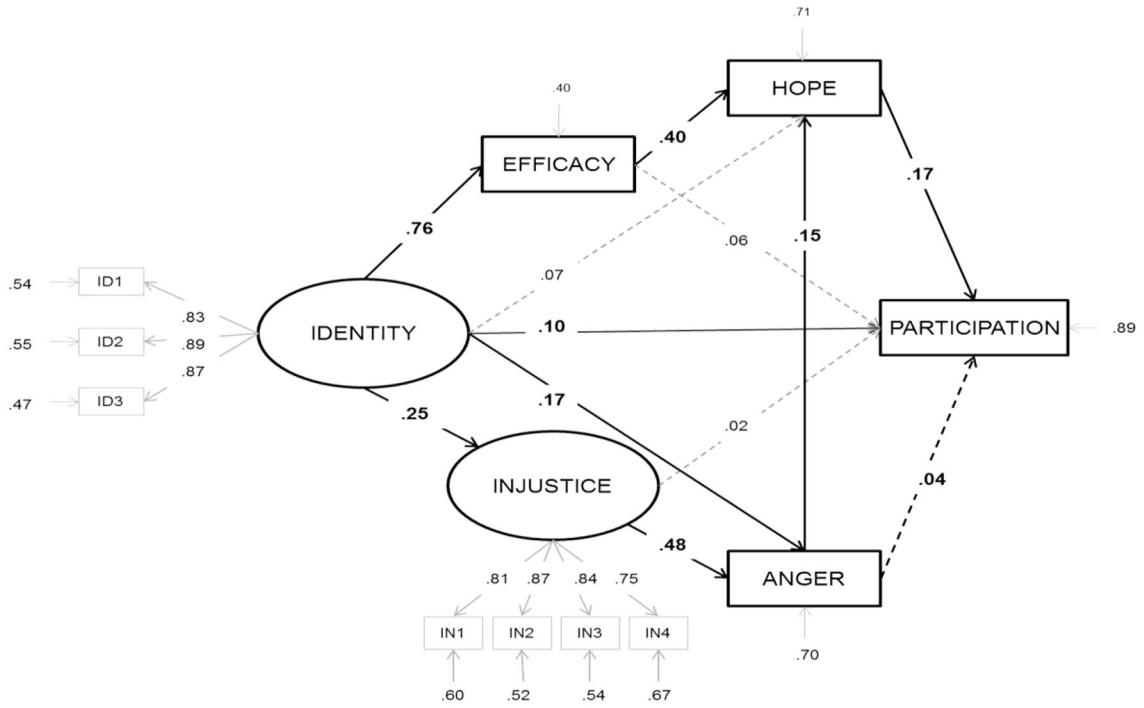


FIGURE 6
SIMCA model integrating emotions. Source: Wlodarczyk et al. (2017).

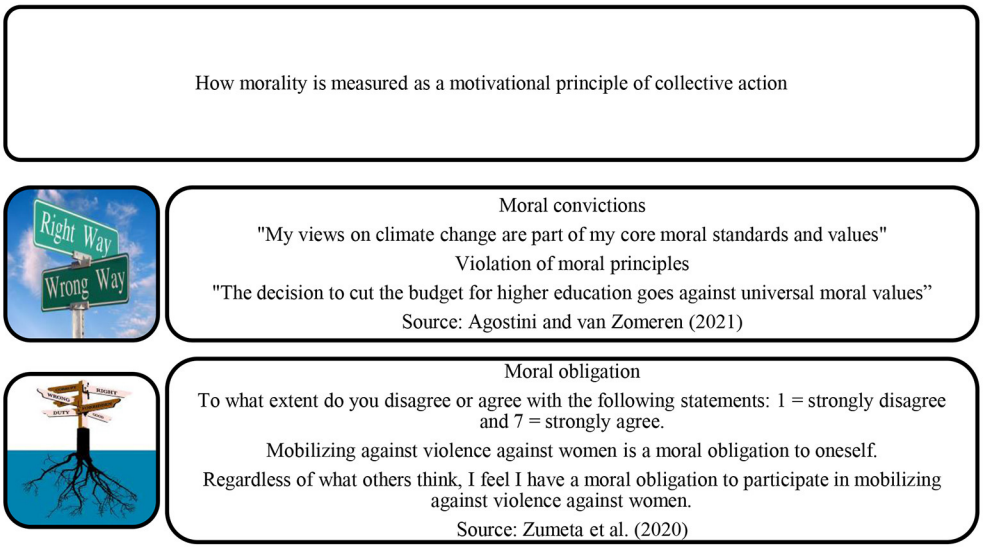


FIGURE 7
Measures of moral conviction and obligation.

convictions are threatened (e.g., when a government proposes to implement tuition fees), then the perceived violation of these moral beliefs and principles, and the resulting emotional experience (e.g., anger), motivates them to engage in action to defend the core values of the attack through collective action (Sabucedo et al., 2018; see Agostini and van Zomeren, 2021). See Figure 7 for operational measurements of moral convictions and obligations.

The meta-analysis by Agostini and van Zomeren (2021) found a correlation between moral conviction or obligation and participation in protests of $r = 0.36$, based on 36 studies and $N = 24{,}708$. The meta-analysis by Jahnke et al.

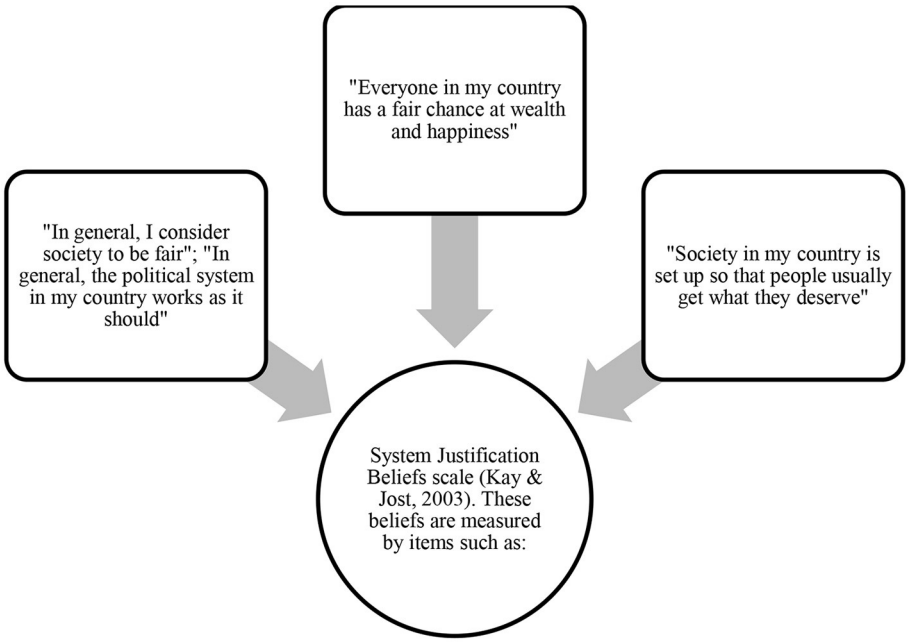


FIGURE 8
Measures of "false consciousness" ideology.

(2021) examined the relationship between symbolic threat and participation in violent political action among young people. This was defined as the belief that another group poses a threat to the values or views of the ingroup and included concerns about moral beliefs. Based on 10 studies, it found a correlation of $r = 0.28$ between relative deprivation and participation in violent political action—lower but not that different from the previous result.

3.14. Ideology: "false consciousness" beliefs and justification of the system

On the other hand, people may share system justification beliefs—that the social system is legitimate and fair, and that differences must be accepted. System justification beliefs, which legitimize disadvantage and encourage acceptance of the status quo, were seen as moral beliefs that hinder collective action (Agostini and van Zomeren, 2021). According to this perspective, people are also motivated to defend, reinforce, and justify the social, economic, and political systems on which they depend. In this sense, it is proposed that there is a general ideological motive to justify the established system or social order, which leads disadvantaged groups to internalize their inferiority, even though this view is detrimental to them. Justification of the system can be explained by epistemic motivation or that people are motivated to justify the status quo since it satisfies the needs for order and predictability. Existential motivation, on the other hand, refers to the fact that many people justify the social system because it helps them to maintain their security needs. Relational motivation refers to people justifying the social system to integrate socially and share a positive view of reality with others (see Marx, 1970; Kay and Jost, 2003; Jost et al., 2017).

Agreement with system-justifying or status quo-justifying beliefs (Jost and Hunyady, 2005) would be an ideological factor inhibiting participation in SMs. Although Agostini and van Zomeren (2021) introduced them as moral beliefs, in our understanding, they are ideological beliefs and we have separated them as distinct explanatory dimensions. See Figure 8 for operational measurements of system justification beliefs.

The correlation between system justification beliefs and participation in SMs was $k = 18$, $r = -0.26$—the more people think the system is fair and works well, the less they mobilize. On the other hand, while system justification is negatively associated with collective action that challenges the system, it is positively associated with collective action that supports the system, both for members of low-status and high-status groups (Osborne et al., 2018).

Agostini and van Zomeren (2021) from their meta-analysis developed the "Dual Chamber Model of Collective Action", which integrates identity, injustice, efficacy, and morality (see Figure 9).

According to this model, morality and identity act as central predictors of collective action, since they in turn activate perceptions of injustice and efficacy. The relationship between both variables is explained because moral convictions define people's social identity, and vice versa; for example, if a person identifies as a regionalist, he or she is likely to defend the interests of his or her community. On the other hand, the Dual Chamber Model explains why members of

advantaged groups act in solidarity with the disadvantaged (e.g., men mobilizing for gender equality), to behave congruently with their moral values (Agostini and van Zomeren, 2021).

The following conclusive (Table 7) shows that all factors are strongly associated with participation in movements, showing the greatest strength identity, similar strength efficacy, emotions of affective injustice or RD and morality, and the smallest cognitive injustice.

3.15. Cultural differences

Smith et al. (2018) re-analysis used data from their 2012 meta-analysis examining the influence of Hofstede's cultural dimensions on the association between RD and collective action. They used national assessments of individualism-collectivism and power distance to code 303 effect sizes from 31 different countries with 200,578 participants. They found that RD predicted outcomes such as collective action more strongly in individualistic nations. Agostini and van Zomeren (2021) also found that the relationship between identity and participation in SMs was weaker in hierarchical value cultures and stronger in egalitarian value cultures (meta-regression $B = -0.31$ and $+0.31$). In collectivist cultures, the relationship between identity and SMs was weaker. In western cultures, it was $r = 0.41$ vs. non-western $r = 0.31$. Smith et al. (2018) argue that RD more strongly predicts the outcomes of members of more individualistic cultures in contrast to members of collectivistic cultures because of an internal attribution of causality and greater emotional expressiveness, i.e., because people from individualistic cultures more personally attribute responsibility for their situation and they are more willing to express anger. As a third reason, they argue that individualistic persons perceive their position within social networks and reference groups as less fixed and easier to change. This last explanation seems to us to be the most relevant, and may also explain the greater importance of social identity for participation in CB in individualistic countries. In these cultures, unstable voluntary relationships predominate, which reinforces the importance of affiliation and the emergence of identification in generating social mobilization. In collectivistic cultures, there is a predominance of normative ascribed identities that are stable and make them less mobilizable to motivate protest CB. On the other hand, it is understandable that in cultures of high distance to power, more authoritarian, the relationship between identity and CB is weaker, since these cultures inhibit emotional expression and protest behaviors. However, it can be seen that in most of the relationships between motivational factors and participation in SMs, culture (operationalized as Hofstede's dimensions or Schwartz's societal values) did not moderate these associations.

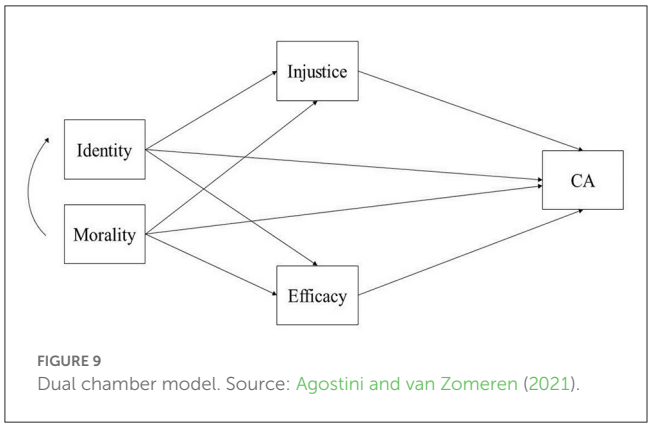


FIGURE 9
Dual chamber model. Source: Agostini and van Zomeren (2021).

3.16. Theories of the rationality of collective action and collective action frames of SMs

In the case of the explanation of SMs by the rationality of collective action and the creation of "collective action frameworks", no meta-analyses were found. Therefore, we will summarize the content of the systematic reviews.

3.16.1. Resource mobilization theory and social psychology of expectations and attitudes

Sociologists and political scientists in the 70s and 80s of the 20th century suggested that the availability of resources and the presence of political opportunities as keys to social mobilization—the so-called resource mobilization theory.

TABLE 7 Evidence-based explanatory factors for participation in CB and SM.

Factors SM	*K*	Number of meta-analyses	Random model effect size	Evaluation[a]
RD/Injustice total	493	3	$r = 0.30$	Medium-strong
RD/Injustice cognitive	216	3	$r = 0.25$	Medium
Efficiency or efficacy	154	2	$r = 0.36$	Strong
Identity	439	3	$r = 0.41$	Very strong
Affective RD as a proxy of emotion anger indignation	390	3	$r = 0.35$	Strong
Morality	77	1	$r = 0.39$	Strong
System justification of the dominant ideology	18	1	$r = -0.26$	Medium

[a]The mean effect size in social psychology is $r = 0.24$, correlations of 0.30 and above are in the high tactile of effect sizes and above.40 in the highest 25% (Lovakov and Agadullina, 2021).

Groups with more resources and opportunities are more likely to mobilize. Klandermans (1984) developed, from the point of view of social psychology, the Resource Mobilization perspective by applying the Rational Choice attitudinal theory. According to this author, the decision to participate effectively in a CB and SMs is based on a rational choice between costs and benefits, but these go beyond material benefits and costs.

3.16.2. Types of motive for mobilization and empirical evidence

Motives can be divided into three types:

(a) Objective, goals, or collective motives: these refer to the explicit objectives of the mobilization and are also referred to as "collective benefits" since their achievement benefits all members of the social group equally, independent of the commitment that each person has had to the actions of the movement.

(b) Social motives: this refers to the social benefits and costs that the subject obtains by participating. Implies determining the probable reactions of significant others to his or her participation, the importance that the person attaches to these reactions, and the degree to which the subject's network of relationships is involved in the movement—so that participating in it can strengthen this network, becoming an activator of individual behavior.

(c) Reward motives: also called "selective benefits and costs" of the movement, since they only affect those who effectively participate in the mobilizing actions. They involve the costs (time, risk, or financial) and non-social benefits (self-satisfaction and job opportunities, among other possibilities) associated with participating in a given SM.

Empirical studies have tended to show clearly that social motives and goal motives are predictive of participatory behavior. In contrast, reward motives have a lower predictive level (Valencia, 1990; Asún and Zúñiga, 2013). Klandermans (1984) found in research with Dutch union militants that the collective motive had the strongest relationship with participation, followed by the social motive. Reward motive did not explain participation as they did not believe they would have more personal or individual rewards from participating in the action compared to non-participants. Similarly, a late 20th-century study with Basque youth, comparing subjects who did not participate or only participated in legal demonstrations, with radical nationalist subjects willing to engage in illegal mobilizations, found that those who agreed more strongly with participating in "hard" demonstrations did not differ concerning to the personal reward motive. Participants in radical demonstrations showed a similar perception of the costs or punishments for carrying out extra-institutional actions as non-participants. But they showed higher scores for social and collective motives: they believed that the reaction of their environment would be more positive, they believed they had higher expectations of success, and that more people would participate in nationalist demonstrations, and they valued goals more (Valencia, 1990). Similar results were found in a study with regionalist SMs in Chile, although in this case, the social motive predicted participation better than the collective motive (Asún and Zúñiga, 2013).[3]

3.16.3. Conclusion: centrality of social motives and the relevance of social networks

The results of these three studies suggest that participants in SMs and protest CB are not characterized by expecting to receive specific incentives for them, but by hoping to obtain benefits for the group in general. The fact that one of the variables with the greatest capacity to predict the involvement of subjects in protests and SMs is social motives reaffirms the importance of the social networks in which subjects are immersed to understand how they manage to overcome the barriers that hinder participation in collective actions (Asún and Zúñiga, 2013). For all these reasons, there has been a tendency to assign increasing importance to relational variables or integration in social networks or social capital[4] to explain social protest, interpreted as "social incentives" to participation (Snow and Oliver, 1995; van Stekelenburg and Klandermans, 2013; van Stekelenburg et al., 2013).

The central limitation of this explanation is the postulate that people decide whether to support an action by recognizing and evaluating the attributes associated with it or with the goals of the group that drives them. This rational-economic logic, the logic of expected value, is of an individual type and serves more for instrumental attitudes (oriented to consumer products or concrete behavior) than for symbolic or value attitudes. And it is these symbolic attitudes that are largely associated with participation in SMs. Finally, people participate in demonstrations, although they do not expect them to achieve their objective (Páez and da Costa, 2022).

3.16.4. Types of collective action frames

The collective action frameworks approach explained mobilization as a three-step process involving: (a) diagnostic framing: where the leaders who generate the SMs construct their interpretation (diagnosis) of what appears to be the problem that

3 Operationalization of collective motives or goal expected value: (a) Value of collective good: participant in SM were asked how they stood for the goal or how important was the goal—on a 5-point scale from very positive to very negative or not at all important = 1 to very important = 7. (b) Expectation that participation helps to achieve the collective good: "In your estimate, how many people will participate in the collective action?" (very few, not so many, quite a few, very many), "Imagine that very many people take part in the collective action. Do you think that this will induce (Government, employers...) to accept what is demanded or to take into account our claims?" (Klandermans, 1984; Valencia, 1990). A meta-analysis was carried out with the data of Klandermans (1984), r (565) = 0.26, Valencia [1990, r (146) = 0.60] and two studies asking for agreement with SM goals or values [Castro, r (252) = 0.56; Páez et al., 2013, r (246) = 0.29]. Based on N = 1,209 and k = 4 studies, a strong effect of attitudes or expectations as collective motive on participation in SM was found—random model r = 0.44, CI 0.25–0.49. Using only the data of two first studies specifically applying the expected value model, the effect size found was similar, r = 0.44.

4 No meta-analysis was found for social capital and participation in CB or SM.

requires remedy, as well as the attribution of blame to the culprits (individuals, groups, and institutions); (b) prognostic framing: where a way out of the problem is suggested, a viable solution to alleviate or eliminate the undesirable situation being experienced; (c) motivational framing: where a rationale for action is provided to explain why mobilization by constituents is necessary, why it makes sense to react, and how engagement in collective action may be the answer to shared problems (Snow and Oliver, 1995; Benford and Snow, 2000). Gamson (1992) posited three alternative collective action frames: injustice, identity, and agency. The injustice frame is considered by many scholars to be crucial in the formation of collective action and all successful movements employ an injustice frame. However, Snow and Oliver (1995) successfully refuted this claim by citing religious, self-help, and other SMs that do not use such a frame.

3.16.5. Collective action frames, motivational factors of SMs, and absence of common beliefs

As can be seen, the frames of injustice, identity, and agency are similar to the motivational factors already reviewed—agency refers to collective efficacy–or to the principles of Touraine's SMs—diagnosis equals identity and opposition and prognosis equals the totality or project of the SMs (Páez and da Costa, 2022). Furthermore, this approach shares the idea that there is a set of common beliefs that explain participation in CB and SMs, an idea that had already been questioned in relation to CB studies that appealed to generalized beliefs and emergent norms.

Frame analysis is a content analysis of SM discourses, and the process of identifying a frame is itself a process of subjective interpretation. A large number of frames have been described; the studies tend to be descriptive and we believe that in reality, this approach only adds to take into account the social representations of SMs—it remains to be ascertained which and to what degree they are shared by the participants in them. At odds with this approach, it was found that having a favorable attitude toward an SM objective did not imply actual participation in CB and that a part of the protesters did not identify with the organizers of these (van Stekelenburg et al., 2013).

3.16.6. Conclusion: limitations of collective action frames as explanations of SMs

As Johnston (2003, p. 209) put it:

"Currently framing analysis is in crisis...Recently researchers have shown concern regarding several trends, the most important of which is a preference for descriptive research rather than a causal view of frames. In other words, framing research has so far been very effective in describing the complexity of the ideas involved in mobilizing people, but not in testing propositions about the mobilizing power of frames."

3.17. Effects of participation in SMs and CB in the medium and long term

Emotional, identity, social integration, empowerment, and ideological and knowledge effects of participation in SMs are described. They are based on the systematic review of Vestergren et al. (2017) of 57 studies on biographical consequences of participation in SMs, Ni et al. (2021) systematic review of 52 studies on mental health during and after CB and SMs, as well as studies on the first topic, realized after the 2017 revision.

a. As for emotional effects, it has been found that participation in SMs influences emotional responses and future action intentions. Tausch and Becker (2012) found an increase in pride after CB success and that this emotion influenced action intentions, through increased perceptions of efficacy (one study, Vestergren et al., 2017). A longitudinal study found that participation in anti-terrorism and anti-war demonstrations in a relatively successful context predicted more positive emotions and a more positive emotional climate 3 months later, although it also maintained negative emotions linked to the attack (Rimé et al., 2004). On the other hand, a Swiss longitudinal study using panel data found that intention to participate in demonstrations slightly predicted negative emotions, and intention to participate in strikes decreased positive emotions, as well as that emotional distress predicted intention to participate in CB (Lindholm, 2020). Cross-sectional, 3-month and 1-year follow-up studies have found that participating in unsuccessful SM demonstrations (such as the Umbrella movement in Hong Kong) while inducing positive emotions at the climatic moment of the CBs, causes a decrease in these when the movement fails (Hou and Bonano, 2018; Chan et al., 2021; Fung, 2022). These results suggest that participation in SMs, particularly unsuccessful ones, has an emotional cost, although in the case of successful ones, this is compensated by improvements in the emotional balance.

b. Effects on identity and social relations of participation are very important, highlighting long-term commitment to the group, such as sustained participation in SMs (confirmed in 18 studies by Vestergren et al., 2017), as well as extended participation in other causes and struggles (confirmed in seven studies by Vestergren et al., 2017). Participation strengthens collective identity, which in turn affected participants' sense of personal identity (confirmed in three studies by Vestergren et al., 2017). Both the formation of new very strong and close relationships and the effort of participation in the SMs cause stress and strain that affect personal relationships (confirmed in three studies by Vestergren et al., 2017).

c. Significant empowering effects have also been found, such as increasing our beliefs that we can collectively achieve something and increasing self-confidence (confirmed in six studies), increasing participants' level of self-esteem (in three studies), improving wellbeing (in three studies), and increasing the belief that the world is changing (eight studies—all in Vestergren et al., 2017).

However, the other side of the coin, disempowerment from SMs defeat (three studies) and also burnout or exhaustion (three studies, in Vestergren et al., 2017), has also been found. One longitudinal study found that youth with high online and offline participation in the Umbrella SM 2014 in Hong Kong showed significantly higher levels of psychological and social wellbeing, higher leadership competence and political control, as well as lower perceptions of government responsiveness during the period of street occupation. In the year after the movement, youth with high participation had a significant decline in psychological and social wellbeing compared to other youth groups (Chan et al., 2021). Panel studies between 2009 and 2020 found a negative impact of CBs on the

mental health of the general population: more potential depression during 2019–20 (11–12% respondents with high symptoms of depression) and 2017 (6–5% mobilizations compared to previous years; 1–9% during 2009–14). Participation in demonstrations was not associated with depression, although it was associated with PTSD symptoms (Ni et al., 2020) probably because of exposure to repression and violence. A review of 52 studies confirmed the negative impact of CBs. It was found that after a major protest, the prevalence of probable major depression increased by 7%, regardless of personal participation in protests, as a general effect in the community. Six longitudinal studies support this finding. Factors associated with depressive symptoms included exposure to violence, interpersonal conflict, frequent use of social media, and lower social support. However, two studies of ethnic riots in the US and Northern Ireland suggested that collective actions may reduce depression, possibly because collective actions serve as a positive experience when people collectively voice their grievances. In addition, greater social cohesion among subpopulations, which support or oppose the cause of collective action, could strengthen social ties, which in turn could buffer the adverse impact of the stressful environment and greater social cohesion within subpopulations of rioters (Ni et al., 2020).

d. Effects or changes in values, beliefs, ideology, and knowledge: participating in SMs has been associated with ideological radicalization (confirmed in 18 studies), learning new skills (in four studies), and new knowledge (in four studies, all by Vestergren et al., 2017).

It has been criticized that many of these results are based on movements of the New Left of the 1960s in the USA and have limited external validity. However, a longitudinal study in Switzerland showed that previous participation in peaceful mass demonstrations in 1999 influenced people after 15 years: participants in 2013 reported more left-wing attitudes, voting left, and remaining linked to SMs and partisan organizations (Giugni and Grasso, 2016).

4. Discussion

The review confirmed that participation in collective meetings is high, particularly in non-ideological leisure CBs, while participation in religious CBs and demonstrations and in ideological CBs linked to SMs is a minority.

When asked why people mobilize, as we have seen, there are different partial explanations, which are partly supported by studies on the characteristics and patterns of CB, as well as by Pizarro et al. (2022) meta-analysis on the effects of participation on CB and feelings of collective effervescence:

a) People mobilize because they are aggrieved as groups, particularly if this upsets them emotionally, and provokes indignation; however, people participate in SMs, although its ingroup does not suffer deprivation. On the other hand, religious, self-help, and other non-contentious SMs movements do not rely on deprivation and injustice (Snow and Oliver, 1995). Congruently, participation in CB is related to specific moments of intense emotionality, and protest CB or demonstrations increase negative emotions—but religious and positive valence CB are not related to negative emotions (Pizarro et al., 2022).
b) People mobilize because they have the resources and perceive that there are opportunities. Subjectively, people mobilize because they value the collective objective and expect the behavior to succeed, because they expect collective and social benefits to be obtained (their environment will approve of them)—although having a favorable attitude toward the objective of the movement is not enough to mobilize. The absence of blind violence in riots and functional CB or resilience in catastrophes supports explanations of SMs by the rationality of collective action.
c) People mobilize because they believe they are effective or capable of controlling the environment and distrust institutions. Participation in CB such as riots is related to political efficacy (Allen, 1970), and participation in protest CB is related to collective efficacy (Pizarro et al., 2022).
d) People mobilize because they share and create a social identity oriented toward political action. Participation in protest CB is related to collective identity or social identification and fusion with the group of demonstrators (Pizarro et al., 2022). However, some people participate in demonstrations without sharing identification with leaders or without reporting any identification at all.
e) People mobilize because they share the view of their group's situation as unjust and feel anger, as well as that their group is effective and feels hope. They also perceive that anger and hope are shared by people in their social group—they perceive an emotional climate favorable to mobilize. Participation in protest CB is related to personal and collective positive emotions, such as hope or social awe, as well as negative emotions like anger (Pizarro et al., 2022). People mobilize because they feel moral outrage and feel they have a moral obligation to mobilize. CB studies suggest that extreme demonstrations such as ethnic riots and lynching follow a "moral logic".
f) People mobilize because they challenge the dominant ideology and social system—in the case of contentious SMs who want to change the social order. System justification beliefs and related social beliefs (RWA and SDO) sustain reactionary or conservative SMs. However, studies on demonstrations showed that people did not share homogeneous beliefs about the situation and objectives of the mobilization, partially questioning collective action frameworks but also ideological explanations of SMs. Repeated participation in CB reinforces the agreement and convergence of opinions on the SM social representations or narratives that integrate frames of identity, opposition or conflict, injustice and anger, and effectiveness and hope.

Although there are no meta-analyses on the topic, we showed that the medium- and long-term effects of participation in SMs and CB lead to positive emotions, psychological wellbeing, general social identification, and empowerment or increase in self-esteem and self-efficacy (Pizarro et al., 2022).

However, periods of mobilization seem to have a negative impact on the wellbeing of the population, although not necessarily on the protesters. The defeat or setbacks of mass movements are associated with disempowerment (lower wellbeing and burnout). In the case of SMs that have not suffered major defeats, even if they have not been very successful, participation has a persistent impact on ideology.

4.1. Limitation of review

There are limitations to the social psychology studies of SMs reviewed. The first limitation is that mainstream social psychological models are weak. The mainstream social psychological models are of functional relationships and there is no strong theoretical argumentation behind them. The SIMCA and ESIMCA models are based on the correlations found and differ in the order of the arrows and the last dual model is a variation of the previous ones. Empirical tests show that different interrelationships fit the data and not only those postulated by the models (see, for instance, Zamudio et al., 2022).

A second limitation is that sometimes the variables (e.g., mobilized or politicized identity) that predict collective action are so close or similar to those they explain that they can be quasi-tautologous, e.g., I identify with mobilized students and I mobilize.

A third limitation is that studies do not differentiate between long-term CB or engagement with SMs and one-off participation, at least with sufficient finesse. It is necessary to conduct longitudinal and mixed studies in a dialogue among survey, experiment, quantitative, and qualitative observations. Likewise, it is necessary to examine the sequences of manifestations and their effects on the maintenance/decrease of SMs.

A fourth limitation is that the difference between individual (personal and group) and collective emotions is not taken into account (see Pizarro et al., 2022 for this distinction). Chronically felt emotions shared by people, based on cultural settings, values, and norms can form a collective mood and emotions, an emotional atmosphere and climate. The initial emotional climate of SMs is generally characterized by a mixture of festive joy and pride in mobilizing, anger at the injustices being fought, and the hope of being able to effectively change the situation—as the analysis of the evolution of the emotional climate in the Tunisian Arab Spring showed (Rimé et al., 2017). Participation in demonstrations is associated with a perception of a negative emotional climate, where collective anger is perceived. Participants in the 15-M mobilization in Spain in 2011 perceived more social injustice, consistently shared more strongly a perception that anger and hostility predominated in society, and also perceived a lower positive emotional climate. This was explained by the minority and resource-limited nature of that movement. However, participants in a Catalan nationalist demonstration (the 2013 Diada), although they also perceived more injustice than non-demonstrators and a higher level of negative collective emotions, perceived a greater positive climate than non-participants. Non-participants disagreed that there was a situation of injustice, although they also perceived that there was greater hostility, less joy, and tranquility to speak. The greater resources and expectations of success in that period were reflected in the nationalists perceiving a better emotional climate (Sabucedo et al., 2017). On the other hand, mobilizations cause changes in emotional climate: participation in protest demonstrations against the Atocha bombings predicted a better emotional climate 2 months later. Finally, the emotional climate acts as a context and influences people: the perception of a positive emotional climate 1 week later, i.e., that the majority was supportive after the Atocha bombings, predicted greater positive affectivity and social support after 3 weeks (Páez et al., 2007). Perceiving supportive collective behavior acted as a resilience mechanism, which helped to recover wellbeing (Sabucedo et al., 2017).

The fifth limitation is that there are external validity issues in the studies reviewed. Many of the samples are western and student samples and studies from other cultural areas are missing—although in the reviews by Agostini and van Zomeren (2021), as well as Smith et al. (2018), there were studies in collectivist and high-power distance cultures, and the moderating effect of culture was contrasted. It was found that in individualistic cultures, the relationship among RD, identity, and participation in SMs is stronger than in collectivistic cultures, probably because of the greater attribution of internal responsibility to the individual, the greater acceptance of the expression of emotions, and because collective identities are less fixed and more mobilizable in these cultures than in collectivistic ones.

Another limitation of the literature reviewed is that the role of intergroup conflict or instrumental threats, resource contention, and social conflict are not developed. We believe they play an important role in contentious SMs, although see Jahnke et al. (2021) analysis of exposure to intergroup conflict and instrumental or realistic threat,[5] as factors facilitating participation in violent CB. In the same vein, of the need to take into account aspects of the social structure, it has been found that intergroup contact between social categories of different statuses plays a role in SMs. Positive intergroup contact between high- and low-status categories provokes rejection of participation in SMs among disadvantaged group members. Positive contact with higher status groups can feed the illusion of individual mobility and the belief in a common social identity, as well as reinforce the justification beliefs of the system, acting as a "sedative or opium for disadvantaged people". At odds, positive intergroup contact is associated with increased support for progressive SMs or social change toward equality among advantaged group members. In the last case, positive attitudes toward disadvantaged group members may increase individuals' engagement in solidarity-based collective action, and positive intergroup contact fuels participation in progressive SMs (Cakal et al., 2011; Hässler et al., 2020).

As a future element, we believe it is necessary to integrate repeated measurements of the ideologies, frames, and social

5 They define exposure to intergroup conflict as witnessing ingroup members fight or get wounded in a confrontation with the outgroup (directly or indirectly through media reports) and realistic threat as the belief that another group threatens the ingroup's welfare (e.g., through competition over power or resources). They found a strong association between exposure to conflict and realistic threat with disposition to participate in violent political actions or CB, $r = 0.24$ based on seven studies and $r = 0.30$ based on 50 studies, respectively.

representations of the SMs, as these explain in part their social base and dynamics. Even if the same explanatory principles serve for Black Lives Matter or the Proud Boys and Trumpist groups, the content and degree of impregnation of their social beliefs are relevant. Concerning CBs, particularly linked to secular and religious parades, celebrations, and rituals, other motivations appear important. A meta-analysis of motives for participating in collective leisure and recreational gatherings found a large number of motivations different from those analyzed in CB and SMs related to self-improvement, personal growth, learning, creativity, stimulation, and autonomy—in addition to affiliation (Manfredo et al., 1996; Cheng and Pan, 2012).[6] It can be seen that, despite the rather descriptive nature of this type of literature, other motivations, in addition to injustice and moral and ideological beliefs, can explain participation in positive, playful, and non-contentious CB and SMs. It appears that collective identity and positive emotions play a role and that motivation of affiliation, achievement, development, and creativity, as well as stimulation and repair, are important (Castro-Abril et al., 2021). A meta-analysis found that the frequency and diversity of participation in leisure activities, such as social activities, sports, games, and cultural experiences, which tend to be generally performed in collective gatherings, was related to subjective wellbeing $r = 0.26$ (Kuykendall et al., 2015). In this sense, we believe that the study of CBs linked to parades and celebrations is an area of study to be developed. Conclusions about the long-term positive effects of participation in CBs and SMs are limited by the absence of a meta-analysis, which is a pending task for future. Long-term conclusions are also limited because studies usually evaluate retrospectively or only weeks or months after CBs and SMs' psychological changes and many are based on comparisons between activists or participants and non-participants, although some studies are long-term longitudinal. Finally, most samples are western ones, which limits the cross-cultural validity of the results.

5. Final conclusion

In conclusion, participation in collective gatherings is frequent, mostly of a leisure type, to a lesser extent religious and sporting, and even lesser extent demonstrations and large religious rites. Although 50% of people report they do not participate in demonstrations, these are frequent and four out of 10 CB protests and SMs have some degree of success. It is necessary to expand the studies of positive valence CB since these are scarce.

Meta-analysis shows that collective identity is the most important psychosocial factor of SMs, particularly emergent politicized identity. However, a significant group of participants did not identify with the objectives of the movement and a relevant minority did not identify with collective motives or participants. This shows the complexity of social identification and questions the general explanatory role of collective identity in SMs.

The second psychosocial factor of participation in SMs was moral conviction. The importance of moral beliefs as justification for participating in CB was also confirmed. Collective efficacy is a third important explanatory factor of SMs. Affective relative deprivation related to negative emotions, such as anger or moral rage, and cognitive relative deprivation or injustice are the fourth and fifth factors that explain protest CB and SMs. However, they do not play a role in non-contentious CB and SMs. The role of positive emotions should be further explored in the future—not only in positive valence CB but also in conflictual SMs, because they seem to play an important role. The sixth and last factor of SMs is disagreement with system justification beliefs, suggesting the importance of ideology and shared beliefs. However, participants in demonstrations did not share homogeneous beliefs about the situation and objectives of the mobilization, partially questioning these explanations of SMs. Probably shared beliefs, or the agreement with the collective action ideological frameworks, are generated and generalized as an effect of participation in SMs—rather than being a prerequisite. The study of social representations, linked to SMs and CB, their content, the level at which they are shared, and how they evolve, is an area that deserves to be further developed.

We believe that longitudinal studies that combine push factors before participation in CB and the processes during these, to explain the outcomes in the medium-term and the long-term dynamics of SMs, are necessary. As an instrument

6 A meta-analysis of reasons for participating in collective leisure and recreational gatherings found 39 important descriptive motives (Manfredo et al., 1996; Cheng and Pan, 2012). Following psychological needs studies (Sheldon et al., 2001), they were reorganized into 15 motivations. (1) *Stimulation*: novelty, obtaining excitement and stimulation; (2) *Hedonic:* Have fun, occupy my free time; (3) *Self-esteem:* social recognition, creating a good impression in front of other people; improving their self-esteem; (4) *Relatedness or Affiliation:* Do things with family and acquaintances; be with like-minded people; being with friends; meeting friends again; being with people who do the same things and have the same values; meeting and being with new people; observing and meeting new friends; meeting people; social sharing (Tell other people you were in the activity); (5) *Competence:* developing skills; evaluating their competences; reinforcing self-image, increasing self-confidence, pride and competence; (6) *Power*: experiencing leadership; be able to control things that happen; (7) *Autonomy*: satisfy need for independence; autonomy freedom make your decisions; (8) *Creative*: creativity, be creative do creative things; live new experiences; (9) *Self-actualization*: develop spiritual values grow spiritually; think reflect on themselves; (10) *Learning:* learning in general, expanding my education; knowing the geography and terrain; learning, enjoying more about nature and the landscape; (11) *Express collective identity*: nostalgia remember things past or relive the history of the community; (12) *Thriving:* improve physical fitness (exercise and be active); (13) *Security*: social security, to be near considerate people, risk reduction and avoidance; (14) *Aesthetic*: enjoy scenery, nature; (15) *Affect regulation*: rest relax physical; escape social pressures; recover from stress; calm down mentally; escape from overloaded work roles and get away from the demands of daily life. Collective identity (for instance, motivations 3, 4, and 11), self-efficacy (see motivations 5, 6, and 7), positive emotions (see motivations 1 and 2), moral convictions, and ideology (see motive 9) are factors that could be related to some of these motivations. But, it is not the case of creative, learning, esthetic, thriving, affect regulation, and security motivations, that looks specific to positive valence CB. Moreover, factors such as perceived conflict, threat, RD cognitive, and affective (anger and moral outrage) did not play a role in positive valence CB.

to help this, Appendix 2 contains a protocol for assessing CB and participation in SMs, which is based on Wlodarczyk et al. (2020), Zumeta et al. (2020), Castro-Abril et al. (2021), and Pizarro et al. (2022) in this issue and all subsequent previous and ongoing studies developed by the Consolidated Research Group on Culture, Cognition, and Emotion and its external collaborators. It is hoped that it will be useful for the development of new research to accumulate evidence-based information for future meta-analyses, as well as to inspire new studies in this area, such as the line of research mentioned in the protocol.[7]

Author contributions

SdC and DP conceptualized and organized the present study and prepared the first draft. VD and MM-G collaborated in the coding of the studies. Meta-analytic integration was performed by DP and SdC using CMA 3.0. VD and PB were responsible for the translation and revision of the text. All authors reviewed and contributed to the different versions of this article, and the improvements made in the latest versions of PB were also relevant. All authors contributed to the article and approved the version presented.

Funding

This research was supported by grants given to the research team Culture, Cognition, and Emotion (Social Psychology CBE), the Spanish Ministry of Economy and Competitiveness [(Ref.: PSI2017-84145-P and Ref.: PID2020-115738GB-I00), and the Basque Government (Ref.: GIC12/91 IT-666-13, IT1187-19, and IT1598-22)].

7 See the project at osf.io/ec6fb.

Acknowledgments

We thank DP for his invaluable help in this work. In a year in which his retirement is imminent, we consider that this article in the framework of the monograph honors so many years of work dedicated to this line of research and the legacy that his work has left behind. In this context, we would also like to thank the many other giant arms that have inspired DP, such as Professor Bernard Rimé, Professor Nekane Basabe, and Professor Federico Javaloy†, who have allowed him to bequeath his wisdom on this exciting subject to new generations of researchers and to those of us who have recently been introduced to it.

Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

Publisher's note

Supplementary material

The Supplementary Material for this article can be found online at: https://www.frontiersin.org/articles/10.3389/fpsyg.2023.1096877/full#supplementary-material

† Deceased

References

*Agostini, M., and van Zomeren, M. (2021). Toward a comprehensive and potentially cross-cultural model of why people engage in collective action: a quantitative research synthesis of four motivations and structural constraints. *Psychol. Bull.* 147, 667–700. doi: 10.1037/bul0000256

*Akfirat, S., Uysal, M. S., Bayrak, F., Ergiyen, T., Üzümçeker, E., Yurtbakan, T., et al. (2021). Social identification and collective action participation in the internet age: a meta-analysis. *Cyberpsychol. J. Psychosoc. Res. Cyberspace* 15. doi: 10.5817/CP2021-4-10

Allen, V. (1970). Towards understanding riots. *J. Soc. Iss.* 36, 1–18. doi: 10.1111/j.1540-4560.1970.tb01278.x

Asif, M., and Weenink, D. (2019). Vigilante rituals theory: a cultural explanation of vigilante violence. *Eur. J. Criminol.* 19, 1–20. doi: 10.1177/1477370819887518

Asún, R., and Zúñiga, C. (2013). Por qué se Participa? Explicando la protesta social Regionalista a Partir de dos Modelos Psicosociales. *Psicoperspectivas* 12, 38–50.

Benford, R. D., and Snow, D. A. (2000). Framing processes and social movements: an overview and assessment. *Annu. Rev. Sociol.* 26, 611–639. doi: 10.1146/annurev.soc.26.1.611

Bennett, A., Taylor, J., and Woodward, I. (2015). *The Festivalization of Culture*. London: Routledge.

Bou Zeineddine, F., and Leach, C. W. (2021). Sentimiento y Pensamiento en la Acción Colectiva sobre Cuestiones Sociales: Hacia una Perspectiva de Sistemas. *Compás de Psicol. Soc. Personalidad* 15, e12622. doi: 10.1111/spc3.12622

Cakal, H., Hewstone, M., Schwaer, G., and Health, A. (2011). An investigation of the social identity model of collective action and the 'sedative' effect of intergroup contact among black and white students in South Africa. *Br. J. Soc. Psychol.* 50, 606–627. doi: 10.1111/j.2044-8309.2011.02075.x

Castells, M. (2012). *Networks of Outrage and Hope: Social Movements in the Internet Age*. Cambridge: Polity Press.

+Chan, R. C., Mak, W. W., Chan,. W. Y., and ·Lin, W. Y. (2021). Effects of social movement participation on political efficacy and well-being: a longitudinal study of civically engaged youth. *J. Happ. Stud.* 22, 1981–2001 doi: 10.1007/s10902-020-00303-y

Castro-Abril, P., da Costa,. S., Navarro-Carrillo,. G., Caicedo-Moreno, A., Gracia-Leiva, M., Bouchat, P., et al. (2021). Social identity, perceived emotional synchrony, creativity, social representations, and participation in social movements: the case of the 2019 chilean populist protests. *Front. Psychol.* 12, 764434. doi: 10.3389/fpsyg.2021.764434

Cheng, M., and Pan, X. (2012). Leisure motivation: an integrative review. *Soc. Behav. Pers.* 40, 1075–1082. doi: 10.2224/sbp.2012.40.7.1075

Cintra Torres, E., Moreira, S., and Costa Lopes, R. (2018). understanding how and why people participate in crowd events. *Soc. Sci. Inf.* 57, 1–18. doi: 10.1177/0539018418757714

Cusi, O., Alfaro-Beracoechea, L., Sánchez, M., and Alonso-Arbiol,. I. (2022). Frequency of participation in collective encounters, perceived emotional synchrony and transcendence emotions in a sample of mexican youths. *Rev. Psicol. UCA* 18, 27–46. doi: 10.46553/RPSI.18.36.2022.p27-46

Drury, J. (2020). Recent developments in the psychology of crowds and collective behavior. *Curr. Opin. Psychol.* 35, 12–16. doi: 10.1016/j.copsyc.2020.02.005

Drury, J., Carter, H., Cocking, C., Ntontis, E., Tekin Guven, S., and Amlôt, R. (2019). Facilitating collective psychosocial resilience in the public in emergencies: twelve recommendations based on the social identity approach. *Front. Public Health* 7, 141. doi: 10.3389/fpubh.2019.00141

Drury, J., and Reicher, S. (2005). Explaining enduring empowerment: a comparative study of collective action and psychological outcomes. *Eur. J. Soc. Psychol.* 35, 35–58. doi: 10.1002/ejsp.231

*Drury, J., and Reicher, S. (2020). "Crowds and collective behavior," in *Oxford Research Encyclopedia of Psychology*, ed M. A.Hogg (Oxford University Press).

Drury, J., Reicher, S. D., and Stott, C. (2012). "The psychology of collective action: crowds and change," in *Culture and Social Change: Transforming Society Through the Power of Ideas*, eds B. Wagoner, E. Jensen, and J. A. Oldmeadow (Charlote, CA: IAP Information Age Publishing), 19–38.

Durkheim, É. (1912/2008). *The Elementary Forms of Religious Life* (J. D. Swan transl.). London: Georges Allen and Unwin Ltd. (Original work published 1912).

Filleule, O., and Tartakowski, D. (2013). *Demonstrations*. Winipeg: Hignell Book Printing.

+Fung, A. L. C. (2022). Psychosocial correlates of reactive and proactive aggression among protesters during the social movement in Hong Kong. *Int. J. Environ. Res. Public Health* 19, 4679. doi: 10.3390/ijerph19084679

Gamson, W. A. (1992). "The social psychology of collective action," in *Frontiers in Social Movement Theory*, eds A. D. Morris, and C. McBlurg Mueller (New Haven; London: Yale University Press), 53–76.

Garssen, B., Visser, A., and Pool, G. (2020). Does spirituality or religion positively affect mental health? Meta-analysis of longitudinal studies. *Int. J. Psychol. Rel.* 31, 1–17. doi: 10.1080/10508619.2020.1729570

+Giugni, M., and Grasso, M. T. (2016). "The biographical impact of participation in social movements activities," in *The Consequences of Social Movements*, eds L. Bossi., M. Giuni, and K. Umb (Cambridge: Cambridge University Press), 88–105.

Han, B.-C. (2022). *La Desaparición de los Rituales*. Herder [The disappearance of rituals]. (Barcelona: Herder).

Hässler, T., Ullrich, J., Bernardino, M., Shnabel, N., Laar, C. V., Valdenegro, D., et al. (2020). A large-scale test of the link between intergroup contact and support for social change. *Nat. Hum. Behav.* 4, 380–386. doi: 10.1038/s41562-019-0815-z

Hawdon, J., and Ryan, J. (2011). Social relations that generate and sustain solidarity after a mass tragedy. *Soc. Forces* 89, 1363–1384. doi: 10.1093/sf/89.4.1363

Henríquez, D., Urzúa, A., and López-López, W. (2020). Identity fusion: a systematic review. *Acta Colombiana Psicol.* 23, 410–437. doi: 10.14718/ACP.2020.23.2.15

Hernandez Burgos, C., and Rina Simón, C. (2022). *Francoism Went Partying. Festive rites and Popular Culture During the Dictatorship*. Valencia: Universitat de Valencia.

+Hou, W. L., and Bonano, G. A. (2018). Emotions in everyday life during social movements: prospective predictions of mental health. *J. Couns. Psychol.* 65, 120–131. doi: 10.1037/cou0000236

*Jahnke, S., Abad Borger, K., and Beelmann, A. (2021). predictors of political violence outcomes among young people: a systematic review and meta-analysis. *Polit. Psychol.* 43, 111–129. doi: 10.1111/pops.12743

Jasper, J. M. (2011) Emotions and social movements: Twenty years of theory and research. Ann Rev. 37, 285-303. doi: 10.1146/annurev-soc-081309-150015

Javaloy, F., Espelt, E., and Rodríguez, A. (2007). "Collective behaviour and social movements in a global age," in *Psicologia Social. Tercera edición*, eds J. F. Morales, E. Gaviria, M. Moya, and I. Cuadrado (Madrid: Mc Graw Hill), 641-691.

Javaloy, F., Rodríguez, A., and Espelt, E. (2001). *Collective Behaviour and Social Movements*. Madrid: Prentice Hall.

Johnston, H. (2003). The reencounter of social psychology with collective behaviour and social movements. *Rev. Psicol. Soc.* 18, 207–211. doi: 10.1174/021347403321645276

Jost, J. T., Becker, J., Osborne, D., and Badaan, V. (2017). Missing in (collective) action: ideology, system justification, and the motivational antecedents of two types of protest behaviour. *Curr. Dir. Psychol. Sci.* 26, 99–108. doi: 10.1177/0963721417690633

Jost, J. T., and Hunyady, O. (2005). Antecedents and consequences of system-justifying ideologies. *Curr. Dir. Psychol. Sci.* 14, 260–265. doi: 10.1111/j.0963-7214.2005.00377.x

Kay, A. C., and Jost, J. T. (2003). Complementary justice: effects of "poor but happy" and "poor but honest" stereotype exemplars on system justification and implicit activation of the justice motive. *J. Pers. Soc. Psychol.* 85, 823–837. doi: 10.1037/0022-3514.85.5.823

Klandermans, B. (1984). Mobilization and participation, social-psychological expansions of resource mobilization theory. *Am. Sociol. Rev.* 49, 583–600. doi: 10.2307/2095417

Klandermans, P. G., and van Stekelenburg, J. (2019). "Identity formation in street demonstrations," in *Identities in Everyday Life*, eds J. E. Stets, and R. T. Serpe (Oxford: Oxford University Press), 309–327.

Kuykendall, L., Tay, L., and Ng, V. (2015). Leisure engagement and subjective well-being: a meta-analysis. *Psychol. Bull.* 141, 364–403. doi: 10.1037/a0038508

Ladd, A., Hood, T., and van Liere, K. D. (1983). Ideological themes in the antinuclear movement. *Sociol. Inq.* 53, 252–272. doi: 10.1111/j.1475-682X.1983.tb00036.x

Leader, T., Mullen, B., and Abrams, D. (2007). Without mercy: the immediate impact of group size on lynch mob atrocity. *Pers. Soc. Psychol. Bull.* 33, 1340–1352. doi: 10.1177/0146167207303951

LeBon, G. (1986). *The Crowd a Study of the Popular Mind*. Kitchener, ON: Batoche Books.

+Lindholm, A. (2020). Does subjective well-being affect political participation? *Swiss J. Sociol.* 46, 467–488. doi: 10.2478/sjs-2020-0023

Lindzey, G., and Aronson, E. (1969). *Handbook of Social Psychology. Vol Five. Applied Social Psychology. Vol. Four, 2nd Edn*. Menlo Park, CA: Addison-Wesley Pub. Co.

Lovakov, A., and Agadullina, E. (2021). Empirically derived guidelines for interpreting effect size in social psychology. *Eur. J. Soc. Psychol.* 51, 485–504. doi: 10.1002/ejsp.2752

Manfredo, M. J., Driver, B.-L., and Tarrant, M. (1996). measuring leisure motivation, a meta-analysis of the recreation experience preference scales. *J. Leis. Res.* 28, 188–213. doi: 10.1080/00222216.1996.11949770

Marx, K. (1970). *La Ideología Alemana*. Barcelona: Pueblos Unidos-Grijalbo.

Matthewman, S., and Uekusa, S. (2021). theorizing disaster communitas. *Theory Soc.* 50, 965–984. doi: 10.1007/s11186-021-09442-4

*McPhail, C., and Wohlstein,. R. T. (1983). Individual and collective behaviours within gatherings, demonstrations, and riots. *Annu. Rev. Sociol.* 9, 579–600. doi: 10.1146/annurev.so.09.080183.003051

*Milgram, S., and Toch, H. (1969). "Collective behaviour: crowds and social movements," in *The Handbook of Social Psychology. Vol. 4. 2nd Edn*, eds G. Lindzey, and E. Aronson (Menlo Park, CA: Addison-Wesley Pub. Co.).

Minamizono, T., Kaneko, Y., Minamizono, S., and Motohashi, Y. (2013). Association of festival observance with psychological distress in a rural Japanese community. *Open J. Prev. Med.* 3, 368–373. doi: 10.4236/ojpm.2013.35050

Moher, D., Shamseer, L., Clarke, M., Ghersi, D., Liberati, A., Petticrew, M., et al. (2015). PRISMA-P Group. Preferred reporting items for systematic review and meta-analysis protocols (PRISMA-P) 2015 statement. *Syst. Rev.* 4, 1. doi: 10.1186/2046-4053-4-1

*Ni, M. Y., Kim, Y., McDowell, I., Wong, I., Qiu, H., Wong, I. O. L., et al. (2020). Mental health during and after protests, riots and revolutions, a systematic review. *Aust. N. Zeal. J. Psychiatry* 54, 232–243. doi: 10.1177/0004867419899165

Ni, M. Y., Yao, X. Y., Leung, K. S. M. L., Yau, C., Leung, C. M. C., Lun, P., et al. (2021). Depression and post-traumatic stress during major social unrest in Hong Kong: a 10-year prospective cohort study. *Lancet* 25, 273–284. doi: 10.1016/S0140-6736(19)33160-5

Ortiz, I., Burke, S., Berrada, M. and Sáenz Cortés, H. (2022). *World Protests: A Study of Key Protest Issues in the 21st Century*. New York, NY: Palgrave McMillan.

Osborne, D., Jost, J. T., Becker, J. C., Badaan, V., and Sibley, C. G. (2018). Protesting to challenge or defend the system? A system justification perspective on collective action. *Eur. J. Soc. Psychol.* 49, 244–269. doi: 10.1002/ejsp.2522

Páez, D., Basabe, N., Ubillos, S., and Gonzalez, J. L. (2007). Social sharing, participation in demonstrations, emotional climate, and coping with collective violence alter the march 11th madrid bombings. *J. Soc. Issues* 63, 207–323. doi: 10.1111/j.1540-4560.2007.00511.x

Páez, D., and da Costa, S. (2022). "Movimientos Sociales," in *Movimientos sociales, Una Psicología de los Individuos y las Organizaciones* (España: Prismanoticias Colecciones y Emse Edapp, S.L.), 103–126.

Páez, D., Javaloy, F. Wlodarczyk, A., Espelt, E., and Rimé, B. (2013) The 15-M Movement: Actions as Rituals, Social Sharing, Beliefs, Values and Emotions. *Int. J. Psyvhol.*, 28, 19–33. doi: 10.1174/021347413804756078

Páez, D., Rimé, B., Basabe, N., Wlodarczyk, A., and Zumeta, L. N. (2015). Psychosocial effects of perceived emotional synchrony in collective gatherings. *J. Pers. Soc. Psychol.* 108, 711–729. doi: 10.1037/pspi0000014

Pennebaker, J. W., and Harber, K. D. (1993). A social stage model of collective coping, the loma prieta earthquake and the Persian Gulf War. *J. Soc. Iss.* 49, 125–114 doi: 10.1111/j.1540-4560.1993.tb01184.x

Pizarro, J. J., Zumeta, L. N., Bouchat, P., Włodarczyk, A., Rimé, B., Basabe, N., et al. (2022). Emotional processes, collective behaviour, and social movements, a meta-analytic review of collective effervescence outcomes during collective gatherings and demonstrations. *Front. Psychol.* 13, 974683. doi: 10.3389/fpsyg.2022.974683

Postmes, T., and Spears, R. (1998). Deindividuation and normative behavior, a meta-analysis. *Psychol. Bull.* 13, 238–259. doi: 10.1037/0033-2909.123.3.238

Quarantelli, E. L., and Dynes, R. L. (1977). Response to social crisis and disaster. *Annu. Rev. Sociol.* 3, 23–24. doi: 10.1146/annurev.so.03.080177.000323

Quarantelli, E. L., and Hundley, J. R. (1969). "A test of some propositions about crowd formation and behavior," in *Readings in Collective Behaviour*, ed R. Evans (Chicago, IL: Rand McNally).

*Reicher, S., and Drury, J. (2015). "Collective behaviour, social psychology of," in *International Encyclopedia of the Social and Behavioural Sciences*, Vol. 22, *2nd Edn*, eds J. D. Wright (Oxford: Elsevier), 151–156.

Reicher, S., Spears, R., and Postmes, T. (1995). A social identity model of deindividuation phenomena. *Eur. Rev. Soc. Psychol.* 6, 161–198. doi: 10.1080/14792779443000049

Remedi, G. A. (2020). The equivocal politics of carnival. the forms and discourses of carnivalesque theater in contemporary Uruguay. *J. Fest. Stud.* 2, 236–264. doi: 10.33823/jfs.2020.2.1.28

Rimé, B. (2020). "Collective responses to collective trauma: synchronization and collective resilience," in *Societies Under Threat*, eds D. Jodelet, E. Drozda-Senkowa, and J. Vala (Switzerland: Springer), 202–212.

+Rimé, B., Páez, D., and Basabe, N. (2004). Psychosocial effects and processes of participation in demonstrations after the March 11 terrorist attack. *Ansiedad y Estrés* 10, 247–263.

Rimé, B., Yzerbyt, V., and Mahjoub, A. (2017). Perception of emotional climate in a revolution: test of a multistage theory of revolution in the tunisian context. *Br. J. Soc. Psychol.* 56, 33–654. doi: 10.1111/bjso.12204

Sabucedo, J. M., Barreto Galeano, M. I., Seoane Pesqueira, M. G., Alzate García, M., Gómez Román, C., and Vilas Castro, X. (2017). Political protest in times of crisis. Construction of new frames of diagnosis and emotional climate. *Front. Psychol.* 8, 1568. doi: 10.3389/fpsyg.2017.01568

Sabucedo, J. M., Dono, M., Alzate, M., and Seoane, G. (2018). The importance of protesters' morals: moral obligation as a key variable to understand collective action. *Front. Psychol.* 9, 418. doi: 10.3389/fpsyg.2018.00418

Sheldon, K. M., Elliot, A. J., Kasser, T., and Kim, Y. (2001). What is satisfying about satisfying events? Testing 10 candidate psychological needs. *J. Pers. Soc. Psychol.* 80, 325–339. doi: 10.1037/0022-3514.80.2.325

*Smith, H. J., Pettigrew, T. F., Pippin, G. M., and Bialosiewicz, S. (2012). Relative deprivation: a theoretical and meta-analytic review. *Person. Soc. Psychol. Rev.* 16, 203–232. doi: 10.1177/1088868311430825

*Smith, H. J., Ryan, D. A., Jaurique, A., Pettigrew, T. F., Jetten, J., Ariyanto, A., et al. (2018). Cultural values moderate the impact of relative deprivation. *J. Cross Cult. Psychol.* 49, 1183–1218. doi: 10.1177/0022022118784213

*Snow, D. A., and Oliver, P. E. (1995). "Social movements and collective behaviour," in *Sociological Perspectives on Social Psychology*, eds K. S. Cook, G. A. Fine, and J. S. House (Boston, MA: Allyn and Bacon), 571–599.

Stallings, R. A. (1973). Patterns of belief in social movements: clarifications from an analysis of environmental groups. *Sociol. Q.* 14, 465–480. doi: 10.1111/j.1533-8525.1973.tb01385.x

Tajfel, H., and Turner, J. C. (1986). "The social identity theory of intergroup behaviour," in *Psychology of Intergroup Relations*, eds S. Worchel, and W. G. Austin (Chicago, IL: Nelson-Hall), 7–24.

Tanford, S., and Jung, S. (2017). Festival attributes and perceptions: a meta-analysis of relationships with satisfaction and loyalty. *Tour. Manag.* 61, 209–220. doi: 10.1016/j.tourman.2017.02.005

Tarde, G. (2011). "Public and crowd," in *Creencias, Deseos, Sociedades,* ed G.Tarde (BS AS: Cactus), 199–250.

Tarrow, S. (1997). *Power in Motion. Social Movements, Collective Action and Politica*. Madrid: Alianza universidad.

Tausch, N., and Becker, J. C. (2012). Understanding the psychological processes involved in the demobilizing effects of positive cross-group contact. *Behav. Brain* 35, 447–448. doi: 10.1017/S0140525X12001446

Tausch, N., and Becker, J. C. (2013). Emotional reactions to success and failure of collective action as predictors of future action intentions: a longitudinal investigation in the context of student protests in Germany. *Br. J. Soc. Psychol.* 52, 525–542. doi: 10.1111/j.2044-8309.2012.02109.x

Touraine, A. (1978). *The Voice and the Gaze*. París: Ed du Seuil.

Tremblay, M. C., Martin, D. H., Macaulay, A. C., and Pluye, P. (2017). Can we build on social movement theories to develop and improve community-based participatory research? A framework synthesis review. *Am. J. Commun. Psychol.* 59, 333–362. doi: 10.1002/ajcp.12142

Valencia, J. (1990). The logic of collective action: three models of analysis of non-institutional political participation. *Rev. Psicol. Soc.* 5, 185–214. doi: 10.1080/02134748.1990.10821626

van Stekelenburg, J., Anikina, N. C., Pouw, W. T. J. L., Petrovic, I., and Nederlof, N. (2013). From correlation to causation: the cruciality of a collectivity in the context of collective action. *Journal of Soc. Polit. Psychol.* 1, 161–187. doi: 10.5964/jspp.v1i1.38

van Stekelenburg, J., and Klandermans, B. (2007). *Individuals in Movements, A Social Psychology of Contention. The Handbook of Social Movements Across Disciplines*. New York, NY: Springer.

van Stekelenburg, J., and Klandermans, B. (2013). the social psychology of protest. *Curr. Sociol.* 61, 886–905. doi: 10.1177/0011392113479314

van Stekelenburg, J., Klandermans, B., and Walgrave, S. (2018). "Individual participation in street demonstration," in *The Wiley Blackwell Companion to Social Movements, 2nd Edn*, eds D. A. Snow, S. A. Soule, H. Kriesi, and H. J. McBammon (Hoboken, NJ).

van Zomeren, M. (2016). Building a tower of Babel? Integrating core motivations and features of the social structure in the political psychology of political action. *Adv. Polit. Psychol.* 37, 87–114. doi: 10.1111/pops.12322

van Zomeren, M., Leach, C. W., and Spears, R. (2010). Does group efficacy increase group identification? Resolving their paradoxical relationship. *J. Exp. Soc. Psychol.* 46, 1055–1060. doi: 10.1016/j.jesp.2010.05.006

*van Zomeren, M., Postmes, T., and Spears, R. (2008). Toward an integrative social identity model of collective action: a quantitative research synthesis of three socio-psychological perspectives. *Psychol. Bull.* 134, 504–535. doi: 10.1037/0033-2909.134.4.504

*Vestergren, S., Drury, J., and Hammar Chiriac, E. (2017). The biographical consequences of protest and activism, a systematic review and a new typology. *Soc. Mov. Stud.* 16, 203–221. doi: 10.1080/14742837.2016.1252665

Wlodarczyk, A., Basabe, N., Páez, D., and Zumeta, L. (2017). Hope and anger as mediators between collective action frames and participation in collective mobilization, the case of 15-M. *J. Soc. Polit. Psychol.* 5, 200–223. doi: 10.5964/jspp.v5i1.471

Wlodarczyk, A., Zumeta, L. N., Pizarro, J. J., Bouchat, P., Hatibovic, F., Basabe, N., et al. (2020). Perceived emotional synchrony in collective gatherings: validation of a short scale and proposition of an integrative measure. *Front. Psychol.* 11, 1721. doi: 10.3389/fpsyg.2020.01721

Zamudio, A., Montero-López, L. M., and García Cabrero, B. (2022). Collective action on March 8, empirical test of three theoretical models. *Psicol. Iberoam.* 30, e301416. doi: 10.48102/pi.v30i1.416

Zumeta, L., Castro-Abril, P., Méndez, L., Pizarro, J. J., Wlodarczyk, A., Basabe, N., et al. (2020). Collective effervescence, self-transcendence, and gender differences in social well-being during 8 march demonstrations. *Front. Psychol.* 11, 607538. doi: 10.3389/fpsyg.2020.607538

∗ References marked with an asterisk indicate studies included in the systematic review and meta-analysis integration.
+ References marked with a cross indicate specific studies included in the review of effects of participation in SMs and CB in the medium and long term, because they were published after 2016 and were not included in Vestergren et al. (2017).

frontiers | Frontiers in Psychology

TYPE Original Research
PUBLISHED 27 April 2023
DOI 10.3389/fpsyg.2023.1155950

OPEN ACCESS

EDITED BY
Dario Paez,
University of the Basque Country, Spain

REVIEWED BY
José-manuel Sabucedo,
University of Santiago de Compostela, Spain
Pilar Aguilar,
Loyola Andalusia University, Spain

*CORRESPONDENCE
Héctor Carvacho
✉ hscarvac@uc.cl

RECEIVED 01 February 2023
ACCEPTED 04 April 2023
PUBLISHED 27 April 2023

CITATION
Carvacho H, González R, Cheyre M, Rocha C, Cornejo M, Jiménez-Moya G, Manzi J, Álvarez-Dezerega C, Álvarez B, Castro D, Varela M, Valdenegro D, Drury J and Livingstone A (2023) When social movements fail or succeed: social psychological consequences of a collective action's outcome.
Front. Psychol. 14:1155950.
doi: 10.3389/fpsyg.2023.1155950

When social movements fail or succeed: social psychological consequences of a collective action's outcome

Héctor Carvacho[1]*, Roberto González[1], Manuel Cheyre[1], Carolina Rocha[1,2], Marcela Cornejo[1], Gloria Jiménez-Moya[1], Jorge Manzi[1], Catalina Álvarez-Dezerega[1], Belén Álvarez[1,3], Diego Castro[1,4], Micaela Varela[1,5], Daniel Valdenegro[1,6], John Drury[7] and Andrew Livingstone[8]

[1]Escuela de Psicología, Pontificia Universidad Católica de Chile, Santiago, Chile, [2]School of Psychology and Neuroscience, University of St. Andrews, Scotland, United Kingdom, [3]School of Psychology, University of Queensland, Brisbane, QLD, Australia, [4]Department of Social Science, University College London, London, United Kingdom, [5]Department of Applied Psychology, New York University, New York, NY, United States, [6]Department of Sociology, University of Oxford, Oxford, United Kingdom, [7]School of Psychology, University of Sussex, Brighton, United Kingdom, [8]School of Psychology, University of Exeter, Exeter, United Kingdom

Collective actions occur all around the world and, in the last few years, even more frequently. Previous literature has mainly focused on the antecedents of collective actions, but less attention has been given to the consequences of participating in collective action. Moreover, it is still an open question how the consequences of collective action might differ, depending on whether the actions are perceived to succeed or fail. In two studies we seek to address this gap using innovative experimental studies. In Study 1 (N=368) we manipulated the perceptions of success and failure of a collective action in the context of a real social movement, the Chilean student movement from last decade. In Study 2 (N=169), in addition to manipulating the outcome, we manipulated actual participation, using a mock environmental organization aiming to create awareness in authorities, to test the causal effect of both participation and success/failure on empowerment, group efficacy, and intentions of future involvement in normative and non-normative collective actions. Results show that current and past participation predict overall participation in the future, however, in Study 2 the manipulated participation was associated with having less intentions of participating in the future. In both studies, perception of success increases group efficacy. In Study 1, we found that when facing failure, participants increase their willingness to participate more in the future as opposed to non-participants that actually decrease theirs. In Study 2, however, failure increases the perception of efficacy for those with a history of non-normative participation. Altogether these results highlight the moderating role of the outcome of collective action to understand the effect of participation on future participation. We discuss these results in light of the methodological innovation and the real world setting in which our studies were conducted.

KEYWORDS

collective action, social movement, group efficacy, empowerment, social identity

Introduction

Collective actions are a key aspect towards social change (Thomas and Louis, 2013). From student manifestations against tuition fees in Germany (Tausch et al., 2011), to social protests in Armenia during the Velvet Revolution (Burrows et al., 2022), the Egyptian revolution (Sadowski et al., 2017), and the Chilean social outburst of 2019 (Castro-Abril et al., 2021; Gerber et al., 2023) collective actions have occurred throughout history and all around the world. However, although collective actions are directed towards goals, they rarely achieve them right away (Louis et al., 2020). Moreover, they can have multiple failures and successes through their way to make things change. Therefore, it is not only important to study what mechanisms precede collective actions, but also to understand what happens to those mechanisms when people perceive their participation in collective actions as success or failure. Does it affect intentions of future participation? What reactions may occur? In this paper we go beyond the antecedents of collective actions and focus on what happens after people actually participate in them using an experimental approach rarely seen in collective action research.

Antecedents of the participation in collective action

In order to achieve their goals, social movements usually mobilize people to collectively carry out actions such as marches, demonstrations, and petitions. The research on this field has mainly focused on identifying antecedents of people's engagement in collective actions. Perceived injustice, social identity, and the perception that a group is able to accomplish its goals—what has been called group efficacy (Bandura, 2000)—directly affect participation in collective actions, as described in the social identity model of collective action (SIMCA; van Zomeren et al., 2008). Moreover perceived injustice and group efficacy also mediate the effect of social identity on participation.

The encapsulation model of the social identity of collective action (EMSICA; Thomas et al., 2012) and the dual chamber model (Agostini and van Zomeren, 2021) also highlight the importance of social identification, group efficacy and perceived injustice as predictors of participation (Keshavarzi et al., 2021). The dual chamber model and an extended version of SIMCA (van Zomeren, 2013), also add morality as a fourth predictor for collective actions. The extended version of SIMCA also includes group-based anger to account for feelings of injustice.

However, as these models focus on the predictors of participation, they do not account for the consequences that participating in collective actions have on people. Three models that do seek to explain psychological consequences of collective action are the elaborated social identity model (ESIM; Drury and Reicher, 2005, 2009), the collective action recursive empowerment model (CARE; Burrows et al., 2022) and in the dynamic dual pathway model (DDP; van Zomeren et al., 2012; see also Becker and Tausch, 2015 for a different dynamic model that develops SIMCA). ESIM suggests that dimensions of identity can change when participants are socially re-positioned in relation to an outgroup (usually police). In this account, action experienced as successfully imposing ingroup identity over an outgroup leads to psychological empowerment, defined as a positive "social-psychological state of confidence in one's ability to challenge existing relations of domination" (Drury and Reicher, 2005, p. 35). CARE addresses a dualistic and reiterative process of collective actions that includes individual and group motivations (Burrows et al., 2022). It holds that positive or successful outcomes of small-scale collective actions strengthen motivation for large-scale acts of protest, by increasing feelings of shared group identity, efficacy, and empowerment.

DDP addresses collective action as a dynamic process through a coping perspective in the context of collective disadvantage (van Zomeren et al., 2012). Thus, causes of collective action include a series of cognitive appraisals to cope with disadvantage, such as self-relevance of the collective disadvantage (i.e., group identification), external blame for unfairness, which leads to group-based anger, and group efficacy. Furthermore, participating in collective actions can increase cognitive reappraisals: self-relevance appraisal, the appraisal of unfairness, and the beliefs of being able to cope with the situation, which may lead to increasing group identification.

Consequences of participating in collective actions

Previous research has shown that when people identifies with a group that is being treated unfairly, they will struggle collectively to improve the group's social status as it impacts their own sense of wellbeing and self-esteem (Tajfel and Turner, 1979; van Zomeren et al., 2004, 2008). Moreover, participating in collective action can solidify group identity and promote future action (Drury and Reicher, 2005, 2009), it can empower individuals (Drury and Reicher, 2000, 2005) and increase group efficacy beliefs (van Zomeren et al., 2012). Recent studies have also pointed out that after participating in collective action people show higher levels of empowerment (Vestergren et al., 2017; Uluğ and Acar, 2018; Thomas et al., 2022), movement identification, anger (Bilali et al., 2019), and collective effervescence, as shown in a meta-analysis conducted by Pizarro et al. (2022).

A recent review highlighted that participating in collective actions has multiple consequences, including a sustained engagement in collective actions (Thomas et al., 2022). However, there is a distinction within the literature between normative or conventional and non-normative, or radical, collective actions. Normative actions, such as signing petitions, blocking the highway, or participating in peaceful demonstrations, conform to current social norms, while non-normative actions violate these norms, and are often related to more violent methods such as sabotage, or attacks on the police (Tausch et al., 2011).

Lizzio-Wilson et al. (2021) showed that after a failed collective action, people with higher levels of social identification with the unsuccessful group were more likely of both to act in conventional ways and to justify the use of radical methods than those who identify less. Similarly, Louis et al. (2020) found that after a conventional collective action failed, among other reactions, some people more identified with the group were willing to change to more radical tactics. On the contrary, other studies suggest that observers of extreme collective actions identified less with the group, reducing their willingness to join them (Feinberg et al., 2020), and, although participants of radical actions can increase their identification with the

movement, if they are against the broader in-group norms, they can disidentify from it (Becker et al., 2011).

Normative and non-violent collective actions promote endorsement of future non-violent strategies by conveying higher perceptions of illegitimacy of the situation and group efficacy (Thomas and Louis, 2014). Likewise, a recent study showed that participation in radical political actions predicted less external political efficacy, i.e., reducing confidence in influencing government decisions; while non-radical political participation predicted higher internal political efficacy, i.e., promoting beliefs of having what is necessary to engage in political activities (Zhu et al., 2022). Therefore, these studies concur with previous results that showed both a positive relation between efficacy and normative actions, and a negative relation between efficacy and non-normative behaviors (Tausch et al., 2011).

Effects of success and failure

Collective actions are usually goal-oriented. Therefore, outcomes of participation, whether through normative or non-normative actions, are not neutral, and can be evaluated in terms of their success or failure at achieving their goals. However, because of the focus on the predictors of participation in social movements, much less is known about the effect of success or failure of a collective action on the willingness of people to participate further in collective actions. Do people feel more inclined to keep participating once a collective action has succeeded than when it fails?

Previous research has shown that when collective actions succeed, the tactics used tend to be repeated (Louis et al., 2020) and participants are more willing to engage in future collective actions because their participation contributes to increasing group efficacy (van Zomeren et al., 2013). Likewise, Freel and Bilali (2022) suggest that narratives of past successful actions should have a similar effect increasing engagement and group efficacy beliefs. Moreover, feelings of empowerment and motivation for future participation are greater when success is relevant to the social identity of a group (Drury and Reicher, 2009). Meanwhile, a recent review suggests that experiences of collective success in pro environmental actions increase the perception that the group can reach its goals (Fritsche and Masson, 2021). This would be consistent with CARE, where success in small-scale actions increases beliefs of group efficacy and shared identity (Burrows et al., 2022).

Regarding failure, previous research has shown that while it can make people desist at their tasks (Elliott and Dweck, 1988), in a collective context this is not always the case. Sometimes people want to keep on participating in the social movements that have failed to accomplish their goals (e.g., Drury and Reicher, 2000). Also, some field studies report that people can actually unite and feel more empowered when facing failure, leading to more intentions of future participation (Drury et al., 2005; Drury and Reicher, 2005, 2009). This evidence indicates that the effects of success and failure of collective actions are not straightforward.

Moreover, recent studies and a meta-analysis concur that there are divergent and even contradictory responses to failure (Louis et al., 2020, 2022; Lizzio-Wilson et al., 2021). Such responses go from disengagement or disidentification with the group, reducing intentions to act or giving up, to renewed commitment and continued efforts in the movement, which increases intentions to engage. Likewise, it can make people innovate or maintain strategies of conventional or radical actions.

Finally, Tausch and Becker (2013) show that emotions such as pride or anger, related to the success or failure of a movement respectively, enhance motivation for future collective action. Moreover, they suggest that the way the outcome of collective action is interpreted depends on previous level of identification of the participants, such as perceptions of success and failure will have stronger emotional effects on those who identify more with the group. In this study, we aim to investigate if perceptions of success and failure can also moderate the effects of social identity and participation on group efficacy, empowerment, and intentions of future participation.

Thus, previous literature has mainly focused on antecedents of collective action, being social identity, perceived injustice, group efficacy, and empowerment some of the most common variables. Also, more recent studies have investigated consequences of participating in normative or non-normative collective actions, including its effects on the latter variables and future participation. Some of them include perceptions of success or failure as part of the consequences. However, to our knowledge, there is a lack of experimental testing of the outcomes of participating in collective actions. Therefore, in this study we aim to address this gap by experimentally manipulating both participation in collective actions and success or failure, to test whether they have an effect on empowerment, group efficacy and intentions of future involvement in normative and non-normative actions.

The present studies

In this paper we will present two experimental studies that manipulate the perceptions of success and failure of a social movement in naturalistic environments. In the first study we manipulated the perception of success or failure of a real social movement in Chile known as the student movement. For the second study we created a fictitious pro environmental organization and, in addition to the perception of success or failure, we manipulated the participation in a collective action supposedly carried out by this mock organization. For both studies we sought to maintain the designs as similar as possible, and the statistical analyses conducted for both were exactly the same.

Both experimental studies were carried out in Chile, which has been the scenario of many important social movements over the years, as illustrated by the social movement that brought Salvador Allende to power in 1970, the social movements against Pinochet's dictatorship in the 80s, the student movements of 2006 and 2011 onwards, and more recently the social outburst of 2019 (Chayinska et al., 2021; Cornejo et al., 2021; González et al., 2021, 2022; Smith et al., 2021; Medel et al., 2022; Gerber et al., 2023). The studies reported here were carried out as part of a broader project addressing the social psychological consequences of participating in collective actions, using longitudinal data (González et al., 2021), mixed methods with dyads of parents and children (Cornejo et al., 2021; González et al., 2021), and, for the case of the studies presented here, experimental data.

Overall, these studies have three main objectives. First, we replicate the previously observed effects of social identity and participation in collective actions on intentions of participation in the future, in both normative and nonnormative collective actions, as well

as on perceptions of group efficacy and empowerment. We expect that identifying with a social movement will lead to increased intentions of participation in normative collective actions (Tausch et al., 2011) as well as on feelings of empowerment (Drury and Reicher, 2009) and on the perception that the group is effective (van Zomeren et al., 2004, 2008). Regarding participation we expect that they will have direct effects over intentions of future participation in general (normative and non-normative), but not directly on group efficacy nor empowerment (van Zomeren et al., 2012). All these predictions comprise Hypothesis 1 (H_1).

The second objective of this paper is to determine the effects of success and failure of the social movement over group efficacy, feelings of empowerment and intentions of participating in collective actions in the future. We hypothesize that the perception of success will directly increase perceptions of group efficacy and empowerment (H_2) and indirectly on intentions of future participation through group efficacy (van Zomeren et al., 2012).

Finally, the third objective is to determine the way the perception of success or failure can moderate the effects of social identity and participation (current and past) on group efficacy, empowerment and intentions of future participation. In this case, the evidence is less clear and therefore the hypothesis will remain exploratory (H_3).

Study 1

During the year 2011, a massive social movement arose in Chile composed mostly of students that demanded free and high-quality college education. With weekly marches and creative demonstrations, the student movement gained much traction and attracted hundreds of thousands of students. As a consequence, the movement widely set the national political agenda for that year. Although with less strength, the movement remained active and organized for a decade, and its effects are still relevant: the government carried out several reforms on the education, tax, and political systems based on the demands of the movement. Whether these outcomes derived from the student movement or were in line with what they sought to accomplish is still a matter of public debate. For this reason, this movement constitutes an appropriate context to manipulate perceptions of success and failure of a social movement and test its psychological effects on its supporters.

Design

In a 3 × 2 experiment we manipulated the perceptions of either success or failure of the student movement, including a control group; and recruited college students that either participated or not in the actions carried out by the student movement. As previously discussed, one of the main challenges for studying the effects of the success or failure of a social movement is how to precisely define them. To address this, we conducted a pilot study in which we sought to understand how students that identify with the student movement define these outcomes. We conducted semi-structured interviews to students that identify themselves with the movement with different levels of involvement, ranging from non-participants to movement leaders (N = 12). We identified two main dimensions in which students assess the success or failure of the student movement: the level of public support and the public expenditure in the education system by the state. Based on these findings, we manipulated the perceptions of success and failure of the movement using a bogus report that stated either the success or the failure of the student movement based on these two dimensions: the levels of public support and public expenditure. In the control condition neither success nor failure was implied by the report. The control condition was included to check whether both experimental conditions, success and failure, work in the expected directions, ruling out that any difference between them might be driven by only one of the conditions working properly.

Sample and procedures

A team of trained recruiters invited college students in their classrooms to participate in a study that allegedly sought to understand the perceptions of the students regarding the student movement. Each student that completed the questionnaire was offered and paid a retribution of CLP$7000 (approximately US$15). After they consented to participate in the study and accepted to be contacted later via e-mail to answer the questionnaire, they were asked to select one of three phrases that represented them best regarding their involvement with the student movement: *I identify with the student movement and participate in its actions*; *I identify with the student movement but do not participate in its actions*; and *I do not identify with the student movement nor I participate in its actions*. This question allowed us to select participants for the study that identified with the student movement and either participated or not in its actions. We excluded all the students that did not identify with the movement.

The intended sample was of 300 students that were distributed randomly between the success, failure and control conditions, but due to an underestimation of the response rate of the participants, we decided to add a control condition to have a better understanding of the effects of the success and failure. The sample finally consisted of 388 students (M_{age} = 20.4, SD_{age} = 2.02; 61.3% women). 143 were randomly assigned to the success condition (76 actual participants of the student movement); 147 were randomly assigned to the failure condition (75 actual participants of the student movement) and 78 that were assigned to the control condition (39 actual participants of the student movement). All of them were shown one of the versions of the report. After reading it, they were prompted with a manipulation check, in which they were asked *how successful they though the student movement had been in achieving its objectives* (from 1 = "Not at all successful"; to 5 = "Very successful"); and later proceeded to answer a questionnaire that contained all the dependent variables, as well as questions about demographic information. After completing the questionnaire, all participants were contacted for their monetary retribution and were fully debriefed about the true nature of the study.

Measures

Past participation in collective actions

Past participation in collective actions was measured with an eight-item scale adapted from Tausch et al. (2011), which consisted of two subscales with four items each: Past Participation in Normative

Actions of the Student Movement (e.g., 'Participate in discussion meetings or assemblies') and Past Participation in Non-Normative Actions of the Student Movement (e.g., 'Confronting the police in protests'). Participants were asked to rate how often they had participated in those actions in the past year on a scale ranging from 1 (*Never*) to 5 (*Very frequently*). Cronbach's alpha showed that both sub-scales have good reliability ($\alpha_{Normative} = 0.80$ and $\alpha_{Non\text{-}normative} = 0.73$).

Collective action tendencies

Participation in collective actions was measured with an eight-item scale also adapted from Tausch et al. (2011), which included two subscales with 4 items each: Intentions of Participating in Normative Actions of the Student Movement (e.g., 'Participate in discussion meetings or assemblies') and Intentions of Participating in Non-Normative Actions of the Student Movement (e.g., 'Confronting the police in protests'). Participants were asked to rate how willing they were to participate in actions of the student movement in the future, in a scale ranging from 1 (*Not at all willing*) to 9 (*Very willing*). Cronbach's alpha showed that both sub-scales have good reliability ($\alpha_{Normative} = 0.83$ and $\alpha_{Non\text{-}normative} = 0.82$).

Social identity

A five-item scale adapted from Leach et al. (2008) was used to assess the students' level of social identification with the student movement. Some of the items used are *I feel attached to the members of the student movement*; *I am similar to members of the student movement* and *I feel committed to the members of the student movement*. A Likert answer scale ranging from 1 (Strongly disagree) to 5 (Strongly agree) was used. Cronbach's alpha = 0.86 shows that the scale has good reliability.

Empowerment

Two items were used to measure feelings of empowerment: *The student movement is challenging the power of dominant groups in society*; *The student movement has enough power to change social inequality in this country*. A Likert answer scale ranging from 1 (*Strongly disagree*) to 5 (*Strongly agree*) was used. The two items were adequately correlated $r = 0.52$.

Group efficacy

A seven-item scale adapted from Tausch et al. (2011) was used to assess the perceptions of group efficacy regarding the Chilean student movement. Some of the items that were used were: *I believe that the Chilean student movement will succeed in implementing reforms in the Chilean educational system;* and *The protests of this movement will be effective to create a change in the Chilean educational system*. A Likert answer scale ranging from 1 (Strongly disagree) to 5 (Strongly agree) was used. Cronbach's alpha =0.85 shows that the scale has good reliability.

Results and discussion

To test whether the experimental manipulation worked as expected, a one-way ANOVA was conducted and showed that this was indeed the case, $F(2,377) = 87.4$, $p < 0.001$; participants in the success condition ($M = 3.82$, $SD = 0.74$) perceived that the student movement was more successful than in the control ($M = 3.18$, $SD = 0.67$) and the failure conditions ($M = 2.74$, $SD = 0.72$). A *post-hoc* Tukey test showed that both manipulations differed from the control condition.

All three hypotheses were tested using a general linear model that had the success/failure manipulation (3 conditions) and the current participation quasi experimental conditions (2 conditions) as factors predicting perceptions of group efficacy, feelings of empowerment and intentions of participating in normative and non-normative collective actions of the student movement. Additionally, we included identification with the student movement and reported past participation in the same movement (both normative and non-normative actions) as continuous predictors. This technique is similar to a MANCOVA, with the exception that the latter variables are considered here as independent predictors and not merely as control variables.

> H_1: Effects of Social Identity, Current and Past Participation in the Student Movement.

First, we sought to replicate the effects of social identification, current and past participation in a social movement on group efficacy, empowerment, and collective action tendencies. For this, we focused on the main effects of these variables over all dependent variables. As shown in Table 1, social identification with the student movement, *Wilk's Lambda (V)* = 0.805, $F(4, 375) = 21.23$, $p < 0.001$, $\eta_p^2 = 0.195$; current participation in the movement, $V = 0.941$, $F(4, 368) = 5.46$, $p < 0.001$, $\eta_p^2 = 0.06$; and experiences of past participation in normative, $V = 0.847$, $F(4, 359) = 15.85$, $p < 0.001$, $\eta_p^2 = 0.15$; and non-normative actions of the student movement, $V = 0.849$, $F(4, 359) = 15.62$, $p < 0.001$, $\eta_p^2 = 0.15$; have multivariate effects on the dependent variables.

The univariate main effects of the independent predictors can also be seen in Table 1. Current participation in the student movement (coded 0 = non participant and 1 = participant) had effects on intentions of participating in both normative and non-normative collective actions; $F(1, 362) = 10.36$, $p = 0.001$, $\eta_p^2 = 0.03$, $F(1, 362) = 36.9$, $p < 0.001$, $\eta_p^2 = 0.04$, respectively. In both cases the relation was direct, so that current participants had higher intentions of participating in the future. The same pattern was observed when participants reported having participated in normative collective actions in the past $F(1, 362) = 62.68$, $p < 0.001$, $\eta_p^2 = 0.15$ and $F(1, 362) = 11.58$, $p < 0.001$, $\eta_p^2 = 0.03$ on normative and non-normative actions, respectively. Additionally, we found effects of having participated in normative actions on group efficacy $F(1, 362) = 5.57$, $p = 0.02$, $\eta_p^2 = 0.02$. When students reported having participated in non-normative actions, the pattern was the same: $F(1, 362) = 5.27$, $p = 0.02$, $\eta_p^2 = 0.02$ and $F(1, 362) = 39.91$, $p < 0.001$, $\eta_p^2 = 0.102$ with the same additional effect on group efficacy $F(1, 362) = 3.94$, $p = 0.048$, $\eta_p^2 = 0.01$.

As can be seen in these result patterns, participation consistently predicts more participation; and this pattern seems to be specific to the type of collective action reported. Past participation in normative actions has a stronger effect on intentions of participation in that same type of action, and the same happens when students participate in non-normative actions: they appear to be more willing to be a part of

TABLE 1 Multivariate and univariate main effects of social identity, current participation and past participation in the student movement (normative and non-normative) on perceptions of group efficacy, feelings of empowerment and intentions of participating in collective actions of the student movement.

Independent variable	Dependent variable	*F*	Partial eta squared (observed power)	*B*	*B*'s partial eta squared
Current participation in student movement	Group efficacy	0.052	0 (0)	0.035	0
	Empowerment	2.37	0.007 (0.36)	0.272	0.007
	Collective action tendencies normative	10.356**	0.029 (0.91)	−0.096	0
	Collective action tendencies non-normative	13.358**	0.036 (0.96)	−0.176	0.001
Social identification with the student movement	Group efficacy	55.304**	0.135 (1.0)	0.302**	0.041
	Empowerment	35.291**	0.091 (0.99)	0.393**	0.035
	Collective action tendencies normative	42.396**	0.107 (0.99)	0.968**	0.08
	Collective action tendencies non-normative	3.025^{+}	0.008 (0.40)	0.261	0.004
Past participation in normative actions of the student movement	Group efficacy	5.572*	0.016 (0.68)	0.119	0.007
	Empowerment	1.745	0.005 (0.27)	0.126	0.004
	Collective action tendencies normative	62.68*	0.151 (1.0)	0.917**	0.078
	Collective action tendencies non-normative	11.582**	0.032 (0.94)	0.658**	0.025
Past participation in non-normative actions of the student movement	Group efficacy	3.924*	0.011 (0.52)	−0.207*	0.012
	Empowerment	0.078	0 (0)	0.035	0
	Collective action tendencies normative	5.275*	0.015 (0.66)	−0.577*	0.018
	Collective action tendencies non-normative	39.907**	0.102 (0.99)	1.089*	0.038
Current participation × Student movement outcome	Group efficacy	0.014	0 (0)		
	Empowerment	0.59	0.003 (0.19)		
	Collective action tendencies normative	2.441^{+}	0.014 (0.64)		
	Collective action tendencies non-normative	3.293*	0.018 (0.75)		
Social identification × Student movement outcome	Group efficacy	0.987	0.006 (0.33)		
	Empowerment	1.102	0.006 (0.33)		
	Collective action tendencies normative	0.689	0.004 (0.23)		
	Collective action tendencies non-normative	1.297	0.007 (0.37)		
Past participation in normative actions × Student movement outcome	Group efficacy	0.005	0 (0)		
	Empowerment	0.069	0 (0)		
	Collective action tendencies normative	0.222	0.001 (0.09)		
	Collective action tendencies non-normative	2.465^{+}	0.014 (0.64)		

(Continued)

10.3389/fpsyg.2023.1155950

TABLE 1 (Continued)

Independent variable	Dependent variable	*F*	Partial eta squared (observed power)	*B*	*B*'s partial eta squared
Past participation in non-normative actions × Student movement outcome	Group efficacy	1.614	0.009 (0.46)		
	Empowerment	0.104	0.001 (0.09)		
	Collective action tendencies normative	0.49	0.003 (0.19)		
	Collective action tendencies non-normative	2.021	0.011 (0.54)		

**$p < 0.01$; *$p < 0.05$; †$p < 0.1$. Multivariate effects are shown below each independent variable using Wilk's Lambda *F* statistic. Within each independent variable, univariate effects on the dependent variables are reported using *F* statistics and Beta values followed by their corresponding effect sizes (partial eta squared). Beta values show the direction of the effect of the independent variable on the dependent variable. Due to interpretation issues, no Beta values are informed for the interactions. Each significant interaction will be interpreted independently.

the same types of future actions. Regarding the observed effects on group efficacy, in both cases the results are consistent with previous findings, in that more participation in normative actions predicts more group efficacy, while participation in non-normative actions predicts the opposite pattern, and hence could explain why those students would choose to participate in actions that are explicitly outlawed.

Finally, there were univariate effects of social identification with the student movement on perceptions of group efficacy $F(1, 362) = 55.3$, $p < 0.001$, $\eta_p^2 = 0.14$, empowerment $F(1, 362) = 35.29$, $p < 0.001$, $\eta_p^2 = 0.09$ and intentions of participating in normative collective actions $F(1, 362) = 42.39$, $p < 0.001$, $\eta_p^2 = 0.11$, however not on intentions of participating in non-normative actions $F(1, 362) = 3.03$, $p = 0.08$, $\eta_p^2 = 0.008$. These results are also theoretically consistent given that it has been widely observed that identifying with a group is a strong predictor on each one of these variables.

H_2: Effects of the success of the student movement.

Using the same GLM described before, we tested the main effects of the success/failure experimental manipulation on the dependent variables. We found that there is a marginal multivariate effect of the success of the movement, *Wilk's Lambda* = 0.963, $F(8, 700) = 2.71$, $p = 0.1$, $\eta_p^2 = 0.019$ over the dependent variables. Although, when inspecting the univariate relations (see Table 2) we found only a significant effect on perceived group efficacy, $F(2, 374) = 3.28$, $p = 0.039$, $\eta_p^2 = 0.018$. The outcome of the social movement did not have an effect on feelings of empowerment, $F(2,374) = 2.04$, $p = 0.13$,

TABLE 2 Univariate effects of the success and failure of the student movement on the dependent variables of the model.

	Univariate effects			
	F	Partial eta squared (observed power)	Estimated marginal means on experimental conditions	
Group efficacy	3.27*	0.018 (0.64)	Success	4.05
			Control	3.79
			Failure	3.73
Empowerment	2.04	0.011 (0.43)	Success	3.50
			Control	3.47
			Failure	3.27
Intentions of participating in normative actions	0.381	0.002 (0.11)	Success	6.33
			Control	6.05
			Failure	6.05
Intentions of participating in non-normative actions	0.378	0.002 (0.11)	Success	3.05
			Control	2.93
			Failure	3.00

*$p < 0.05$. Effects of the experimental manipulation on each of the dependent variables are shown. The effect size of each relation is shown through Partial Eta Squared. Estimated marginal means on each of the experimental conditions are shown for all the dependent variables.

$\eta_p^2 = 0.011$; nor on intentions of participating in normative collective actions, $F(2, 374) = 0.38$, $p = 0.68$, $\eta_p^2 = 0.002$ and in non-normative actions, $F(2, 374) = 0.37$, $p = 0.68$, $\eta_p^2 = 0.002$. As can be seen in Table 2, for participants in the success condition, their perception that the social movement was effective in accomplishing its goals was significantly higher than the control and failure conditions. This is consistent with what was theoretically expected from the DDP model, given that when the members of the social movement re-appraise the movement's ability to cope with their demands, whether they participate or not, they use all the information possible. Therefore, to know that a movement is being successful should have a direct impact on that person's impression that the movement indeed has the coping capabilities that the situation requires.

> H_3: Moderation effect of the social movement's outcome.

Finally, to test if the outcome of the social movement has a different effect for the subjects considering their different degrees of current and past participation, as well as their differences in social identification, we estimated four interactions between the success/failure manipulation and each of the continuous predictors, including the quasi experimental factor. Overall, we did not find multivariate effects on neither of the interactions that were estimated, however, there are two interactions that have univariate effects on some dependent variables (see Table 1).

In the first case, the perceived success of the student movement moderates the effect of reported current participation of the students (quasi experimental condition) over their intentions of participating in both normative and non-normative actions, although in the former the effect is only marginally significant, $F(2,375) = 2.44$, $p = 0.089$, $\eta_p^2 = 0.014$ and $F(2,375) = 3.29$, $p = 0.038$, $\eta_p^2 = 0.018$, respectively. As shown in Figure 1, the first interaction shows that when the students are in the failure condition and currently participating in the student movement, their intentions of participating in normative actions of the student movement increase relative to the control and success conditions. The opposite pattern is observed when the students are in the same failure condition but do not participate, that is, they have lower intentions of participating in normative collective actions of the student movement. The second interaction has a similar pattern (see Figure 2). In this case, the students that currently participate in the student movement have higher intentions of participating in non-normative collective actions when facing failure relative to when they perceive success, but not when they do not participate. We found a third interaction in which the student movement's outcome marginally moderated the effect of past participation in normative actions on intentions of participating in non-normative actions, $F(2,375) = 2.46$, $p = 0.086$, $\eta_p^2 = 0.014$ (see Figure 3). This interaction has a very similar pattern to the previous ones, in that more previous participation predicts more intentions of participating in the future when facing failure, but not when there is no history of participation. Altogether, these results suggest that the outcome of the social movement has a very different effect when the subjects either participate or have a history of participation, especially when facing failure. The fact that social movements fail to accomplish their goals can actually stimulate further participation on already participating individuals.

Study 2

For this study, we wanted not only to explore the role of the success and failure of a social movement, but also better understand its relationship with actual participation in a collective action. To test this experimentally and have full control over the person's participation in collective action, we created a bogus organization to experimentally induce a random half of the participants to actually take part in a collective action, leaving the other half as bystanders. To ensure that everyone could identify easily with the organization's goals we opted for a widespread issue for the population that lives in Santiago: reducing air pollution.

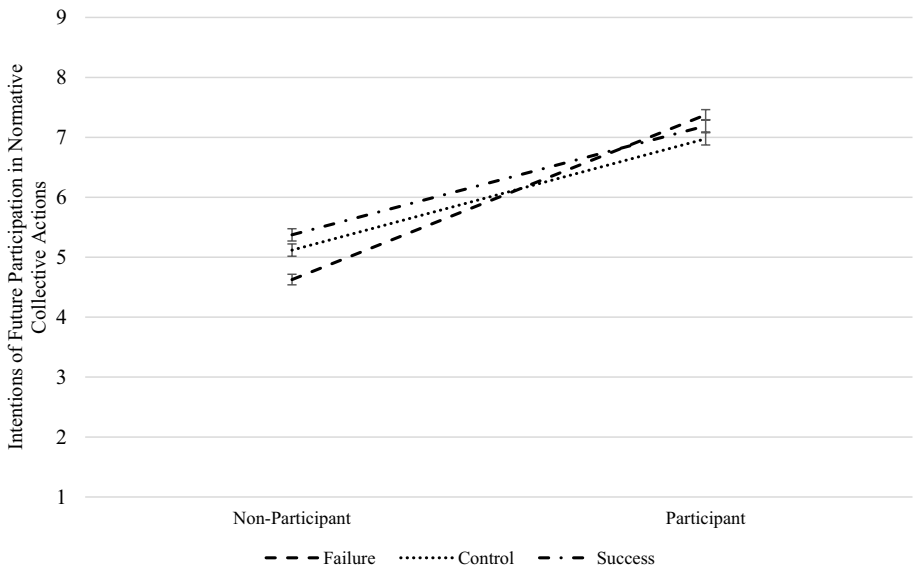


FIGURE 1
Interaction of social movement success with reported current participation on intentions of participating in normative collective actions.

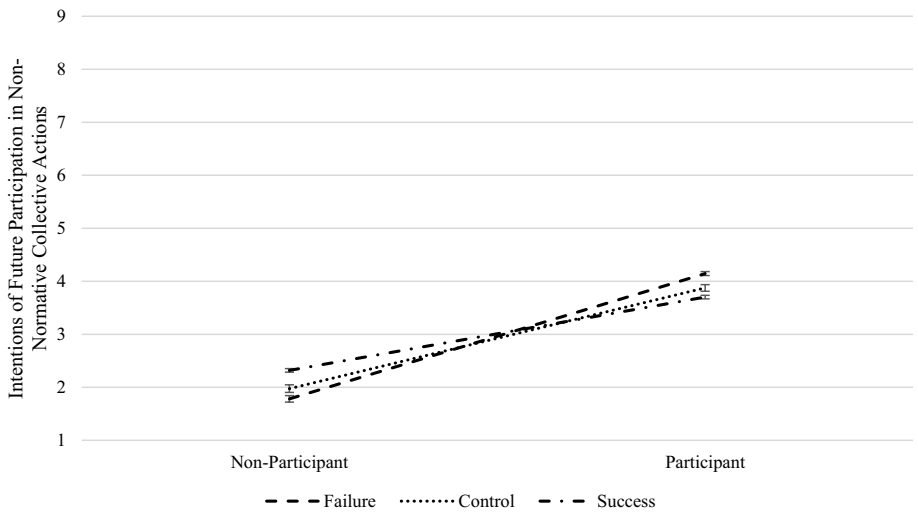


FIGURE 2
Interaction of social movement success with reported participation on intentions of participating in non-normative collective actions.

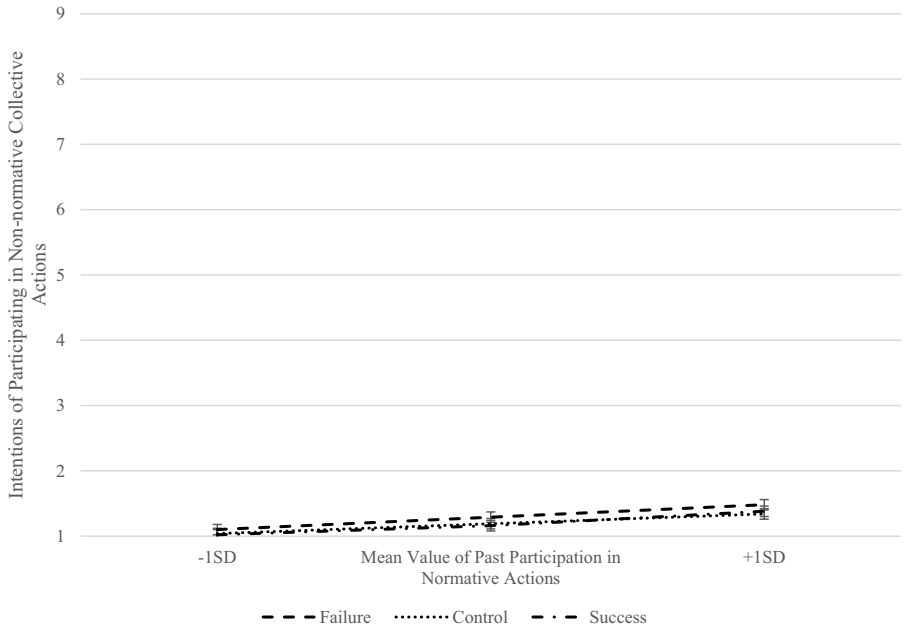


FIGURE 3
Interaction of social movement success with past participation in normative actions on intentions of participating in non-normative collective actions.

Design

This experiment had a 2 × 2 design, in which we manipulated the perceptions of success and failure of a social movement, as in Study 1, not including a control condition as in Study 1 both experimental conditions worked properly, and the actual participation in it. To accomplish this, we created a bogus pro-environmental organization that sought to reduce the levels of air pollution in the city. To carry out the experiment, we set two tents in different places of a university campus in Santiago, Chile, and invited potential participants to be informed about the organization's alleged latest environmental awareness campaign. Additionally, we told the potential participants that the environmental organization partnered with the school of psychology to invite students to take part in a study about the public impact of the campaign, and we could only inform students about the campaign if they agreed to take part in that study. The students that agreed to take part in the study were asked to sign an informed consent and then to go into the tent. Once inside the tent, a research assistant that posed as a member of the organization informed participants individually about the campaign and gave them a brochure that explained the importance of reducing air pollution, as well as the specific goals of the campaign: to inform a specific number

of students across universities and to set up an agenda with the environmental authorities to address the issue of air pollution. After this stage, we asked all participants to rate how identified they felt with the organization using a social identity scale. For the manipulation of participation in collective action, a random half of the participants in the experiment was asked to record an audio message that was going to be used to create a political ad for the campaign. The message they had to read was written in a small piece of paper, inside of a bowl full of papers with that same message; although students were led to believe that the messages were different, with the objective of controlling for a potential effect of the message itself. The message consisted of a simple slogan issuing a call to increase environmental awareness. The other half of the students were only informed about the campaign and were not asked to read any message (to be sure, the alleged recorder and bowl of papers were hidden in this condition). One week later, the participants of the study were contacted via email to read a brief report on the results of the organization's campaign, and then to answer a questionnaire that included the dependent variables and other relevant variables, as well as demographic information. In a random half of the cases, the organization reported that the campaign had been a success, not only because they had informed many more students that they had considered originally, but also because they were able to set a working table with the environmental authorities. In the other half, the report argued that the campaign had been a failure, and the authorities had not agreed to hear the issues that the organization was exposing. After answering the questionnaire, all participants were contacted one more time to hand them their monetary retribution of CLP$11.000 (approximately US$20). In that instance, all of them were thoroughly debriefed about the true nature of the study. Finally, all participants of the study were informed about an actual environmental organization within the university and were given their contact information in case they were interested in participating in an organization that pursued similar goals.

Sample and procedures

The intended sample was 200 college students, but due to the logistic complexity of the experiment and the restricted time we had in campus to install the tents, the final sample consisted of 169 college students ($M_{age} = 20.7$, $SD_{age} = 1.95$; 51.5% women). 84 students were randomly assigned to the condition of participation (46 of which were assigned to the success condition) and 85 were assigned to the no-participation condition (of which 45 were assigned to the success condition).

Measures

The same outcome measures were used as in Study 1, although with a few adaptations. Since we were not working with the student movement, the measures of empowerment ($r = 0.30$), group efficacy ($\alpha = 0.89$) were adapted to fit the context of the bogus organization we created, whereas the measures of collective action tendencies ($\alpha_{Normative} = 0.82$; $\alpha_{Non\text{-}normative} = 0.90$) and reported past participation in collective actions ($\alpha_{Normative} = 0.78$; $\alpha_{Non\text{-}normative} = 0.84$) were phrased regarding "social causes of your interest," without specifying a social movement in particular. In the case of social identity, we not only used an adapted measure ($\alpha = 0.91$), but also measured it when the participants were inside the tent before the experimental manipulation of participation, to avoid a potential confound effect.

Results and discussion

To check the manipulation of participation, at the beginning of the questionnaire we asked participants if they had recorded an audio message in support of the campaign (83 said they did). We cross tabulated their responses with the actual number of participants that were asked to record the message (84 overall) and calculated a Chi-square test $X^2 = 153.46$, $p < 0.001$ that confirmed that the manipulation indeed had taken place. Next, we asked the students to rate how successful they thought the environmental organization had been in accomplishing its goals (from 1 = "Not at all successful"; to 5 = "Very successful") to check if the manipulation of success and failure had worked as predicted. We conducted an independent samples *t*-test between the conditions which showed that indeed there are statistically significant differences, $t(167) = -12.64$, $p < 0.001$, being that the people in the success condition ($M = 4.21$, $SD = 0.78$) perceive that the environmental organization was being more successful than in the failure condition ($M = 2.62$, $SD = 0.86$).

For the data analysis we conducted exactly the same General Linear Model as in Study 1. The only things that changed were that for this study we only have two conditions for the social movement's outcome manipulation (success and failure) and the current participation of the subjects was actually manipulated, although the coding remained the same. Both the independent continuous predictors and the dependent variables remained the same. All results are presented in Table 3.

> H_1: Effects of social identity, current and past participation in the student movement.

As in Study 1, we begin reporting the main effects of the continuous predictors. We found multivariate effects of social identification with the environmental organization, $V = 0.538$, $F(4, 156) = 33.54$, $p < 0.001$, $\eta_p^2 = 0.46$; participation in the organization (0 = No Participation Condition; 1 = Participation Condition), $V = 0.918$, $F(4, 156) = 3.46$, $p = 0.01$, $\eta_p^2 = 0.08$; and experiences of past participation in normative $V = 0.753$, $F(4, 156) = 12.81$, $p < 0.001$, $\eta_p^2 = 0.25$ and non-normative actions in social movements in general $V = 0.662$, $F(4, 156) = 19.89$, $p < 0.001$, $\eta_p^2 = 0.34$ on the dependent variables. Table 3 shows the specific univariate effects of the four models.

Exploring the univariate effects of each independent predictor, we found that the experimental manipulation of participating in the bogus organization has a significant main effect over group efficacy $F(1, 167) = 5.91$, $p = 0.016$, $\eta_p^2 = 0.036$ and empowerment $F(1, 167) = 5.98$, $p = 0.016$, $\eta_p^2 = 0.036$. Both effects are in the expected direction, so that participants have higher levels of group efficacy and empowerment; although they did not appear in Study 1, in which the current participation variable only had effects on intentions of future participation. In that regard, the manipulation of participation we did in this study indeed has an effect on the students' intentions of participating in normative actions in the future, $F(1, 167) = 6.44$, $p = 0.012$, $\eta_p^2 = 0.038$, albeit in an unexpected direction. Students in the

TABLE 3 Multivariate and univariate main effects of social identity, experimental manipulation of participation and past participation in the student movement (H1) and of the experimental manipulation of success and failure (H2) on perceptions of group efficacy, feelings of empowerment and intentions of participating in collective actions of the environmental organization.

	H_1	Univariate effects			
		F	Partial eta squared (observed power)	*B*	B partial eta squared
Experimental manipulation of participation	Group efficacy	5.905*	0.036 (0.70)	−0.211^{+}	0.02
	Empowerment	5.984*	0.036 (0.70)	−0.373^{+}	0.03
	Intentions of participating in normative collective actions	4.376*	0.027 (0.58)	0.383	0.007
	Intentions of participating in non-normative collective actions	0.135	0.001 (0.07)	−0.092	0
Social identification with organization	Group efficacy	116.686**	0.423 (1.0)	0.611**	0.238
	Empowerment	34.731**	0.179 (0.99)	0.444**	0.073
	Intentions of participating in normative collective actions	11.722**	0.069 (0.94)	0.452^{+}	0.018
	Intentions of participating in non-normative collective actions	0.308	0.002 (0.09)	−0.033	0
Past participation in normative collective actions	Group efficacy	0.197	0.001 (0.07)	0.06	0.004
	Empowerment	0.302	0.002 (0.09)	0.053	0.002
	Intentions of participating in normative collective actions	49.239**	0.236 (1.0)	1.231**	0.155
	Intentions of participating in non-normative collective actions	9.693**	0.057 (0.89)	0.339	0.014
Past participation in non-normative collective actions	Group efficacy	0.199	0.001 (0.07)	−0.161^{+}	0.017
	Empowerment	0.525	0.003 (0.11)	0.158	0.008
	Intentions of participating in normative collective actions	2.118	0.013 (0.32)	−0.488	0.017
	Intentions of participating in non-normative collective actions	62.361**	0.282 (1.0)	1.822**	0.198
	H_2	*F*	Eta squared	*B*	B eta squared
Experimental manipulation of success and failure	Group efficacy	2.406	0.015 (0.36)	−0.737	0.015
	Empowerment	0.448	0.003 (0.11)	−0.528	0.004
	Intentions of participating in normative collective actions	0.798	0.005 (0.15)	−1.456	0.006
	Intentions of participating in non-normative collective actions	0.34	0.002 (0.09)	−0.826	0.002
	H3	*F*	Eta squared		
Experimental manipulation of participation × Social movement outcome	Group efficacy	0.003	0 (0)		
	Empowerment	0.343	0.002 (0.09)		
	Intentions of participation in normative collective actions	0.39	0.002 (0.09)		
	Intentions of participation in non-normative collective actions	0	0 (0)		
Social identification × Social movement outcome	Group efficacy	1.13	0.007 (0.19)		
	Empowerment	1.009	0.006 (0.17)		

(Continued)

10.3389/fpsyg.2023.1155950

TABLE 3 (Continued)

	H_1	Univariate effects			
		F	Partial eta squared (observed power)	*B*	B partial eta squared
	Intentions of participation in normative collective actions	1.158	0.007 (0.19)		
	Intentions of participation in non-normative collective actions	0.531	0.003 (0.11)		
Past participation in normative collective actions × Social movement outcome	Group efficacy	0.537	0.003 (0.11)		
	Empowerment	0.029	0 (0)		
	Intentions of participation in normative collective actions	0.659	0.004 (0.13)		
	Intentions of participation in non-normative collective actions	0.837	0.005 (0.15)		
Past participation in non-normative collective actions × Social movement outcome	Group efficacy	3.53+	0.022 (0.49)		
	Empowerment	0.724	0.005 (0.15)		
	Intentions of participation in normative collective actions	0.698	0.004 (0.13)		
	Intentions of participation in non-normative collective actions	0.662	0.004 (0.13)		

**$p < 0.01$; *$p < 0.05$; +$p < 0.1$. For each univariate effect, both the F statistic and Beta values are shown with their respective effect sizes (partial eta squared). Beta values show the direction of the effect of the independent variable on the dependent variables.

participation condition showed significantly lower intentions of future participation ($M = 5.68$) than students in the non-participation condition ($M = 6.46$). This result is contrary to what we found in Study 1, according to which participants had higher intentions of remaining as such relative to non-participants. While this is contradictory, there is evidence that suggests that certain types of low-threshold actions can have this effect on intentions of future participation (see Wilkins et al., 2019).

Mirroring the results of Study 1, social identification with the organization has significant direct effects over perceptions of group efficacy, $F(1, 167) = 116.69$, $p < 0.001$, $\eta_p^2 = 0.423$; feelings of group empowerment, $F(1, 167) = 34.73$, $p < 0.001$, $\eta_p^2 = 0.179$; and intentions of participating in normative actions in the future, $F(1, 167) = 11.72$, $p = 0.001$, $\eta_p^2 = 0.07$; and not over intentions of participating in non-normative collective actions, $F(1, 167) = 0.31$, $p = 0.58$, $\eta_p^2 = 0.002$.

Reported past participation in normative actions of social movements of interest has significant effects over both normative and non-normative collective actions, $F(1, 167) = 49.24$, $p < 0.001$, $\eta_p^2 = 0.24$ and $F(1, 167) = 9.69$, $p = 0.002$, $\eta_p^2 = 0.057$, respectively. Similarly, reported past participation in non-normative actions had an effect over intentions of participating in the same type of actions $F(1, 167) = 62.36$, $p < 0.001$, $\eta_p^2 = 0.282$, but not over normative collective actions $F(1, 167) = 2.12$, $p = 0.148$, $\eta_p^2 = 0.013$. For both participation predictors the direction is as expected, in that more experiences of participation predict future participation, same as in Study 1.

> H_2: Effects of the success of the student movement.

Using the same analysis, we tested the main effects of the perceptions of success or failure on each of the dependent variables. Multivariate results indicate that there is no effect of the success of the social movement in the dependent variables, $V = 0.979$, $F(4, 156) = 0.84$, $p = 0.49$, $\eta_p^2 = 0.02$. Univariate results confirm this trend, in that the social movement's outcome did not have any significant effects over the dependent variables. However, there is a similar pattern over group efficacy to what was observed in Study 1, $F(1,156) = 2.41$, $p = 0.123$, $\eta_p^2 = 0.015$. Even though in this case the result is not significant, effect sizes are practically the same ($\eta_p^2 = 0.018$ for Study 1, and $\eta_p^2 = 0.015$ in Study 2). Whether this is a power issue or actual differences remain to be addressed.

> H_3: Moderation effect of the social movement's outcome.

Finally, we tested with the same analysis if the experimental manipulation of success/failure moderated the effects of the independent variables over the dependent variables and found that none of them had multivariate effects (see Table 3). However, we did find that the interaction between history of participation in non-normative actions and the experimental manipulation of the social movement's outcome have an effect over perceptions of group efficacy $F(1, 156) = 3.53$, $p = 0.06$, $\eta_p^2 = 0.022$ (Figure 4). For people with a history of participation in non-normative collective actions, facing failure actually increases their perceptions of group efficacy. Although this may look odd as a result, it makes theoretical sense insofar as we consider that the measure of group efficacy is identity based, and therefore a subject with higher participation in non-normative collective actions would interpret the failure of the movement as a failure of the normative actions carried out by the

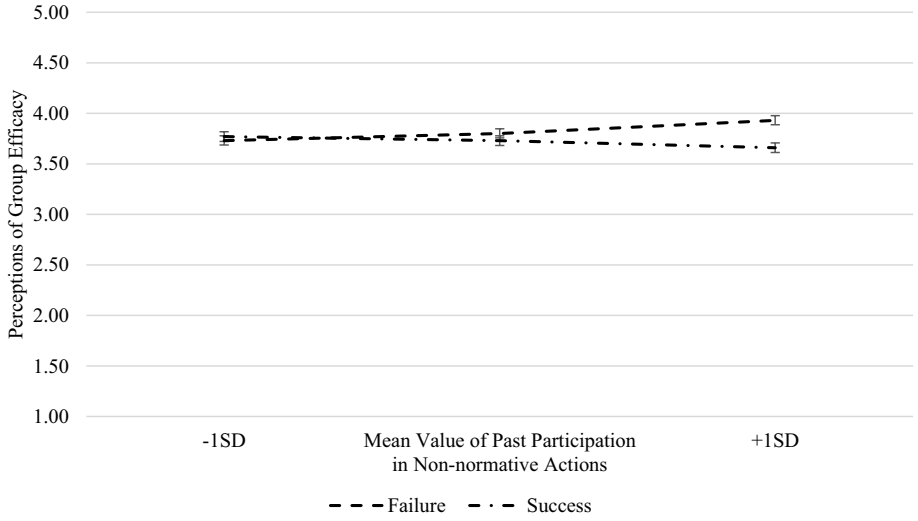


FIGURE 4
Interaction between success/failure experimental manipulation and past participation in non-normative collective actions on perceptions of group efficacy.

bogus organization, and thus as a reinforcement of the efficacy of his or her participation in non-normative actions in general.

General discussion

For the present paper we conducted two experimental studies that sought to determine what is the effect of the perception of success and failure of a social movement in people's intentions of participating in the future. To accomplish this, we set out three main objectives: to replicate previous findings of the literature regarding the effects of identification with a social movement and having a history of participation; to determine the effects of the outcome of the social movement on perceptions of group efficacy, empowerment and intentions of participating in the future; and to explore the moderating effects of these outcomes on the relationships between social identity and participation on perceived group efficacy, empowerment and intentions participating in collective actions.

First, we found in both studies that current and past participation predict overall participation in the future. Also, interestingly this prediction is action-specific in the sense that a history of participation in normative actions predicts stronger participation in that same type of action; and the same happens with non-normative participation. However, in Study 2 we found an unexpected result regarding the manipulation of participation. Subjects in the participation condition reported having less intentions of keeping participating in the future. We think there may be two explanations for these results. The first one is that people in the non-participant condition actually felt more motivated to keep participating and that reflected in their collective action tendencies measured a week after their exposure to the organization. In this case, it would not be that participants wanted to participate less so much as the non-participants that felt they wanted to do more for the organization. The second possible explanation refers to a concept called "slacktivism." Some evidence suggests there are some types of low-effort collective actions, such as signing petitions or sharing information online, that can actually decrease a person's intention of keeping participating in the future (Wilkins et al., 2019). In this context, these low-effort actions may be acting as palliative behaviors that inhibit further engagement in collective action by giving "slacktivists" a sense that they have already done enough.

Also, contrary to our prediction, we found in both studies that current participation has effects on the perception of group efficacy. Similarly, history of participation replicated this effect in Study 1 but not in Study 2. This is not surprising due to the fact that the measure of group efficacy in Study 2 was linked to the bogus organization, and both measures of participation were linked to social movements of interest, there is no reason to believe that having participated previously in other social movements should have an effect on the perception that a "new" organization is effective. Although we did not foresee that participation would have an effect on perceived efficacy, the result does make sense from the DDP perspective given that people that participate have already assessed the movement as potentially able to cope with its goals, and thus, as effective.

Finally, we found that social identity consistently predicted group efficacy, empowerment and participation in normative actions across both studies. These results are consistent with previous literature (van Zomeren et al., 2004, 2008; Drury and Reicher, 2005, 2009).

Regarding the effects of the success and failure of the student movement (H_2), in both studies we found that the perception of success has an impact on group efficacy (although the effect was marginal for Study 2). This is consistent with what was expected through the re-appraisal mechanism described in the DDP model, in which one re-assesses, among other things, the ability of the movement to cope with its goals. In this case, when the question of the social movement's outcome arises, the re-assessment makes the subjects directly question the efficacy of the movement and theoretically should influence future participation by increasing or decreasing that perception. For instance, a person could interpret failure as a lack of efficacy and therefore reconsider his or her continuity in that movement. This result is also consistent with another study conducted by Tausch and Becker (2013) in which the

success and failure of a movement was related to emotional reactions. They found that upon perceiving success the members of a collective action feel pride, as opposed to anger when facing failure. The problem is that theoretically these emotions could trigger either participation or non-participation; and the same happens with efficacy. If the group is perceived as effective and its actions appraised as successful, this could also mean that there is no need to keep participating. To test this dynamic more precisely we looked at potentially moderating effects of the social movement's outcome on the previously observed effects in H_1.

In Study 1, we found that when facing failure, participants increase their willingness to participate more in the future as opposed to non-participants that actually decrease theirs. We found this pattern predicting intentions of participation in both normative and non-normative collective actions. This would indicate that failure can actually stimulate participants to become more engaged in collective actions. A possible explanation for this finding is that participation is not always associated with effectiveness. Instead, some studies have shown that participants engage in collective actions because they feel a moral obligation to do so, assuming that it is the right thing to do regardless of the effort or risk involved (see Ayanian et al., 2021; Uysal et al., 2022). One study showed that, after failure, participants can increase their moral urgency and commit even harder (Louis et al., 2020). Moreover, our finding about a stronger and more recurrent engagement for non-normative collective actions after failure, implies that when people participate in a collective action through normative means, the failure of the movement can push them into more radical, non-normative behaviors (for similar results see Louis et al., 2020, 2022).

For Study 2, however, the results are different. In this case we found that failure increases the perception of efficacy for those with a history of non-normative participation. When a person has a history of participation in non-normative actions and the social movement faces failure, they could have interpreted that the failure was due to the engagement in the usual normative actions, and hence would increase their perception that the non-normative actions they do are much more effective in accomplishing the goals of the movement. This result is in line with a previous study that found that beliefs in the efficacy of non-normative actions decrease the perceived efficacy of the normative ones and therefore increase the likelihood of participating in non-normative collective actions (Saab et al., 2016).

A number of limitations of this research need to be acknowledged. First, despite the relevance of having a manipulation of participation in our research, the participation condition in Study 2 involved reading and recording an audio message for a campaign, which requires a low level of involvement in comparison to other forms of participation usually seen in the field. Future studies should address this issue by developing ways to manipulate participation that require more involvement or effort from the participants to further differentiate participation from non-participation. The development of social media has expanded the spaces where people can participate in collective actions, from online to offline participation (Chayinska et al., 2021), which opens new opportunities to address this issue. Second, regarding the generalization of our results, it is important to consider that the samples of both studies consisted of Chilean college students, which, although relevant for the social movement we studied, this is not the case in many other collective actions. Future research should consider testing these hypotheses with different populations and in different contexts. Finally, although the statistical power of our studies is reasonable for detecting the univariate effects, the power for detecting the interactions derived from hypothesis 3 is not optimal. Further testing with designs that address this issue are also needed to confirm the findings of this research.

Data availability statement

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

Ethics statement

The studies involving human participants were reviewed and approved by Comité Ético Científico en Ciencias Sociales, Artes y Humanidades, Pontificia Universidad Católica de Chile. The patients/participants provided their written informed consent to participate in this study.

Author contributions

HC, RG, JM, GJ-M, and MCo developed the study idea and designed the study with the support of MCh, CR, BÁ, DV, JD, and AL. MCh, CR, BÁ, and DV implemented the study. CR and MCh carried out the data analysis under the supervision of HC and RG. HC, MCh, and CÁ-D drafted the first version of the manuscript with the support of DC and MV. All authors revised and commented on the manuscript. The final version was approved by all authors.

Funding

This research was supported by grants from the Chilean National Foundation for Scientific and Technological Development (FONDECYT #1161371), the Center for Social Conflict and Cohesion Studies (ANID/FONDAP #15130009), and the Interdisciplinary Center for Intercultural and Indigenous Studies (ANID/FONDAP #15110006).

Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

Publisher's note

References

Agostini, M., and van Zomeren, M. (2021). Toward a comprehensive and potentially cross-cultural model of why people engage in collective action: a quantitative research synthesis of four motivations and structural constraints. *Psychol. Bull.* 147, 667–700. doi: 10.1037/bul0000256

Ayanian, A. H., Tausch, N., Acar, Y. G., Chayinska, M., Cheung, W.-Y., and Lukyanova, Y. (2021). Resistance in repressive contexts: a comprehensive test of psychological predictors. *J. Pers. Soc. Psychol.* 120, 912–939. doi: 10.1037/pspi0000285

Bandura, A. (2000). Exercise of human agency through collective efficacy. *Curr. Dir. Psychol. Sci.* 9, 75–78. doi: 10.1111/1467-8721.00064

Becker, J., and Tausch, N. (2015). A dynamic model of engagement in normative and non-normative collective action: psychological antecedents, consequences, and barriers. *Eur. Rev. Soc. Psychol.* 26, 43–92. doi: 10.1080/10463283.2015.1094265

Becker, J., Tausch, N., Spears, R., and Christ, O. (2011). Committed dis(s)idents: participation in radical collective action fosters disidentification with the broader in-group but enhances political identification. *Pers Soc Psychol Bull.* 37, 1104–1116. doi: 10.1177/0146167211407076

Bilali, R., Godfrey, E. B., and Freel, S. H. (2019). How an election loss leads to a social movement: reactions to the 2016 U.S. presidential election among liberals predict later collective action and social movement identification. *Br. J. Soc. Psychol.* 59, 227–247. doi: 10.1111/bjso.12335

Burrows, B., Uluğ, Ö., Khudoyan, K., and Leidner, B. (2022). Introducing the collective action recursive empowerment (CARE) model: how small-scale protests led to large-scale collective action in Armenia's velvet revolution. *Polit. Psychol.* 44, 397–418. doi: 10.1111/pops.12858

Castro-Abril, P., Da Costa, S., Navarro-Carrillo, G., Caicedo-Moreno, A., Gracia-Leiva, M., Bouchat, P., et al. (2021). Social identity, perceived emotional synchrony, creativity, social representations, and participation in social movements: the case of the 2019 Chilean populist protests. *Front. Psychol.* 12:764434. doi: 10.3389/fpsyg.2021.764434

Chayinska, M., Miranda, D., and González, R. (2021). A longitudinal study of the bidirectional causal relationships between online political participation and offline collective action. *Comput. Hum. Behav.* 121:106810. doi: 10.1016/j.chb.2021.106810

Cornejo, M., Rocha, C., Castro, D., Varela, M., Manzi, J., González, R., et al. (2021). The intergenerational transmission of participation in collective action: the role of conversation and political practices in the family. *Br. J. Soc. Psychol.* 60, 29–49. doi: 10.1111/bjso.12420

Drury, J., Cocking, C., Beale, J., Hanson, C., and Rapley, F. (2005). The phenomenology of empowerment in collective action. *Br. J. Soc. Psychol.* 44, 309–328. doi: 10.1348/014466604X18523

Drury, J., and Reicher, S. (2000). Collective action and psychological change: the emergence of new social identities. *Br. J. Soc. Psychol.* 39, 579–604. doi: 10.1348/014466600164642

Drury, J., and Reicher, S. (2005). Explaining enduring empowerment: a comparative study of collective action and psychological outcomes. *Eur. J. Soc. Psychol.* 35, 35–58. doi: 10.1002/ejsp.231

Drury, J., and Reicher, S. (2009). Collective psychological empowerment as a model of social change: researching crowds and power. *J. Soc. Issues* 65, 707–725. doi: 10.1111/j.1540-4560.2009.01622X

Elliott, E. S., and Dweck, C. S. (1988). Goals: an approach to motivation and achievement. *J. Pers. Soc. Psychol.* 54, 5–12. doi: 10.1037/0022-3514.54.1.5

Feinberg, M., Willer, R., and Kovacheff, C. (2020). The activist's dilemma: extreme protest actions reduce popular support for social movements. *J. Pers. Soc. Psychol.* 119, 1086–1111. doi: 10.1037/pspi0000230

Freel, S. H., and Bilali, R. (2022). Putting the past into action: how historical narratives shape participation in collective action. *Eur. J. Soc. Psychol.* 52, 204–222. doi: 10.1002/ejsp.2813

Fritsche, I., and Masson, T. (2021). Collective climate action: when do people turn into collective environmental agents? *Curr. Opin. Psychol.* 42, 114–119. doi: 10.1016/j.copsyc.2021.05.001

Gerber, M. M., Figueiredo, A., Sáez, L., and Orchard, M. (2023). Legitimidad, Justicia y Justificación de la Violencia Intergrupal entre Carabineros y Manifestantes en Chile. *Psykhe* 32, 1–15. doi: 10.7764/psykhe.2021.31721

González, R., Alvarez, B., Manzi, J., Varela, M., Frigolett, C., Livingstone, A. G., et al. (2021). The role of family in the intergenerational transmission of collective action. *Soc. Psychol. Personal. Sci.* 12, 856–867. doi: 10.1177/1948550620949378

González, R., Chayinska, M., Plaza, A., Bargsted, M., and Miranda, D. (2022). A longitudinal examination of the factors that facilitate and hinder support for conservative and progressive social movements. *Eur. J. Soc. Psychol.* 52, 1031–1046. doi: 10.1002/ejsp.2893

Keshavarzi, S., McGarty, C., and Khajehnoori, B. (2021). Testing social identity models of collective action in an Iranian environmental movement. *J. Community Appl. Soc. Psychol.* 31, 452–464. doi: 10.1002/casp.2523

Leach, C., Van Zomeren, M., Zebel, S., Vliek, M., Pennekamp, S., Doosje, B., et al. (2008). Group-level self-definition and self-investment: a hierarchical (multicomponent) model of in-group identification. *J. Pers. Soc. Psychol.* 95, 144–165. doi: 10.1037/0022-3514.95.1.144

Lizzio-Wilson, M., Thomas, E. F., Louis, W. R., Wilcockson, B., Amiot, C. E., Moghaddam, F. M., et al. (2021). How collective-action failure shapes group heterogeneity and engagement in conventional and radical action over time. *Psychol. Sci.* 32, 519–535. doi: 10.1177/0956797620970562

Louis, W. R., Lizzio-Wilson, M., Cibich, M., McGarty, C., Thomas, E. F., Amiot, C. E., et al. (2022). Failure leads protest movements to support more radical tactics. *Soc. Psychol. Personal. Sci.* 13, 675–687. doi: 10.1177/19485506211037296

Louis, W., Thomas, E., McGarty, C., Lizzio-Wilson, M., Amiot, C., and Moghaddam, F. (2020). The volatility of collective action: theoretical analysis and empirical data. *Polit. Psychol.* 41, 35–74. doi: 10.1111/pops.12671

Medel, R. M., Asún, R. A., and Zúñiga, C. (2022). Why do people engage in violent tactics during a protest campaign? Understanding radical activist through regionalist mobilizations in Chile. *Soc. Sci. Q.* 103, 1061–1083. doi: 10.1111/ssqu.13203

Pizarro, J. J., Zumeta, L. N., Bouchat, P., Włodarczyk, A., Rimé, B., Basabe, N., et al. (2022). Emotional processes, collective behavior, and social movements: a meta-analytic review of collective effervescence outcomes during collective gatherings and demonstrations. *Front. Psychol.* 13:974683. doi: 10.3389/fpsyg.2022.974683

Saab, R., Spears, R., Tausch, N., and Sasse, J. (2016). Predicting aggressive collective action based on the efficacy of peaceful and aggressive actions. *Eur. J. Soc. Psychol.* 46, 529–543. doi: 10.1002/ejsp.2193

Sadowski, F., Carvacho, H., and Zick, A. (2017). The impact of the ouster of president Morsi on the political-religious attitudes of Egyptian citizens. *Peace Conflict J. Peace Psychol.* 23, 174–178. doi: 10.1037/pac0000235

Smith, E. M., González, R., and Frigolett, C. (2021). Understanding change in social-movement participation: the roles of social norms and group efficacy. *Polit. Psychol.* 42, 1037–1051. doi: 10.1111/pops.12733

Tajfel, H., and Turner, J. C. (1979). "An integrative theory of inter-groupconflict" in *The Social Psychology Ofinter-group Relations*. eds. W. G. Austin and S. Worchel (Monterey, CA: Brooks/Cole), 33–47.

Tausch, N., and Becker, J. C. (2013). Emotional reactions to success and failure of collective action as predictors of future action intentions: a longitudinal investigation in the context of student protests in Germany. *Br. J. Soc. Psychol.* 52, 525–542. doi: 10.1111/j.2044-8309.2012.02109.x

Tausch, N., Becker, J. C., Spears, R., Christ, O., Saab, R., Singh, P., et al. (2011). Explaining radical group behavior: developing emotion and efficacy routes to normative and nonnormative collective action. *J. Pers. Soc. Psychol.* 101, 129–148. doi: 10.1037/a0022728

Thomas, E. F., Duncan, L., McGarty, C., Louis, W. R., and Smith, L. G. (2022). MOBILISE: a higher-order integration of collective action research to address global challenges. *Polit. Psychol.* 43, 107–164. doi: 10.1111/pops.12811

Thomas, E. F., and Louis, W. R. (2013). Doing democracy: the social psychological mobilization and consequences of collective action. *Soc. Issues Policy Rev.* 7, 173–200. doi: 10.1111/j.1751-2409.2012.01047.x

Thomas, E. F., and Louis, W. R. (2014). When will collective action be effective? Violent and non-violent protests differentially influence perceptions of legitimacy and efficacy among sympathizers. *Personal. Soc. Psychol. Bull.* 40, 263–276. doi: 10.1177/0146167213510525

Thomas, E. F., Mavor, K. I., and McGarty, C. (2012). Social identities facilitate and encapsulate action-relevant constructs: a test of the social identity model of collective action. *Group Process. Intergroup Relat.* 15, 75–88. doi: 10.1177/1368430211413619

Uluğ, Ö. M., and Acar, Y. G. (2018). What happens after the protests? Understanding protest outcomes through multi-level social change. *Peace Conflict J. Peace Psychol.* 24, 44–53. doi: 10.1037/pac0000269

Uysal, M. S., Acar, Y. G., Sabucedo, J.-M., and Cakal, H. (2022). To participate or not participate, That's the question: the role of moral obligation and different risk perceptions on collective action. *J. Soc. Polit. Psychol.* 10, 445–459. doi: 10.5964/jspp.7207

van Zomeren, M. (2013). Four Core social-psychological motivations to undertake collective action. *Soc. Personal. Psychol. Compass* 7, 378–388. doi: 10.1111/spc3.12031

van Zomeren, M., Leach, C. W., and Spears, R. (2012). Protesters as "passionate economists": a dynamic dual pathway model of approach coping with collective disadvantage. *Personal. Soc. Psychol. Rev.* 16, 180–199. doi: 10.1177/1088868311430835

van Zomeren, M., Postmes, T., and Spears, R. (2008). Toward an integrative social identity model of collective action: a quantitative research synthesis of three socio-psychological perspectives. *Psychol. Bull.* 134, 504–535. doi: 10.1037/0033-2909.134.4.504

van Zomeren, M., Saguy, T., and Schellhaas, F. M. H. (2013). Believing in "making a difference" to collective efforts: participative efficacy beliefs as a unique predictor of collective action. *Group Process. Intergroup Relat.* 16, 618–634. doi: 10.1177/1368430212467476

van Zomeren, M., Spears, R., Fischer, A. H., and Leach, C. W. (2004). Put your money where your mouth is! Explaining collective action tendencies through group-based anger and group efficacy. *J. Pers. Soc. Psychol.* 87, 649–664. doi: 10.1037/0022-3514.87.5.649

Vestergren, S., Drury, J., and Chiriac, E. H. (2017). The biographical consequences of protest and activism: a systematic review and a new typology. *Soc. Mov. Stud.* 16, 203–221. doi: 10.1080/14742837.2016.1252665

Wilkins, D. J., Livingstone, A. G., and Levine, M. (2019). All click, no action? Online action, efficacy perceptions, and prior experience combine to affect future collective action. *Comput. Hum. Behav.* 91, 97–105. doi: 10.1016/j.chb.2018.09.007

Zhu, A. Y. F., Chan, A. L. S., and Chou, K. L. (2022). Psychological transformation of youth after engaging in non-radical and radical political activities. *Curr. Psychol.* 41, 7843–7853. doi: 10.1007/s12144-020-01239-5

frontiers | Frontiers in Psychology

TYPE Original Research
PUBLISHED 28 April 2023
DOI 10.3389/fpsyg.2023.1133428

OPEN ACCESS

EDITED BY
Juan Carlos Oyanedel,
Andres Bello University, Chile

REVIEWED BY
Silvia Cristina da Costa Dutra,
University of Zaragoza, Spain
Ozen Bas,
Kadir Has University, Türkiye

*CORRESPONDENCE
Rodolfo Disi Pavlic
✉ rodolfo.disi@usach.cl

RECEIVED 28 December 2022
ACCEPTED 03 April 2023
PUBLISHED 28 April 2023

CITATION
Carrasco Paillamilla SF and Disi Pavlic R (2023) Predictors of perceptions of human rights violations during the Chilean social outburst of 2019.
Front. Psychol. 14:1133428.
doi: 10.3389/fpsyg.2023.1133428

Predictors of perceptions of human rights violations during the Chilean social outburst of 2019

Silvia F. Carrasco Paillamilla[1,2] and Rodolfo Disi Pavlic[3]*

[1]Faculty of Education, University of Concepcion, Concepción, Chile, [2]Department of Sociology, Political Science and Public Administration, Temuco Catholic University, Temuco, Araucania, Chile, [3]Department of Political Studies, University of Santiago, Santiago, Chile

The 2019 social outburst in Chile marked a significant turning point for the nation's politics and society, with widespread reports of human rights violations committed by the armed forces and the Police during demonstrations and riots. Despite the attention given to these events, few studies have systematically analyzed perceptions of human rights violations in such contentious contexts. To investigate the factors influencing perceptions of human rights violations during the 2019 Chilean social outburst, we conducted ordered logistic regressions using data from a nationally representative survey fielded during the unrest. Our findings reveal that participation in demonstrations, use of social media for political information, fear of crime, and proximity to violent protests are correlated with the perception that security forces frequently violated human rights during the outburst. These results contribute to the understanding of public perceptions of human rights violations in the context of the 2019 Chilean social outburst and provide insights for future research on the role of individual and contextual factors in shaping these perceptions.

KEYWORDS

human rights, public opinion, protests, Chile, political perceptions

1. Introduction

The social unrest that began on Friday, October 18, 2019, in Chile made headlines around the world. The protests, initially started by high school students, escalated into widespread looting and arson, leading to the declaration of a state of emergency in Santiago. The unrest quickly spread to a dozen other cities, with at least five subway stations and buses set ablaze, and violent demonstrators looting supermarkets and pharmacies, as tanks were deployed to maintain order in Santiago's Plaza Baquedano (Bonnefoy, 2019). The level of violence and lawlessness on the streets, unheard of since Chile's return to democracy in 1990, perplexed both domestic and international observers, many of whom considered Chile to be and "oasis" of stability in Latin America (Somma et al., 2021). Political reactions were varied, ranging from an initial government perception that gangs and foreign agents had orchestrated the unrest (Dammert and Sazo, 2020) to a package of policy concessions (Deutsche Welle, 2019) and, a (ultimately failed) constitution-making process to replace the current, dictatorship-era Constitution (Heiss, 2021).

However, the country also suffered unprecedent levels of human rights violations committed by the armed forces and *Carabineros* (police). Reports by the National Institute of Human Rights (2020) indicate that 3,442 individuals, including 254 children, have been seriously injured as a result of police repression, with 1,500 cases of human rights violations. Of these injuries, 1,974

were caused by bullets or rubber bullets, resulting in 347 eye injuries. These statistics have been corroborated by several international organizations (Sehnbruch and Donoso, 2020, p. 53). The police were particularly associated with human rights violations. Law enforcement has been well regarded since the return to democracy in 1990, with a reputation for professionalism and integrity (Bonner, 2018). However, to their involvement in human rights violations to repress the protests were added several accusations of embezzlement, frame-ups, and cover-ups in recent years (Viollier Bonvin et al., 2019; Barbosa dos Santos et al., 2021; Montt et al., 2021). Thus, the Carabineros' reputation for community policing has been put in jeopardy due to their involvement in human rights abuses and excessive use of force against civilian populations (Malone and Dammert, 2021, p. 430). The presence on the streets and repression by the armed forces also recalled Chileans of the military's role during the dictatorship, bringing back dark memories to many citizens (Aliaga, 2021).

Given the unprecedented but contested scale of human rights violations during the Chilean social outburst, the main goal of this study is to analyze the determinants of perceptions of human rights using evidence from public opinion. By analyzing this case we aim to contribute to several strands of research. First, we seek to add to the psychological corpus on human rights attitudes (Cohrs et al., 2007; Crowson and DeBacker, 2008; McFarland, 2010; Krause, 2022), which has identified several individual-level and attitudinal predictors, by gauging the explanatory power of important attitudinal and contextual variables. Second, while the Latin American research on crime and policing has shed light on public support of human rights restrictions (Dammert and Malone, 2006; Cruz, 2009; Uang, 2013; Pion-Berlin and Carreras, 2017; Visconti, 2020; Bonner and Dammert, 2022), we also examine the potential impact of protests on human rights perceptions. Finally, by studying human rights perceptions in a recent event, this article seeks to contribute to the Chilean social science research on human rights, which has focused primarily on violations during the dictatorship of Augusto Pinochet (1973–1990) (Roniger and Sznajder, 1999; Oteíza, 2009; Collins, 2010; Cárdenas et al., 2013; Heinz and Frühling, 2021; Rojas, 2021).

We use the December 2019 CEP survey, a nationally representative survey fielded during the outburst, to evaluate four context-specific determinants. Specifically, we use (1) participation in the protests, (2) media use for political information, (3) fear of crime, and (4) geographic proximity to violent protests in ordered logistic regressions of perceptions of the frequency with which the police and armed forces violated human rights during the social outburst. We find that all four variables are correlated with the opinion that the police violated human rights very frequently, while only (3) and (4) are significantly associated with saying the military violated human rights very frequently. However, the association between fear of crime counters theoretical expectations, as increased worry about victimization is positively correlated with more critical views of security forces.

The rest of the article is structured as follows. The second section presents and discusses the relevant literature on human rights attitudes and perceptions, both generally and in Latin America, while the third section presents our hypotheses based on the literature. The fourth section describes our research design and methodology, including the way we operationalize the variables to test our hypotheses. The fifth section lays out the results of eight ordered logistic regressions of the CEP data. The sixth section presents our conclusions.

2. Theorizing about human rights perceptions

The study of attitudes toward human rights has made important strides in recent decades (McFarland, 2015). Several works have conceptualized and elaborated distinct measures of human rights attitudes, which have also been empirically evaluated. While some works have focused on normatively positive dispositions toward human rights (McFarland and Mathews, 2005) such as commitment to enforcement of human rights (Pratto et al., 1994, p. 750; Fetchenhauer and Bierhoff, 2004), and even behavior supporting human rights (Cohrs et al., 2007; Sommer and Stellmacher, 2009), a strand of this research has also delved into attitudes toward human rights restrictions. This distinction is important because, while a general support for human rights may become a valence issue (Stokes, 1963, p. 373), people may be open to ignoring human rights for specific groups or under certain circumstances. As Sommer and Stellmacher (2009, p. 65) state, "the realization of human rights is unanimously regarded as very important. At the same time, concrete knowledge of what human rights are is very limited and imprecise." Restrictions in the United States literature range, for instance, from limiting Communists' right to vote to denying constitutional rights to disloyal citizens (McFarland and Mathews, 2005).

Some works have also studied human rights restrictions under situations of heightened external threat. Crowson et al. (2006), for example, find that some people are willing to constrain human rights in the context of the War on Terror in the United States, while experimental evidence shows that support for torture increases when survey respondents are told detainees are Arab terrorist suspects (Conrad et al., 2018). Meanwhile, using data from 19 countries, Kull et al. (2008) find that, although people in most countries are against the use of torture, countries where the majority of respondents are open to the government torturing potential terrorists for information had experienced terrorist attacks recently. Likewise, in Latin America, crime victimization is positively correlated with approving of the police using torture to obtain information from criminals (Krause, 2022). There are fewer works, however, on attitudes toward limiting human rights in the context of widespread social mobilization and civil turmoil, and with Global South samples (Carriere, 2019, p. 20).[1]

In Chile, human rights violations during the outburst remain a hotly debated issue. The government initially denied human rights violations during the demonstrations before the Inter-American Human Rights Court (El Mostrador, 2019). The police, in turn, presented its own account of the facts, and also denied human rights abuses (El Mostrador, 2021). Meanwhile, the director of the National Institute of Human Rights Institute, the public organization in charge of promoting and defending human rights, claimed that the violations were "not systematic," meaning that the Chilean state did not commit human rights abuses according to a specific plan or policy (T13, 2019). Regarding these abuses, the director also claimed that "there are no rights without duties," causing an uproar both within the Institute and among leftist politicians (Pressacco and Castillo, 2022, pp. 95–96). José Antonio Kast, the ultraright presidential runner-up, has gone so far as

1 There are, however, works on the effect of protests on attitudes toward the right to protest (Andrews et al., 2016; Disi Pavlic, 2021), which itself a human right (Mead, 2010).

to say that mass human rights violation did not exist, and that the political left promoted urban violence with its accusations (Kast, 2021).

The literature has also identified a few consistent predictors of human rights support. Generalized prejudice (Allport, 1979) for example, "would seem anti-thetical to support for human rights" (McFarland, 2015, p. 17). The two roots of this generalized rejection of outgroups, in turn, are right wing authoritarianism and social dominance orientation, which have been found to be consistently and negatively correlated with human rights support. The same association has been found in Latin America, controlling for country-level covariates, and is larger than that of more traditional predictors like crime victimization (Krause, 2022). However, the literature on human rights attitude formation has, with some exceptions (Barton et al., 2017) been restricted to attitudinal, individual-level predictors, while works in political science have primarily used countries and country-years as units of analysis (Miller, 2011; Joshi et al., 2019; Krause, 2022). There is, therefore, ample room for research on local or subnational level predictors of human rights perceptions, which are key for political attitude formation (Hiskey and Bowler, 2005).

In the specialized Latin Americanist literature, human rights have been extensively studied with regards to policing and crime. The region has historically suffered from high levels of crime and violence (Soares and Naritomi, 2010), while fear of crime is high and policing and crime prevention are very salient political issues (Dammert and Malone, 2006; Uang, 2013). Thus, although they only partially explain human rights attitudes (Krause, 2022), both crime victimization and fear of crime are important predictors of support for iron-fist, often illegal crime-reduction policies (Cruz, 2009; Visconti, 2020), which include using the military to quell crime (Pion-Berlin and Carreras, 2017), restricting civil liberties, and violating human rights (Cruz, 2000). As Krause (2022, p. 257) relates, for some Latin Americans "protecting the human rights of suspected criminals ties the hands of the police and the courts. This rhetoric revokes the universality of human rights by privileging public security over the protection of the human rights of all citizens."

Finally, in Chile, most studies on human rights deal with the memory of abuses committed by the Pinochet dictatorship. Collins (2010), finds lasting divisions in attitudes toward human rights violations during the dictatorship, while Rojas (2021) identifies the correlates of indifference toward human rights violations in the same period. Meanwhile, fewer publications address attitudes toward human rights since the return to democracy. It is worth noting, for instance that the INDH has fielded fives waves of its National Human Rights Survey since 2011, describing several measures of human rights attitudes (INDH, 2020, p. 2). Other exceptions have to do with foreign policy: some surveys have described preferences for policies regarding human rights violations in other countries (Morandé et al., 2009), and the level of support for democracy and human rights promotion internatioally (Athena Lab, 2022, p. 10). We were able to find one study (Aguilera and Badilla Rajevic, 2022) focusing on humans rights opinions during the Chilean outburst, but it focused on the vandalization of dictatorship-era human rights memorials during the social unrest in 2019.

3. Determinants of perceptions of human rights violations

While several factors may influence perceptions about human rights violations during episodes of social unrest, we focus on four key behavioral, attitudinal, and geographic determinants. We focus on these determinants because they speak to the way social and political contexts shape political attitudes and perceptions. As Gibson and Gouws (2001, p. 1071) explain with regards to the causes of political tolerance,

> Instead of *recalling* opinions, many respondents are actually *creating* opinions, deriving them from the particular values stimulated by the question. Real politics involves judgment; it typically involves figuring out how incidents in the political environment connect with attitudes and values and, more important, how conflicts among competing values get resolved.

In other words, individual characteristics, attitudes, and behaviors interact with the national, local and temporal context, which should, therefore, be considered.

The first two determinants deal with behaviors during the 2019 Chilean social outburst; the next gauges the importance of attitudes related to crime; the last one hypothesizes the impact of physical proximity to violent protests on perceptions about the human rights violation committed by security forces. The variables are chosen because they may have specific associations with human rights attitudes in the Latin American and Chilean context, the subnational and local circumstances, and the specific period of the social outburst.

3.1. Protest participation

A key determinant of perceptions of human rights violations during civil unrest is participation in the unrest itself. Indeed, the biographic effects of protests participation are well attested in the social movement literature (Sherkat and Blocker, 1997; Giugni, 2004). Scholars have found, for example, that demonstrating increases political engagement through voting (Galais, 2014) and subsequent participation (Bursztyn et al., 2021), and that engaging in aggressive political behavior reduces regime support (Finkel, 1987). Importantly, taking part in demonstrations causes participants to align their perceptions with the social movement's frames and demands, unifying people with different motivations and preferences, and framing their discontent into a small number of claims that reinforce existing attitudes and prompts attitude change on issues central to the protests (Pop-Eleches et al., 2022, p. 626). Thus, to the extent that protests during the outburst also became against police brutality (Badilla Rajevic, 2020, p. 286), participants also became more critical of human rights violations committed by security forces.

In a similar vein, participation in mobilizations may give demonstrators first-hand experience of repression, especially during the "[v]iolent spirals of repression-protest-repression developed during the Chilean uprising" (Somma, 2021, p. 587). In this regard, studies in policing and criminology have found that procedural injustice shapes to a great extent attitudes and behaviors during protest cycles. Perceptions of unjust treatment by security forces are associated with decreased compliance with the police (Perry, 2020), increased justification of violence against law enforcement (Maguire et al., 2018a,b), and violent actions against security forces (Tyler et al., 2018). Repression, therefore, may decrease the legitimacy of security forces in the eyes of demonstrators (Bonner and Dammert, 2022), increasing perceptions of human rights violations. Meanwhile,

evidence from the October outburst in Chile shows that perceptions of procedural injustice toward demonstrators are negatively correlated with justification of violence by the police against protesters (Gerber et al., 2023).

> *Hypothesis 1*: Participating in demonstrations during the October outburst is positively associated with the perception that security forces violated human rights.

3.2. Media use

Media use for political information can shape perceptions of both protest participants and nonparticipants. Media consumption can have important effects on social and political perceptions, and they can contribute to mental models about the appropriateness and morality of certain actions (Mares and Stephenson, 2017, p. 2). The relationship between human rights attitudes and media use is nevertheless understudied (Cohrs et al., 2007, p. 462). Experimental research shows, for example that immersive journalism, which aims at increasing empathy, has a positive effect on human rights commitment (Bujić et al., 2020).

The effect of media use during the outburst on human rights perceptions may depend on the specific characteristics of the media ecosystem in Chile. The levels of media ownership concentration are high by Latin American standards (Núñez-Mussa, 2021), with traditional print and broadcast media outlets tightly associated with the economic elite (Valenzuela and Arriagada, 2011). Although trust in the media has decreased in recent years (Newman et al., 2021), these outlets have an important agenda setting power: public opinion is highly responsive to news coverage – but the influence does not go the other way around (Valenzuela and Arriagada, 2011). The Chilean traditional media has been characterized as politically conservative (Gronemeyer et al., 2021), highlighting violence during previous episodes of mass protest (Kubal and Fisher, 2016, p. 230), and rejecting social movements' demands (Cabalin, 2014). The evidence shows, for example, that *Radio Biobío*—the country's most trusted news source—"replicated the patterns that usually delegitimize the protest, as they focused on the violent acts and the depiction of protesters as deviant from the status quo" (Proust and Saldaña, 2022, p. 25). Meanwhile, statements by supporters of protest policing in *El Mercurio* and *La Tercera*—the country's most important newspapers—"justified high levels of police violence and opposed critiques of human rights abuses" (Bonner and Dammert, 2022, p. 641).

> *Hypothesis 2a*: Using more media for political information during the October outburst is negatively associated with the perception that security forces violated human rights.

However, the media landscape experienced relevant transformations during the outburst. While news sharing in social media of traditional outlets experienced a temporary increase during the outburst, public opinion became critical of the role played by these actors (Grassau et al., 2019). Meanwhile, alternative media sources experienced a more lasting shock. This boost helped alternative, online outlets to counter mainstream narratives, causing public opinion "to question traditional media and its coverage of the riots, social unrest, and police repression and human rights abuses" (Luna et al., 2022, p. 2). In some traditional outlets, the scope of disruption and repression caused journalists to question more detached approaches to the production of news content, leading some to adopt an "epistemic mode where journalists validate the decision to take a position in the conflict, which in the uprising was a commitment to stories of police abuse and human rights violations" (Orchard and Fergnani, 2022, p. 12).

> *Hypothesis 2b*: Using more media for political information during the October outburst is positively associated with the perception that security forces violated human rights.

3.3. Fear of crime

The psychological literature has delved on the way perceived threats shape social and political attitudes. Broadly, threats can be either realistic – against physical integrity – or symbolic – against values and morals (Carriere, 2019, pp. 11–12). Critically, support for the rights of out-groups depends on their level of perceived threat (Verkuyten, 2009; Abrams et al., 2015). As Crowson et al. (2006, p. 737) explain, salient threat information can prompt individuals to adopt a defensive stance, potentially influencing sociopolitical outcomes in combination with individual factors. Several works have found, for example, that terrorism affects attitudes toward security (Brouard et al., 2018), and that perceived threat of terrorism increases support for torture (Conrad et al., 2018).

As mentioned above, fear of crime is a widespread, perceived realistic threat in Latin American societies—and Chile is not an exception (Dammert and Malone, 2003). The country has high levels of fear of crime with relatively low levels of crime victimization—a paradox that been explained in terms of economic anxiety (Dammert and Malone, 2003; Singer et al., 2020) and media portrayals of crime (Browne and Tomicic, 2007; Scherman and Etchegaray, 2013). Thus, the perception of crime is biased because as "the media disproportionately focuses on violent crime (epitomized by the media adage, 'if it bleeds, it leads') the public becomes more fearful of violent crime, even when objective crime rates decrease" (Dammert and Malone, 2003, 89–90). Critically, fear of crime "may push citizens toward harsher attitudes toward potential criminals based on the idea that restricting the rights of alleged criminals may make their neighborhoods safer" (Krause, 2022, p. 259) Thus, to the extent that protest is criminalized by the authorities (Doran, 2017), individuals who are very afraid of crime may perceive that human rights violations occurred less often during the outburst.

> *Hypothesis 3*: Increased fear of crime during the October outburst is negatively associated with the perception that security forces violated human rights.

3.4. Protest proximity

The political science and sociological literatures have found that physical proximity to social mobilizations can shape political attitudes and perceptions about protest demands, actors, and targets in various contexts (Wallace et al., 2014; Mazumder, 2018; Muñoz and Anduiza,

2019; Ketchley and El-Rayyes, 2021), and Chile is not an exception (Disi Pavlic, 2021). Spatial and temporal proximity to student mobilizations in the country, for example, is positively correlated with political interest and the perception that government critics have a right to protest peacefully.

From a psychological standpoint, proximity to violence in protests may decrease support for the mobilizations and increase support for state repression because violence in protests may also be perceived as a threat, with the potential to cause bodily harm and transgress values. The use of violent tactics decreases identification with protest participants as they are perceived as less reasonable (Simpson et al., 2018), while threat of harm by demonstrators has been found to increase support for repression (Edwards and Arnon, 2021). For example, in the context of the protests in 2020 sparked by the killing of George Floyd in the United States, "when protesters were delaying traffic, carrying firearms, or behaving unlawfully (damaging property and/or assaulting citizens), fear of the protesters increased, which in turn increased support for police repression" (Metcalfe and Pickett, 2022).

> *Hypothesis 4*: Residing in locations with more violent protests during the October outburst is negatively associated with the perception that security forces violated human rights.

4. Methods

We leverage observational data from the 84th *Centro de Estudios Públicos* (CEP) Survey (CEP, 2020) to evaluate our hypotheses. This data gives us the unique chance us to analyze perceptions of human rights violations when domestic and international actors accused the Chilean state not just of limiting civil liberties but also of using unprecedented levels of repression to quell social unrest.

4.1. Participants

A total of 1,496 individuals participated in the 84th CEP survey. Respondents' age ranged from 18 to 99 (M = 44.2, SD = 17.5); 48.3% were male and 51.7% female; their reported levels of education were less than secondary education (30.5%), complete secondary (33.3%), incomplete higher education (10.1%), complete college (23.1%), and graduate education (3%); 87.% lived in urban areas and 12.4% were rural residents; and their socioeconomic levels were ABC1 (highest, 5.6%), C2 (12.9%), C3 (52%), D (28.5%), and E (lowest, 1%). The survey was administered to a sample of individuals that is representative of national adult population, using a multi-stage (block/household/adults) probability sampling design, stratified by first-level administrative divisions (16 regions) and geographic zones (urban/rural). They survey uses sampling weights based on the 2017 census to account for nonresponse and oversampling of certain demographics. Respondents agreed to participate voluntarily and were told they could withdraw at any moment and decline to answer any question.

4.2. Procedure

Fieldwork and data collection were conducted between November 28, 2019, and January 6, 2020. As Figure 1 shows, data from the Centre for Social Conflict and Cohesion Studies (COES, 2020) shows that the survey's fieldwork took place right before and during some of the most contentious moments of the Chilean social outburst.

The sample considered 2,128 participants, which resulted in 1,496 effective interviews, with a response rate of 71%. The sample covered 98% of the target population. Respondents answered a questionnaire containing questions about their political, economic, and social attitudes and predispositions. Trained pollsters used tablets to administer the questionnaire through the Computer Assisted Personal Interview (CAPI) system. The survey has a sampling error of plus or minus 3% points at the 95% confidence level.

4.3. Measurement

The study uses two dependent variables, as well as six independent variables. One of these predictors varies by district and its values are, therefore, shared by respondents in the same location, while the other five vary by individual. The article also uses 10 other predictors that the literature has found to be correlated with human rights attitudes.

4.3.1. Dependent variables

We take advantage of two items specifically designed for this wave of the CEP survey to operationalize our dependent variable. Respondents were asked to assess, using five-point Likert scales, the level of frequency that *Carabineros* and the armed forces committed human rights violations during the social outburst.[2] The categories ranged from "Never" to "Very Frequently."

4.3.2. Independent variables

The hypotheses presented above are evaluated using five independent predictors. The first one is used to assess the association between perceptions of human rights violations and participation in protests during the social outburst (Hypothesis 1). An item about participation in demonstrations (*marchas*) during the 2019 crisis was dichotomized to measure potential exposure to state repression through protest participation.[3]

Hypotheses 2a and 2b are tested using the next three independent covariates. These predictors are measures of respondents' use of different types of media. We leverage data from three questions about three types of behavior: watching political television shows; reading political news; and following political issues on social media platforms "such as Facebook and Twitter." The items are measured using ordered, three-point scales ("frequently," "sometimes," "never"). The first media variable combines all these items to create a scale of political media use frequency ($\alpha = 0.8$, $\omega = 0.8$). The second media variable is a scale of the first two ($\alpha = 0.75$), which refer to traditional mass media and may have a different effect on political behavior and attitudes than newer, online platforms (Navia and Ulriksen, 2017).[4] The last one is the social media item. The variable combining the three items is used

2 Items E43 and E44 of the questionnaire read "How frequently did [*Carabineros*/the military] violate human rights during the crisis that began on October 2019?"

3 Question E33.1 of the questionnaire reads "Did you participate in the demonstrations that began in October 2019, by attending a march?"

4 I would like to thank an anonymous reviewer for suggesting this distinction.

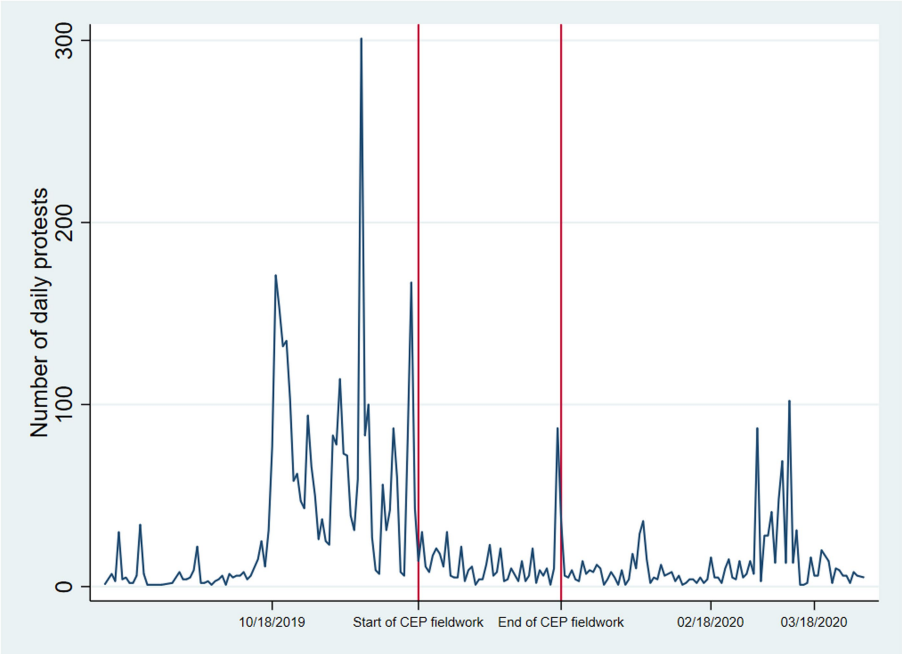


FIGURE 1
Frequency of protests during the 2019 Chilean unrest and CEP fieldwork dates.

separately from the other two media variables in the regressions models below.

The fifth independent variable is used to assess the correlation between fear of crime and human rights perceptions (Hypothesis 3). We use a question from the CEP survey asking respondents how worried they were about becoming victims of violent crime.[5] The categories in the 11-point scale range from "not worried at all" (0) to "very worried" (10).

Finally, the sixth independent covariate considers the potential effect of the local protest context (Hypothesis 4). Thus, we use geocoded data from COES (2020) to count, for each of Chile's 345 *comunas* (first-level administrative districts), the number of violent protests in the district itself and in a 10-kilometer buffer zone from the district limits between October 18 and December 31, 2019.[6] The CEP sample, with its 117 districts, includes respondents in the full range this variable, from zero nearby protests for 234 respondents in 26 *comunas* to 109 violent events for 19 respondents in the district of San Miguel.

4.3.3. Other predictors

Ten theoretically-informed predictors variables are incorporated into the analyses. The first five are important attitudinal predictors, according to the literature, of opinions about human rights. The first one is political ideology, which is used as a categorical variable with seven categories: Right (4.1% of valid answers), Center-Right (3.8%), Center (6.3%), Center-Left (6.1%), Left (10%), Independent (2.6%) and None (67.2%). Ideology is included because the psychological literature on human rights attitudes points out that ideology, and particularly conservative and right-wing positions are negatively associated with support for human rights (Moghaddam and Vuksanovic, 1990; Diaz-Veizades et al., 1995; Crowson, 2004; Crowson and DeBacker, 2008). While there are fewer studies on the Chilean case, the 2020 National Human Rights Survey finds that a higher percentage of people with a Right-wing ideology (though still the minority) consider that sometimes it is necessary, although not desirable, to violate some people's human rights (INDH, 2020, p. 38).

The second and third of these variables deal with trust. Institutional trust is linked with specific political support (Easton, 1975) and, in the case of the police, it "condenses a range of complex and inter-related judgements concerning the trustworthiness of the police" (Lee et al., 2015, p. 241). Evidence from Mexico shows that human rights perceptions are significantly correlated with trust in security forces (Barton et al., 2017). In Chile, the perception that the armed forces respect human rights is positively correlated with trust in both the military and the police (Riffo et al., 2019, pp. 95–96). Additionally, it is important to control for trust in the security forces because trusting them is negatively correlated with fear of crime (Dammert and Malone, 2002, p. 297; Malone and Dammert, 2021, p. 427). Trust in these two actors is measured through 4-point Likert

5 Question E22F: "In general terms, on a scale of 0 to 10, where 0 is not worried at all and 10 is very worried, how worried are you about the following situations? That someone in your family or you become victims of a violent crime (robbery, aggression)."

6 Protests were coded as violent if the COES dataset registered at least one of the following tactics: arson; attacks against public and private property; looting; use of weapons and explosives; attacks against other demonstrators; clashes with counterdemonstrators; attacks against the police or armed forces; attacks against passers-by; taking hostages or kidnappings.

scales ranging from "A lot of trust" to "No trust" (M = 3.3, SD = 0.8, for the police, M = 3.1, SD = 0.9 for the armed forces).

Preferences for security, understood more broadly than just protection from crime, are also included because they have also been identified as predictors of human rights attitudes, with increased security concerns being correlated with preferences for restricting human rights (Cohrs et al., 2007). We use an item using a scale of one to ten measuring reactions to the statement "Democracies aspire to have public and private liberties and public order and safety. In your case, which value do attach more importance to?," with one being "public and private liberties" and ten "public order and safety" (M = 6.2, SD = 2.8).

The last attitudinal variable assesses the association between authoritarianism and human rights perceptions. Right-wing authoritarianism (Altemeyer, 1998), for example, has been found to be positively correlated with preferences for restricting of human rights during crisis situations (Crowson and DeBacker, 2008), while authoritarianism in general is indirectly associated with lesser commitment with human rights (McFarland, 2010, p. 1755). The CEP survey includes four questions[7] that we use to create a scale of authoritarianism ($\alpha = 0.8$, $\omega = 0.9$).

The other seven variables are sociodemographic covariates, all of which shape public opinion and human rights attitudes, according to the relevant literature. The fifth predictor is respondents' socioeconomic level. In Latin America, poorer citizens are more critical of human rights protections (Gao et al., 2019, p. 3), while in Chile lower-income people tend to hold more negative perceptions of the state of human rights protections in the country (INDH, 2020, p. 48). Respondents' location in urban or rural areas is the sixth predictor. It has been found, for example, that knowledge about human rights is higher among urban dwellers (Koo et al., 2015). Religion is added as a seventh predictor variable because some denominations have been found to be correlated with decreased support for human rights (Narvaez et al., 1999; Urueña, 2019). We categorize the sample into four categories: Catholic, Protestant, Other, and None. The eighth predictor is education. Similar to the poor, people with fewer years for formal education tend to be more critical of the enforcement of human rights in Latin America (Gao et al., 2019, p. 4). Gender has also been found to be correlated with attitudes toward human rights, with females being less supportive of restrictions on human rights (Crowson and DeBacker, 2008, p. 304), and placing more importance in Chile on living in a country that respects human rights (INDH, 2020, p. 33). The last predictor is age, which has been found to be correlated with human right attitudes in different contexts. For example, older Americans are less willing to spend more money on products that respect worker's human rights (Hertel et al., 2009, p. 456), while in Chile older age is associated with the perception that there is little respect for human rights (INDH, 2020, p. 32). These covariates are used in the regressions detailed below.

4.4. Statistical analysis

After presenting the frequency distributions of the dependent variables, non-parametric bivariate analyses are used to assess the relationship between perceptions of human rights violations and protest participation, media use, fear of crime, and protest proximity. The dependent variables are measured using 5-point Likert scales and have skewed values, while Shapiro–Wilk [$W(1,425) = 0.98859$; $p < 0.0001$ for the police; $W(1,400) = 91.15$; $p < 0.0001$ for the military] and skewness and kurtosis tests [adjusted $\chi^2(1,425) = 91.15$; $p < 0.0001$ for the police; adjusted $\chi^2(1,400) = 77.9$; $p < 0.0001$ for the military] show that the dependent variables are not normally distributed, so tests like the Pearson and point-biserial correlation coefficients would not be appropriate. Instead, the bivariate analyses use Fisher's exact test and Spearman's rank correlation coefficient to evaluate the hypotheses (see Table 1).

The determinants of perceptions of human rights violation are also tested using multivariate regressions. These models use, in addition to the independent variables, the other theoretically relevant predictors described in the Methods section. Ordered logistic models are used because they are appropriate when dependent variables are ordinal and have a limited range of values (Cameron and Trivedi, 2013). However, to assess the robustness of the results, linear regressions are also used. The models also include robust standard errors, and the survey population weights. Finally, predicted values are used to illustrate some of the results. The analysis were carried in Stata 17 (StataCorp, 2021).[8]

5. Results

A series of descriptive statistics were performed for the dependent and independent variables. These statistics are shown in Table 1. Most respondents in the CEP survey answered that the country's security forces committed human rights violations at least sometimes during the social outburst. In the case of the police the share is higher, with more than one third of the sample stating that Carabineros violated human rights very frequently. Meanwhile, the most recurrent answer for the military is "sometimes," although almost half of the sample stated that they violated human rights frequently or very frequently. The answers in both cases are, therefore, skewed toward higher frequencies of human rights violations.

Next, we analyze the bivariate relationships between the dependent and independent variables using non-parametric tests. In the case of protest participation, since it is binary, we use the chi-square exact test to assess its association with the dependent variables. The results show that demonstrating during the unrest is positively associated with perceptions that the police ($\chi^2(4) = 119.2157$; $p < 0.0001$) and the military violated human rights very frequently ($\chi^2(4) = 83.8252$; $p < 0.0001$). The results, therefore, support Hypothesis 1.

7 Items E49A ("Instead of so much worrying about people's rights, what this country needs is a firm government."), E49B ("What our country needs is a strong leader with the determination to take us on the right path."), E49C ("Obedience and respect for authority are the most important values that children should learn."), and E49D ("The true keys to a good life are obedience and discipline"), measured using a 5-point Likert scale of level of agreement with the statements.

8 Replication files are available on the Harvard Dataverse (Disi Pavlic and Carrasco, 2023).

TABLE 1 Descriptive statistics of dependent and independent variables (CEP, 2020).

	Perception of frequency of human rights violations		Demonstrated during the unrest	Media use frequency (all)	Traditional media use frequency	Social media use frequency	Fear of crime	Nearby violent protest
Statistic	Police	Military						
N	1,427	1,402	1,456	1,494	1,494	1,463	1,488	1,496
Mean	2.85	2.48	0.25	1.57	1.62	1.47	8.26	33.07
Min	0	0	0	1	1	1	0	0
Max	4	4	1	3	3	3	10	109
SD	1.11	1.22	0.43	0.57	0.61	0.66	2.49	35.12
Skewness	−0.75	−0.44	1.18	0.78	0.67	1.08	−1.76	0.74
Kurtosis	2.94	2.36	2.38	2.78	2.56	2.96	5.69	2.07
25th percentile	2	2	0	1	1	1	7	2
median	3	3	0	1.33	1.5	1	9	20
75th percentile	4	4	0	2	2	2	10	62

With the rest of the variables, we use the Spearman's rank coefficient because it is appropriate for ordinal covariates. More frequent uses of general [r_s (1,424) = 0.0898; $p < 0.001$], traditional [r_s (1,424) = 0.0458; $p < 0.1$], and social media [r_s (1,398) = 0.1460; $p < 0.0001$] are positively correlated with the police variable; the frequencies of using general [r_s (1,399) = 0.0639; $p < 0.05$] and social media [r_s (1,424) = 0.1176; $p < 0.0001$] are positively correlated with the armed forces variable. Thus, correlations support Hypothesis 2b about the positive association between media use and perceptions of more frequent human violations. Fear of crime is also significantly correlated with human rights perceptions, though not as expected. In the case of the police, the correlation is positive [r_s (1,419) = 0.0692; $p < 0.05$]. The observed inverse directionality of the relationship contradicts the anticipated outcome stated in Hypothesis 3. Finally, the results suggest there is a significant bivariate relationship between the number of nearby violent protests and human rights violations perceptions. The correlation is positive for the police [r_s (1,425) = 0.0516; $p < 0.1$] and military variables [r_s (1,399) = 0.0554; $p < 0.05$]. This lends support to Hypothesis 4.

We carried out eight multivariate regressions. Four use ordered logistic models, and four use ordered least squares models. Half of the models use the media scale variable (TV, reading, and social media), and the other half use the traditional media scale (TV, reading) and social media variables.[9] Figure 2 plots the coefficients for the two outcomes in ordered logistic and linear regressions using the general social media variable. In these models, demonstrating during the social outburst is positively correlated with stating that the police violated human rights very frequently during the October crisis (ordered logit $\beta = 0.48$; $p < 0.01$; linear $\beta = 0.21$; <0.01). Meanwhile, the association with protest participation is not statistically significant for the military. Hypothesis 1, therefore, is supported but only for the police. Likewise, media use is positively correlated with answering that the police violated human rights very frequently (ordered logit $\beta = 0.34$; $p < 0.05$; linear $\beta = 0.12$; <0.05) while the effect is null for the military. Hypothesis 2b, then, is supported only with regards to the police, while Hypothesis 2a is refuted. Hypothesis 3, meanwhile, is fully rejected: worry about crime is positively associated with stating that human rights were violated very frequently by the police (ordered logit $\beta = 0.71$; $p < 0.01$; linear $\beta = 0.03$; <0.05), and by the military (ordered logit $\beta = 0.07$; $p < 0.05$; linear $\beta = 0.03$; <0.05). Thus, the correlations with fear of crime are statistically significant but their direction goes against theoretical expectations. Finally, Hypothesis 4 is partially supported on both accounts. Nearby violent protests are negatively correlated with saying that the police violated human rights frequently (ordered logit $\beta = -0.01$; $p < 0.001$; linear $\beta = -0.004$; <0.001), and the opinion that the military did as well (ordered logit $\beta = -0.04$; $p < 0.05$).

Figure 3 plots the same models as Figure 2 but using the traditional and social media variables as predictors instead of the general media one. In this case, the effects of demonstrating and fear of crime remain virtually the same, and the effect of nearby protests on perceptions of the military is now also statistically significant (linear $\beta = -0.002$; <0.05). With regards to the media variables, the effect of traditional media use is null across the models, while the association with social media use is positive for perceptions about the police (ordered logit $\beta = 0.26$; $p < 0.05$; linear $\beta = 0.11$; $p < 0.05$) but not the military. This suggests that empirical support for Hypothesis 2b depends on the type of media used.

To further illustrate the main results, we also estimate the adjusted predictions for selected values of the statistically significant independent variables in the models using ordered logistic regressions and the social media variable, while leaving the rest of the covariates at their mean values. Figure 4 shows the adjusted predictions of stating the police violated human rights very frequently along the range of observed values of nearby violent protests, and for specific values of the other predictors. Across the predictions, the probability of stating that the police violated

9 For the full results with all the predictors see Table A1 for the logistic regressions (with odds ratios) and Table A2 for the linear regressions in the Appendix.

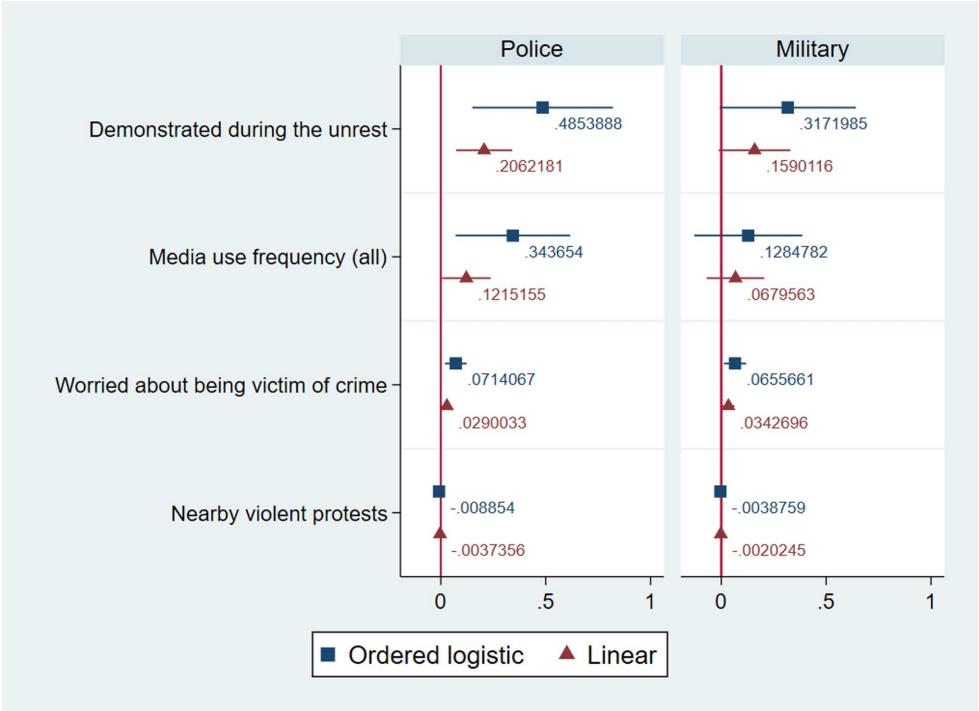


FIGURE 2
Regressions of perceptions of frequency of human rights violations by the police and military during the October crisis (all media), with 95% confidence intervals.

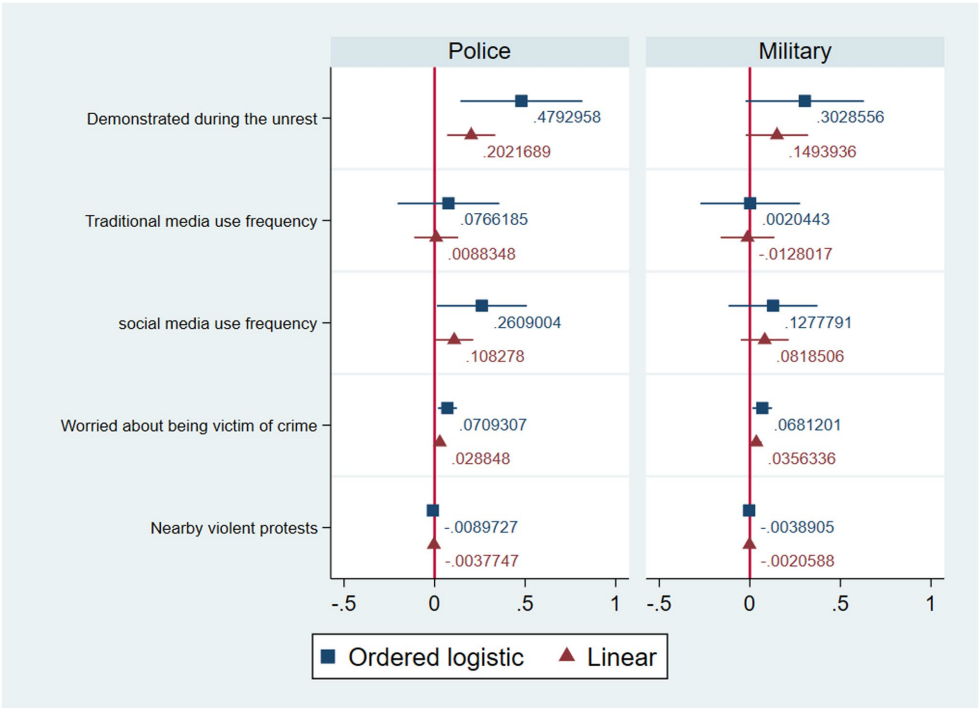


FIGURE 3
Regressions of perceptions of frequency of human rights violations by the police and military during the October crisis (traditional and social media), with 95% confidence intervals.

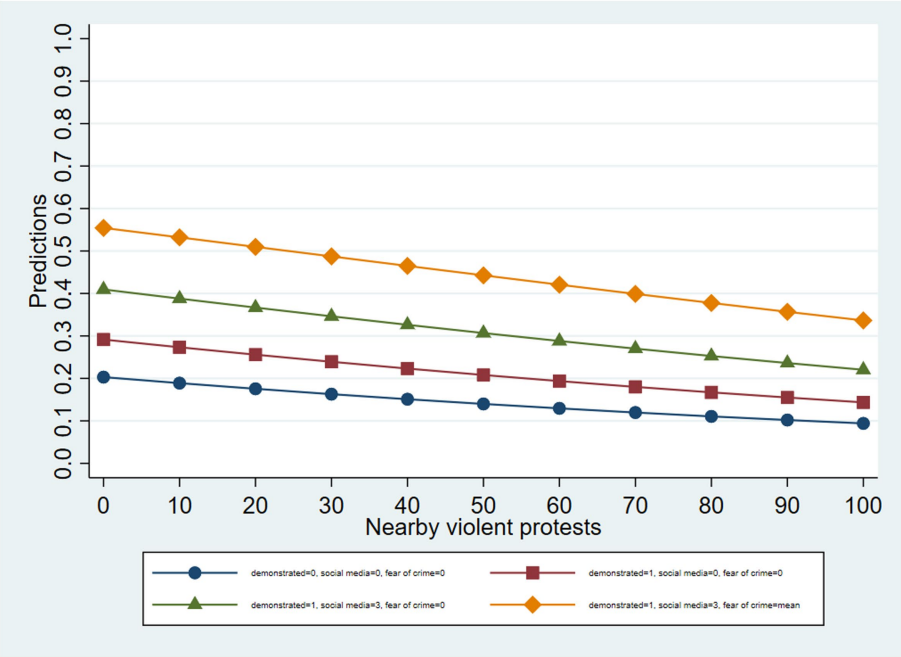


FIGURE 4
Adjusted predictions of stating that the police violated human rights "very frequently".

human rights very frequently decreases as the number of violent protests in the respondents' vicinity grows. Higher values of the other independent variables also increase this probability. For example, when respondents demonstrated during the crisis (value of 1); used social media frequently (3); and had a mean value in the fear of crime variable (8.2), the probability decreases from 55.4% with zero violent protests to 33.7% with 109 nearby events. This lends additional support to Hypotheses 1, 2b, and 4, while further rejecting Hypotheses 2a and 3.

Figure 5 shows the adjusted predictions of the armed forces variable, in this case for protest participation and fear of crime (the only two statistically significant regressors). The probability of saying that the armed forces committed human rights violations very frequently goes up as nearby violent events increase, and it is higher for respondents who were more worried about becoming victims of crime. For example, when the fear of crime variable is at its mean, the probability declines from 21.9% with zero violent protests nearby to 15.9% with 109 violent events in the vicinity. These adjusted values support Hypothesis 4 and disprove Hypothesis 3.

6. Conclusion

The waves of protests that began on October 18, 2019, became the largest mobilizations in Chilean history. In addition to institutional and policy responses, the protests were met with unprecedented levels of repression and human rights violations, committed by security forces to suppress the unrest (Sehnbruch and Donoso, 2020). The extent of these violations remains a contentious issue to this day among political actors and in public opinion.

This work has sought to explain the predictors of perceptions of human rights violations during the October outburst by highlighting contextual and local variables. Drawing on the political science, sociology, and social psychology literatures, it hypothesizes that protest participation (Hypothesis 1), media use (Hypothesis 2a and 2b), fear of crime (Hypothesis 3), and spatial proximity to violent protests (Hypothesis 4) are correlated with the perception that Chilean security forces violated human rights frequently during the unrest. Thus, this article builds on but also goes beyond testing the generalizability of more traditional predictors such as right wing authoritarianism (Krause, 2022), education (Cruz, 2009; Gao et al., 2019), and ideology (INDH, 2020).

Bivariate and multivariate analyses of two indicators of perceptions of human rights violations in a nationally representative survey fielded during the outburst – one about the police and the other about the military—confirm three out of our five hypotheses. Participating in protests is positively correlated with the perception that the police (but not the armed forces) violated human rights frequently, partially confirming Hypothesis 1. It is worth noting that the regressions control for other predictors of demonstrating in Chile such as ideology, institutional trust, socioeconomic level, and age (Disi Pavlic and Mardones, 2019). Thus, our results contribute to the literature on the consequences of protest participation on political engagement (Thomas and Louis, 2013; Vestergren et al., 2017; Pop-Eleches et al., 2022), and to the analysis of the socio-cognitive processes operating during the Chilean outburst (Castro-Abril et al., 2021). Future research should check if the relationship between protesting and human rights perception is as pronounced in periods with less mobilization.

More media use for political information was found to be positively correlated with the perception that the police—but not that the military—committed human rights violations frequently. Thus, the results lend some support to Hypothesis 2b and refute Hypothesis 2a. They suggest that, although mainstream media outlets used frames emphasizing deviance and violence in protests and

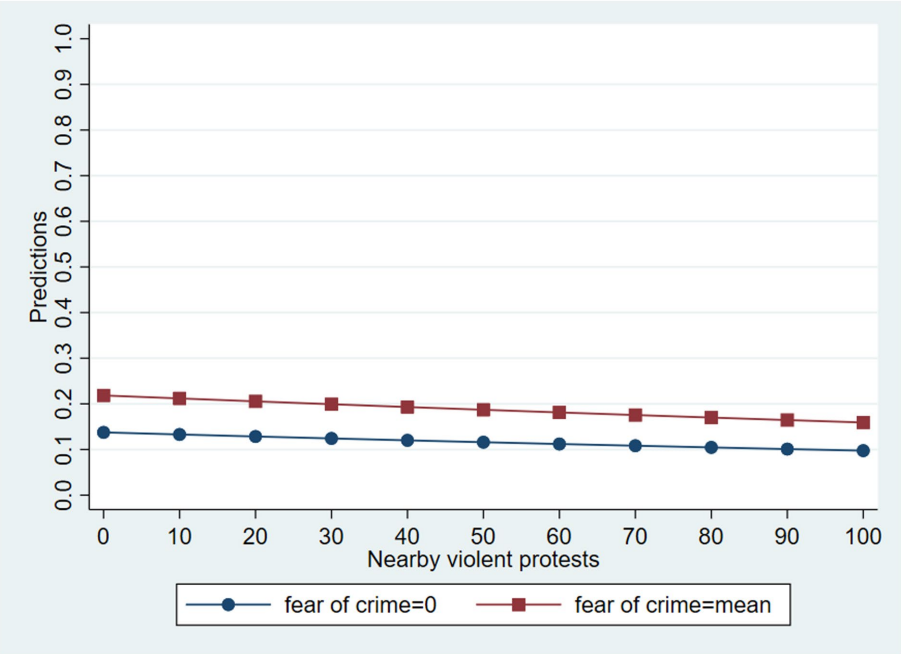


FIGURE 5
Adjusted predictions of stating that the armed forces violated human rights "very frequently".

minimizing human rights violations (Chacón and Rivera, 2020; Bonner and Dammert, 2022; Proust and Saldaña, 2022) media consumption nevertheless generated a critical view of the way the police handled the protests. However, disaggregating media in traditional and social types showed that the association is with the latter. Thus, our results suggest that social media not only encouraged protest participation (Scherman and Rivera, 2021) but also impacted the political perceptions of the events that took place in the outburst. Future research could test these two hypothesis again but applying even more context-specific variables like using particular media outlets or framing typologies (Kozman, 2017) instead of media types.

It is worth noting that the protest participation and media variables only had a statistically significant association with the police variable but not the military. Additionally, the correlations on perceptions about the armed forces' behavior are substantively smaller than those about police behavior for all the independent variables. The smaller, less significant effects on opinions about human rights violations by the military lends support to the argument that Latin Americans "lack a fundamental trust in law enforcement to do its job in a successful, transparent, and humane manner. By contrast, Latin American citizens place more trust in the armed forces as an institution capable of performing effectively, and in accordance with human rights standards and the rule of law" (Pion-Berlin and Carreras, 2017, p. 5).

Meanwhile, Hypothesis 3 is soundly rejected. Against theoretical expectations, increased fear of crime is *positively* associated with stating that both the police and the armed forces frequently violated human rights during the unrest. Thus, the results contradict the widespread argument that people are willing to do away with human rights protections in exchange for protection from crime (Sánchez, 2006; Ceobanu et al., 2011; Krause, 2022). The association between fear of crime and human rights perceptions may have less to do with perceived threats from crime (Carriere, 2019) and more with instrumental, outcome- or performance-based evaluations of security forces (Sunshine and Tyler, 2003; Murphy et al., 2008; Gau, 2010). The relationship may also be explained in terms of procedural fairness: people who perceive that the police does not curb crime may also be skeptical of their capacity to respect established protocols, procedures, or rights in their treatment of demonstrators (Liu and Wu, 2023). Thus, fear of crime does not give the police carte blanche to control other phenomena like protests—it may actually cause citizens to be more critical of the way the police carry out their duties. Finally, it may also be that most people—a even in a situation like the social outburst—make a distinction between and to dot equate ordinary crime with most types protest behavior (Sabucedo and Arce, 1991; Delfino and Zubieta, 2014).

Hypothesis 4 is supported, as the perception that security forces committed frequent human rights violations is positively correlated with the local occurrence of violent protest events during the unrest. The threat posed by violent protests, therefore, could increase justification or qualification of human rights restrictions (Metcalfe and Pickett, 2022). These results reaffirm the importance of within-country variation and subnational factors to understand political attitudes and human rights attitudes in particular (Barton et al., 2017; Crow, 2017), and contribute to our understanding of when public opinion justifies police violence (Jackson et al., 2013; Gerber and Jackson, 2017; Gerber et al., 2023). Other works could further explore the relationship between threats and support for human rights restrictions in the context of protest and civil unrest, which has usually emphasized other types of perceived threats (McLaren, 2003; Barth et al., 2015; Abrams et al., 2017). Finally, future research could explore the impacts other context-sensitive factors not

included in this study, such as personal experience with human rights violations (Bautista et al., 2023) and prosecutions (Sikkink and Walling, 2007; Kim and Sikkink, 2010), and naming and shaming of one's country by international organizations (Ausderan, 2014).

Data availability statement

Publicly available datasets were analyzed in this study. This data can be found at: https://dataverse.harvard.edu/dataset.xhtml?persistentId=doi:10.7910/DVN/PKFJSY.

Ethics statement

Ethical review and approval was not required for the study on human participants in accordance with the local legislation and institutional requirements. Written informed consent for participation was not required for this study in accordance with the national legislation and the institutional requirements.

Author contributions

SC and RD contributed to the literature review, empirical analysis, and writing of the manuscript. All authors contributed to the article and approved the submitted version.

Funding

This research was supported by ANID (Chile) through a FONDECYT Iniciación en Investigación grant [11190233], the Centre for Social Conflict and Cohesion Studies (COES) [ANID/FONDAP/15130009], and Dicyt-USACH.

Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

Publisher's note

All claims expressed in this article are solely those of the authors and do not necessarily represent those of their affiliated organizations, or those of the publisher, the editors and the reviewers. Any product that may be evaluated in this article, or claim that may be made by its manufacturer, is not guaranteed or endorsed by the publisher.

Supplementary material

The Supplementary material for this article can be found online at: https://www.frontiersin.org/articles/10.3389/fpsyg.2023.1133428/full#supplementary-material

References

Abrams, D., Houston, D. M., Van de Vyver, J., and Vasiljevic, M. (2015). Equality hypocrisy, inconsistency, and prejudice: the unequal application of the universal human right to equality. *Peace Conflict* 21, 28–46. doi: 10.1037/pac0000084

Abrams, D., Van de Vyver, J., Houston, D. M., and Vasiljevic, M. (2017). Does terror defeat contact? Intergroup contact and prejudice toward Muslims before and after the London bombings. *Peace Conflict* 23, 260–268. doi: 10.1037/pac0000167

Aguilera, C., and Badilla Rajevic, M. (2022). Human rights memorials in turmoil: antagonistic memories in contemporary Chile. *Polit. Geogr.* 98:102731. doi: 10.1016/j.polgeo.2022.102731

Aliaga, R. V. (2021). La Perspectiva emocional del estallido social en Chile: trauma y memoria colectiva. *REVUELTAS. Revista Chilena de Historia Social Popular*, 196–207.

Allport, G. W. (1979). *The nature of prejudice. Unabridged*, Reading, MA: Addison-Wesley Pub. Co.

Altemeyer, B. (1998). "The other 'authoritarian personality" in *Advances in experimental social psychology*. ed. M. P. Zanna (Cambridge, MA: Academic Press), 47–92.

Andrews, K. T., Beyerlein, K., and Tucker Farnum, T. (2016). The legitimacy of protest: explaining white southerners' attitudes toward the civil rights movement. *Soc. Forces* 94, 1021–1044. doi: 10.1093/sf/sov097

Athena Lab (2022). *Percepciones sobre Política Exterior y Seguridad Nacional*. Santiago: Athena Lab-IPSOS.

Ausderan, J. (2014). How naming and shaming affects human rights perceptions in the shamed country. *J. Peace Res.* 51, 81–95. doi: 10.1177/0022343313510014

Badilla Rajevic, M. (2020). When a social movement quarantines: the power of urban memory in the 2019 Chilean anti-neoliberal uprising. *Space Cult.* 23, 286–292. doi: 10.1177/1206331220938632

Barbosa dos Santos, M. L., Jaramillo Castro, O., Aguirre Azócar, D., Barbosa dos Santos, M. L., Jaramillo Castro, O., and Aguirre Azócar, D. (2021). "Vital testimonio confirmó…": Polarización de fuentes y redes en el Caso Catrillanca en Twitter, 26–50. Available at: Cuadernos.info.

Barth, M., Jugert, P., Wutzler, M., and Fritsche, I. (2015). Absolute moral standards and global identity as independent predictors of collective action against global injustice. *Eur. J. Soc. Psychol.* 45, 918–930. doi: 10.1002/ejsp.2160

Barton, D.-G., Hillebrecht, C., and Wals, S. C. (2017). A neglected nexus: human rights and public perceptions. *J. Human Rights* 16, 293–313. doi: 10.1080/14754835.2016.1261013

Bautista, M. A., González, F., Martínez, L. R., Muñoz, P., and Prem, M. (2023). The geography of repression and opposition to autocracy. *Am. J. Polit. Sci.* 67, 101–118. doi: 10.1111/ajps.12614

Bonnefoy, P. (2019). After fare hike stirs violent unrest in Chile, president suspends it. The New York Times. Available at: https://www.nytimes.com/2019/10/19/world/americas/chile-protests-emergency.html (Accessed September 8, 2022).

Bonner, M. D. (2018). "Holding police abuse to account: the challenge of institutional legitimacy, a Chilean case study" in *Police abuse in contemporary democracies*. eds. M. D. Bonner, G. Seri, M. R. Kubal and M. Kempa (Cham: Springer International Publishing), 113–134.

Bonner, M. D., and Dammert, L. (2022). Constructing police legitimacy during protests: frames and consequences for human rights. *Polic. Soc.* 32, 629–645. doi: 10.1080/10439463.2021.1957887

Brouard, S., Vasilopoulos, P., and Foucault, M. (2018). How terrorism affects political attitudes: France in the aftermath of the 2015–2016 attacks. *West Eur. Polit.* 41, 1073–1099. doi: 10.1080/01402382.2018.1429752

Browne, M., and Tomicic, V. (2007). Crimen y temor: el rol de los medios. *Cuadernos.info*, 21–36. doi: 10.7764/cdi.20.110

Bujić, M., Salminen, M., Macey, J., and Hamari, J. (2020). "Empathy machine": how virtual reality affects human rights attitudes. *Internet Res.* 30, 1407–1425. doi: 10.1108/INTR-07-2019-0306

Bursztyn, L., Cantoni, D., Yang, D. Y., Yuchtman, N., and Zhang, Y. J. (2021). Persistent political engagement: social interactions and the dynamics of protest movements. *Am. Econ. Rev. Insights* 3, 233–250. doi: 10.1257/aeri.20200261

Cabalin, C. (2014). The conservative response to the 2011 Chilean student movement: neoliberal education and media. *Discourse Stud. Cult. Polit. Educ.* 35, 485–498. doi: 10.1080/01596306.2013.871233

Cameron, A. C., and Trivedi, P. K. (2013). *Regression analysis of count data*. New York: Cambridge University Press.

Cárdenas, M., Ascorra, P., San Martín, M., Rodríguez, M., and Páez, D. (2013). Emociones como Predictores del Perdón en el Contexto de la Violación a los Derechos Humanos en Chile. *Psicoperspectivas* 12, 30–49. doi: 10.5027/psicoperspectivas-Vol12-Issue1-fulltext-241

Carriere, K. R. (2019). Threats to human rights: a general review. *J. Soc. Polit. Psychol.* 7, 08–32. doi: 10.5964/jspp.v7i1.897

Castro-Abril, P., Da Costa, S., Navarro-Carrillo, G., Caicedo-Moreno, A., Gracia-Leiva, M., Bouchat, P., et al. (2021). Social identity, perceived emotional synchrony, creativity, social representations, and participation in social movements: the case of the 2019 Chilean populist protests. *Front. Psychol.* 12:12. doi: 10.3389/fpsyg.2021.764434

Ceobanu, A. M., Wood, C. H., and Ribeiro, L. (2011). Crime victimization and public support for democracy: evidence from Latin America. *Int. J. Public Opin. Res.* 23, 56–78. doi: 10.1093/ijpor/edq040

CEP (2020). Estudio Nacional de Opinión Pública N°84, Diciembre 2019. Available at: https://www.cepchile.cl/cep/encuestas-cep/encuestas-2010-2019/estudio-nacional-de-opinion-publica-n-84-diciembre-2019 (Accessed November 17, 2022).

Chacón, Z., and Rivera, A. (2020). Cuestionamiento de la Información Transmitida por los Medios de Comunicación en Tiempos de Crisis: Noticieros Chilenos. *Revista Ciencias de la Documentación*, 55–78.

COES (2020). Observatory of conflicts—cumulative dataset.

Cohrs, J. C., Maes, J., Moschner, B., and Kielmann, S. (2007). Determinants of human rights attitudes and behavior: a comparison and integration of psychological perspectives. *Polit. Psychol.* 28, 441–469. doi: 10.1111/j.1467-9221.2007.00581.x

Collins, C. (2010). "Opinión pública y derechos humanos en Chile" in *Chile 2010: Percepciones y Actitudes Sociales* (Santiago de Chile: Universidad Diego Portales), 61–71.

Conrad, C. R., Croco, S. E., Gomez, B. T., and Moore, W. H. (2018). Threat perception and American support for torture. *Polit. Behav.* 40, 989–1009. doi: 10.1007/s11109-017-9433-5

Crow, D. (2017). Rights trap or amplifier? Crime and attitudes toward local human rights organizations in Mexico. *J. Human Rights* 16, 332–350. doi: 10.1080/14754835.2016.1253461

Crowson, H. M. (2004). Human rights attitudes: dimensionality and psychological correlates. *Ethics Behav.* 14, 235–253. doi: 10.1207/s15327019eb1403_2

Crowson, H. M., and DeBacker, T. K. (2008). Belief, motivational, and ideological correlates of human rights attitudes. *J. Soc. Psychol.* 148, 293–310. doi: 10.3200/SOCP.148.3.293-310

Crowson, H. M., Debacker, T. K., and Thoma, S. J. (2006). The role of authoritarianism, perceived threat, and need for closure or structure in predicting post-9/11 attitudes and beliefs. *J. Soc. Psychol.* 146, 733–750. doi: 10.3200/SOCP.146.6.733-750

Cruz, J. M. (2009). *Should authorities respect the law when fighting crime*. Latin American Public Opinion Project Available at: https://www.vanderbilt.edu/lapop/insights/I0819en.pdf

Cruz, J. M. (2000). Violencia, democracia y cultura política. *Nueva Sociedad* 167, 132–146.

Dammert, L., and Malone, M. F. T. (2002). Inseguridad y temor en la Argentina: el impacto de la confianza en la policía y la corrupción sobre la percepción ciudadana del crimen. *Desarrollo Económico* 42, 285–301. doi: 10.2307/3455944

Dammert, L., and Malone, M. F. T. (2003). Fear of crime or fear of life? Public insecurities in Chile. *Bull. Lat. Am. Res.* 22, 79–101. doi: 10.1111/1470-9856.00065

Dammert, L., and Malone, M. F. T. (2006). Does it take a village? Policing strategies and fear of crime in Latin America. *Latin Am. Polit. Soc.* 48, 27–51. doi: 10.1111/j.1548-2456.2006.tb00364.x

Dammert, L., and Sazo, D. (2020). Scapegoats of the 2019 Chilean riots: from foreign intervention to riff-Raff involvement. *SAIS Rev. Int. Aff.* 40, 121–135. doi: 10.1353/sais.2020.0029

Delfino, G. I., and Zubieta, E. M. (2014). Participación Política Pacífica y agresiva: Aprobación y eficacia atribuida. *Psicología Política*, 25–46.

Deutsche Welle (2019). Piñera anuncia paquete de medidas para calmar protestas en Chile | DW | 23.10.2019. DW.COM. Available at: https://www.dw.com/es/pi%C3%B1era-anuncia-paquete-de-medidas-para-calmar-protestas-en-chile/a-50942344 (Accessed September 8, 2022).

Diaz-Veizades, J., Widaman, K. F., Little, T. D., and Gibbs, K. W. (1995). The measurement and structure of human rights attitudes. *J. Soc. Psychol.* 135, 313–328. doi: 10.1080/00224545.1995.9713961

Disi, R. (2021). The nearness of youth: spatial and temporal effects of protests on political attitudes in chile. *Lat. Am. Polit. Soc.* 63, 72–94. doi: 10.1017/lap.2020.33

Disi Pavlic, R., and Carrasco Paillamilla, S. F. (2022). Replication data for "Attitudes towards human rights violations during the 2019 Chilean social outburst." doi: 10.7910/DVN/PKFJSY

Disi Pavlic, R., and Mardones, R. (2019). Chile 2010: la desafección política y su impacto en la participación política convencional y no convencional. *Revista del CLAD Reforma y Democracia*, 189–226.

Doran, M.-C. (2017). The hidden face of violence in Latin America: assessing the criminalization of protest in comparative perspective. *Lat. Am. Perspect.* 44, 183–206. doi: 10.1177/0094582X17719258

Easton, D. (1975). A re-assessment of the concept of political support. *Br. J. Polit. Sci.* 5, 435–457. doi: 10.1017/S0007123400008309

Edwards, P., and Arnon, D. (2021). Violence on many sides: framing effects on protest and support for repression. *Br. J. Polit. Sci.* 51, 488–506. doi: 10.1017/S0007123419000413

El Mostrador (2019). Gobierno niega ante la CIDH violaciones de los DDHH y Defensoría de la Niñez acusa al Estado de «decir cosas que no se condicen con la realidad». *El Mostrador*. Available at: https://www.elmostrador.cl/noticias/pais/2019/11/12/gobierno-niega-ante-la-cidh-violaciones-de-los-ddhh-y-defensoria-de-la-ninez-acusa-al-estado-de-decir-cosas-que-no-se-condicen-con-la-realidad/ (Accessed November 30, 2022).

El Mostrador (2021). Critican estudio encargado por Carabineros que descarta crímenes de lesa humanidad en el estallido de 2019. *El Mostrador*. Available at: (https://www.elmostrador.cl/dia/2021/08/08/critican-estudio-encargado-por-carabineros-que-niega-crimenes-de-lesa-humanidad-en-el-estallido-de-2019/).

Fetchenhauer, D., and Bierhoff, H.-W. (2004). Attitudes toward a military enforcement of human rights. *Soc. Justice Res* 17, 75–92. doi: 10.1023/B:SORE.0000018093.23790.0d

Finkel, S. E. (1987). The effects of participation on political efficacy and political support: evidence from a west German panel. *J. Polit.* 49, 441–464. doi: 10.2307/2131308

Galais, C. (2014). Don't vote for them: the effects of the Spanish indignant movement on attitudes about voting. *J. Elect. Public Opin. Parties* 24, 334–350. doi: 10.1080/17457289.2014.887089

Gao, C., Hartzler, J., Hu, S., and Randle, I. (2019). ¿Quiénes perciben que la protección de los derechos humanos es insuficiente en las Américas? Latin American Public Opinion Project Available at: https://www.vanderbilt.edu/lapop/insights/IO941es.pdf.

Gau, J. M. (2010). A longitudinal analysis of citizens' attitudes about police. *Policing* 33, 236–252. doi: 10.1108/13639511011044867

Gerber, M. M., Figueiredo, A., Sáez, L., and Orchard, M. (2023). Legitimidad, Justicia y Justificación de la Violencia Intergrupal entre Carabineros y Manifestantes en Chile. *Psykhe* 32:00104. doi: 10.7764/psykhe.2021.31721

Gerber, M. M., and Jackson, J. (2017). Justifying violence: legitimacy, ideology and public support for police use of force. *Psychol. Crime Law* 23, 79–95. doi: 10.1080/1068316X.2016.1220556

Gibson, J. L., and Gouws, A. (2001). Making tolerance judgments: the effects of context, local and national. *J. Polit.* 63, 1067–1090. doi: 10.1111/0022-3816.00101

Giugni, M. G. (2004). "Personal and Biographical Consequences," in *The Blackwell Companion to Social Movements*. eds. D. A. Snow, S. A. Soule and H. Kriesi (Malden, MA: Blackwell Publishing), 489–507.

Grassau, D., Valenzuela, S., Bachmann, I., Labarca, C., Mujica, C., Halpern, D., et al. (2019). *Estudio de opinión pública: Uso y evaluación de los medios de comunicación y las redes sociales durante el estallido social en Chile*. Región Metropolitana, Chile, Pontificia Universidad Católica de Chile.

Gronemeyer, M. E., León-Porath, V., and Porath, W. (2021). Who has a say in political news? An analysis of sourcing trends in the Chilean quality press. *Journalism* 22, 465–483. doi: 10.1177/1464884918789242

Heinz, W. S., and Frühling, H. (2021). Determinants of gross human rights violations by state and state-sponsored actors in Brazil, Uruguay, Chile, and Argentina, 1960–1990. BRILL.

Heiss, C. (2021). Latin America erupts: re-founding Chile. *J. Democr.* 32, 33–47. doi: 10.1353/jod.2021.0032

Hertel, S., Scruggs, L., and Heidkamp, C. P. (2009). Human rights and public opinion: from attitudes to action. *Polit. Sci. Q.* 124, 443–459. doi: 10.1002/j.1538-165X.2009.tb00655.x

Hiskey, J. T., and Bowler, S. (2005). Local context and democratization in Mexico. *Am. J. Polit. Sci.* 49, 57–71. doi: 10.1111/j.0092-5853.2005.00110.x

INDH (2020). *Informe de Resultados: Encuesta Nacional de Derechos Humanos 2020*. Santiago: Instituto Nacional de Derechos Humanos.

Jackson, J., Huq, A. Z., Bradford, B., and Tyler, T. R. (2013). Monopolizing force? Police legitimacy and public attitudes toward the acceptability of violence. *Psychol. Public Policy Law* 19, 479–497. doi: 10.1037/a0033852

Joshi, D. K., Maloy, J. S., and Peterson, T. M. (2019). Popular versus elite democracies and human rights: inclusion makes a difference. *Int. Stud. Q.* 63, 111–126. doi: 10.1093/isq/sqy057

Kast, J. A. (2021). Poco a poco se devela la mentira. Las "violaciones a los derechos humanos" masivas y sistemáticas no existieron. Solo una condena y miles de causas cerradas. ¿La izquierda pedirá perdón por denigrar a Carabineros y validar la violencia urbana? Twitter. Available at: https://twitter.com/joseantoniokast/status/1370474137815285765 (Accessed November 30, 2022).

Ketchley, N., and El-Rayyes, T. (2021). Unpopular protest: mass mobilization and attitudes to democracy in post-Mubarak Egypt. *J. Polit.* 83, 291–305. doi: 10.1086/709298

Kim, H., and Sikkink, K. (2010). Explaining the deterrence effect of human rights prosecutions for transitional Countries1. *Int. Stud. Q.* 54, 939–963. doi: 10.1111/j.1468-2478.2010.00621.x

Koo, J.-W., Cheong, B.-E., and Ramirez, F. O. (2015). Who thinks and behaves according to human rights?: evidence from the Korean National Human Rights Survey. *Korea Observer* 46, 53–87.

Kozman, C. (2017). Measuring issue-specific and generic frames in the Media's coverage of the steroids issue in baseball. *Journal. Pract.* 11, 777–797. doi: 10.1080/17512786.2016.1190660

Krause, K. (2022). Authoritarianism, social dominance, and contesting human rights in Latin America. *Lat. Am. Res. Rev.* 55, 254–265. doi: 10.25222/larr.113

Kubal, M. R., and Fisher, E. (2016). The politics of student protest and education reform in Chile: challenging the neoliberal state. *Lat. Am.* 60, 217–242. doi: 10.1111/tla.12075

Kull, S., Ramsay, C., Weber, S., Lewis, E., Brouwer, M., Ciolek, M., et al. (2008). *World public opinion on torture. Program of International Polic Studies*. College Park, MD: University of Maryland.

Lee, H., Randall, G., and Vaught, J. (2015). *Low levels of external efficacy can be improved by government efforts to deliver better outcomes*. Nashville, TN: Latin American Public Opinion Project. Available at: https://www.vanderbilt.edu/lapop/insights/IO915es.pdf

Liu, J., and Wu, G. (2023). Procedural fairness and fear of crime: extending the procedural justice theoretical model under the Chinese context. *Crime Delinq.* 00111287221150422:001112872211504. doi: 10.1177/00111287221150422

Luna, J. P., Toro, S., and Valenzuela, S. (2022). Amplifying counter-public spheres on social media: news sharing of alternative versus traditional media after the 2019 Chilean uprising. *Social Media + Society* 8:205630512210773. doi: 10.1177/20563051221077308

Maguire, E., Barak, M., Cross, K., and Lugo, K. (2018a). Attitudes among occupy DC participants about the use of violence against police. *Polic. Soc.* 28, 526–540. doi: 10.1080/10439463.2016.1202247

Maguire, E., Barak, M., Wells, W., and Katz, C. (2018b). Attitudes towards the use of violence against police among Occupy Wall street protesters. *Policing* 14, 883–899. doi: 10.1093/police/pay003

Malone, M. F. T., and Dammert, L. (2021). The police and the public: policing practices and public trust in Latin America. *Polic. Soc.* 31, 418–433. doi: 10.1080/10439463.2020.1744600

Mares, M., and Stephenson, L. J. (2017). "Prosocial media use and effects" in *The international encyclopedia of media effects*. eds. P. Rössler, C. A. Hoffner and L. Zoonen (Hoboken, NJ: Wiley), 1–13.

Mazumder, S. (2018). The persistent effect of U.S. civil rights protests on political attitudes. *Am. J. Polit. Sci.* 62, 922–935. doi: 10.1111/ajps.12384

McFarland, S. (2010). Personality and support for universal human rights: a review and test of a structural model. *J. Pers.* 78, 1735–1764. doi: 10.1111/j.1467-6494.2010.00668.x

McFarland, S. (2015). Culture, individual differences, and support for human rights: a general review. *Peace Conflict* 21, 10–27. doi: 10.1037/pac0000083

McFarland, S., and Mathews, M. (2005). Who cares about human rights? *Polit. Psychol.* 26, 365–385. doi: 10.1111/j.1467-9221.2005.00422.x

McLaren, L. M. (2003). Anti-immigrant prejudice in Europe: contact, threat perception, and preferences for the exclusion of migrants. *Soc. Forces* 81, 909–936. doi: 10.1353/sof.2003.0038

Mead, D. (2010). *The new law of peaceful protest: Rights and regulation in the human rights act era*. Oxford, Portland, Oregon: Hart Publishing.

Metcalfe, C., and Pickett, J. T. (2022). Public fear of protesters and support for protest policing: an experimental test of two theoretical models*. *Criminology* 60, 60–89. doi: 10.1111/1745-9125.12291

Miller, P. (2011). Torture approval in comparative perspective. *Hum. Rights Rev.* 12, 441–463. doi: 10.1007/s12142-011-0190-2

Moghaddam, F. M., and Vuksanovic, V. (1990). Attitudes and behavior toward human rights across different contexts the role of right-wing authoritarianism, political ideology, and religiosity. *Int. J. Psychol.* 25, 455–474. doi: 10.1080/00207599008247877

Montt, F. J. T., Cortés, J. J. G., and Cerda, M. P. V. (2021). Los marcos de los noticieros televisivos y la segunda pantalla en Twitter y Facebook: Escándalo Pacogate en Chile. *Gestión y Política Pública* 30, 209–235. doi: 10.29265/gypp.v30i3.973

Morandé, J., López, M. Á., Murphy, P., Durán, R., Oyarzún, L., and Luna, J. P. (2009). *Chile, Las Américas y el Mundo: Opinión pública y política exterior 2008*. Santiago: Instituto de Estudios Internacionales, Universidad de Chile—Instituto de Ciencia Política, Pontificia Universidad Católica de Chile.

Muñoz, J., and Anduiza, E. (2019). 'If a fight starts, watch the crowd': the effect of violence on popular support for social movements. *J. Peace Res.* 56, 485–498. doi: 10.1177/0022343318820575

Murphy, K., Hinds, L., and Fleming, J. (2008). Encouraging public cooperation and support for police. *Polic. Soc.* 18, 136–155. doi: 10.1080/10439460802008660

Narvaez, D., Getz, I., Rest, J. R., and Thoma, S. J. (1999). Individual moral judgment and cultural ideologies. *Dev. Psychol.* 35, 478–488. doi: 10.1037/0012-1649.35.2.478

Navia, P., and Ulriksen, C. (2017). Tuiteo luego voto. El efecto del consumo de medios de comunicación y uso de redes sociales en la participación electoral en Chile en 2009 y 2013. *Cuadernos.info*, 71–88. doi: 10.7764/cdi.40.1049

Newman, N., Fletcher, R., Schulz, A., Andi, S., Robertson, C. T., and Nielsen, R. K. (2021). Reuters institute digital news report 2021. Available at: https://papers.ssrn.com/abstract=3873260 (Accessed December 8, 2022).

Núñez-Mussa, E. (2021). Chile: crisis of trust and a precarious industry.

Orchard, X., and Fergnani, M. (2022). Journalistic knowledge production during a social crisis: how journalists claimed professional authority during the Chilean social uprising. *Journalism* 14648849221142722:146488492211427. doi: 10.1177/14648849221142722

Oteíza, T. (2009). De "la conspiración de silencio" al reconocimiento de voces alternativas. Las violaciones a los derechos humanos en Chile según el Informe Valech (2003). *Revista Latinoamericana de Estudios del Discurso* 9, 87–112.

Perry, G. (2020). Promoting protesters' compliance: the effect of general perceptions of the police versus police actions. *Policing* 15, 1245–1261. doi: 10.1093/police/paaa041

Pion-Berlin, D., and Carreras, M. (2017). Armed forces, police and crime-fighting in Latin America. *J. Polit. Latin Am.* 9, 3–26. doi: 10.1177/1866802X1700900301

Pop-Eleches, G., Robertson, G., and Rosenfeld, B. (2022). Protest participation and attitude change: evidence from Ukraine's Euromaidan revolution. *J. Polit.* 84, 625–638. doi: 10.1086/716302

Pratto, F., Sidanius, J., Stallworth, L. M., and Malle, B. F. (1994). Social dominance orientation: a personality variable predicting social and political attitudes. *J. Pers. Soc. Psychol.* 67, 741–763. doi: 10.1037/0022-3514.67.4.741

Pressacco, C. F., and Castillo, L. (2022). Análisis de la institucionalidad de los Derechos Humanos en Chile tras el estallido social. *DJHR*, 79–103. doi: 10.18543/djhr.2467

Proust, V., and Saldaña, M. (2022). Another violent protest? New perspectives to understand protest coverage. *Media Commun.* 10, 18–29. doi: 10.17645/mac.v10i4.5796

Riffo, F., Pérez, D., Espinoza, C. A. S., and Duarte, A. A. (2019). ¿Qué influye en la confianza en las instituciones? Evidencia empírica para Chile. *Revista Facultad de Ciencias Económicas* 27, 83–104. doi: 10.18359/rfce.3517

Rojas, H. (2021). *Past human rights violations and the question of indifference: The case of Chile. 1st ed.*. London, United Kingdom: Palgrave Macmillan.

Roniger, L., and Sznajder, M. (1999). *The legacy of human rights violations in the southern con*. Argentina, Chile, and Uruguay: OUP Oxford.

Sabucedo, J. M., and Arce, C. (1991). Types of political participation: a multidimensional analysis. *Eur J Polit Res* 20, 93–102. doi: 10.1111/j.1475-6765.1991.tb00257.x

Sánchez, M. (2006). Insecurity and violence as a new power relation in Latin America. *Ann. Am. Acad. Pol. Soc. Sci.* 606, 178–195. doi: 10.1177/0002716206288571

Scherman, A., and Etchegaray, N. (2013). Consumo de noticias y temor al delito en Chile. *Estudios sobre el Mensaje Periodístico* 19, 563–575. doi: 10.5209/rev_ESMP.2013.v19.n1.42539

Scherman, A., and Rivera, S. (2021). Social media use and pathways to protest participation: evidence from the 2019 Chilean social outburst. *Social Media + Society* 7:20563051211059704. doi: 10.1177/20563051211059704

Sehnbruch, K., and Donoso, S. (2020). Social protests in Chile: inequalities and other inconvenient truths about Latin America's poster child. *Glob. Lab. J.* 11, 52–58. doi: 10.15173/glj.v11i1.4217

Sherkat, D. E., and Blocker, T. J. (1997). Explaining the political and personal consequences of protest. *Soc. Forces* 75, 1049–1070. doi: 10.2307/2580530

Sikkink, K., and Walling, C. B. (2007). The impact of human rights trials in Latin America. *J. Peace Res.* 44, 427–445. doi: 10.1177/0022343307078953

Simpson, B., Willer, R., and Feinberg, M. (2018). Does violent protest backfire? Testing a theory of public reactions to activist violence. *Socius* 4:237802311880318. doi: 10.1177/2378023118803189

Singer, A. J., Chouhy, C., Lehmann, P. S., Stevens, J. N., and Gertz, M. (2020). Economic anxieties, fear of crime, and punitive attitudes in Latin America. *Punishment Soc.* 22, 181–206. doi: 10.1177/1462474519873659

Soares, R. R., and Naritomi, J. (2010). "Understanding high crime rates in Latin America: the role of social and policy factors" in *The economics of crime: Lessons for and from Latin America* (Chicago, IL: University of Chicago Press), 19–55.

Somma, N. M. (2021). Power cages and the October 2019 uprising in Chile. *Soc. Identities* 27, 579–592. doi: 10.1080/13504630.2021.1931092

Somma, N., Bargsted, M., Disi Pavlic, R., and Medel, R. M. (2021). No water in the oasis_ the Chilean spring of 2019–2020. *Soc. Mov. Stud.* 20, 495–502. doi: 10.1080/14742837.2020.1727737

Sommer, G., and Stellmacher, J. (2009). "Empirische Forschung zu Menschenrechten" in *Menschenrechte und Menschenrechtsbildung: Eine psychologische Bestandsaufnahme*.

eds. G. Sommer and J. Stellmacher (Wiesbaden: VS Verlag für Sozialwissenschaften), 65–117.

StataCorp (2021). Stata Statistical Software: Release 17.

Stokes, D. E. (1963). Spatial models of party competition. *Am. Polit. Sci. Rev.* 57, 368–377. doi: 10.2307/1952828

Sunshine, J., and Tyler, T. R. (2003). The role of procedural justice and legitimacy in shaping public support for policing. *Law Soc. Rev.* 37, 513–548. doi: 10.1111/1540-5893.3703002

T13 (2019). [VIDEO] Micco descarta violación sistemática de DD.HH.: Quien diga lo contrario tiene que probarlo. Available at: https://www.facebook.com/teletrece; https://www.t13.cl/noticia/nacional/sergio-micco-violacion-sistematica-dd.hh.-no-y-quien-diga-contrario-tiene-probarlo (Accessed November 30, 2022).

Thomas, E. F., and Louis, W. R. (2013). Doing democracy: the social psychological mobilization and consequences of collective action: doing democracy. *Soc. Issues Policy Rev.* 7, 173–200. doi: 10.1111/j.1751-2409.2012.01047.x

Tyler, D. H., Barak, M., Maguire, E., and Wells, W. (2018). The effects of procedural injustice on the use of violence against police by Occupy Wall street protesters. *Police Pract. Res.* 19, 138–152. doi: 10.1080/15614263.2018.1418153

Uang, R. S. (2013). Campaigning on public security in Latin America: obstacles to success. *Latin Am. Polit. Soc.* 55, 26–51. doi: 10.1111/j.1548-2456.2013.00192.x

Urueña, R. (2019). "Reclaiming the keys to the kingdom (of the world): evangelicals and human rights in Latin America" in *Netherlands yearbook of international law 2018: Populism and international law Netherlands yearbook of international law*. eds. J. E. Nijman and W. G. Werner (The Hague: T.M.C. Asser Press), 175–207.

Valenzuela, S., and Arriagada, A. (2011). Politics without citizens? Public opinion, television news, the president, and real-world factors in Chile, 2000–2005. *Int. J. Press Polit.* 16, 357–381. doi: 10.1177/1940161210379636

Verkuyten, M. (2009). Support for multiculturalism and minority rights: the role of National Identification and out-group threat. *Soc Just Res* 22, 31–52. doi: 10.1007/s11211-008-0087-7

Vestergren, S., Drury, J., and Chiriac, E. H. (2017). The biographical consequences of protest and activism: a systematic review and a new typology. *Soc. Mov. Stud.* 16, 203–221. doi: 10.1080/14742837.2016.1252665

Viollier Bonvin, P., Ortega Romo, V., Viollier Bonvin, P., and Ortega Romo, V. (2019). Cuando el Estado hackea: el caso de Operación Huracán. *Revista chilena de derecho y tecnología* 8, 83–110. doi: 10.5354/0719-2584.2019.54436

Visconti, G. (2020). Policy preferences after crime victimization: panel and survey evidence from Latin America. *Br. J. Polit. Sci.* 50, 1481–1495. doi: 10.1017/S0007123418000297

Wallace, S. J., Zepeda-Millán, C., and Jones-Correa, M. (2014). Spatial and temporal proximity: examining the effects of protests on political attitudes. *Am. J. Polit. Sci.* 58, 433–448. doi: 10.1111/ajps.12060

frontiers | Frontiers in Psychology

TYPE Original Research
PUBLISHED 09 June 2023
DOI 10.3389/fpsyg.2022.1111184

OPEN ACCESS

EDITED BY
Dario Paez,
University of the Basque Country,
Spain

REVIEWED BY
Simone Belli,
Complutense University of Madrid,
Spain
Mahault Albarracin,
Université du Québec à Montréal,
Canada

*CORRESPONDENCE
Carolina Alzugaray
✉ carolinaalzugaray@santotomas.cl

SPECIALTY SECTION
This article was submitted to Personality and Social Psychology, a section of the journal Frontiers in Psychology

RECEIVED 29 November 2022
ACCEPTED 28 December 2022
PUBLISHED 09 June 2023

CITATION
Villagrán L, Reyes-Valenzuela C, Alzugaray C, Zumárraga-Espinosa M and Méndez J (2023) The mediating role of emotions in offline and online political participation: A post-social outbreak study in Ecuador and Chile.
Front. Psychol. 13:1111184.
doi: 10.3389/fpsyg.2022.1111184

The mediating role of emotions in offline and online political participation: A post-social outbreak study in Ecuador and Chile

Loreto Villagrán[1], Carlos Reyes-Valenzuela[2], Carolina Alzugaray[3]*, Marcos Zumárraga-Espinosa[4] and Jaime Méndez[1]

[1]Departamento de Psicología, Facultad de Ciencias Sociales, Universidad de Concepción, Concepción, Chile, [2]Universidad Andina Simón Bolívar, Quito, Ecuador, [3]Escuela de Psicología, Facultad de Ciencias Sociales, Universidad Santo Tomás, Concepción, Chile, [4]Universidad Politécnica Salesiana, Cuenca, Ecuador

Introduction: In 2019, there was a period of social outbreaks in several Latin American countries, which share a background of social inequality, distrust in authorities, a crisis of representativeness, and discontent towards social and economic policies. In October 2019, in Ecuador and Chile, participation in these protests was characterized by street protests and broad political participation in social networks and alternative media, which were followed or interrupted by the COVID-19 pandemic. These facts have been deeply researched, addressing causal and structural factors of the phenomenon, the alternatives of political participation, and the role of emotions as determinants of action in these contexts. The objective of this study is to explore offline and online political participation (Facebook) after the social outbreak of 2019 in both countries, based on political interest, and how emotions intervene, especially negative ones, in a context of high demobilization.

Methods: A descriptive, correlational ex post facto and cross-sectional methodology was used, with the participation of 367 people, 210 from Ecuador (57.2%) and 157 from Chile (42.8%), aged between 17 and 48 years (M = 22.13, SD = 3.73). The measurement was carried out from 2020 to 2021.

Results: A mediation analysis showed that people who are more interested in politics are more likely to experience anger and anxiety with the political and economic situation, which motivates conventional political participation (Model 1). In Model 2 people who showed greater concern about the political and economic impacts of the COVID-19 pandemic and together with anger, favor online political participation, especially local support.

Discussion: These results suggest the influence of emotions on political participation, which occurs when there is an increase in social discontent due to government policies adopted during the pandemic and which represents a continuity of the discontent that was expressed in the October 2019 social outbreak.

KEYWORDS

Chile, Ecuador, emotions, offline and online, political participation, social outbreak

Introduction

Classic theories of social movements such as relative deprivation (Davies, 1962; Guimond and Dubé-Simard, 1983), social identity model (Reicher, 1996), or the framing model (Gamson, 1992), have at their core the discomfort and political discontent experienced by a population that perceives situations of injustice and social inequality (Tausch et al., 2011). Empirical evidence has shown that discontent is necessary, but not sufficient to explain participation in social movements (Cárdenas and Blanco, 2006). Current evidence suggests that emotions play a determining role in action within these contexts (Jasper, 2011; Poma and Gravante, 2017; Van Ness and Summers-Effler, 2018; Curnow and Vea, 2020; Caruso, 2022). These actions are expressed in different forms of political participation, in which emotions can increase participation, fostering anger and fear, which are related to political discontent and increase the probability of involvement (Valentino et al., 2011).

Research has characterized offline political participation as a real and conventional modality of involvement, and online political participation as an increasingly relevant component to promote political action (Zumárraga Espinosa, 2020). In this context, communication factors and social networks have been crucial at the beginning of social movements (Aravena Lavín, 2022), allowing greater democratization of political participation (Carroll and Hackett, 2006; Coleman and Blumler, 2009; Zumárraga-Espinosa et al., 2017a). On the one hand, it has been found that negative emotions in social networks increase offline participation, in particular, emotions such as anger make participation in protests possible (Min and Yun, 2019). On the other hand, evidence suggests the relevance of online participation through the impact of different online social movements (Hong and Kim, 2021), enabling a form of political expression for groups that are not commonly considered, such as people from low income. It has even been argued that social networks play a key role in the creation of bonds of trust between people participating in social movements (Belli et al., 2020). Likewise, it has been found that people with a greater interest in political issues are more likely to participate in collective actions than those with less interest (Borge et al., 2012), although no significant differences are found in online participation between the same groups (Xenos and Moy, 2007).

Emotions and their influence on social movements

In general, emotions present a history of agreements and disagreements within the social sciences (Scheff, 1994), despite being present in almost all human behaviors and motivating actions (Izard, 2007; Izard et al., 2008). In recent decades, emotions have been included as an explanatory factor related to different social phenomena (Nardini et al., 2020), even though the idea that emotions represent experiences and not rational processes persists (Jasper, 2011). Concerning social movements, emotions have been approached as transitory reactions to external events or new information (Jasper, 2016). Evidence regarding the role of emotions in the development of social movements mainly shows anger as a central negative emotion in their causal processes (Jasper, 2011, 2014; Nardini et al., 2020). Anger can be expressed as rage and indignation, and interfere with effective strategies to achieve the objectives of collective processes (Jasper, 2016). Complementarily, other emotional reactions are mobilized to reduce political-social discontent, either around anxiety (Best and Krueger, 2011; Wojcieszak et al., 2016), or shame, which could lead to anger (Jasper, 2016). In the field of digital actions Belli et al. (2021), exemplify with young activists in environmental movements how emotions such as fear, facing the planet risk of a future they describe as "apocalyptic," act as cognitive-emotional frameworks that have fostered activism against climate change.

Social movements have also been associated with positive emotions such as hope (Jasper, 2011; Vilas et al., 2016). Positive emotions would be part of people's expectation of joining a group, producing feelings of joy and positive affection when participating in group rituals. In particular, hope is interpreted as a means to avoid or modify situations that cause anger or wrath, to reach a better state in the future (Wlodarczyk et al., 2017), or as support to prolong the activity of a group with a specific objective (Sabucedo and Vilas, 2014).

Emotions could also occur in a shared way ("shared emotions") or reciprocally within the group, where its members would merge into a whole (Jasper, 2014). It has been described that when there is an emotional contagion of emotions, negative reactions can be activated that can have negative effects on individuals (Páez, 2011). Mizen (2015) when analyzing the Occupy movement of 2011 proposed that the emotionality of young people protesting could be analyzed as a single force that influenced group actions and decisions. In the case of emotions in the virtual context, digital emotional contagion has also been described, which would occur in people with shared tastes who can influence each other negatively or positively through publications (Serri, 2018). Studies in the context of the protests in Egypt and Spain (15-M) in 2011, show that the emotion of enthusiasm can be contagious online, generating peaks of enthusiasm and participation, but there is also a risk that after the initial enthusiasm, participation declines (Gerbaudo, 2016). Goldenberg and Gross (2020), agree that due to the amplitude of social networks, the emotional contagion can be very massive but that, for the same reason, there could be an effect of tiredness or fatigue. However, the description of the mechanism of how occurs the phenomenon of contagion (Asún et al., 2021) and when the contagion occurred would be pending (Goldenberg and Gross,

2020). Complementarily, it is also worth highlighting the way in which social networks are used by social movements to emotionally influence the population and achieve support to sustain their actions (Zumárraga-Espinosa et al., 2020).

On the other hand, in the case of the combination of positive and negative emotions, these have been studied through groups that mobilize people to avoid a state of discomfort and approach a pleasant state. Although it is difficult to distinguish between the emotions that are generated when seeking and then when reaching a goal, their importance lies in the fact that they are experiences that accompany the development of a social movement (Jasper, 2014). Hou and Bonanno (2018) conclude that emotions change during a social movement, even if it is short. These authors, in a sample of people who lived through the Umbrella Movement in Hong Kong, found that there was a predominance of negative reactivity accompanied by less positive reactivity during the positive moments of the movement (Hou and Bonanno, 2018).

Political participation and emotions in the context of a post-social outbreak in Chile and Ecuador

In October 2019, there were days of social protests in both Ecuador and Chile, in the latter, the social outbreak lasted longer. Similar to the global trend, in both contexts, affections and emotions were shared in the face of adverse or deprived situations of people and the struggle to recover citizen public spaces (Belli et al., 2018). Complementarily, both countries were experiencing a strong social polarization that subsequently conditioned preferences in electoral campaigns, in which social networks were profusely used and in which emotions in these contexts were highly potentiated.

Regarding the study of emotions and their influence on social outbreaks, although emotions have been part of the discourses and strategies of current movements in Latin America (see Poma and Gravante, 2017), research in Ecuador and Chile is still incipient and scarce. In the case of Chile, data before the outbreak of 2019 suggest that anger was expressed due to the high cost of living by the middle (53%) and low (45%) socioeconomic classes, and by the actions of the army in both the middle and low classes (44%; González et al., 2021, COES). Similarly, Conejeros et al. (2020), found the existence of a generational gap in fear during the social outbreak, since in younger people predominates the lack of fear and anger in the face of the injustices of the system, while in older people the fear of insecurity and instability predominates, which decrease when seeing the action of the youngest. Asún et al. (2020) found that before the social outbreak, experiencing intense negative emotions of mistrust, worry, and anger was associated with greater social participation. In addition, social participation in the form of attending the protest was related to pleasant emotions such as enthusiasm and hope that lead to a successful perception of the social manifestation. In the case of Ecuador, the limited evidence before the outbreak identified that during the second round of the 2017 presidential elections, positive and negative emotions encouraged political participation in social networks (Zumárraga-Espinosa et al., 2017b) and, during the outbreak, emotions predicted the use of Facebook as a political tool (Zumárraga-Espinosa et al., 2020). However, contradictory evidence has also been found without significant results for emotions as mediators of the relationship between the use of social networks and offline political participation (Zumárraga-Espinosa, 2021).

The context of the COVID-19 pandemic allowed, in both countries, the arrest and interruption of collective processes with a political nature, based on the measures to restrict mobility and association, added to a period of quarantine that lasted until June of 2020 and that counted, in both countries, with strong police and military control. Hence, the actions of mobilization and political participation were scarce at the conventional level, having greater expression in social networks. In both countries, the social outbreak that took place in 2019 was significantly reduced and the context of the COVID-19 pandemic made it possible for online political participation to become the only alternative to protest and express emotions, particularly in the face of the health, political and economic consequences of the pandemic, which although they raised a criticism of the institutions and state representatives, were not necessarily in line with the objectives set out in the October protests. This would also explain why in the few studies of political participation movements and actions in the 2020–2021 period in Ecuador and Chile, emotions have not been reported.

The present study

This study explores online and offline political participation after the social outbreak of 2019 in Chile and Ecuador, based on political interest and the role of emotions, especially negative ones, in the context of high social demobilization. The context of the study after the October social outbreak overlaps with the COVID-19 pandemic, in which collective political demonstrations were interrupted and emotions of discontent continued to be expressed regarding the state management of the pandemic. This allows us to conclude that social mobilization actions were not deployed in this period, but political participation actions were possible, in some cases, in a conventional sphere (offline) and, more frequently, online. Regarding the latter, the Facebook platform has been specifically considered, because it has been reported as the most used in both countries (Calderón et al., 2021; Santibáñez-Rodríguez, 2022; Zumárraga-Espinosa et al., 2022). Given these considerations, the present study explores the role of emotions in offline and online political participation, based on interest in politics. Because during 2020 and, to a lesser extent, in 2021, it is relevant to know what emotions intervene in political participation in an environment with high restrictions on the rights to assembly, association, and free mobility that were imposed in the countries in the study. The approach to emotions is exploratory and will focus primarily on negative emotions, since

the post-outbreak context intensified discontent and social turbulence, with special emphasis on the expression of anger, anxiety, and shame that has been reported. Previously. Therefore, we propose the following hypotheses:

> *Hypothesis 1*: The negative emotions of anger and anxiety will intervene in the relationship between interest in politics and offline political participation, in a post-social outbreak context.
>
> *Hypothesis 2*: Negative emotions in general and concern about political, economic and social impacts of COVID-19 will intervene between interest in politics and political participation on the Facebook platform.

Method

Design

The study used a descriptive, exploratory, *ex post facto*, correlational, and cross-sectional research design (Ato et al., 2013).

Participants

The sample corresponded to 367 people, 210 Ecuadorians (57.2%) and 157 Chileans (42.8%), aged between 17 and 48 years ($M = 22.13$; $SD = 3.73$). Regarding gender, 239 are women (65.7%) and 125 are men (34.3%), the vast majority are single (89.4%). Within the sample, 217 participants (59.5%) show an interest in politics, of which 47 (28.5%) self-identify as Left-wing, 219 (60.6%) as Centrist, and 39 (10.9%) as Right-Wing.

Instruments

Interest in politics

Interest in political issues was evaluated through a single item; "How interested would you say you are in politics?," build upon a Likert-type scale with 4 response options ranging from 1 (not at all interested) to 4 (totally interested).

Emotions

The emotions experienced by each participant, based on the current situation in their country, were evaluated. For this, a list of 15 emotions was presented, which vary between joy, hope, pride, enthusiasm, anger, anxiety, resentment, and fear, among others. The reliability of the measure was high for negative ($\alpha = 0.90$) and positive ($\alpha = 0.84$) emotions.

Concern about the impact of COVID-19

Participants were assessed on their level of concern about the evolution of the COVID-19 pandemic in both countries, and the repercussions it may have on their safety and well-being (Zumárraga-Espinosa et al., 2022). For this, a rating scale was used with response options ranging from 1 (Not at all) to 5 (Very much). Specifically, the concern for the following issues was evaluated: (a) the general economic situation in the country and its possibilities of reactivation; (b) the individual and family economic situation; (c) the response capacity of the hospital system to cases of contagion, and (d) citizen security in their neighborhood and city. The reliability of the measure was high ($\alpha = 0.89$).

Political participation in social media, PPOnline

The degree of political activism developed through Facebook, Twitter, and WhatsApp was measured based on five items, which evaluate activities of expression and political mobilization that can be carried out on digital platforms (Zumárraga Espinosa, 2020). For each social media, a 5-point rating scale ranging from 1 (Never) to 5 (Always) was used, and participants were asked about the frequency of the following political behaviors: (a) writing opinions on issues related to politics on their Facebook's wall or personal profile [$M = 1.58$, $SD = 0.84$]; (b) comment or respond to political opinions on other people's walls or pages [$M = 1.59$, $SD = 0.84$]; (c) share images, videos, links and content related to political issues, [$M = 1.83$, $SD = 1.01$]; (d) chat with friends or acquaintances about political issues, [$M = 1.98$, $SD = 1.05$]; (e) mobilize or try to convince other users/contacts to support or join political causes [$M = 1.21$, $SD = 0.60$], among others. The reliability of the instrument was high ($\alpha = 0.89$).

Conventional political participation, PPOffline

Conventional political participation was evaluated through 14 items which assessed 14 behaviors of conventional political participation, which vary between personally discussing politics with others, contacting a politician or public official to present their points of view, or collaborating with other people from the neighborhood to solve local problems (Zumárraga Espinosa, 2020). A 5-point rating scale was used, ranging from 1 (I have never done it and would never do it) to 5 (I have done it many times), and participants were asked about the frequency of the following political behaviors: (a) Collaborate with the neighbors or people from near sectors to solve local problems [$M = 2.25$, $SD = 0.89$]; (b) Attend legal and peaceful marches, demonstrations and collective mobilizations [$M = 2.59$, $SD = 1.30$]; (c) Attend a meeting or political debate, [$M = 2.19$, $SD = 1.03$]; (d) Personally discuss politics with others, [$M = 2.64$, $SD = 1.23$]; (e) Participate in strikes or unauthorized demonstrations [$M = 2.02$, $SD = 1.19$], among others. The reliability of the measure was high ($\alpha = 0.88$).

Procedure

This research complied with ethical research principles at national and international levels. The participants, mostly college students, were directly contacted and explained the objectives of the study, the anonymous and confidential nature of their responses, and the possibility of withdrawing from the study at

10.3389/fpsyg.2022.1111184

TABLE 1 Descriptive statistics of the study variables.

	Ecuador (*n*=210)					Chile (*n*=157)				
	M	*SD*	*S*	*K*	α	*M*	*SD*	*S*	*K*	α
Interest in politics	2.64	0.89	−0.22	−0.67	-	2.65	0.81	−0.21	−0.41	-
Anger	3.04	1.36	0.12	−1.24	-	3.07	1.29	−0.05	−1.13	-
Anxiety	2.80	1.26	0.26	−0.92	-	3.72	1.13	−0.64	−0.33	-
COVID-19 concern	19.5	5.15	−0.87	−0.18	0.94	19.6	3.56	−0.55	−0.01	0.79
PP offline	25.1	7.66	0.63	0.04	0.87	29.1	9.57	0.71	0.38	0.89
PP online (Facebook)	16.9	5.74	1.12	1.73	0.84	17.2	7.76	1.64	2.97	0.89

M, Arithmetic Mean; SD, Standard Deviation; S, Skewness; K, Kurtosis; α, Cronbach's alpha.

TABLE 2 Bivariate correlations of the study variables by country.

	Ecuador (*n*=210)		Chile (*n*=157)	
	Anxiety	Anger	Anxiety	Anger
Interest in politics	0.22**	0.11[t]	0.04	0.18**
COVID-19 concern	0.28**	0.34**	0.37**	0.36**
PP offline	0.29**	0.20**	0.24**	0.35**
PP online (Facebook)	0.27**	0.19**	0.18[t]	0.22*

[t]marginal. $*p<0.05$; $**p<0.01$.

any time they wish. The participants were contacted by professors from three universities, one in Quito (Ecuador) and two in Concepción (Chile). Two versions of the questionnaire were created, an online version through the Google Forms platform, which was sent *via* email to each participant for them to respond voluntarily within 2 months. The paper version was answered mainly by the participants from the universities in Concepción. In both countries, the questionnaire contained informed consent, a section where sociodemographic data could be completed, and the items of the scale about the concern of COVID-19, negative emotions, and offline and online political participation. The data collection was carried out in two periods of time: in November 2020 in Chile and in January and February 2021in Ecuador.

Data analysis

A descriptive analysis was carried out to identify the frequency of negative emotions and offline and online political participation. Descriptive statistics, including mean, standard deviation, skewness (S), kurtosis (K), Cronbach's alpha, bivariate correlations of all study variables, and mean comparisons (t statistic) were calculated using SPSS-25 software. Subsequently, two mediation analyzes were carried out, using the PROCESS macro for SPSS: in the first one, model 4 (Hayes, 2017) was used, to verify if negative emotions such as anxiety, anger, and shame are mediators between interest in politics and offline political participation. A second mediation model, specifically through model 6, evaluated the relationship between interest in politics and political participation on Facebook, through intervening variables such as negative emotions and concern about the consequences of COVID-19. In both analyses, indirect effects were obtained using a bootstrap procedure, based on 10,000 samples and 95% confidence intervals correcting for bias.

Results

Descriptive statistics

Regarding the descriptive analysis (Table 1), statistically significant correlations were found in both countries between the study variables with the emotions of anxiety and anger (Table 2). On the other hand, significant differences are found when comparing the means by country in two measures: anxiety $t(365)=7.211$, $p=0.000$, $d=0.76$, and offline political participation, $t(361)=7.211$, $p=0.000$, $d=0.51$.

Mediation model

A mediation analysis was carried out, using the PROCESS macro for SPSS and model 4 (Hayes, 2017). First, the role of emotions as mediating variables between IP and offline political participation (PPOff) was contrasted. The results presented in Figure 1 confirm the significant relationship between IP and PPOff (B = 2.71, t = 5.46, $p=0.000$). As mediating variables, two emotions presented significant effects; anxiety with IP (B = 0.25, t = 3.22, $p=0.002$) and PPOff (B = 1.64, t = 4.59, $p=0.000$), and anger with IP (B = 0.21, t = 2.65, $p=0.008$) and with PPOff

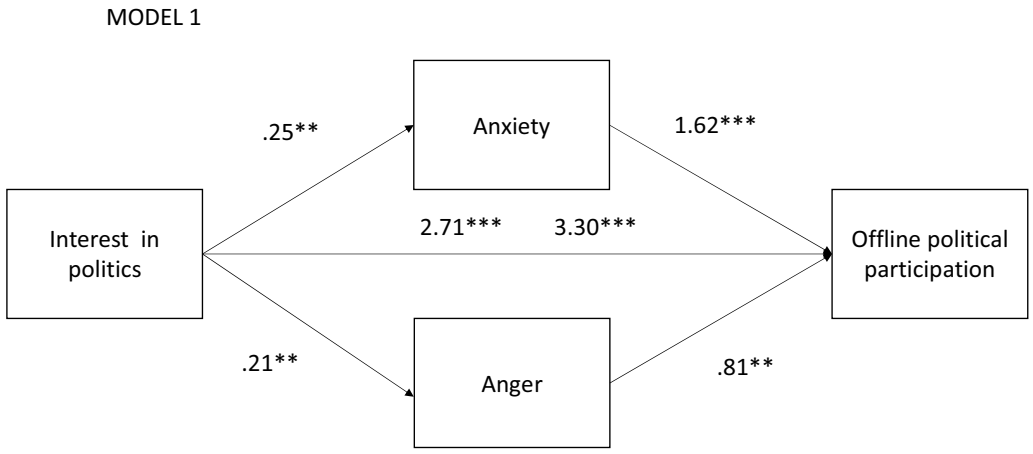


FIGURE 1
Relationship between interest in politics and PP offline mediated by anxiety and anger. **p<0.01 and ***p<0.001.

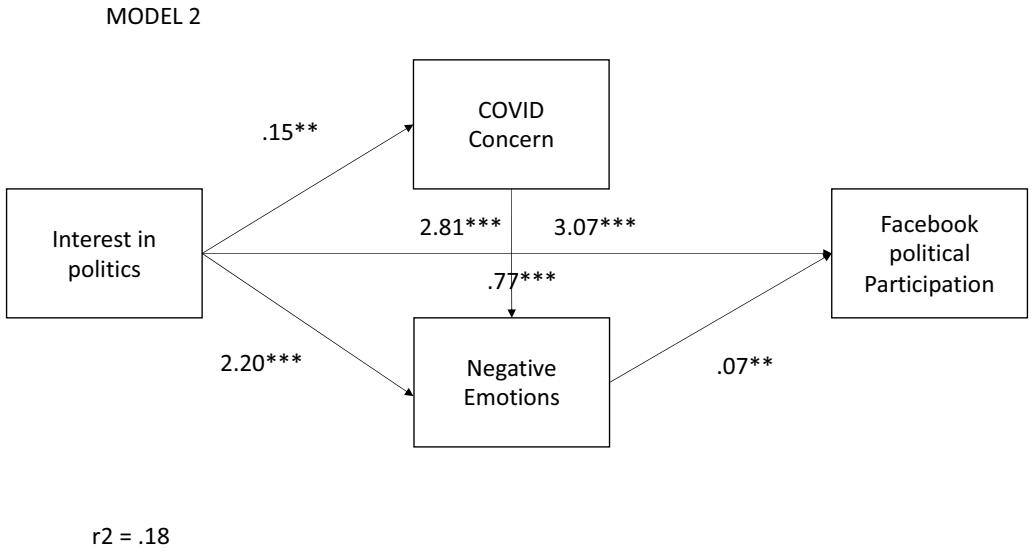


FIGURE 2
Relationship between interest in politics and PP online (Facebook) mediated by concern about the impacts of COVID-19 and anger. **p<0.01 and ***p<0.001.

(B = 0.81, t = 2.36, p = 0.018). Based on the effects of the mediating variables, the significance between IP and PPOff is maintained (B = 3.30, t = 6.43, p = 0.000), with an R^2 = 10%. This is evidence of partial fulfillment of hypothesis 1, concerning the mediating effect of the emotions of anger and anxiety, but which rules out the emotion of shame.

For the second hypothesis, a mediation analysis was carried out using model 6, to evaluate the mediating role of emotions and concern about COVID-19 (CC) in the relationship between IP and online participation in Facebook (PPF). The results presented in Figure 2 identify a significant relationship between IP and PPF (B = 2.91, t = 7.53, p = 0.000). As mediating variables, significant effects of CC were found with IP (B = 0.83, t = 2.69, p = 0.007) and not significant with PPF. A second variable, negative emotions, had a significant relationship with IP (B = 0.18, t = 2.22, p = 0.026), with CC (B = 0.09, t = 5.71, p = 0.000), and with PPF (B = 0.64, t = 2.41, p = 0.016). From the effects of the mediating variables, the significance between IP and PPF is maintained (B = 3.08, t = 8.06, p = 0.000), which suggests a double path that uses CC and negative emotions and a second one only with negative emotions and PPF, with an R^2 = 18%. Thus, hypothesis 2 is confirmed, regarding the role of the negative emotions and concern for COVID-19 as an intervening factor in political participation on Facebook.

Discussion

The aim of this paper is to study offline and online political participation in Ecuador and Chile in a less explored period of their recent political reality, located after the social outbreaks of October 2019, and coinciding with the COVID-19 pandemic. Due to the sanitary restrictions imposed by the governments on people at this stage, it is of interest to explore what individual and collective actions are taking place in this context. At this point, it is relevant to know how negative emotions intervene in people with a certain interest in politics and enable participation, in a demobilizing context. Although the measures implemented allowed greater state control of the protests, it is also clear that in the period after the social outbreaks, emotions continued to be present in state and civil society reactions, discourses, and/or strategies.

Our findings suggest that offline participation is driven by emotions such as anger and anxiety, which is consistent with previous research that reveals the activation that these types of emotions promote. At this point, it is worth asking whether these emotions are necessarily "negative" or "mobilizing" (Poma and Gravante, 2017) since their expression would be more related to ways of individual coping in a political, economic, and health context that presents different needs than those of the social protest of 2019. On the other hand, it is argued that the study of emotions and their intervention in political actions do not assume a fixed and stable position, in the face of emotional expressions that in politics are more uncertain and that show states of connection and disconnection against political information. In addition, the consideration of emotions in an abstract way reduces the possibilities of addressing the context in which they arise and how they are processed by individuals in contexts of high emotional diffusion. At this point, the notion of emotional contagion is key to understanding how, in the face of information with a high negative emotional charge (i.e., such as that experienced in the post-flood and health emergency context), faster and more powerful emotional, behavioral and cognitive responses are generated, and how digital platforms have facilitated this exchange.

Regarding hypothesis 1, results suggest that anxiety and anger are emotions that intervene in offline political participation, this would explain why people interested in politics are more likely to experience these two emotions, which are related to the socio-political situation of each country. In this sense, political participation behaviors are mainly related to talking about politics with others, generating spaces for discussion, and organizing face-to-face actions to help others or to protest against the country's situation. Concerning anxiety, since it is related to fight or flight decisions, it could be assumed that this emotion gives rise to vigilance and reactive action. Likewise, it can be identified that anxiety was reinforced in a pandemic context, which limited bonds, mourning processes and reinforced the consideration that human relationships are being configured in spaces of uncertainty and anxiety (Belli, 2022). Although the empirical support for the role of anxiety in the formation of political participation is contradictory, the findings presented here support the idea that anxiety increases conventional participation (Marcus et al., 2000; Becker, 2014). In this case, anxiety manifests as a means to reduce the discomfort that the situation in the country is generating, specifically, through the neighborhood and local actions, given the impossibility of generating a more widespread action. These actions even contradict the restrictive measures established by the authorities and this support allows people to maintain closer and face-to-face contact, especially with neighbors. The latter is in line with the assertion that, in crisis situations, there is a need to share emotional experiences with others and to influence the emotional states of others (Rimé, 2009).

In the case of anger, it has been suggested that it presents a direct relationship with feelings of political discontent and social unrest (Valentino et al., 2011), which allows greater sensitivity to social problems and a more active commitment to seek face-to-face political participation channels (Van Zomeren et al., 2012). It has also been suggested that anger can be a mobilizing emotion since it would encourage struggle or resistance, although this needs to be demonstrated in each context (Poma and Gravante, 2017). Here, it has been considered that the interaction between anxiety and anger would allow greater personal involvement in political affairs and it even manifests in calls for collective actions that were limited in the period analyzed.

Concerning the fulfillment of hypothesis 2, it is evident that online political participation on Facebook activates by concern about the consequences of the pandemic and by negative emotions. This suggests that people who are more interested in politics are more likely to worry about the political, economic, and social impacts of COVID-19 since they have a broader vision of the country's situation and are more aware of the consequences, dangers, and risks that such a health emergency entails. This concern is not situated solely on an emotional level but represents a cognitive assessment since this can trigger emotions, as reported in a study carried out by Zumárraga-Espinosa et al. (2022). This assessment leads us to reflect that there is a threatening situation that must be resolved (Rico et al., 2020; Dettano and Cena, 2021) and that together with a poor state management, triggers negative emotions, which activates political participation on Facebook. It is important to mention that, in digital media, participation is low cost, and such consistent and long-term motivations are not required to channel these threats through this social network (Muñiz and Corduneanu, 2021; Zumárraga-Espinosa et al., 2022). In this way, political participation by Facebook questions and criticizes the actions that the states are not carrying out to reduce this threatening situation (Arancibia Aguilera, 2021; Marquez Domínguez et al., 2021; Ntontis et al., 2022; Pérez Sánchez and Solís, 2022; Zumárraga-Espinosa et al., 2022) and which is expressed in different levels of emotional contagion (Belli, 2022).

Taken together, our findings show that, in contexts of high uncertainty and concern such as the pandemic, people with a political interest generated certain conditions to cope with the emotional contagions expressed in social media and channel the expressions through political participation in one of the spheres explored (Zumárraga-Espinosa et al., 2020). In addition, they carry out a political reading of the situation, which maintains emotional

continuity with respect to the polarized political climate and instability (Metzler et al., 2022). social and economic situation that each country had been presenting since the social outbreak of October 2019. These findings come to counter the idea that actions of political nature were completely demobilized, but were mostly redirected to a virtual space; in other cases, they remained on a conventional plane, associated with talking about the needs that people presented in the context of the pandemic. Thus, during the years prior to the pandemic in which various adversities occurred that congregated demonstrations and protests, and were related to negative emotional expressions, such as those explored in this study, regarding the situation in the country (i.e., anxiety, worry, and anger). These emotions allowed sustaining the discussion of structural political issues that were being analyzed and questioned in the October 2019 protests and would be related to the reappearance of social protests in Ecuador and Chile in 2022, although with less intensity.

Limitations and future lines of research

The study has limitations to consider. First, the collective actions that individuals and groups carried out during this time were not evaluated, which could have been of greater interest than just exploring political participation. This implies collective actions better express collective motivations, emotions, and convictions that were present in the protests of October 2019. However, given that the period evaluated was characterized by several restrictions on the rights of assembly, association, and protest, the possibilities to investigate these actions were more limited than addressing political participation. A second limitation lies in the absence of more cognitive variables, such as politicized identity and collective efficacy that have been confirmed in previous research on social manifestations. Possibly, the inclusion of these variables could shed light on how people maintained or modified the objectives that mobilized them in the 2019 protests. Despite this, a greater role for emotional expressions was chosen for this period, since it was more difficult to mobilize collectively and the conditions only allowed individual actions, which were more exposed to various emotions, given the reactions and discourses that were implanted in the period of the pandemic.

In addition, the sample selected in the study is oriented toward a sector that does not allow a generalization of the results and that, on the contrary, could present greater resources for political participation. Although university students indeed participated in the October protests, it is not possible to generalize the results even among the university population of Ecuador and Chile, given the diversity of actors and actions that this group carried out in October and the subsequent period. The main goal was to present how university students participated politically in a demobilizing context that did not offer the possibility to participate in decisions about the pandemic and academic activities.

The results regarding positive emotions should be interpreted with caution, since it is not possible to ensure that they are not present in the development of the movements studied. It is necessary to investigate whether they could have appeared or accompanied the negative emotions at some other time that this study did not consider, or even appear at a future time. Furthermore, it is worth asking about the emotional management and different emotional expressions of the participants, during the pandemic during 2020, characterized by a highly threatening emotional climate with fear and permanent risks to life. Focusing on emotions such as anxiety and anger, which in theory promote action, could also be explained in another way, since it was important to know whether these emotions generated a paralyzing effect in the above-mentioned context.

Finally, we recommend that future studies include an analysis of the periods of greatest and least activity in social protest and not only address emotional expressions or actions displayed in active periods of social protest. It is important to identify intervening variables in periods of lesser mobilization that could generate subsequent outbreaks, as occurred in Ecuador in June 2022. At this point, the application of explanatory models of social protest such as the SIMCA (Social Identity Model of Collective Action), could incorporate a broader analysis regarding the role played by emotions in the intermediate stages of the emergence of offline political participation and/or collective protests. Finally, future research could investigate the influence of people's emotions within environments with a negative emotional climate and how that stimulates other forms of resistance, not necessarily expressed in collective actions or social outbreaks.

Data availability statement

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

Ethics statement

The studies involving human participants were reviewed and approved by the Comité de Ética y Bioética del Departamento de Psicología de la Universidad de Concepción. The patients/participants provided their written informed consent to participate in this study.

Author contributions

LV: data analysis and text writing. CR-V: data analysis and text writing and translation. CA: text writing, translation, and formatting. MZ-E: data analysis and text writing. JM: data collection and formatting. All authors contributed to the article and approved the submitted version.

Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

Publisher's note

References

Arancibia Aguilera, M. C. (2021). Construcción discursiva de la condena hacia la indolencia de la clase política en Chile durante la pandemia. *Signo y seña* 40. doi: 10.34096/sys.n40.11482

Aravena Lavín, P. (2022). The impact of social networks on the protests in Chile, Ecuador and Colombia during 2019. *Asian J. Latin Am. Stud.* 35, 59–82. doi: 10.22945/ajlas.2022.35.2.59

Asún, R., Palma, I., Aceituno, R., and Duarte, F. (2021). El impacto emocional de la pandemia en los jóvenes: Sociabilidad, conflictos, y política. *Rev. Sociol.* 36, 6–24. doi: 10.5354/0719-529X.2021.64423

Asún, R. A., Rdz-Navarro, K., and Tintaya Orihuela, M. (2020). ¿Por qué surgen los estallidos sociales? Emociones, redes interpersonales, rituales y participación en protestas. *Última década* 28, 5–40. doi: 10.4067/S0718-22362020000200005

Ato, M., Lopez, J. J., and Benavente, A. (2013). A classification system for research designs in psychology. *An. de Psicol.* 29, 1038–1059. doi: 10.6018/analesps.29.3.178511

Becker, A. B. (2014). Playing with politics: online political parody, affinity for political humor, anxiety reduction, and implications for political efficacy. *Mass Commun. Soc.* 17, 424–445. doi: 10.1080/15205436.2014.891134

Belli, S. (2022). "Un contagio emocional en medio de una pandemia" in *Lecciones y retos tras dos años de Pandemia, eds. Fundación Española para la Ciencia y la Tecnología* (Madrid: Secretaría General Técnica del Ministerio de Ciencia e Innovación), 133–137.

Belli, S., Broncano, F., and López Raventós, C. (2020). Narrativas y emociones: El intercambio de conocimiento como emoción secundaria. *Revista de Filosofía* 45, 179–194. doi: 10.5209/resf.59482

Belli, S., López, C., and López, J. (2018). Sujetos colectivos y movilización política en el espacio público: hacia el saber de la multitud.

Belli, S., and Raventós, C. L. (2021). Collective subjects and political mobilization in the public space: Towards a multitude capable of generating transformative practices. *Human Affairs* 31(1), 59–72. doi: 10.1515/humaff-2021-0006

Best, S. J., and Krueger, B. S. (2011). Government monitoring and political participation in the United States: the distinct roles of anger and anxiety. *Am. Politics Res.* 39, 85–117. doi: 10.1177/1532673X10380848

Borge, R., Cardenal, A. S., and Malpica, C. (2012). El impacto de Internet en la participación política: Revisando el papel del interés político. *Arbor* 188, 733–750. doi: 10.3989/arbor.2012.756n4008

Calderón, C., Restaino, M., Rojas, C., and Sobarzo, A. (2021). El rol de las redes sociales en la génesis del estallido social. *Rev. de Cienc. Soc.* 30, 66–106.

Cárdenas, M., and Blanco, A. (2006). Representación e influencia de los nuevos movimientos sociales (el movimiento Antiglobalización). *Rev. Psicol. Soc.* 21, 153–169. doi: 10.1174/021347406776591549

Carroll, W. K., and Hackett, R. A. (2006). Democratic media activism through the lens of social movement theory. *Media Cult. Soc.* 28, 83–104. doi: 10.1177/0163443706059289

Caruso, G. (2022). Emotional cycles and collective action: Global crises and the World Social Forum Psychoanalysis, Culture & Society, 28(1), 1–19. doi: 10.1057/s41282-022-00302-3

Conejeros, J., Mac-Clure, O., Barozet, E. (2020). Escuchando a los chilenos en medio del estallido: Liberación emocional, reflexividad y el regreso de la palabra "pueblo". CIPER Académico, 2, 2020.

Coleman, S., and Blumler, J. G. (2009). *The internet and democratic citizenship: Theory, practice and policy*. Cambridge: Cambridge University Press.

Curnow, J., and Vea, T. (2020). Emotional configurations of politicization in social justice movements. *Inf. Learn. Sci.* 121, 729–747. doi: 10.1108/ILS-01-2020-0017

Davies, C. J. (1962). Toward a theory of revolution. *American sociological review*, 1–19. doi: 10.2307/2089714

Defensoría del Pueblo de Ecuador (DPO) (2021). Informe de la Comisión Especial para la Verdad y la usticia respecto de los hechos ocurridos en Ecuador entre el 3 y el 16 de octubre de 2019. Defensoría del Pueblo de Ecuador. Available at: https://repositorio.dpe.gob.ec/handle/39000/2942

Dettano, A., and Cena, R. B. (2021). Políticas Sociales en contexto de pandemia: dimensiones de la incertidumbre acerca del Ingreso Familiar de Emergencia en Argentina. *Sphera Pública, Revista de Ciencias Sociales y de la Comunicación* 21, 137–158.

Gamson, W. (1992). *Talking politics*. Cambridge: Cambridge University Press.

García, M. O. (2020). Redes sociales y acción colectiva: observando el estallido social y la Pandemia. *Revistafro* 2

Gerbaudo, P. (2016). Rousing the Facebook crowd: digital enthusiasm and emotional contagion in the 2011 protests in Egypt and Spain. *Int. J. Commun.* 10, 254–273.

González, R., Bargsted, M., Figuereido, A., and Miranda, D. (2021). Radiografía del cambio social. *Centro de estudios de conflicto y cohesión social [COES]*. Available at: https://radiografia-cambio-social-2016-2021.netlify.app/

Goldenberg, A., and Gross, J. J. (2020). Digital emotion contagion. *Trends Cogn. Sci.* 24:316328, 316–328. doi: 10.1016/j.tics.2020.01.009

Guamán, I. A. R., and Morales, N. J. M. (2021). La protesta social en la época de la posverdad: Análisis de las fake news en la red social Facebook durante las protestas de Ecuador del 3 al 13 de octubre de 2019. *Rev. Ibérica de Sistemas e Tecnologias de Informação* E40, 1–14.

Guimond, S., and Dubé-Simard, L. (1983). Relative deprivation theory and the Quebec nationalist movement: the cognition–emotion distinction and the personal–group deprivation issue. *J. Pers. Soc. Psychol.* 44, 526–535. doi: 10.1037/0022-3514.44.3.526

Hayes, A. F. (2017). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach*. New York: Guilford Publications.

Hong, H., and Kim, Y. (2021). What makes people engage in civic activism on social media? *Online Inf. Rev.* 45, 562–576. doi: 10.1108/OIR-03-2020-0105

Hou, W. K., and Bonanno, G. A. (2018). Emotions in everyday life during social movements: prospective predictions of mental health. *J. Couns. Psychol.* 65, 120–131. doi: 10.1037/cou0000236

Izard, C. E. (2007). Basic emotions, natural kinds, emotion schemas, and a new paradigm. *Perspectives on psychological science* 2(3), 260–280. doi: 10.1111/j.1745-6916.2007.00044.x

Izard, C., Stark, K., Trentacosta, C., and Schultz, D. (2008). Beyond emotion regulation: emotion utilization and adaptive functioning. *Child Dev. Perspect.* 2, 156–163. doi: 10.1111/j.1750-8606.2008.00058.x

Jasper, J. M. (2011). Emotions and social movements: twenty years of theory and research. *Annu. Rev. Sociol.* 37, 285–303. doi: 10.1146/annurev-soc-081309-150015

Jasper, J. M. (2014). "Emotions, sociology, and protest" in *Collective emotions: Perspectives from psychology, philosophy, and sociology*. eds. C. von Scheve and M. Salmela (Oxford: Oxford University Press), 341–355.

Jasper, J. M. (2016). "The sociology of face-to-face emotions" in *Emotions in international politics: Beyond mainstream international relations*. eds. Y. Ariffin, J. M. Coicaud and V. Popovski (Cambridge: Cambridge University Press), 65–79.

Marcus, G. E., Neuman, W. R., and MacKuen, M. (2000). *Affective intelligence and political judgment*, Chicago: University of Chicago Press.

Marquez Domínguez, C., Calva Cabrera, K. D., and Duque Rengel, V. K. (2021). El discurso gubernamental de Ecuador y Perú durante la pandemia por COVID-19 en Facebook. *Commun. Papers* 10, 51–73. doi: 10.33115/udg_bib/cp.v10i21.22697

Metzler, H., Rimé, B., Pellert, M., Niederkrotenthaler, T., Di Natale, A., and Garcia, D. (2022). Collective emotions during the COVID-19 outbreak. *Emotion*. doi: 10.1037/emo0001111

Min, H., and Yun, S. (2019). Role of social media and emotion in South Korea's presidential impeachment protests. *Issues Stu.* 55:1950002. doi: 10.1142/S1013251119500024

Mizen, P. (2015). The madness that is the world: young activists' emotional reasoning and their participation in a local occupy movement. *Sociol. Rev.* 63, 167–182. doi: 10.1111/1467-954X.12267

Muñiz, C., and Corduneanu, V. I. (2021). Dependencia mediática y evaluación de la gestión gubernamental mexicana de la pandemia. *Convergencia* 28. doi: 10.29101/crcs.v28i0.16083

Nardini, G., Rank-Christman, T., Bublitz, M. G., Cross, S. N., and Peracchio, L. A. (2020). Together we rise: how social movements succeed. *J. Consum. Psychol.* 31, 112–145. doi: 10.1002/jcpy.1201

Ntontis, E., Fernandes-Jesus, M., Mao, G., Dines, T., Kane, J., Karakaya, J., et al. (2022). Tracking the nature and trajectory of social support in Facebook mutual aid groups during the COVID-19 pandemic. *Int. J. Disaster Risk Reduct.* 76:103043. doi: 10.1016/j.ijdrr.2022.103043

Páez, D. (2011) in *Superando la violencia colectiva y construyendo cultura de paz*. eds. C. M. Beristain, J. L. G. Castro, N. Basabe and J. De Rivera (Madrid: Editorial Fundamentos), 279–309.

Pérez Sánchez, R., and Solís, M. (2022). Evaluaciones morales sobre las noticias de COVID-19 en Facebook: un estudio cualitativo. *Perspectivas de la comunicación* 15, 43–75. doi: 10.4067/S0718-48672022000100043

Pillajo Yujato, I. R. (2022). Uso social de dispositivos celulares y tecnologías digitales y su influencia sobre la movilización en Quito en octubre 2019. Master's Thesis. Universidad Andina Simón, Bolivar, Quito. Available at: http://hdl.handle.net/10644/8519

Poma, A., and Gravante, T. (2017). Emociones, protesta y acción colectiva: estado del arte y avances. *Aposta. Rev. de Cienc. Soc*, 32–62.

Poma, A., and Gravante, T. (2022). Cómo estudiar la dimensión emocional en los movimientos sociales. *Campos en Ciencias Sociales* 10. doi: 10.15332/25006681.7667

Reicher, S. D. (1996). 'The Battle of Westminster': developing the social identity model of crowd behaviour in order to explain the initiation and development of collective conflict. *Eur. J. Soc. Psychol.* 26, 115–134. doi: 10.1002/(SICI)1099-0992

Rico, D., Barreto, I., Mendoza, M., Pulido, P., and Duran, S. (2020). Políticas públicas para el afrontamiento adaptativo del Covid-19: nueva normalidad en Colombia (2020). *Análisis Político* 33, 92–117. doi: 10.15446/anpol.v33n100.93363

Rimé, B. (2009). Emotion elicits the social sharing of emotion: theory and empirical review. *Emot. Rev.* 1, 60–85. doi: 10.1177/1754073908097189

Sabucedo, J. M., and Vilas, X. (2014). Anger and positive emotions in political protest. *Univ. Psychol.* 13, 829–838. doi: 10.11144/Javeriana.UPSY13-3.apep

Santibáñez-Rodríguez, P. (2022). De la toma al cabildo: biografías del movimiento estudiantil (2006-2011) como recurso sociopolítico durante el estallido social en Chile (2019). *Historelo* 14, 165–197. doi: 10.15446/historelo.v14n31.96307

Scheff, T. J. (1994). Bloody revenge. Boulder: Westview.

Serri, M. (2018). Redes sociales y Salud. *Rev. Chilena Infectol.* 35, 629–630. doi: 10.4067/S0716-10182018000600629

Tausch, N., Becker, J. C., Spears, R., Christ, O., Saab, R., Singh, P., et al. (2011). Explaining radical group behavior: developing emotion and efficacy routes to normative and nonnormative collective action. *J. Pers. Soc. Psychol.* 101, 129–148. doi: 10.1037/a0022728

Valentino, N. A., Brader, T., Groenendyk, E. W., Gregorowicz, K., and Hutchings, V. L. (2011). Election night's alright for fighting: the role of emotions in political participation. *J. Polit.* 73, 156–170. doi: 10.1017/S0022381610000939

Van Ness, J., and Summers-Effler, E. (2018) in *"Emotions in social movements" in the Wiley Blackwell companion to social movements*. eds. D. Snow, S. Soule, H. Kriesi and H. McCammon (Hoboken: Wiley-Blackwell), 411–428.

Van Zomeren, M., Leach, C. W., and Spears, R. (2012). Protesters as passionate economists: a dynamic dual pathway model of approach coping with collective disadvantage. *Pers. Soc. Psychol. Rev.* 16, 180–199. doi: 10.1177/1088868311430835

Vilas, X., Alzate, M., and Sabucedo, J. M. (2016). Ciudadanía movilizada: motivos, emociones y contextos. *Diversitas* 12, 167–181.

Wlodarczyk, A., Basabe, N., Páez, D., and Zumeta, L. (2017). Hope and anger as mediators between collective action frames and participation in collective mobilization: the case of 15-M. *J. Soc. Polit. Psychol.* 5, 200–223. doi: 10.23668/psycharchives.1759

Wojcieszak, M., Bimber, B., Feldman, L., and Stroud, N. J. (2016). Partisan news and political participation: exploring mediated relationships. *Polit. Commun.* 33, 241–260. doi: 10.1080/10584609.2015.1051608

Xenos, M., and Moy, P. (2007). Direct and differential effects of the internet on political and civic engagement. *J. Commun.* 57, 704–718. doi: 10.1111/j.1460-2466.2007.00364.x

Zumárraga Espinosa, M. (2020). Redes sociales y protesta política: un análisis del rol moderador del estatus socioeconómico y la pertenencia a grupos políticos. *Doxa Comunicación* 30, 55–77. doi: 10.31921/doxacom.n30a3

Zumárraga-Espinosa, M. (2021). WhatsApp, comunicación móvil y participación política: un estudio cuantitativo en Ecuador. *Contratexto* 17-42, 17–42. doi: 10.26439/contratexto2021.n035.4839

Zumárraga-Espinosa, M., Carofilis-Cedeño, C., and Reyes-Valenzuela, C. (2017a). El efecto movilizador de las emociones sobre la participación política online en la segunda vuelta de las elecciones presidenciales en Ecuador 2017. *Democracias* 5, 25–62. doi: 10.54887/27376192.39

Zumárraga-Espinosa, M., Egas Balseca, S., and Reyes Valenzuela, C. (2022). El uso de las plataformas Facebook, Twitter y Whatsapp como medio de participación política online en los procesos electorales Ecuador 2021. *Sociología y Política HOY* 86, 79–102. doi: 10.14201/alh.18564

Zumárraga-Espinosa, M., Egas-Balseca, S., and Reyes-Valenzuela, C. (2022). La preocupación por el COVID-19 y sus efectos en la participación política online de la ciudadanía en el contexto ecuatoriano. *Rev. de Cienc. Soc. Hum.* 195-219, 195–219. doi: 10.17163/uni.n36.2022.08

Zumárraga-Espinosa, M., Reyes-Valenzuela, C., and Carofilis-Cedeño, C. (2017b). ¿Verdad o ficción? el uso político de las redes sociales en la participación política offline en las elecciones presidenciales en Ecuador. *An. político* 30, 130–145. doi: 10.15446/anpol.v30n91.70268

Zumárraga-Espinosa, M., Silva-Valdivieso, L., and Trujillo-Sánchez, A. (2020). Determinants of the political use of Facebook in Ecuador: attitudes, recruitment and emotions. *América Latina Hoy* 86, 79–102. doi: 10.14201/alh.18564

frontiers | Frontiers in Psychology

TYPE Original Research
PUBLISHED 21 June 2023
DOI 10.3389/fpsyg.2023.1154501

OPEN ACCESS

EDITED BY
Juan Carlos Oyanedel,
Andres Bello University, Chile

REVIEWED BY
Gour Gobinda Goswami,
North South University, Bangladesh
Stephen Turner,
University of South Florida, United States

*CORRESPONDENCE
Fuad Hatibovic
✉ fuad.hatibovic@uv.cl

RECEIVED 30 January 2023
ACCEPTED 25 May 2023
PUBLISHED 21 June 2023

CITATION
Hatibovic F, Sandoval J, Faúndez X, Gaete J-M, Bobowik M and Ilabaca P (2023) The effects of emotions on the disposition to normative and non-normative political action in the context of the Chilean post-social outburst.
Front. Psychol. 14:1154501.
doi: 10.3389/fpsyg.2023.1154501

The effects of emotions on the disposition to normative and non-normative political action in the context of the Chilean post-social outburst

Fuad Hatibovic[1]*, Juan Sandoval[1], Ximena Faúndez[1], Jose-Manuel Gaete[2], Magdalena Bobowik[3] and Paola Ilabaca[4]

[1]Escuela de Psicología, Facultad de Ciencias Sociales, Universidad de Valparaíso, Valparaíso, Chile, [2]Escuela de Sociología, Facultad de Ciencias Sociales, Universidad de Valparaíso, Valparaíso, Chile, [3]Ramón y Cajal Research Fellow at Universidad del País Vasco/Euskal Herriko Unibertsitatea, País Vasco, Spain, [4]School of Psychology, School of Juridical and Social Sciences, Miraflores Campus, Universidad Viña del Mar, Viña del Mar, Chile

This article analyzes the role of Chileans' emotions as predictors of normative and non-normative political action in the context of the post-social outbreak and the constituent process. We carried out three descriptive studies: first, a study conducted 1year after the social outburst (n=607), a second one carried out before the constitutional referendum (n=320), and a third study conducted after the constitutional referendum (n=210). The results indicated that participants present a higher disposition to normative over non-normative political action, although both lose strength as the studies temporally move away from the social outburst. Also, our research established that emotions directed toward different events related to the Chilean political process play a conspicuous role in predicting the disposition to mobilize in a normative and non-normative way.

KEYWORDS

positive emotions, negative emotions, normative political action, non-normative political action, Chilean social outburst

1. Introduction

In Chile, October 18, 2019, marked the beginning of the so-called "social outburst" characterized by massive mobilizations and a broad malaise on the part of multiple players who demanded substantial changes to the country's economic and social model (Araujo, 2019). Although the immediate cause was the public transportation fare hike, the popular rallies soon exposed its deeper causes. That is, the existence of several social problems affecting the vast majority of the population, namely: the high cost of living, deficit health system, low pensions, generalized rejection of the political class, and institutional discredit accumulated during the last years, including the 1980 Political Constitution imposed by Augusto Pinochet and reformed in post-dictatorship (Folchi, 2019).

The demonstrations spread throughout the national territory, originating a response with high levels of violence from State agents, specifically from the Armed Forces and Law Enforcement (Amnesty International, 2019; Organización de las Naciones Unidas, 2019; Inter-American Commission on Human Rights, 2020). This scenario blew after the decree

of a State of Constitutional Emergency Exception, which limited, for example, the right to peaceful assembly.

In a framework of massive mobilizations and a high level of police repression, on November 15, 2019, representatives of the ruling party and the opposition signed the "Agreement for Peace and the New Constitution," which accelerated the process of creating a new constitution. Thus, on April 26, 2020, an initial referendum was held so that the population could vote "I approve" or "I reject" to change the Political Constitution of 1980, inherited from the civil-military dictatorship, winning "I approve." Subsequently, the Constitutional Convention (which functioned between July 4, 2021, and July 4, 2022) was elected. This entity was in charge of drafting a proposal for the Political Constitution of the Republic. On September 4, 2022, Chilean citizens voted in a last referendum to determine whether they agreed or disagreed with the proposed new constitution. Approximately 13 million Chileans voted in this referendum; the rejection side obtained 61.8% of votes over 38.13% approval. This fact constituted a heavy defeat for Chile's progressive forces.

1.1. Social outburst in Chile

In the 2019 demonstrations, protesters demanded diverse social claims articulated in the collective action cycle of the last decade. Since the mid-2000s, Chile has experienced the rise of new forms of political action and organization, which achieved public visibility from the student mobilizations of 2011 (García and Aguirre, 2014; Sandoval and Carvallo, 2019). From that date, it is possible to recognize a cycle of re-politicization of everyday life (Zarzuri, 2021), in which students, inhabitants of extreme regions, activists of environmental movements, and feminist collectives are its protagonists (Salinas, 2016). In this cycle, conventional and unconventional political practices were incubated and deployed with maximum intensity and amplitude during the social outburst (Cortes, 2022).

Historically, this cycle of mobilizations occurs in a context of questioning the political and economic system consolidated in the Chilean post-dictatorship (Pereda-Pérez and Howard, 2015). The manifestations of the social outburst denounced the high levels of economic inequality (PNUD, 2018), added to territorial, age, and gender inequalities, but also exposed the crisis of representation, trust, and probity of the political system (Morales, 2020). Therefore, we should understand the Chilean revolt as the expression of a sustained accumulation of malaise, distrust in institutions, a crisis of representativeness, and an increased perception of corruption (Moyano-Díaz et al., 2021).

Therefore, the social outburst represents the connection of ordinary people who recognized themselves in moral indignation in the face of inequality (Canales, 2022). It was not an ideological discourse that criticized the inequality of the system but the transition from diffuse discomfort to concrete indignation (Paredes and Valenzuela Fuentes, 2020) that changed the way of experiencing the malaise that had been accumulating for decades. As shown by an increasingly relevant line of research in the social sciences (Poma and Gravante, 2017a), emotions played a fundamental role in the origin and form of the October social revolt.

In the literature on social outburst, it is possible to find several works focused on emotions. For example, some authors described the outbreak as the result of the accumulated discomfort that turned into rage and indignation from the gap between subjectivity and social structure (Mayol, 2019; Martuccelli, 2021). Other authors have analyzed how the contexts of mobilization trigger a battery of emotions, describing cultural consequences in the rules of feeling that favored the demonstrations of 2019 (Paredes and Valenzuela Fuentes, 2020). Another author claimed that the social revolt generated an experience of emotional ambivalence between joy for the creative and hopeful dimension of the protests and rage for the repressive response of the state (Sandoval, 2021). Following this line of argument, other authors described that emotions -particularly unpleasant ones-play a relevant role in the willingness to attend protests, while pleasant emotions experienced during demonstrations are related to the commitment to continue participating in these types of actions (Asún et al., 2021).

This article aims to contribute to studies on emotions, empirically addressing the place of positive and negative feelings in the willingness to participate in political actions in the context of the post-social outburst.

1.2. The forms of political action

One of the ways of classifying political action is the distinction between conventional and unconventional political action. For Barnes et al. (1979), who propose this distinction, conventional political participation is related to electoral processes, while unconventional participation is related to acts such as signing petition letters, legal demonstrations, property damage, or violent actions. According to Sabucedo and Arce (1991), both forms of political participation are differentiated by the type of demand they make on the political system: through the constituted power in conventional action, and through confrontation with the legality in non-conventional action.

Some researchers have problematized this taxonomy beyond the canonical character of the conventional-unconventional distinction. Authors have questioned its dichotomous nature (Sabucedo and Arce, 1991; Delfino and Zubieta, 2010; Sorribas and Brussino, 2013a), its ability to discriminate new forms of action (Morales, 2005), and its effectiveness in the face of new theoretical nomenclatures (Sandoval et al., 2012). Respecting conventional participation, some authors discussed the differentiated nature of voting behavior concerning the rest of institutionalized political actions (Delfino and Zubieta, 2010); and others, the unidimensional nature of the measurement scales (Brussino et al., 2013). Regarding unconventional actions, mainly the debate is about the heterogeneous character of the activities included in this category (Sabucedo and Arce, 1991), particularly violent actions (Delfino and Zubieta, 2014).

Notwithstanding the above, empirical results at the international level continue to confirm the existence of two forms of political action (DiGrazia, 2014), one oriented to the representation system (Sorribas and Brussino, 2013b) and the other non-institutional (Quaranta, 2012). New studies address these forms of action through different nomenclatures, such as the dichotomy between normative and non-normative action (Tausch et al., 2011) or between institutional participation and direct participation (Delfino et al., 2013).

This paper assumes a two-dimensional concept of political action, normative and non-normative (Tausch et al., 2011; Sandoval et al., 2018). Normative forms of political action include

conventional and non-conventional activities of legal nature associated with different dimensions of institutionality (Tausch et al., 2011). As the literature argues (Muller, 1982; Sabucedo and Arce, 1991; Rucht, 1992), this dimension confirms the integrity of a type of political action organized around its systemic legality. Non-normative political action, on the other hand, groups together forms of direct action defined in opposition to the normative order and that occasionally may exceed legality (Tausch et al., 2011). According to Melucci's (1996) proposal, this dimension confirms a class of political action defined by an unmediated confrontation with the system. Also, it set up the typical repertoire of belligerent actions or social protests (Sorribas and Brussino, 2013a) that predominated during the social outburst of 2019.

1.3. Emotions and political action

Since the late 20th century, a systematic line of research on emotions and their influence on protest actions began to take shape. In recent decades (Poma and Gravante, 2017a), empirical research has been developing on the role of displeasing or negative emotions (anger, fear, indignation) and pleasant or positive emotions (hope, pride, joy) (Reisenzein, 1994) in the emergence and maintenance of protest cycles (Reed, 2004; Bosco, 2006; Poma and Gravante, 2018).

As Jasper (2014) indicates, we rarely experience emotions in isolation, much less in a context of social mobilization, where emotions such as fear, anger, and joy may be present at the same time. To address the above, the author proposes working with pairs of emotions (positive–negative) or "moral batteries," which would give us an account of the tendency of subjects to mobilize towards a desired goal and to move away from what is threatening or unpleasant. This fact allows us to observe, for example, how anger can facilitate the transformation from shame to pride, as in the case of the gay and lesbian movement (Whittier, 2012) or how hope and indignation were used in the discourses of the anarchist resistance in Spain under Franco's dictatorship (Romanos, 2014).

Studies on emotions and collective action have also addressed the relation that some feelings establish with protest actions. In the case of positive emotions, they have been studied in the context of social mobilizations, showing the facilitating character that hope, for example, would have in the maintenance and development of protest actions (Williamson, 2011; Van Troost et al., 2013). In this regard, Reed (2004) describes how hope functions as an accelerator, representing a way to channel negative emotions such as anger, indignation, and even fear, facilitating the legitimization of individual and collective actions involved in protests. However, when hope and collective action are mediated by collective motivation, it has been found that there is no significant indirect effect (van Zomeren et al., 2019). Some authors have described positive feelings toward the Black Lives Matter Movement as mediating between collective efficacy and collective action intentions, providing evidence for the role of these emotions in collective action intentions (Lizarazo Pereira et al., 2022).

On the other hand, antagonistic negative emotions, such as anger or rage in situations perceived as unfair or undesirable, have a relevant impact on the willingness to mobilize (Flam, 2014; Jasper, 2014; Poma and Gravante, 2016), playing an important role in the transformation of shame into pride, and in the defiant disposition at the fore of a threatening enemy or authority (Smith and Lazarus, 1990; Klandermans et al., 2008). Conversely, when anger or rage is not directed towards a clear and specific goal, it tends to manifest as anxiety, not in a way beneficial to the movement and the individuals participating in it (Van Ness and Summers-Effler, 2018). Also, increased group anger has been found to be a predictor of future collective action intentions (Tausch and Becker, 2013; Radke et al., 2022). On the other hand, it has been found that anger can be more relevant to collective action when activists are members of a disadvantaged group (Landmann and Rohmann, 2020).

Finally, negative emotions of resignation, such as fear, also influence forms of political action (Williamson, 2011; Reed, 2014; Rigby and Sørensen, 2017; Ransan-Cooper et al., 2018). In this regard, some authors described that fear could act by inhibiting action (Poma and Gravante, 2017b) or motivating it (Reed, 2014). Fear could facilitate the union and formation of groups willing to carry out resistance actions. It is the case of the anti-coal seam gas (anti-CSG) movement in Australia, where fear and anger at the possibility of installing this type of industry played a crucial role in the origin of activist groups. The merge of these emotions with other positive feelings makes it possible to sustain protest actions over time, such as the love for the places defended and the enjoyment of the social connection that emerges during mobilizations (Ransan-Cooper et al., 2018). Moreover, it has been found that the motivation to instill fear of the outgroup was related to violent action. (Hasan-Aslih et al., 2019).

As seen above, the available literature on the role of emotions in protest actions is significant, highlighting the study of emotions in pairs, batteries, or chains of positive and negative emotions (Jasper, 2011). From the theoretical review, in this paper, we ask ourselves about the relation between positive and negative emotions (antagonistic or resignation) and forms of political action -normative and non-normative- that emerged after the social outburst of October 2019. We conducted 3 descriptive correlational studies to achieve this purpose, developed at 3 different moments relevant to the Chilean political process: (a) the commemoration of the first year after the social outburst (study 1), (b) 2 months before the Chilean constitutional plebiscite (study 2), and (c) a month and a half after the triumph of the rejection option in the plebiscite (study 3).

1.4. Objectives and hypotheses

Objectives:

1. To determine the predictive value of negative antagonistic and negative emotions of resignation and positive emotions on normative and non-normative political action.
2. To investigate the incidence of antagonistic negative emotions and resignation and positive emotions before relevant milestones as mediating variables in the relation between emotions towards the political system and protests – predictive variables – with normative political action and non-normative political action – criterion variables.

Based on the theoretical review, the following hypotheses are proposed:

1. Antagonistic negative emotions during the social outburst and toward police repression will predict a higher disposition toward normative and non-normative political action.
2. Positive emotions during the social outburst and toward protests will predict a higher disposition toward normative and non-normative political action.
3. Antagonistic negative emotions toward police repression and corruption and negative emotions of resignation toward police repression mediate the relation between hope toward protests and normative political action and non-normative political action.
4. Negative antagonistic and resigned emotions and positive feelings towards the triumph of the rejection option in the referendum and towards the protests will mediate the relation between antagonistic negative emotions towards the political system and normative political action and non-normative political action.

2. Study 1

2.1. Method

2.1.1. Participants and procedure

The study participants were 607 Chileans with an average age of 28.02 years (SD = 12.21), of whom 72.5% were female, 24.4% were male and 3.2% identified with another gender. The participants were from different regions of Chile (34% from the Valparaíso region; 25.6% from the Metropolitan region; 11.6% from the Libertador General Bernardo O'Higgins region and 11.7% from the Bio Bio region). Regarding their political position, 34.7% considered themselves left-wing, while 42.4% said they had no political position and 9% considered themselves right-wing. Regarding religious orientation, 32.9% were Catholic, 50.5% did not belong to any religion and 16.5% were of other religions.

Participants were invited to fill in an online questionnaire via the SurveyMonkey@platform. Participants were recruited by snowballing sampling procedure. That is, the invitation to fill in the survey was distribute through e-mail and using social networks such as Facebook, Instagram, and Twitter. The data collection started on October 18, 2020, 1 year after the social outburst in Chile, and was extended for 4 weeks until November 15 of the same year.

2.1.2. Measures

Antagonistic negative emotions during the social outburst

Participants were asked to indicate on a scale ranging from 1 (*not at all*) to 7 (*a lot*) to what extent they experimented "anger," "hatred," "annoyance" and "rage" during the social outburst ($\alpha = 0.85$).

Negative emotions of resignation during the social outburst

We asked participants to report on a scale ranging from 1 (*not at all*) to 7 (*a lot*) to what extent they felt "fear," "dread," and "nervousness" during the social outburst ($\alpha = 0.86$).

Positive emotions during the outburst

We asked participants to report on a scale ranging from 1 (*not at all*) to 7 (*a lot*) to what extent they felt hope, joy, pride and interest ($\alpha = 0.82$).

Negative emotions antagonistic towards protests

Participants were asked to indicate on a scale ranging from 1 (*not at all*) to 7 (*a lot*) to what extent they experimented "anger," "hatred," "annoyance" and "rage" towards protests ($\alpha = 0.90$).

Negative emotions of resignation towards protests

We asked participants to report on a scale ranging from 1 (*not at all*) to 7 (*a lot*) to what extent they felt "fear," "dread," and "nervousness" towards protests ($\alpha = 0.82$).

Positive emotions towards protests

We asked participants to report on a scale ranging from 1 (*not at all*) to 7 (*a lot*) to what extent they felt hope, joy, pride, interest, sympathy, empathy and respect ($\alpha = 0.94$).

Negative emotions antagonistic towards police repression

Participants were asked to indicate on a scale ranging from 1 (*not at all*) to 7 (*a lot*) to what extent they experimented "anger," "hatred," "annoyance" and "rage" to police repression ($\alpha = 0.93$).

Negative emotions of resignation towards police repression

We asked participants to report on a scale ranging from 1 (*not at all*) to 7 (*a lot*) to what extent they felt "fear," "dread," and "nervousness" towards police repression ($\alpha = 0.92$).

Positive emotions towards police repression

We asked participants to report on a scale ranging from 1 (*not at all*) to 7 (*a lot*) to what extent they felt joy, pride and sympathy ($\alpha = 0.88$).

Normative political action

We captured intentions to participate in non-normative action by asking participants about their general willingness to participate in political activities in Chile. Specifically, they were asked to indicate on a scale from 1 (*not willing at all*) to 7 (*extremely willing*) to what extent they would be willing to "Sign a petition," "Participate in legal/sanctioned demonstrations (marches)," "Give opinions about politics on social networks (Twitter, Facebook, etc.)," and "Vote in municipal, parliamentary or presidential elections." The scale was reliable ($\alpha = 0.73$).

Non-normative political action

Non-normative collective action intentions were measured with other four items. Participants responded on a scale from 1 (*not willing at all*) to 7 (*extremely willing*) to what extent they would be willing to "Support boycotts," "Participate in illegal strikes (work stoppages)," "Occupy buildings or factories (seizure)," "Participate in violent actions such as throwing stones, burning or breaking urban furniture, barricades, etc.." The scale showed good internal consistency ($\alpha = 0.84$).

2.1.3. Analytical strategy

We used Pearson's coefficient to calculate the correlation. We used multiple regression analysis to predict the relation between variables. We set the disposition to political action (normative and non-normative) as the criterion variable and variables measuring emotions as predictor variables in different regression models. We used SPSS software, version 24. The regression model is based on a predictive relationship between the predictor variables (emotions) and the criterion variables (normative and non-normative political action), as posited in the reviewed literature and illustrated in Figure 1.

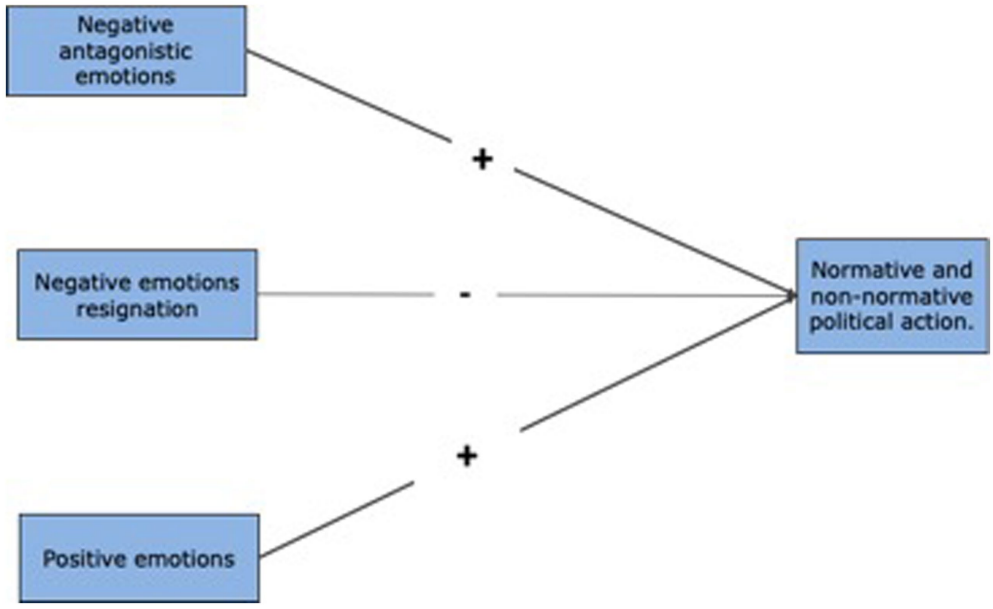


FIGURE 1
Theoretical model of regression analysis.

TABLE 1 Means, standard deviations, and correlations.

Variable	M	SD	1	2	3	4	5	6	7	8	9	10
1. Normative political action	5.76	1.32	1									
2. Non-normative political action	3.25	1.79	0.55**	1								
3. Negative antagonistic emotions during the outburst	4.71	1.64	0.31**	0.38**	1							
4. Negative emotions resignation during the outburst	4.68	1.61	0.11*	0.04	0.35**	1						
5. Positive emotions during the outburst	4.94	1.57	0.54**	0.46**	0.12**	−0.05	1					
6. Negative emotions antagonistic to protests	2.53	1.72	−0.25**	−0.18**	0.24**	0.16**	−0.30**	1				
7. Negative emotions of resignation towards protests	3.48	1.66	−0.07	−0.12**	0.17**	0.60**	−0.16**	0.47**	1			
8. Positive emotions towards protests	5.27	1.71	0.61**	0.53**	0.20**	0.01	0.79**	−0.46**	−0.21**	1		
9. Negative emotions antagonistic to police repression	5.61	1.82	0.62**	0.56**	0.40**	0.13**	0.56**	−0.25**	−0.04	−0.21**	1	
10. Negative emotions resignation towards police repression	5.12	1.88	0.45**	0.29**	0.19**	0.48**	0.40**	−0.18**	0.26**	0.49**	0.63**	1
11. Positive emotions towards police repression	1.46	1.16	−20**	−0.18**	0.03	−0.04	−0.20**	0.33**	0.11**	−0.26**	−0.40**	−0.33**

M and SD are used to represent mean and standard deviation, respectively. * indicates $p < 0.05$. ** indicates $p < 0.01$.

2.2. Results

2.2.1. Correlation analysis

We found a significant correlation between most variables analyzed. As Table 1 shows, normative political action was positively associated with antagonistic negative emotions during the outburst $r(555) = 0.31$, $p < 0.01$ and positive emotions toward protests $r(558) = 0.61$, $p < 0.01$; and was negatively associated with antagonistic negative emotions toward protests $r(558) = -0.25$, $p < 0.01$ and positive emotions toward police repression $r(555) = -0.20$, $p < 0.01$.

On the other hand, we found a significant association between non-normative political action with antagonistic negative emotions toward police repression $r(548) = 0.56$, $p < 0.01$ and with positive emotions toward protests $r(552) = 0.53$, $p < 0.01$. And non-normative

TABLE 2 Linear regression analysis.

	Non-normative political action (Model 1)			Non-normative political action non-normative political action (Model 2)			Normative political action (Model 3)			Normative political action (Model 4)		
	B	SE	β	B	SE	β	B	SE	β	B	SE	β
Negative antagonistic emotions during the outburst	0.39	0.04	0.13***	0.27	0.05	0.24***	0.19	0.03	0.23***	0.11	0.03	0.13**
Negative emotions resignation during the outburst	−0.07	0.04	−0.06	0.01	0.06	0.01	0.04	0.03	0.05	0.01	0.04	0.01
Positive emotions during the outburst	0.48	0.04	0.42***	0.16	0.07	0.14*	0.44	0.03	0.52***	0.16	0.05	0.19**
Negative emotions antagonistic to protests				−0.01	0.05	−0.01				−0.05	0.04	−0.06
Negative emotions of resignation towards protests				−0.09	0.05	−0.08				−0.01	0.04	−0.02
Positive emotions towards protests				0.20	0.08	0.19**				0.13	0.05	0.17*
Negative emotions antagonistic to police repression				0.29	0.06	0.29***				0.23	0.04	0.32***
Negative emotions resignation towards police repression				−0.07	0.05	−0.08				0.05	0.04	0.06
Positive emotions towards police repression				0.01	0.06	0.00				0.08	0.04	0.07
Total F		86.59***			38.98***			102.82***			53.75***	
R^2 adjusted	0.32				0.39			0.36			0.47	

***$p < 0.01$, **$p < 0.01$, and *$p < 0.05$.

political action was negatively associated with antagonistic negative emotions toward protests $r(552) = -0.18$, $p < 0.01$ and with positive emotions toward police repression $r(549) = -0.18$, $p < 0.01$.

Based on these results, we can establish that the variables are independent, which allows us to perform regression analyses to investigate the role of emotions as explanatory variables of the disposition to political action (normative and non-normative).

2.2.2. Regression analysis

These regression analyses allow us to determine the effects of negative emotions (antagonistic and resignation) and positive emotions during the outburst towards protests and police repression on normative and non-normative political action. To accomplish this, we presented four regression models below (see Table 2).

2.2.2.1. Non-normative political action

In model 1, the results show that antagonistic negative emotions during the outburst $\beta = 0.13$, $t(537) = 18.02$, $p < 0.001$ have a significant effect on non-normative political action, as do positive emotions during the outburst $\beta = 0.42$, $t(537) = -11.79$, $p < 0.001$. The R^2 value was 0.32. Therefore, the model would explain 32% of the total variance. On the other hand, Model 2 also shows that antagonistic negative emotions during the outburst $\beta = 0.24$, $t(516) = 5.43$, $p < 0.001$ and positive emotions during the outburst $\beta = 0.14$, $t(516) = 2.37$, $p < 0.05$, have a significant effect on the criterion variable. Further, when we introduced new predictor variables, positive emotions toward protests $\beta = 0.19$, $t(516) = 2.65$, $p < 0.01$ and antagonistic negative emotions toward police repression $\beta = 0.29$, $t(516) = 4.71$, $p < 0.001$ have a significant effect on non-normative political action, increasing the R^2 value to 0.39. This second model would explain 39% of the total variance.

2.2.2.2. Normative political action

In model 3, the results show that antagonistic negative emotions during the outburst $\beta = 0.23$, $t(543) = 6.15$, $p < 0.001$ has a significant effect on normative political action, as does positive emotions during the outburst $\beta = 0.52$, $t(543) = 15.13$, $p < 0.001$. The R^2 value was 0.36, indicating that the model would explain 36% of the total variance. On the other hand, in Model 4, it is also shown that antagonistic negative emotions during the burst $\beta = 0.13$, $t(522) = 3.13$, $p < 0.001$ and positive emotions during the burst $\beta = 0.19$, $t(522) = 3.47$, $p < 0.01$, have a significant effect on the criterion variable. On the other hand, when we introduced new predictor variables, positive emotions toward protests $\beta = 0.17$, $t(522) = 2.57$, $p < 0.05$, and antagonistic negative emotions toward police repression $\beta = 0.32$, $t(522) = 5.47$, $p < 0.001$ have a significant effect on normative political action, increasing the R^2 value to 0.47. This fourth model would explain 47% of the total variance.

3. Study 2

3.1. Method

3.1.1. Participants and procedure

The study participants were 320 Chileans with an average age of 35.51 years (SD = 11.08), of whom 45.6% were female, 52.6% were

TABLE 3 Means, standard deviations, and correlations.

Variable	M	SD	1	2	3	4	5	6
1. Normative political action	5.48	1.56	1					
2. Non-normative political action	2.76	1.88	0.43**	1				
3. Antagonistic negative emotions police repression	5.04	2.35	0.52**	0.53**	1			
4. Negative emotions resignation police repression	4.41	2.30	0.37*	0.33**	0.77**	1		
5. Negative emotions antagonistic corruption	6.23	1.30	0.24**	0.17**	0.34**	0.26**	1	
6. Hope for the protests	5.05	2.38	0.52**	0.51**	0.80**	0.65**	0.28**	1

M and SD are used to represent mean and standard deviation, respectively. * indicates $p < 0.05$ and ** indicates $p < 0.01$.

male and 1.0% identified with another gender. The participants were from different regions of Chile (36.8% from the Valparaíso region; 31.3% from the Metropolitan region). Participants were invited to fill in an online questionnaire via the SurveyMonkey@ platform. Participants were recruited by snowballing sampling procedure. That is, the invitation to fill in the survey was distribute through e-mail and using social networks such as Facebook, Instagram, and Twitter. The data collection started on July, 2022, before the Chilean constitutional plebiscite[1], and was extended until September 4 of the same year.

3.1.2. Measures

Negative emotions antagonistic towards police repression

Participants were asked to indicate on a scale ranging from 1 (*not at all*) to 7 (*a lot*) to what extent they experimented "anger," "indignation," "annoyance" and "rage" to police repression ($\alpha = 0.98$)

Negative emotions of resignation towards police repression

We asked participants to report on a scale ranging from 1 (*not at all*) to 7 (*a lot*) to what extent they felt "fear," "dread," and "nervousness" towards police repression ($\alpha = 0.96$).

Negative emotions antagonistic towards corruption

Participants were asked to indicate on a scale ranging from 1 (*not at all*) to 7 (*a lot*) to what extent they experimented "anger," "hatred," "annoyance" and "indignation" towards corruption. These four items were used as an overall indicator of negative emotions antagonistic towards corruption ($\alpha = 0.91$).

Hope towards protests

Participants were asked to indicate on a scale ranging from 1 (*not at all*) to 7 (*a lot*) to what extent they experimented hope towards protests.

Normative political action

We captured intentions to participate in non-normative action by asking participants about their general willingness to participate in political activities in Chile. Specifically, they were asked to indicate on a scale from 1 (*not willing at all*) to 7 (*extremely willing*) to what extent they would be willing to "Sign a petition," "Participate in legal/sanctioned demonstrations (marches)," "Give opinions about politics on social networks (Twitter, Facebook, etc.)," and "Vote in municipal, parliamentary or presidential elections" ($\alpha = 0.61$).

Non-normative political action

Non-normative collective action intentions were measured with other four items. Participants responded on a scale from 1 (*not willing at all*) to 7 (*extremely willing*) to what extent they would be willing to "Support boycotts," "Participate in illegal strikes (work stoppages)," "Occupy buildings or factories (seizure)," "Participate in violent actions such as throwing stones, burning or breaking urban furniture, barricades, etc.." The scale showed good internal consistency ($\alpha = 0.81$).

3.1.3. Analytical strategy

We used Pearson's coefficient for correlation analyses. We also used the Process v3.5 macro of SPSS version 24, with the multiple mediation model that simultaneously estimates multiple indirect effects with their standard errors and confidence intervals derived from the Bootstrap distribution (Preacher and Hayes, 2004).

3.2. Results

Regarding the association between the variables analyzed, we found a significant correlation between all variables. As Table 3 shows, normative political action was positively associated with antagonistic negative emotions toward police repression $r(317) = 0.52$, $p < 0.01$, negative feelings of resignation toward police repression $r(317) = 0.37$, $p < 0.05$, and hope toward protests $r(317) = 0.52$, $p < 0.01$.

On the other hand, we also found a significant association between non-normative political action with antagonistic negative emotions toward police repression $r(317) = 0.53$, $p < 0.01$, negative feelings of resignation toward police repression $r(317) = 0.33$, $p < 0.05$ and hope toward protests $r(317) = 0.52$, $p < 0.01$.

Based on these results, we can establish that the variables are independent, which allows us to conduct mediation analyses that investigate the role of emotions as explanatory variables of normative and non-normative political action.

3.2.1. Mediation analysis

3.2.1.1. Model 1. Normative political action

Regarding hope toward protests, these were related to antagonistic negative emotions toward police repression ($B = 0.80$, ET = 0.03, $t = 23.93$, $p < 0.001$, 95% CI [0.730, 860]), with the negative emotions of resignation toward police repression ($B = 0.63$, ET = 0.04, $t = 15.29$, $p < 0.001$, 95% CI [0.550, 0.713]) and with the antagonistic negative

1 The Chilean constitutional plebiscite was a referendum held on Sunday, September 4, 2022, to determine whether the citizens agreed with the proposed Political Constitution of the Republic drafted by the Constitutional Convention (which operated between July 4, 2021, and July 4, 2022). The plebiscite was about to approve or reject the new Constitution. Approximately 13 million Chileans voted in the referendum, with the rejection triumphing with 61.8% of votes over 38.13% of the approval.

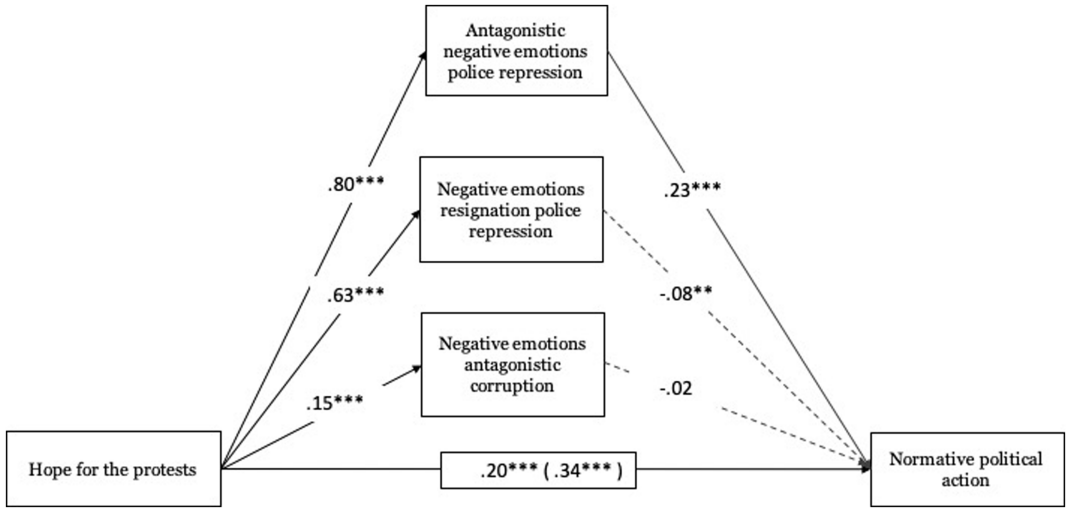


FIGURE 2
Mediating role of emotions towards police repression and corruption on normative political action. Unstandardized regression coefficients are displayed. Total effect in parentheses. ***$p < 0.001$, **$p < 0.01$, *$p < 0.05$, +$p < 0.10$.

emotions toward corruption ($B = 0.15$, ET = 0.03, $t = 5.08$, $p < 0.001$, 95% CI [0.092, 0.208]). With respect to antagonistic negative emotions toward police repression ($B = 0.23$, ET = 0.06, $t = 3.58$, $p < 0.001$, 95% CI [0.103, 0.353]) these were significantly associated with normative political action (see Figure 2).

In relation to the total effect, hope toward protests was related to normative political action (Total effect: $B = 0.34$, ET = 0.03, $t = 10.83$, $p < 0.001$, 95% CI [0.280, 0.405]), an effect that was also significant when including mediating variables (direct effect: $B = 0.20$, ET = 0.05, $t = 3.79$, $p < 0.001$, 95% CI [0.095, 0.300]). In one case, the indirect effect test, based on the Bootstrap procedure, was significant. Hope toward protests through antagonistic negative emotions toward police repression ($B = 0.18$, Boot ET = 0.06, 95% CI [0.070, 0.290]) on normative political action presents a significant indirect effect.

3.2.1.2. Model 2. Non-normative political action

Regarding hope toward protests, these were related to antagonistic negative emotions toward police repression ($B = 0.80$, ET = 0.03, $t = 23.93$, $p < 0.001$, 95% CI [0.730, 860]), with negative emotions of resignation toward police repression ($B = 0.63$, ET = 0.04, $t = 15.29$, $p < 0.001$, 95% CI [0.550, 0.713]) and with antagonistic negative emotions toward corruption ($B = 0.15$, ET = 0.03, $t = 5.08$, $p < 0.001$, 95% CI [0.092, 0.208]). Antagonistic negative emotions toward police repression ($B = 0.39$, ET = 0.08, $t = 5.05$, $p < 0.001$, 95% CI [0.235, 0.535]) and negative emotions of resignation toward police repression ($B = -0.17$, ET = 0.06, $t = -2.77$, $p < 0.01$, 95% CI [−0.286, −0.049]) were significantly associated with non-normative political action (see Figure 3).

In relation to the total effect, hope toward protests was related to normative political action (Total effect: $B = 0.40$, ET = 0.04, $t = 10.41$, $p < 0.001$, 95% CI [0.324, 0.474]). This effect was also significant when including mediating variables (direct effect: $B = 0.20$, ET = 0.06, $t = 3.23$, $p < 0.001$, 95% CI [0.079, 0.324]). Indirect effects tests based on the Bootstrap procedure were significant in two cases. Both hope toward protests through antagonistic negative emotions toward police repression ($B = 0.31$, Boot ET = 0.06, 95% CI [0.187, 0.440]) and through negative emotions of resignation toward police repression ($B = -0.11$, Boot ET = 0.04, 95% CI [−0.185, −0.027]) present a significant indirect effect on normative political action.

4. Study 3

4.1. Method

4.1.1. Participants and procedure

The study participants were 210 Chileans with an average age of 42.88 years (SD = 16.40), of whom 37.7% were female, 61.9% were male and 0.4% identified with another gender. The participants were from the Valparaíso region. Participants were invited to fill in an online questionnaire via the SurveyMonkey@platform. Participants were recruited by a quota sampling. That is, the invitation to fill in the survey was distribute through e-mail and using social networks such as Facebook, Instagram, and Twitter. The data collection started on October 18, 2022, after the Chilean constitutional plebiscite, and was extended until December 6 of the same year.

4.1.2. Measures

Antagonistic negative emotions towards the Chilean political system

Participants were asked to indicate on a scale ranging from 1 (*not at all*) to 7 (*a lot*) to what extent they experimented "anger," "annoyance" and "rage" towards the Chilean political system ($\alpha = 0.85$).

Negative emotions antagonistic towards the protests

Participants were asked to indicate on a scale ranging from 1 (*not at all*) to 7 (*a lot*) to what extent they experimented "anger," "annoyance" and "rage" towards the protests ($\alpha = 0.92$).

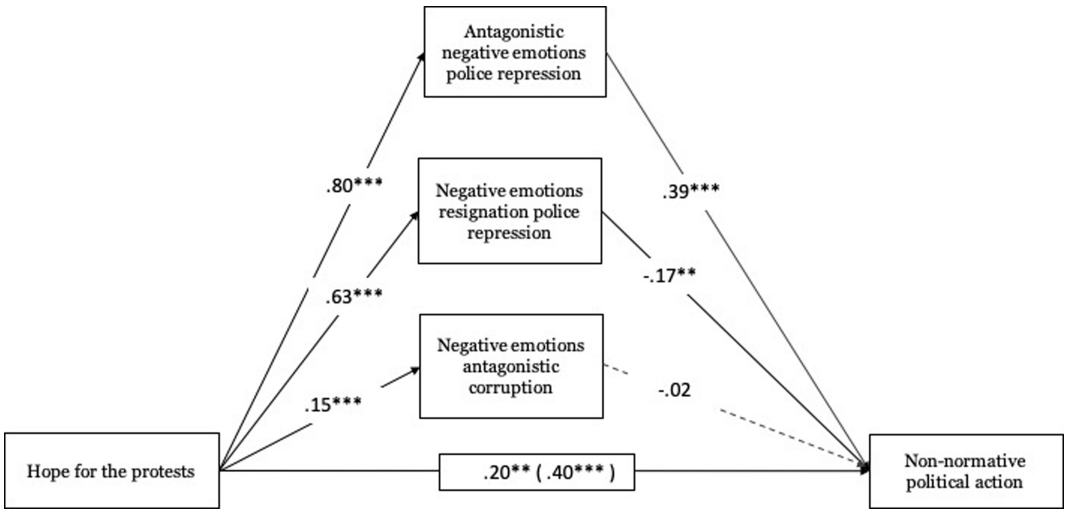


FIGURE 3
Mediating role of emotions towards police repression and corruption on non-normative political action. Unstandardized regression coefficients are displayed. Total effect in parentheses. ***$p < 0.001$, **$p < 0.01$, *$p < 0.05$, +$p < 0.10$.

Negative emotions of resignation towards the protests

We asked participants to report on a scale ranging from 1 (*not at all*) to 7 (*a lot*) to what extent they felt "fear," "dread," and "nervousness" towards the protests ($\alpha = 0.92$).

Positive emotions towards protests

We asked participants to report on a scale ranging from 1 (*not at all*) to 7 (*a lot*) to what extent they felt hope, joy, pride, sympathy and empathy ($\alpha = 0.93$).

Negative emotions antagonistic towards the triumph of the rejection in the plebiscite

Participants were asked to indicate on a scale ranging from 1 (*not at all*) to 7 (*a lot*) to what extent they experimented "anger," "annoyance" and "rage" towards the triumph of the rejection in the plebiscite ($\alpha = 0.91$).

Negative emotions of resignation towards the triumph of the rejection in the plebiscite

We asked participants to report on a scale ranging from 1 (*not at all*) to 7 (*a lot*) to what extent they felt "fear," "dread," and "nervousness" towards the triumph of the rejection in the plebiscite ($\alpha = 0.91$).

Positive emotions towards the triumph of the rejection in the plebiscite

We asked participants to report on a scale ranging from 1 (*not at all*) to 7 (*a lot*) to what extent they felt joy, pride and sympathy ($\alpha = 0.91$).

Normative political action

We captured intentions to participate in non-normative action by asking participants about their general willingness to participate in political activities in Chile. Specifically, they were asked to indicate on a scale from 1 (*not willing at all*) to 7 (*extremely willing*) to what extent they would be willing to "Sign a petition," "Participate in legal/sanctioned demonstrations (marches)," "Give opinions about politics on social networks (Twitter, Facebook, etc.)," and "Vote in municipal, parliamentary or presidential elections." The scale was reliable ($\alpha = 0.78$).

Non-normative political action

Non-normative collective action intentions were measured with other four items. Participants responded on a scale from 1 (*not willing at all*) to 7 (*extremely willing*) to what extent they would be willing to "Support boycotts," "Participate in illegal strikes (work stoppages)," "Occupy buildings or factories (seizure)," "Participate in violent actions such as throwing stones, burning or breaking urban furniture, barricades, etc.." The scale showed good internal consistency ($\alpha = 0.80$).

4.1.3. Analytical strategy

We used Pearson's coefficient for correlation analyses. We also used the Process v3.5 macro of SPSS version 24, with the multiple mediation model that simultaneously estimates multiple indirect effects with standard error and confidence intervals derived from the Bootstrap distribution (Preacher and Hayes, 2004).

4.2. Results

4.2.1. Correlation analysis

In relation to the association between the variables analyzed, we found a significant correlation between most variables. As Table 4 shows, normative political action was positively associated with antagonistic negative emotions toward the triumph of rejection in the plebiscite $r(197) = 0.48$, $p < 0.01$, with negative emotions of resignation toward the triumph of rejection in the plebiscite $r(197) = 0.41$, $p < 0.01$, and with positive emotions toward protests $r(196) = 0.35$, $p < 0.01$. And it was negatively associated with positive emotions toward the triumph of rejection in the plebiscite $r(197) = -0.21$, $p < 0.01$.

We also found a positive association between non-normative political action with antagonistic negative emotions toward the triumph of rejection in the plebiscite $r(194) = 0.46$, $p < 0.01$, with negative emotions of resignation toward the triumph of rejection in the plebiscite $r(194) = 0.40$, $p < 0.01$. And it was negatively associated with positive emotions toward the triumph of rejection in the plebiscite $r(194) = -0.25$, $p < 0.01$, and negative emotions of resignation toward the protests $r(193) = -0.17$, $p < 0.05$.

Based on these results, we can establish that the variables are independent of each other, which allows for mediation analysis. This analysis lets us investigate the role of emotions as explanatory and mediating variables of the disposition to political action (normative and non-normative).

TABLE 4 Means, standard deviations, and correlations.

Variable	M	SD	1	2	3	4	5	6	7	8	9
1. Normative political action	4.09	1.96	1								
2. Non-normative political action	2.10	1.45	0.53**	1							
3. Antagonistic negative emotions towards the Chilean political system	4.97	1.84	0.34**	0.30**	1						
4. Negative emotions antagonistic towards the triumph of the rejection in the plebiscite	4.36	2.26	0.48*	0.46**	0.43**	1					
5. Negative emotions of resignation towards the triumph of the rejection in the plebiscite	3.52	2.13	0.41**	0.40**	0.37**	0.65**	1				
6. Positive emotions towards the triumph of the rejection in the plebiscite	1.85	1.69	−0.21**	−0.25**	−0.12	−0.47**	−0.32**	1			
7. Negative emotions antagonistic towards the protests	2.71	1.89	−0.09	−0.13	0.17*	−0.10	0.01	0.46**	1		
8. Negative emotions of resignation towards the protests	2.59	1.74	−0.13	−0.17*	0.17**	−0.18**	0.06	0.37**	0.65**	1	
9. Positive emotions towards protests	3.27	1.90	0.35**	0.30**	0.20**	0.31**	0.35**	−0.22**	−0.21**	−0.03	1

M and SD are used to represent mean and standard deviation, respectively. * indicates $p < 0.05$ and ** indicates $p < 0.01$.

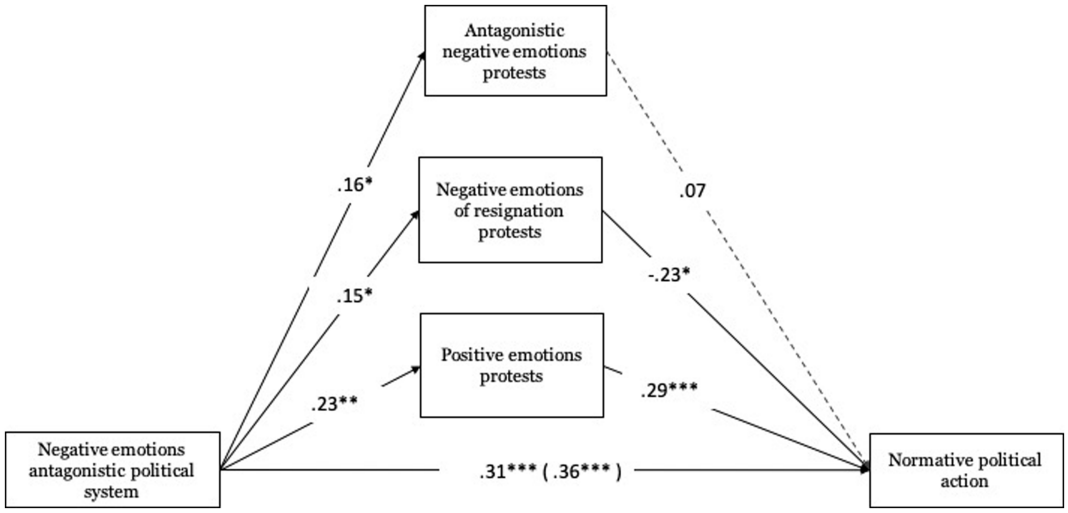


FIGURE 4
Mediating role of emotions towards protests on normative political action. Unstandardized regression coefficients are displayed. Total effect in parentheses. ***$p < 0.001$, **$p < 0.01$, *$p < 0.05$.

4.2.2. Mediation analysis

4.2.2.1. Model 1: normative political action

Regarding antagonistic negative emotions toward the political system, these were related to antagonistic negative emotions toward protests ($B = 0.16$, ET = 0.08, $t = 2.07$, $p < 0.05$, 95% CI [0.008, 0.303]), with negative emotions of resignation toward protests ($B = 0.15$, ET = 0.07, $t = 2.11$, $p < 0.05$, 95% CI [0.010, 0.284]), and with positive emotions toward protests ($B = 0.23$, ET = 0.08, $t = 3.01$, $p < 0.01$, 95% CI [0.078, 0.374]). Concerning negative emotions of resignation toward protests ($B = -0.23$, ET = 0.10, $t = -2.38$, $p < 0.05$, 95% CI [−0.414, −0.039]), these were significantly associated with normative political action (see Figure 4).

Concerning the total effect, antagonistic negative emotions toward the political system were related to normative political action (Total effect: $B = 0.36$, ET = 0.07, $t = 4.84$, $p < 0.001$, 95% CI [0.212, 0.503]), an effect that was also significant when including the mediating variables (direct effect: $B = 0.31$, ET = 0.07, $t = 4.30$, $p < 0.001$, 95% CI [0.170, 0.458]). The indirect effect test based on the Bootstrap procedure was significant in one case. Antagonistic

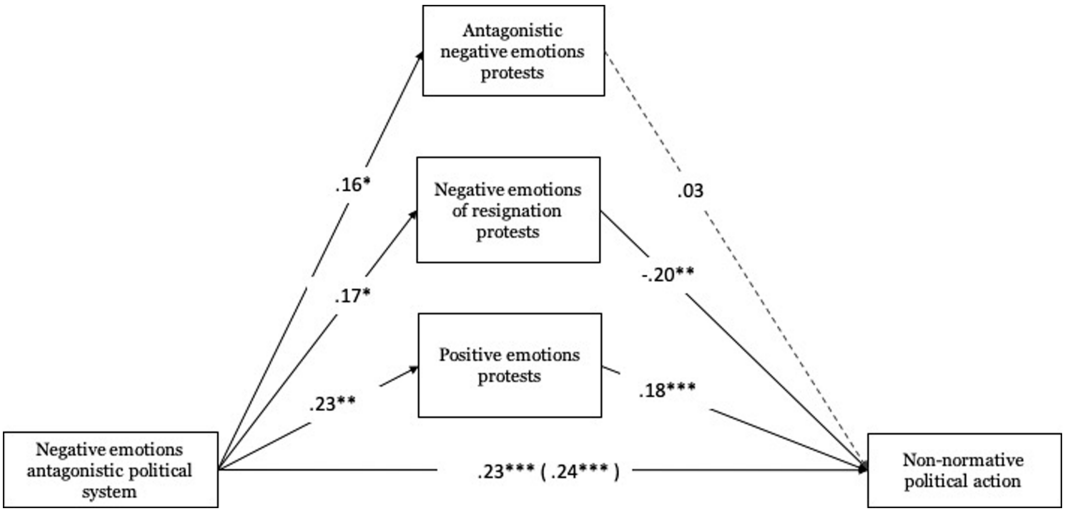


FIGURE 5
Mediating role of emotions towards protests on non-normative political action. Unstandardized regression coefficients are displayed. Total effect in parentheses. ***$p < 0.001$, **$p < 0.01$, *$p < 0.05$.

negative emotions toward the political system mediated by positive emotions toward protests ($B = 0.07$, Boot ET = 0.03, 95% CI [0.019, 0.125]) present a positive effect on normative political action.

4.2.2.2. Model 2: non-normative political action

Antagonistic negative emotions toward the political system are positively related to antagonistic negative emotions toward protests ($B = 0.16$, ET = 0.08, $t = 2.05$, $p < 0.05$, 95% CI [0.006, 0.306]), with negative emotions of resignation toward protests ($B = 0.17$, ET = 0.07, $t = 2.45$, $p < 0.05$, 95% CI [0.033, 0.306]), and with positive emotions toward protests ($B = 0.23$, ET = 0.08, $t = 3.02$, $p < 0.01$, 95% CI [0.079, 0.379]). Concerning negative emotions of resignation toward protests ($B = -0.20$, ET = 0.05, $t = -2.63$, $p < 0.01$, 95% CI [−0.344, −0.049]) and positive emotions toward protests ($B = 0.18$, ET = 0.05, $t = 3.02$, $p < 0.01$, 95% CI [0.076, 0.288]) these were significantly associated with non-normative political action (see Figure 5).

About the total effect, antagonistic negative emotions toward the political system were positively related to non-normative political action (Total effect: $B = 0.24$, ET = 0.06, $t = 4.26$, $p < 0.001$, 95% CI [0.129, 0.350]). This effect was also significant when including mediating variables (direct effect: $B = 0.23$, ET = 0.06, $t = 4.06$, $p < 0.001$, 95% CI [0.117, 0.338]). The tests of indirect effects, based on the Bootstrap procedure, were significant in two cases. Antagonistic negative emotions toward the political system mediated by negative emotions of resignation toward protests ($B = -0.03$, Boot ET = 0.02, 95% CI [−0.084, −0.003]) exhibit an indirect effect on non-normative political action. As do positive emotions toward protests ($B = 0.04$, Boot ET = 0.02, 95% CI [0.011, 0.082]).

4.2.2.3. Model 3: normative political action

Regarding antagonistic negative emotions toward the political system, these were related to antagonistic negative emotions toward the triumph of rejection in the plebiscite ($B = 0.54$, ET = 0.08, $t = 6.60$, $p < 0.001$, 95% CI [0.379, 0.701]) and to negative emotions of resignation toward the triumph of rejection in the plebiscite ($B = 0.44$, ET = 0.08, $t = 5.56$, $p < 0.001$, 95% CI [0.284, 0.597]). Concerning antagonistic negative emotions toward the triumph of rejection in the plebiscite ($B = 0.29$, ET = 0.08, $t = 3.64$, $p < 0.001$, 95% CI [0.131, 0.440]), these were significantly associated with normative political action (see Figure 6).

In relation to the total effect, antagonistic negative emotions toward the political system were related to normative political action (Total effect: $B = 0.37$, ET = 0.07, $t = 5.06$, $p < 0.001$, 95% CI [0.225, 0.511]). This effect was also significant when including the mediating variables (direct effect: $B = 0.16$, ET = 0.07, $t = 2.12$, $p < 0.05$, 95% CI [0.011, 0.307]). Also, significant in one case was the bootstrap-based indirect effect test of antagonistic negative emotions toward the political system through antagonistic negative emotions toward the rejectionist triumph in the plebiscite ($B = 0.15$, Boot ET = 0.05, 95% CI [0.063, 0.256]) on normative political action.

4.2.2.4. Model 4: non-normative political action

Regarding antagonistic negative emotions toward the political system, these were related to antagonistic negative emotions toward the triumph of rejection in the plebiscite ($B = 0.53$, ET = 0.08, $t = 6.51$, $p < 0.001$, 95% CI [0.372, 0.695]), and to negative emotions of resignation toward the triumph of rejection in the plebiscite ($B = 0.45$, ET = 0.08, $t = 5.61$, $p < 0.001$, 95% CI [0.291, 0.606]). With respect to antagonistic negative emotions toward the triumph of rejection in the plebiscite ($B = 0.19$, ET = 0.06, $t = 3.13$, $p < 0.01$, 95% CI [0.069, 0.305]), these were significantly associated with normative political action (see Figure 7).

Regarding the total effect, antagonistic negative emotions toward the political system were related to normative political action (Total effect: $B = 0.24$, ET = 0.06, $t = 4.30$, $p < 0.001$, 95% CI [0.129, 0.347]). However, this effect was not significant when including mediating variables. The indirect effect test, based on the Bootstrap procedure, was significant in one case. Antagonistic negative emotions toward the political system mediated by antagonistic negative emotions toward the rejectionist triumph in the plebiscite ($B = 0.10$, Boot ET = 0.03, 95% CI [0.038, 0.172]) present an indirect effect on non-normative political action.

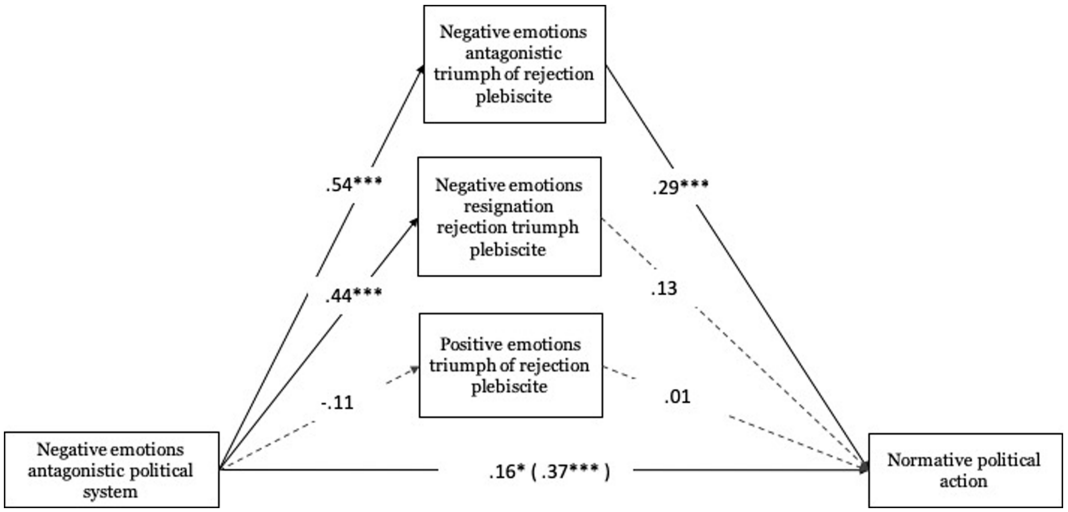


FIGURE 6
Mediating role of emotions towards the triumph of rejection in the plebiscite on normative political action. Unstandardized regression coefficients are displayed. Total effect in parentheses. ***$p < 0.001$, **$p < 0.01$, *$p < 0.05$.

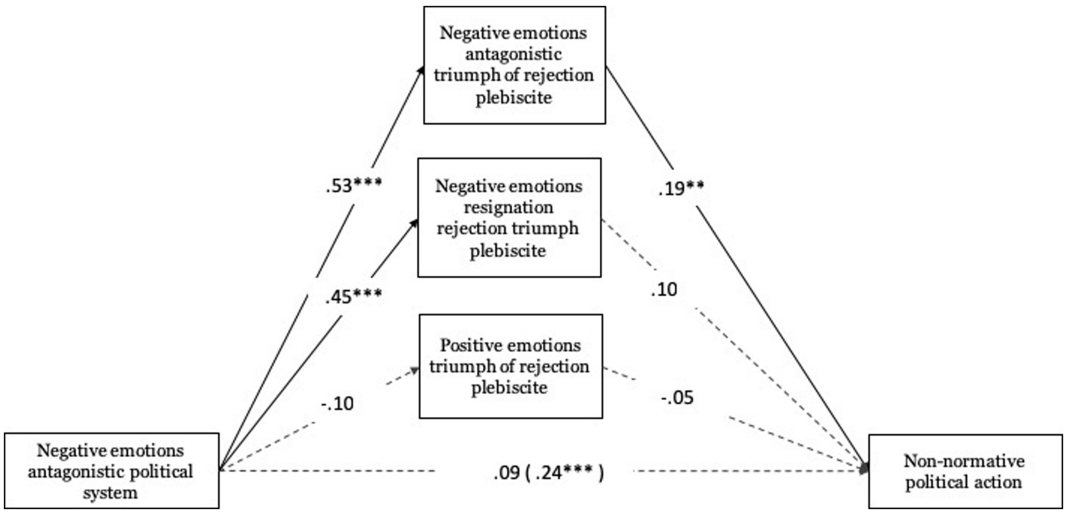


FIGURE 7
Mediating role of emotions towards the triumph of rejection in the plebiscite on non-normative political action. Unstandardized regression coefficients are displayed. Total effect in parentheses. ***$p < 0.001$, **$p < 0.01$, *$p < 0.05$.

5. General discussion

The aim of this paper was to analyze the role of negative emotions (antagonistic and resignation) and positive emotions as drivers or inhibitors of people's dispositions towards political action in Chilean citizens, specifically in their willingness to participate in normative and non-normative actions.

The results show that the disposition to normative political action presents a higher mean than non-normative political action in our three studies. In addition, we observed a progressive decrease in the mean values of both variables in each of the studies. This fact could indicate that Chileans are willing to mobilize politically but in a normative rather than a non-normative way. As we temporarily move away from the social outburst during the post-constitutional plebiscite period, there is less disposition to political action.

Regarding emotions, the results indicate that the highest negative antagonistic emotionality is directed towards police repression (Studies 1 and 2), corruption (Study 2), and the political system (Study 3), all relevant situations in the context of the social outburst and during the subsequent constituent process. There is a negative emotionality of resignation towards police repression; and a low negative emotionality towards protest actions (Studies 1 and 3). Meanwhile, positive emotionality is high towards protests and very low towards police violence.

From these results, it is possible to interpret that the police violence that occurred during the outbreak and in the subsequent mobilizations triggered fear and anger in the population. People also experienced hope for the outbreak and for the protest actions that developed after it. The above confirms what has been described in some studies (Paredes and Valenzuela Fuentes, 2020; Sandoval, 2021)

in relation to a coexistence of emotions of different signs during Chilean October, marked by the hope generated by the mobilizations and the anger for the repression and violence.

On the other hand, correlation analyses show a differentiated directionality among the emotions evaluated, according to their sign and the object toward which they were directed. People who experienced anger during the social outburst also experienced anger towards police violence. Similarly, people who experienced fear during the riot also felt fear toward the protests and police violence. On the contrary, those who experienced hope during the social outburst also felt hope towards the protests that occurred after, but not towards police violence, which is consistent with the type of emotional object assessed.

Coincidentally with Jasper's (2014) studies, these analyses confirm that emotions are not experienced in isolation during complex situations such as protest actions. On the contrary, they are experienced as "moral batteries" in which positive and negative emotions are mixed. Although these first results show the significant relation between different emotions, they do not allow us to determine an explanatory link between emotions and social protest. For this purpose, we explore explanatory models such as multiple linear regressions.

With respect to the hypotheses (H1 and H2), these are fulfilled for both normative and non-normative political action disposition. Antagonistic negative emotions during the social outburst and toward police repression predict disposition to political action – both normative and non-normative – in all models. Relative to positive emotions during the uprising and toward protests, they also predict support for willingness to normative and non-normative political action in all models.

Regression analyses show that the different models that included negative emotions (resignation and antagonism) and positive emotions towards the social outburst, protests, and police repression predict differentially the willingness to participate in normative and non-normative political actions. In all cases, we found a satisfactorily explained variance. However, not all the emotions studied have the same predictive value. In the case of willingness to participate in normative political actions, antagonistic negative emotions, both during the outburst and towards police repression, have a significant effect on the model, with a relevant explanatory power. On the other hand, negative emotions of resignation towards the outbreak, protests, and police repression have no predictive value.

On the other hand, in the case of willingness to participate in non-normative actions, we observed a similar result. Negative antagonistic emotions, both during the outburst and towards police violence, have a relevant effect on increasing the criterion variable. In contrast, negative feelings of resignation toward the protests have no effect. These findings confirm what has been raised by several authors (Jasper, 2014; Reed, 2014; Poma and Gravante, 2018; Ransan-Cooper et al., 2018), who found that there is a relation between emotions and protest actions. In our specific case, we found a greater preponderance of negative emotions but with a relevant role of hope when explaining the disposition to political action.

Regarding hypothesis 3, the mediation analysis results indicate that the higher the level of hope towards the protests, the more participants show more antagonistic negative emotions and resignation towards police repression and more antagonistic negative emotions towards corruption. This fact generates a higher disposition to non-normative political action. In this model, only two variables play a mediating role. On the other hand, the higher the level of hope towards protests, the more participants show more antagonistic negative emotions and resignation towards police repression and more antagonistic negative emotions towards corruption. This fact is associated with a higher disposition towards normative political action. Only one variable plays a mediating role, as would be the case of antagonistic negative emotions towards police repression. Based on these results, hypothesis 3 is partially fulfilled.

Concerning hypothesis 4, mediation analyses results indicate that the higher the level of negative antagonistic feelings towards the political system, the participants show more negative antagonistic emotions and resignation towards the protest and, at the same time, more positive emotions towards the protest. In these models, negative emotions of resignation and positive feelings towards protests play a mediating role with political action, inhibiting or driving it, respectively. Conversely, the higher the level of antagonistic negative emotions towards the political system, the participants show more antagonistic negative emotions and resignation towards the triumph of rejection. This fact generates a higher disposition to normative political action. In this model, antagonistic negative emotions towards the triumph of rejection play a mediating role. Based on these results, the hypothesis is partially fulfilled, given that only some variables play a mediating role.

The results of this study allow us to conclude that emotions directed toward different objects related to the Chilean political process play a relevant role in predicting the disposition to mobilize in a normative and non-normative way. In this sense, antagonistic negative emotionality strongly predicted the relation with the dependent variables. At this point, it is worth noting how negative emotions towards police violence is one of the variables that best explain protest actions, coinciding with theoretical approaches that highlight the importance of this emotion in taking a defiant position against an enemy or authority perceived as threatening (Smith and Lazarus, 1990; Klandermans et al., 2008). As qualitative studies on the outburst show, for many people, especially young people, the impulse that led them to go out and demonstrate arose as a product of the perception of injustice, suffering, and anger, experienced individually or collectively (Rivera-Aguilera et al., 2021).

Finally, positive emotionality (hope) is a dimension that explains the criterion variable (normative and non-normative political action) in all three studies. People associate hope with the inclination to feel inspired, plan for a better future (for oneself and others), and be motivated to change adverse life circumstances (Fredrickson, 2008). This fact is consistent with what has been suggested by authors who describe hope as a sort of "revolutionary accelerator" as it constitutes an outlet for negative emotions such as anger, indignation, and even fear (Reed, 2004). As some qualitative studies describe, during the social outburst, expectations of change and images of better futures made it possible for discontent and grief to turn into experiences of articulation experienced as joy and hope (Zarzuri et al., 2021). During the Chilean October, this circumstance is clearly illustrated in the hopeful air that the feminist movement and the performance of LasTesis provided for the mobilizations of the revolt.

These results are consistent with other studies conducted in Chile on the social outburst. They recognize the relevant role of anger or rage as the emotion that explain the willingness to participate in protests; and the role of hope as the emotion that explains the maintenance of mobilizations over time (Asún et al., 2021). That is, we could propose that the anger that arises in the face of the grievances suffered by the members of the group with which we identify ourselves explains the basic motivation to participate; while the hope that floods us when we participate in a collective experience allows us to

understand the processes of maintenance and decline of protest processes. Therefore, we can argue that both emotions are relevant to explain theoretically the willingness to demonstrate during the social outburst.

This study has limitations. First, any research on emotions, especially when using self-report, is limited by the ability of participants to recall and verbally report feelings (Lizarazo Pereira et al., 2022). This research is not exempt from this restriction. However, by conducting different studies in different samples but with similar emotion scales and high reliability, we reduced the effects of this limitation. Secondly, from a sociological point of view, there is a need to extend the application of the scale to territorial realities other than Chile, relating political action to other national profiles. Regarding the sampling process, we can say that, although the samples used in the three studies are non-probabilistic, which implies limitations in extrapolating their data, efforts were made in the sampling process to maintain a proportional balance in the main sociodemographic variables, thereby ensuring minimal bias. Additionally, the aim was to incorporate observation units into the sample that exhibit high diversity in their political choices as well as their social class, which collectively enhances the representativeness and heterogeneity of the units of analysis. Finally, from a methodological point of view, it is necessary to deepen into some dimensions that are not sufficiently differentiated in the used subscales of political action, for example, non-normative actions of a violent nature and their potential differentiation in a subscale within this type of political action (Delfino and Zubieta, 2014; Sandoval et al., 2018).

The social outburst cannot be explained solely based on rational dimensions of collective action. The emotions described in this paper played a central role in its development and maintenance. We could conclude by saying that the social outburst, as an event, generated changes in the way of feeling what had been experienced for decades as a diffuse malaise and transformed it into the concrete emotions that shaped the Chilean October experience.

Data availability statement

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

Ethics statement

The studies involving human participants were reviewed and approved by Ethical Committee of the University of Valparaíso. The patients/participants provided their written informed consent to participate in this study.

Author contributions

FH, JS, XF, J-MG, MB, and PI made a significant contribution to the present study. FH and JS participated in the conception and design. FH, JS, and XF also contributed to the writing of the document and the elaboration of the theoretical framework. J-MG and PI worked on the critical review of the article and wrote sections of it. FH, J-MG and MB contributed to specialized data analyses. All authors contributed to the article and approved the submitted version.

Funding

This work was supported by the FONDECYT Iniciación 11180664; Centro de Estudios Interdisciplinarios en Cultura Política, Memoria y Derechos Humanos de la Universidad de Valparaíso.

Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

Publisher's note

All claims expressed in this article are solely those of the authors and do not necessarily represent those of their affiliated organizations, or those of the publisher, the editors and the reviewers. Any product that may be evaluated in this article, or claim that may be made by its manufacturer, is not guaranteed or endorsed by the publisher.

References

Amnesty International (2019). Chile: Política deliberada para dañar a manifestantes apunta a responsabilidad de mando. Available at: https://www.amnesty.org/es/latest/news/2019/11/chile-responsable-politica-deliberadapara-danar-manifestantes/

Araujo, K. (2019). *Hilos tensados. Para leer el Octubre chileno*. Santiago: Colección IDEA.

Asún, R., Rodríguez, K., Zúñiga, C., and Zamora, R. (2021). "Entre la Rabia y la Esperanza" in *Saltar el torniquete. Reflexiones desde las juventudes de octubre*. eds. S. Alé, K. Duarte and D. Miranda (Fondo de Cultura Económica: Santiago de Chile)

Barnes, S. H., Allerbeck, K. R., Farah, B. G., Heunks, F. J., Inglehart, R. F., Jennings, M. K., et al. (1979). *Political action: Mass participation in five western democracies*. London, Reino Unido: SAGE.

Bosco, F. J. (2006). The Madres de plaza de Mayo and three decades of human rights' activism: embeddedness, emotions, and social movements. *Ann. Assoc. Am. Geogr.* 96, 342–365. doi: 10.1111/j.1467-8306.2006.00481.x

Brussino, S. A., Sorribas, P. M., Rabbia, H. H., and Imhoff, D. (2013). *Enfrentando los desafíos en la evaluación de la participación política. Aportes a la discusión sobre indicadores y escalas*. (Polis: Revista Latinoamericana), 35.

Canales, M. (2022). *La pregunta de octubre. Fundación, apogeo y crsis del Chile neoliberal*. Santiago: LOM Ediciones.

Cortes, A. (2022). *Chile, fin del mito. Estallido, pandemia y ruptura constituyente*. Santiago: RIL.

Delfino, G., and Zubieta, E. (2010). *Participación política: concepto y modalidades*, vol. *17* Annuario de Investigaciones. (Valencia: Revista de Psicología Política), 211–220.

Delfino, G. I., and Zubieta, E. M. (2014). *Participación política pacífica y agresiva: aprobación y eficacia atribuida*, vol. *48* Psicología Política, Universidad de Valencia, 25–46 Available at: https://www.uv.es/garzon/psicologia%20politica/N48-2.pdf.

Delfino, G. I., Zubieta, E. M., and Muratori, M. (2013). *Tipos de participación política: análisis factorial confirmatorio con estudiantes universitarios de Buenos Aires*, Argentina. Psicologia Política, Associação Brasileira de Psicologia Política, *13*, 301–318. Available at: http://pepsic.bvsalud.org/pdf/rpp/v13n27/v13n27a07.pdf

DiGrazia, J. (2014). Individual protest participation in the United States: conventional and unconventional activism. *Soc. Sci. Q.* 95, 111–131. doi: 10.1111/ssqu.12048

Flam, H. (2014). Micromobilization and emotions. *The Oxford handbook of social movements*, 264–276

Folchi, M. (2019). *Chile despertó. Lecturas desde la Historia del estallido social de Octubre*. Santiago: Unidad de Redes Transdisciplinarias, Vicerrectoría de Investigación y Desarrollo, Universidad de Chile.

Fredrickson, B. L. (2008). Promoting positive affect. *The science of subjective well-being*, 449–468.

García, O., and Aguirre, F. (2014). Spatial practices and narratives: the GenkiDama for education by Chilean students. *J. Lang. Pol.* 13, 732–754. doi: 10.1075/bct.83.07gar

Hasan-Aslih, S., Netzer, L., van Zomeren, M., Saguy, T., Tamir, M., and Halperin, E. (2019). When we want them to fear us: the motivation to influence outgroup emotions in collective action. *Group Process. Intergroup Relat.* 22, 724–745. doi: 10.1177/1368430218769744

Inter-American Commission on Human Rights (2020). CIDH culmina visita in loco a Chile y presenta sus observaciones y recomendaciones preliminares. Available at: http://www.oas.org/es/cidh/prensa/comunicados/2020/018.asp

Jasper, J. M. (2011). Emotions and social movements: twenty years of theory and research. *Annu. Rev. Sociol.* 37, 285–303. doi: 10.1146/annurev-soc-081309-150015

Jasper, J. M. (2014). Constructing indignation: anger dynamics in protest movements. *Emot. Rev.* 6, 208–213. doi: 10.1177/1754073914522863

Klandermans, B., Van der Toorn, J., and Van Stekelenburg, J. (2008). Embeddedness and identity: how immigrants turn grievances into action. *Am. Sociol. Rev.* 73, 992–1012. doi: 10.1177/000312240807300606

Landmann, H., and Rohmann, A. (2020). Being moved by protest: collective efficacy beliefs and injustice appraisals enhance collective action intentions for forest protection via positive and negative emotions. *J. Environ. Psychol.* 71:101491. doi: 10.1016/j.jenvp.2020.101491

Lizarazo Pereira, D. M., Schubert, T. W., and Roth, J. (2022). Moved by social justice: the role of Kama Muta in collective action toward racial equality. *Front. Psychol.* 13:780615. doi: 10.3389/fpsyg.2022.780615

Martuccelli, D. (2021) *El estallido social en clave latinoamericana. La formación de las clases popular-intermediarias*. Santiago: LOM Ediciones.

Mayol, A. (2019). *Big Bang. Estallido Social 2019*. Catalonia: Santiago de Chile.

Melucci, A. (1996). *Challenging codes: collective action in the information age*. Cambridge, Reino Unido: Cambridge University Press

Morales, L. (2005). ¿Existe una crisis participativa? La evolución de la participación política y el asociacionismo en España. Revista Española de Ciencia Política, 13, 51–87. Available at: https://recyt.fecyt.es/index.php/recp/article/view/37411/20928

Morales, M. (2020). Estallido social en Chile 2019: participación, representación, confianza institucional y escándalos públicos. *Ann. Pol.* 33, 3–25. doi: 10.15446/anpol.v33n98.89407

Moyano-Díaz, E., Mendoza-Llanos, R., and Pineida, A. (2021). Exploración del malestar social: hacia una explicación psicosocial del estallido social chileno. *Rev. Am. Psicol.* 9, 83–110. doi: 10.29344/2318650X.2.2984

Muller, E. N. (1982). An explanatory model for differing types of participation. *Eur. J. Polit. Res.* 10, 1–16. doi: 10.1111/j.1475-6765.1982.tb00001.x

Organización de las Naciones Unidas (2019). Informe sobre la Misión a Chile. Oficina del Alto Comisionado. Available at: https://www.ohchr.org/Documents/Countries/CL/Report_Chile_2019_SP.pdf

Paredes, J., and Valenzuela Fuentes, K. (2020). ¿No es la forma? La contribución político-cultural de las luchas estudiantiles a la emergencia del largo octubre chileno. *Última Década* 28, 69–94. doi: 10.4067/S0718-22362020000200069

Pereda-Pérez, P., and Howard, C. (2015). Post-authoritarian and democratic neoliberalism: Chile and New Zealand in the wake of global discontent. *SITIES: New Series* 12, 30–61. doi: 10.11157/sites-vol12iss1id273

PNUD (2018) *Desiguales. Orígenes, cambios y desafíos de la brecha social en Chile*. Santiago: PNUD.

Poma, A., and Gravante, T. (2016). This struggle bound us. An analysis of the emotional dimension of protest based on the study of four grassroots resistances in Spain and Mexico. *Qual. Sociol. Rev.* 12, 142–161. doi: 10.18778/1733-8077.12.1.07

Poma, A., and Gravante, T. (2017a). Emociones, protesta y acción colectiva: estado del arte y avances. *Aposta. Rev. Ciencias Soc.* 74, 32–62.

Poma, A., and Gravante, T. (2017b). Protest, emotion and change: an analysis of two women's collectives fighting against machismo in Oaxaca, Mexico. *Interface J. Soc. Movem.* 9, 204–229.

Poma, A., and Gravante, T. (2018). Emociones, identidad colectiva y estrategias en los conflictos socioambientales. *Andamios* 15, 287–309. doi: 10.29092/uacm.v15i36.611

Preacher, K., and Hayes, A. (2004). SPSS and SAS procedures for estimating indirect effects in simple mediation models. *Behav. Res. Methods Instrum. Comput.* 36, 717–731. doi: 10.3758/BF03206553

Quaranta, M. (2012). The rise of unconventional political participation in Italy: measurement equivalence and trends, 1976-2009. Bull. Ital. Pol., 4, 251–276. Available at: http://www.glasgowheart.org/media/media_264092_en.pdf

Radke, H. R., Kutlaca, M., and Becker, J. C. (2022). Applying the dynamic dual pathway model of approach coping to collective action among advantaged group allies and disadvantaged group members. *Front. Psychol.* 13:875848. doi: 10.3389/fpsyg.2022.875848

Ransan-Cooper, H., Ercan, A., and Duus, S. (2018). When anger meets joy: how emotions mobilise and sustain the anti-coal seam gas movement in regional Australia. *Soc. Mov. Stud.* 17, 635–657. doi: 10.1080/14742837.2018.1515624

Reed, J. P. (2004). Emotions in context: revolutionary accelerators, hope, moral outrage, and other emotions in the making of Nicaragua's revolution. *Theory Soc.* 33, 653–703. doi: 10.1177/0896920514524607

Reed, J. P. (2014). Social movement subjectivity: culture, emotions, and stories. *Crit. Sociol.* 41, 935–950. doi: 10.1177/0896920514524607

Reisenzein, R. (1994). Pleasure-arousal theory and the intensity of emotions. *J. Pers. Soc. Psychol.* 67, 525–539. doi: 10.1037/0022-3514.67.3.525

Rigby, A., and Sørensen, M. J. (2017). Frontstage and backstage emotion management in civil resistance. *J. Pol. Power* 10, 219–235. doi: 10.1080/2158379X.2017.1336340

Rivera-Aguilera, G., Imas, M., and Jiménez-Díaz, L. (2021). Jóvenes, multitud y estallido social en Chile. *Rev. Latinoam. Ciencias Soc. Niñez y Juventud* 19, 1–24. doi: 10.11600/rlcsnj.19.2.4543

Romanos, E. (2014). Emotions, moral batteries and high-risk activism: understanding the emotional practices of the Spanish anarchists under Franco's dictatorship. *Contemp. Eur. Hist.* 23, 545–564. doi: 10.1017/S0960777314000319

Rucht, D. (1992). Estrategias y formas de acción. En R. J. Dalton and M. Kuechler (Eds.), *Los nuevos movimientos sociales* (pp. 219–243). Valencia, España: Alfons el Magnànim.

Sabucedo, J. Y., and Arce, C. (1991). Types of political participation: a multidimentional analysis. *Eur J Polit Res* 20, 93–102. doi: 10.1111/j.1475-6765.1991.tb00257.x

Salinas, S. (2016). *Conflictos y nuevos movimientos sociales*. Santiago: RIL.

Sandoval, J. (2021) Acontecimiento y ambivalencia emocional: La experiencia de Jóvenes de Valparaíso en la revuelta social, A. Alé, K. Duarte and D. Miranda (Eds.) *Saltar el torniquete. Reflexiones desde las juventudes de octubre* (pp. 145–149). Santiago: Fondo de Cultura Económica.

Sandoval, J., and Carvallo, V. (2019). Una generación «sin miedo»: análisis de discurso de jóvenes protagonistas del movimiento estudiantil chileno. *Última Década* 27, 225–257. doi: 10.4067/S0718-22362019000100225

Sandoval, J., Hatibovic, F., and Bobowik, M. (2018). Validación de la Escala de Tendencias de Acción Política en una muestra de estudiantes universitarios chilenos. *Psykhe* 27, 1–17. doi: 10.7764/psykhe.27.1.1030

Sandoval, J., Hatibovic, F., and Cárdenas, M. (2012). La psicología política como momento de la psicología social en Chile: desplazamientos conceptuales y temáticos. Psicologia Política, Associação Brasileira de Psicologia Política, 12, 443–463. Available at: http://pepsic.bvsalud.org/pdf/rpp/v12n25/v12n25a06.pdf

Smith, C. A., and Lazarus, R. S. (1990). Emotion and adaptation, L. Pervin (Ed.), *Handbook of personality: Theory and research* (pp. 609–637). Guilford, New York.

Sorribas, P., and Brussino, S. (2013a). La participación política contenciosa: desarrollo de un modelo explicativo desde la cognición social. *Quaderns de Psicologia* 15, 7–22. doi: 10.5565/rev/qpsicologia.1148

Sorribas, P. M., and Brussino, S. (2013b). Participación política orientada al sistema representativo: dimensiones y factores explicativos. Psicología Política, Universidad de Valencia, 47, 91–112. Available at: https://www.uv.es/garzon/psicologia%20politica/N47-5.pdf

Tausch, N., and Becker, J. C. (2013). Emotional reactions to success and failure of collective action as predictors of future action intentions: a longitudinal investigation in the context of student protests in Germany. *Br. J. Soc. Psychol.* 52, 525–542. doi: 10.1111/j.2044-8309.2012.02109.x

Tausch, N., Becker, J. C., Spears, R., Christ, O., Saab, R., Singh, P., et al. (2011). Explaining radical group behavior: developing emotion and efficacy routes to normative and nonnormative collective action. *J. Pers. Soc. Psychol.* 101, 129–148. doi: 10.1037/a0022728

Van Ness, J., and Summers-Effler, E. (2018). Emotions in social movements, D. Snow, S. Soule, H. Kriesi and H McCammon (Eds.) *The Wiley Blackwell companion to social movements*. Blackwell, 411–428.

Van Troost, D., Van Stekelenburg, J., and Klandermans, B. (2013). Emotions of protest. N. Demertzis (Eds) *Emotions in politics* (pp. 186–203). Palgrave Studies in Political Psychology series. Palgrave Macmillan, London

van Zomeren, M., Pauls, I. L., and Cohen-Chen, S. (2019). Is hope good for motivating collective action in the context of climate change? Differentiating hope's emotion-and problem-focused coping functions. *Glob. Environ. Chang.* 58:101915. doi: 10.1016/j.gloenvcha.2019.04.003

Whittier, N. (2012). The politics of coming out. G. M. Maney, R. V. Kutz-Flamenbaum, D. A. Rohlinger and J. Goodwin (Eds.), *Strategies for social change* (pp. 145–169). Minneapolis: University of Minnesota Press

Williamson, E. (2011). The magic of multiple emotions. *Sociol. Forum* 26, 45–70. doi: 10.1111/j.1573-7861.2010.01224.x

Zarzuri, R. (2021). *De la despolitización a la repolitización. Política, jóvenes y vida cotidiana. En: M. A. Garretón (Coord.) Política y movimientos sociales en Chile*, 103–127. Santiago: LOM editores/Fundación Friedrich Ebert-Chile.

Zarzuri, R., Ganter, R., Henríquez, K., and Goecke, X. (2021). "Revuelta y juventudes. Políticas de lo pre y posfigurativo del 18-O en Chile" in *Desbordes. Estallidos, sujetos y porvenires en América Latina*. eds. A. Bringel, B. Martínez and F. Muggenthaler (Quito: Fundación Rosa Luxemburg), 125–166.

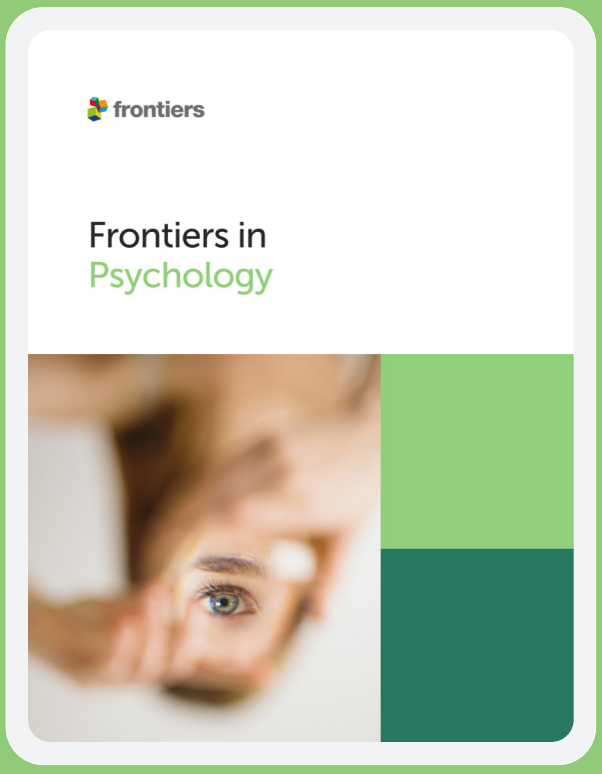
Frontiers in Psychology

Paving the way for a greater understanding of human behavior

The most cited journal in its field, exploring psychological sciences - from clinical research to cognitive science, from imaging studies to human factors, and from animal cognition to social psychology.

Discover the latest Research Topics

See more →



Frontiers

Avenue du Tribunal-Fédéral 34
1005 Lausanne, Switzerland
frontiersin.org

Contact us

+41 (0)21 510 17 00
frontiersin.org/about/contact