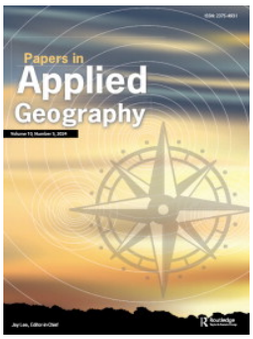

Papers in Applied Geography

ISSN: (Print) (Online) Journal homepage: www.tandfonline.com/journals/rpag20

The Spatial Impact of Crowds in the Chilean Social Explosion: A Case Study of Postpolitical Democracy

Francisco Vergara-Perucich

To cite this article: Francisco Vergara-Perucich (2024) The Spatial Impact of Crowds in the Chilean Social Explosion: A Case Study of Postpolitical Democracy, Papers in Applied Geography, 10:3, 195-206, DOI: 10.1080/23754931.2024.2340475

To link to this article: https://doi.org/10.1080/23754931.2024.2340475

Published online: 03 Jun 2024.

Submit your article to this journal

Article views: 33

View related articles

View Crossmark data

Full Terms & Conditions of access and use can be found at
https://www.tandfonline.com/action/journalInformation?journalCode=rpag20

PAPERS IN APPLIED GEOGRAPHY
2024, VOL. 10, NO. 3, 195–206
https://doi.org/10.1080/23754931.2024.2340475

Routledge
Taylor & Francis Group

Check for updates

The Spatial Impact of Crowds in the Chilean Social Explosion: A Case Study of Postpolitical Democracy

Francisco Vergara-Perucich

Centro Producción del Espacio, Universidad de Las Américas, Providencia, Region Metropolitana, Chile

ABSTRACT

This paper introduces an innovative methodology for estimating crowd sizes at significant events, particularly focusing on protests. This method combines aerial photography with urban mapping to enhance accuracy in measuring participant numbers. Originating from the analysis of extensive social protests in Chile, this approach was notably applied to what was reported as the largest march, where mainstream media claimed attendance exceeded one million. However, utilizing this new methodology, we recalculated the figure to be 354,167, challenging previous estimations. This research offers a reliable, repeatable tool for quantifying attendance at large gatherings, shedding light on the dynamics of public mobilization and space utilization. It provides a framework for assessing the comparative mobilization strength of various social movements and can extend to other large public events like concerts and sports, helping to gauge public engagement levels. Accurate crowd size estimations can inform policymakers, leading to more informed decisions and fostering a dialogue-based relationship between authorities and the public. By understanding protest scales and impacts, policies can be more aligned with societal needs, promoting a more inclusive and participatory democratic environment. This article, therefore, not only presents a methodological advancement but also underscores its applicability in enhancing democratic governance and public policy formulation.

KEYWORDS

Protests; Chile; public space; measurement; democracy

Introduction

Throughout history, public demonstrations have been a powerful force for change. They have helped to bring about the end of wars, the overthrow of oppressive regimes, and the achievement of civil rights. In recent years, public demonstrations have played a key role in the Arab Spring, the Occupy Wall Street movement, and the Black Lives Matter protests. Public demonstrations are not without their risks. They can be met with violence from authorities, and they can also lead to arrests and other forms of punishment. However, the potential rewards of public demonstrations are great. They can be a powerful tool for social change, and they can help to create a more just and equitable world (Bagguley and Hussain 2016; Pritchard and Pakes 2014). In the context of urban studies, Erik Swyngedouw (Swyngedouw 2011) argues that urban revolts with violent episodes are symptoms of the crisis of neoliberalism. Neoliberalism is a political-economic ideology that emphasizes free markets, privatization, and deregulation. Swyngedouw argues that neoliberalism has led to a number of negative consequences, including increased inequality, social fragmentation, and environmental degradation. These problems have generated widespread frustration and anger, which have manifested themselves in urban revolts. Furthermore,

CONTACT Francisco Vergara-Perucich jvergara@udla.cl Centro Producción del Espacio, Universidad de Las Américas, Manuel Montt 948, Providencia, Region Metropolitana, Chile.
© 2024 Applied Geography Conferences

Swyngedouw argues that urban revolts are not simply expressions of frustration, but also attempts to create a more just and sustainable world. He argues that these revolts revive the vitality of public space as a place for engaging in politics. Public space is a space where people can come together to discuss and debate their common problems. It is a space where people can build solidarity and create new forms of social and political organization, in post-political urban landscapes, which reflects the crises, and eventual collapses, of contested political models. This is because the traditional political mechanisms for dealing with conflict and disagreement are no longer seen as effective. As a result, new forms of conflict resolution and cooperation are needed. Swyngedouw contends that the present consensual vision of the urban environment contributes to the emergence and consolidation of a postdemocratic condition, where social groups finds ways to represent themselves by unrest in the public space (Swyngedouw 2009). Legacy *et al.* examines the possibility of meaningful debate and contestation over urban decisions and futures in politically constrained contexts, where the public space occupation is a key factor for this matter (Legacy *et al*. 2018). Beveridge and Koch propose certain analytical safeguards that tend to be prescriptive about how to understand urban life in societies whose political projects are in crisis (Beveridge and Koch 2019). The spaces of the city echo these challenges, including situations of depoliticization and disaffection between representatives and the represented. Currently, democracy itself, in its consensual and traditional forms, is being challenged for its improvement or profound change. From the decisions of states on international conflicts to local housing laws, masses of people are brought out to the streets to protest against these decisions. As these representations become increasingly massive, the quantitative value is precisely to measure how social adherence to certain causes, events, and movements increases or decreases as events recur or when there is a trend-breaking event in participation in mass marches. This participation can indeed be measured to determine the magnitudes of the mechanisms of representation or self-representation in public spaces. This can be reflected in the occupation of the common to challenge the lack of common sense of democratically elected decision-makers, who often end up representing causes different from those expected by the citizenry. The city, then, becomes a resonating chamber of the post-political, and adherence to these representations may be valid as a complementary mechanism to opinion polls, focus groups, and other events that seek to identify the political preferences of groups within society.

The Chilean political system has been devalued and undergoing a clear process of degradation for several years (Fuentes 2019; Matamala 2019). In particular, the October 2019 marches in Chile, known as the *social outbreak*, marked a significant milestone in the struggle for social justice and political transformation in the country (Mayol 2019; Arias-Loyola 2021; Woods 2022). These massive demonstrations, which shook the streets of Chile for months, revealed a profound dissatisfaction and discontent with the political system and entrenched inequalities in Chilean society.

Santiago is the capital city of Chile, a metropolis of 9 million inhabitants that comprises about 40 percent of the country's total population. Since 2011, the city of Santiago has become a mechanism for political expression, primarily through marches that seek to disrupt the usual functions of the urban space in order to make the grievances recognized by as many people as possible. These disruptions to the flow of movement in the city often face repressive responses from democratic authorities, thus exposing the existing contradiction in Chile's representative democracy: political power is transferred through a vote to a representative who orders the repression of the voters when they take to the streets to express a political-spatial stance (Vergara-Perucich 2019). Mcphail and McCarthy argues that disputes over the size of protests are common, and more accurate counts can provide better evidence amidst the partisan squabbling (McPhail and McCarthy 2004). Schussman and Soule finds that being asked to protest is the strongest predictor of participating in protest, but numerous other individual characteristics such as political interest and organizational ties are important predictors of being asked to protest (Schussman and Soule 2005). Clauset argues that the measurement of protest size and protester motivation shapes our ability to understand their social significance (Clauset 2019).

While the traditional democratic system relies on vote counting to elect representatives of the community, the context of self-representing individuals in public space would be reflected in the number of people participating in a march, serving as an indicator of the impact that the causes rallying the march have on specific social issues.

This topic has been addressed in previous literature, aiming to define more accurate models for establishing a reliable count of the number of participants in a protest. Biggs argues that counting the number of participants is a better measure than counting the frequency of events (Biggs 2018). Cho *et al.* proposes a new estimator to count the total number of participants in a dynamic crowd (Cho, Lim, and Jang 2022). Dijcke uses mobile device data to estimate community-level participation in mass protests (Van Dijcke and Wright 2021). While the literature has explored some statistical methods to measure the number of people participating in a protest, there is a general tendency to estimate the volume using methods that disregard the use of cartographies as a valid source.

The objective of this article is to elaborate a method to measure the number of people who participated in the October 2019 marches in Chile using images from the events as secondary sources, thus estimating the number of participants in a protest based on a model using density grids according to the utilization of public space. Typically in Chile, the official count of demonstrators is defined by the police and tends to be more conservative than the figures reported by the press and the social movements themselves. The police's version is often viewed with skepticism, since the police are also responsible for suppressing episodes of protest. Therefore, providing a method that does not stem from the police allows for a more neutral and open measurement. The massiveness is not the focus of the critique in this article; rather, the goal is to progress toward a method for precisely measuring how many people can actually fit into a fully occupied mass event, because the event being measured in this case was truly filled with people protesting against various aspects of Chilean society. Through this simplified estimation model, the aim is to quantify the participatory impact of these massive measurements, considering their value as democratic and valid expressions for political development. Thus, the method here shared is replicable in other urban contexts as it is based on anthropometric measures and a spatial grid. In a crisis-stricken political system, it is relevant to understand the magnitude of citizen participation in these demonstrations, as they had a direct impact on the change in the Chilean political system. The social outbreak in Chile led to the calling of a plebiscite to change the social contract established in the country's Constitution. This historic event highlighted the need to listen to and give voice to the demands of Chilean society, as well as to recognize and address the deep-rooted inequalities that have persisted for decades. In this way, the present article provides a replicable methodology to determine how many voices initiated these profound changes.

Materials and methods

The method to be used for this estimation is based on a scalar approximation from anthropometric measurements based on measurements taken at different moments of a protest in Santiago de Chile, in order to determine maximum and minimum dimensions according to the density of the marches. Santiago de Chile, a metropolis exceeding 9 million inhabitants, is a global city at the core of South America and the country's capital. Established in 1541 and situated in the Mapocho River valley, it's the political, economic, and cultural epicenter of Chile. The urban structure of Santiago is demarcated into three principal areas: the historical center, which is the core of civic, cultural, and religious landmarks; the densely populated southern zone, housing the majority of the workers; and the periphery, known for new areas mostly oriented to condos, infrastructures and massive shopping malls. This study focuses near the historical center, in a square usually known as Plaza Italia, but also known as Plaza Baquedano (its actually official name) or more recently Plaza Dignidad (Marked in Figure 1).

This study involves measuring the space people occupy during protests, as an anthropometric reference, in order to incorporate these bodies at different moments of density during a march

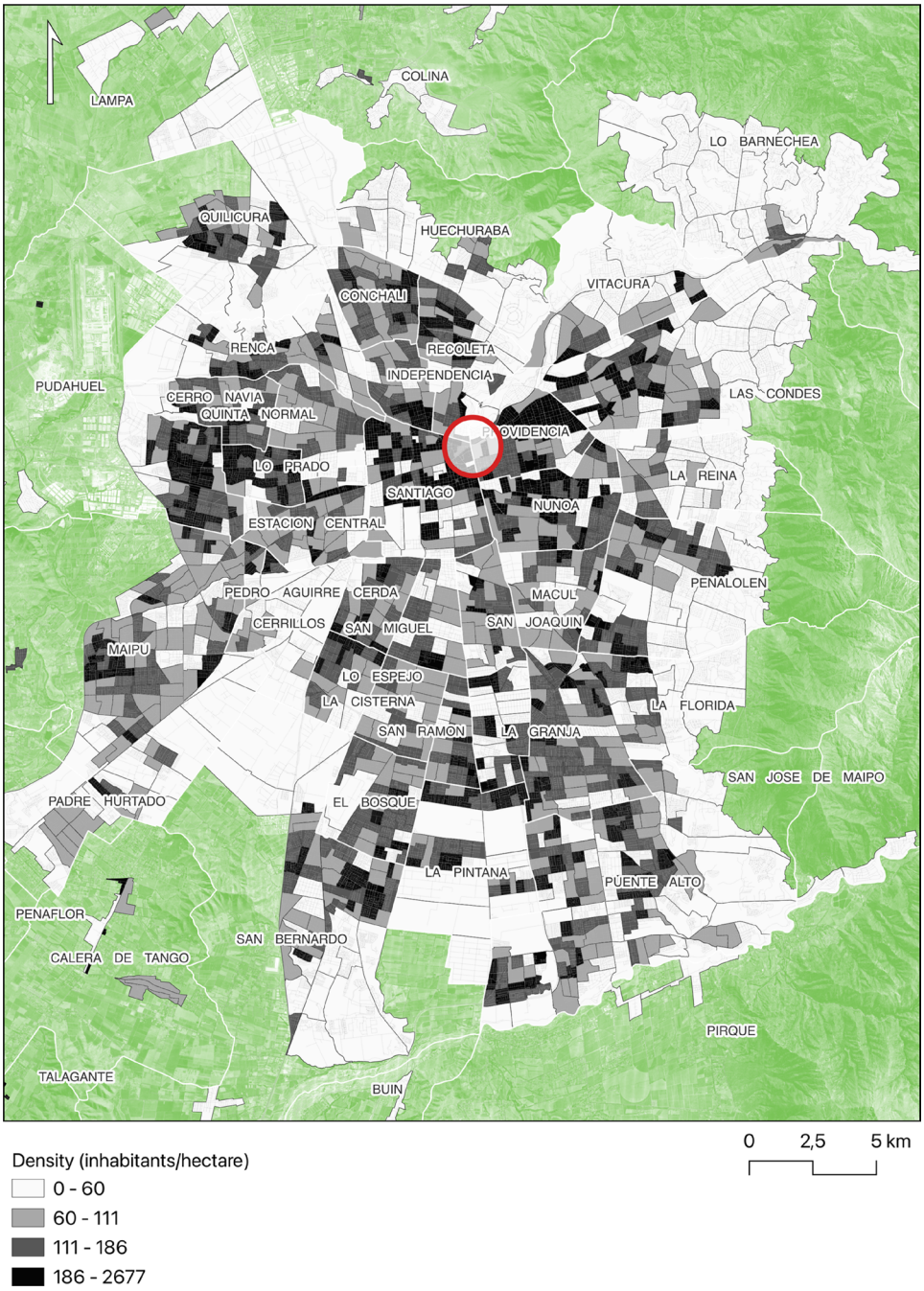

Figure 1. Map of the Metropolitana Area of Santiago, marking the location of Plaza Italia.

into a 9 by 9 m reference grid in order to measure how many people per square meter fit into the grid. This will then allow us to calculate the number of attendees according to the density of each spatial section of the protest under observation. This technique generates a grid of people per square meter based on estimated density levels using aerial images. First, to explain the methodology, two reference images are presented that illustrate the calculation used. The first image (Figure 2) corresponds to a record of different stages of a protest on the main street of Santiago, Chile, Avenida Libertador Bernardo O'Higgins. In this image, different stages of

Figure 2. Record of different moments of density within a protest. *Source:* authors.

the protest can be observed, which indicate different densities. It is also important to differentiate between measurements taken when the protest is in motion and when it is not.

From this record, a transformation of the observations is made into a planimetric matrix that allows identifying the protest density according to its different sections (Figure 3). The explained planimetric matrix consists of nine squares of 1×1 m each, on which are inserted patterns of occupation of space observed and measured during the period of observation of the protest. The selection of a 9×9 m grid for measuring densities during protests is a considered decision. Primarily, it aligns with the typical width of a three-lane street in major avenues, which is standardized at 9 m according to Neufert and Neufert (2012). This measurement is further supported by the recent imperative for social distancing due to the COVID-19 pandemic. Research by Echeverría-Huarte *et al.* (2021) underscores the importance of maintaining spatial minimums for distancing. Studies have shown that to keep a safe interpersonal distance of at least 1 m, crowd density must not surpass 0.16 individuals per square meter—around 6 m^2 per person. Incorporating these insights, the 9×9 m grid is adept for analyzing protest spaces, ensuring that

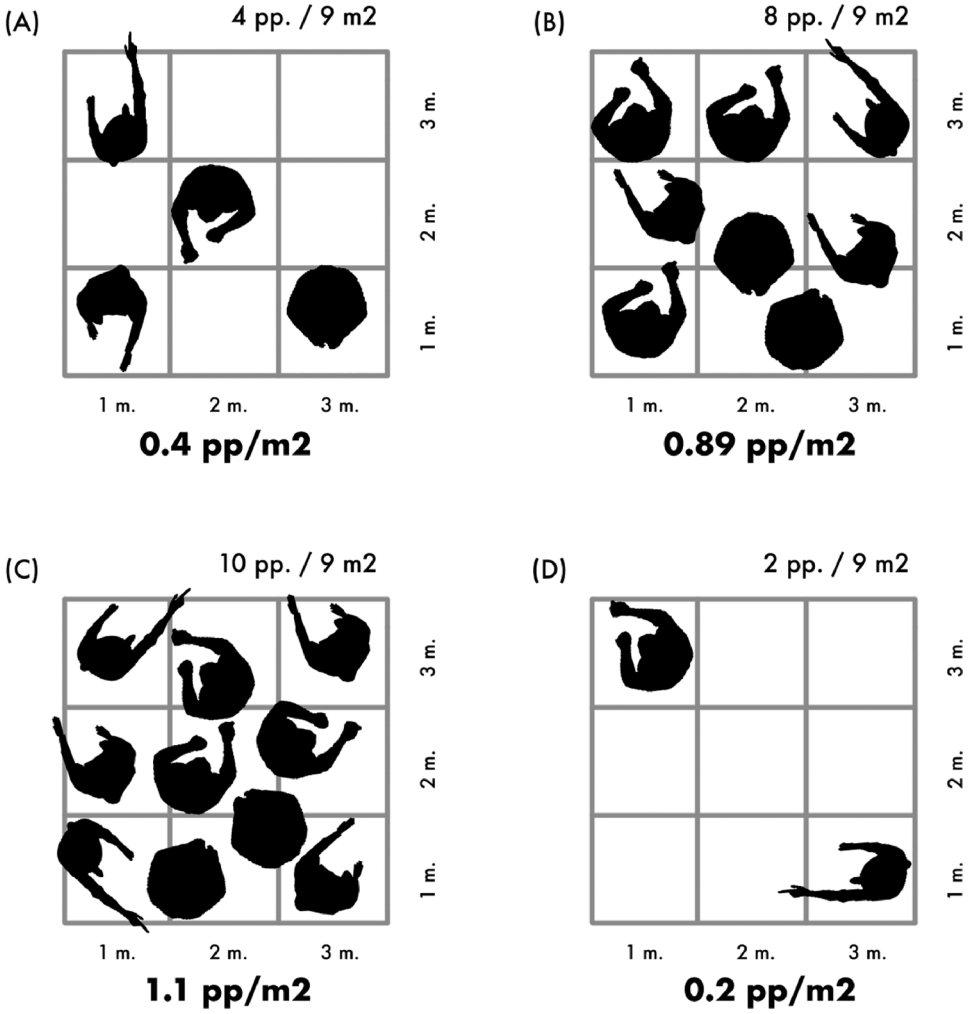

Figure 3. Density matrix according to the organization of people in a reference area of 9 m^2. *Source:* authors.

social distancing guidelines can be respected. This dimension is large enough to capture the collective dynamics of protests, allowing for the analysis of both group and individual spacing behaviors, yet it remains sufficiently detailed to discern individual distancing practices. Amid the pandemic, such a grid is invaluable for urban planning and public health monitoring, striking a balance between allowing the natural flow of a protest and adhering to health safety measures. This grid size provides a scientifically sound approach to estimate crowd density, tailored to the dual needs of observing social movements and meeting the health protocols brought forth by the pandemic. To define the density levels a density formula is used. The density (D) is calculated by dividing the number of people (P) by the area (A) they occupy:

$$D = \frac{P}{A}$$

Where:
D is the density in people per square meter (pp/m^2),
P is the number of people,
A is the area in square meters (m^2).

For the case of a static protest (people standing still), the density can be higher because individuals are not moving and can stand closer together. However, when a protest is in motion, people require more space to walk, and thus the density generally decreases.

Given the four types of density estimations provided in the matrix:

Type A - Very High Density (Static): For a density of 0.4 pp/m^2, it implies that there are 0.4 people for every square meter of space. Since the grid is 9 m^2, the total number of people in Type A would be 0.4×9.

Type B - High Density (In Motion): A density of 0.89 pp/m^2 suggests a higher density applicable when people are moving, as there is still a considerable number of individuals within a square meter. The total number of people in Type B would be 0.89×9.

Type C - Medium Density (Static): A density of 1.1 pp/m^2 would be the upper limit for a static crowd, beyond which it may become physically uncomfortable or unfeasible to accommodate more people. Thus, for Type C, the total number of people would be 1.1×9.

Type D - Low Density (In Motion): A lower density of 0.2 pp/m^2 allows for much greater movement and space between individuals, which is often seen when a protest is actively moving. For Type D, the total number of people would be 0.2×9.

Using these estimations, we can determine the expected number of people for each type of density within a 9 m^2 area of the protest. Thus, to inform this method from its practical application, the area of the protest would be divided into 9 m^2 grids, and each grid would be classified into one of these density types based on observation. The number of people per grid type would be calculated using the corresponding formula and then summed to estimate the total number of participants.

It's crucial to note that these estimations assume uniform distribution of people within each grid, which may not always be the case in real scenarios. Thus, the estimated numbers should be considered as approximations.

From this observation, land occupation is classified according to four types of density, from very high occupation to low occupation. In this case, the matrix provided four density estimations: (A) for a density of 0.4 people per square meter, (B) for a density of 0.89 people per square meter, (C) for a density of 1.1 people per square meter, and (D) for a density of 0.2 people per square meter. In concrete terms, it seems unfeasible for a protest to have a density higher than 1.1 people per square meter solely based on the capacity of people within this space. However, this changes when the protest is in motion, where the density cannot be 1.1 people per square meter. In the case of higher density, one could consider 0.89 people per square meter when the march is in motion.

This measurement system must then evaluate the volume of participation in the march per urban section, which can be recorded from photographs, taking the landmarks or surrounding buildings of the protest as reference lines for cutting the areas according to the appreciated density of each of them. It is important to mention a limitation of the tool selected, because aerial images can suffer from perspective distortion, especially when the images are captured at oblique angles or from different altitudes. This distortion can affect the accuracy of measurements, particularly when determining the boundaries of the protest area or identifying reference lines for cutting. Furthermore, in crowded urban environments, buildings, structures, trees, or other objects may obstruct the view of the protest area in aerial images. Thus, for this article we are aware of these limitations in order to provide an estimation, instead of an exact measurement of the number of people participating in the evet. By having a clear understanding of the surface area of the public space covered by the protest, GIS tools can be used to measure the square meters on which the estimation of protest attendees will be based. In this case, Google Earth Pro was used. The choice of this software is to ensure that this methodology is replicable for other cities, so that the only thing that changes in the application method is the photographic input of the protest records to be estimated. Google Earth Pro has a measurement tool with a virtual ruler that allows the creation of projected polygons on the ground, indicating the surface area in square meters to be measured. With this data, the estimation of attendees is calculated based on the following formula:

$$y = (As_1) + (Bs_2) + (Cs_3) + (Ds_4)$$

Where and is the total estimate of attendees, A is 0.4 p/m^2, B is 0.89 p/m^2, C is 1.1 p/m^2, D is 0.2 p/m^2, and sx are the sections corresponding to each density level in the sample.

Results

To generate the results, a spatial survey of the area of the October 25, 2019 march, which has been called the largest march in the history of Chile, is conducted. In this case, it is very difficult to obtain a single photograph that captures where the march began and where it ended. In fact, this march not only takes place in Santiago but also simultaneously in most cities across Chile. For the testing of this measurement model, it is only applied to the case of Santiago. That is why aerial footage from a helicopter flyover of the area is used to recognize its boundaries and estimate the densities. Figure 4 displays a sequence of images extracted from the helicopter footage for segmentation analysis, which aims to identify the boundaries of the social demonstration in the streets. This serves to contextualize the measurements subsequently presented in Figure 5.

Thus, serving illustratively for readers who did not partake in the event, the aerial images in Figure 3 aim to demonstrate the massiveness and extent of the protest. Figure 4 then transforms this aerial evidence into clear boundaries taken on the ground on the day of the protest,

Figure 4. Aerial recording of the largest march in history. *Source:* TVN, 2019 (24 Horas - TVN Chile, dir 2019).

Figure 5. Type of density of public space occupation according to categories. Red = very high density (1.1 p/m^2); green = high density (0.89 p/m^2); blue = medium density (0.4 p/m^2); and yellow = low density (0.2 p/m^2). *Source:* Google Earth Pro map, graph elaboration by the authors.

Table 1. Summary of measurement results based on symbols present in Figure 4.

Density	Factor	Area (sqm)	Sub-total
Very high	1.1	183,177	201,495
High	0.89	63,190	56,239
Medium	0.4	174,912	69,965
Low	0.2	132,338	26,468
Total			354,167

Source: authors.

according to the densities recorded following the patterns presented in Figure 2. A high density is observed in the area between Condell and Lastarria streets, from east to west, while a high density is also observed in the north-south section, with Avenida Andrés Bello marking the northern limit of the Mapocho River and Calle De Las Claras marking the southern limit near Bustamante Park, and Calle Viña del Mar marking the southern limit near Vicuña Mackena. After this first section of high density, there are sections of lower density. A moderate density is observed toward the west, through Parque Forestal. There is also a lower density from Calle Viña del Mar and De Las Claras, running parallel to Vicuña Mackenna and Parque Bustamante until approximately Calle Rancagua. A medium-high density is also observed from Lastarria street to San Antonio street. Finally, a medium and low density is observed between Condell and Eleodoro Yañez streets toward the east from Plaza Italia or Plaza Dignidad. The same low density can be seen from Pio Nono street to the entrance of Cerro San Cristóbal. This differentiation of densities is reflected in Figure 4.

As indicated in Table 1, the estimation based on the factors determines that the number of attendees at the largest march in Chile in this area of Greater Santiago is 354,167 people. Some media outlets indicated that in Santiago alone, this march reached over 1 million people, with the number of attendees to this historic event reaching one and a half million (BBC News Mundo 2019; El Desconcierto 2019; DW 2019). However, this figure is imprecise regarding this method of measurement.

Discussion

The findings of this study shed light on the estimation of participant numbers in large-scale protests based on a scalar approximation using anthropometric measurements and aerial images. By applying this methodology to the case of the October 2019 marches in Chile, we were able to estimate the number of attendees in the Greater Santiago area, which serves as a significant contribution to understanding the scale and impact of these historic protests.

The results indicate that the estimated number of attendees in the defined area of the October 25, 2019 march in Greater Santiago was approximately 354,167 people. It is important to note that this estimation is specific to the defined area and should not be extrapolated to represent the total number of participants across all cities in Chile or the entirety of the protests. Media reports suggesting higher numbers, such as over 1 million people in Santiago alone or 1.5 million nationwide, are not aligned with the estimates provided by this measurement model.

These results provide greater comparative precision to the effects on the public space of a society in the process of depoliticization. Although the theoretical framework of the post-political already accounts for this condition in neoliberal societies like Chile, the measurement strategy would allow for greater precision in a historical measurement of the rise of street occupations to challenge the prevailing political models. Indeed, the method presented here does not allow for a redefinition of the post-political but could potentially quantify its effects on public space. Regarding the case of Chile, a more detailed political analysis is still challenging to develop since the effects of the social outbreak remain unpredictable, and only historical distance will allow for more complete reflections on its actual impact on the way politics is conducted in this nation.

The protests shattered the illusion of a depoliticized society by bringing to the forefront the deep-seated social inequalities, economic disparities, and political grievances that had been suppressed or neglected. The demands expressed during the protests transcended traditional party politics and articulated a collective voice against neoliberal policies, social inequality, and inadequate public services. This re-politicization of society showcased the enduring significance of political engagement and civic participation in addressing structural issues and shaping the country's future.

The measurement and estimation of participant numbers in the October 2019 marches played a pivotal role in highlighting the transformative power of collective action. The sheer size and visibility of the protests served as a powerful means of challenging the traditional political narrative of Chilean parties, drawing attention to the demands of the people, and exerting pressure on the political establishment to address their concerns. The protests showed capacity of collective action to disrupt the status quo, challenge entrenched power structures, and catalyze meaningful social and political change.

In conclusion, the October 2019 protests in Chile, as analyzed through the lens of participant estimation, serve as a testament to the power of collective action in redefining political landscapes. The protests marked a significant moment in Chile's history, demonstrating the ability of citizens to reclaim the political sphere, challenge systemic inequalities, and demand substantive change. As further research and analysis continue, it is crucial to recognize the enduring impact of these protests and their potential to shape the future trajectory of social and political dynamics not only in Chile but also in other democratic societies worldwide. The findings presented here serve to quantify how many people were required on the streets to produce this significant change.

Conclusions

This study presents a novel approach to estimating participant numbers in large-scale protests using anthropometric measurements and aerial images. The findings provide valuable insights into the October 2019 protests in Chile, but there are several limitations to consider and implications for further application.

First, it is important to acknowledge the limitations of the methodology used in this study. The scalar approximation based on anthropometric measurements and aerial images introduces inherent uncertainties and subjective approximations. The density levels assigned to different sections of the protest may not fully capture the complexity of crowd behavior. Additionally, the estimation is specific to the defined area and may not represent the entire scope of protests across different regions. These limitations should be taken into account when applying this methodology to estimate participant numbers in other protest contexts.

The study also raises new research questions that merit exploration in the field of measuring protests and urban studies. Future research could investigate alternative methods for estimating participant numbers, taking into account factors such as crowd dynamics, movement patterns, and spatial configurations. Furthermore, a deeper examination of the relationship between these findings and post-political frameworks in the context of protest movements could explore the evolving nature of political engagement and the role of collective action in challenging and reshaping urban landscapes. For example, measuring comparatively which type of causes gather higher number of supporters is possible to compare applying this method.

Building upon these results, further investigation can be applied to enhance our understanding of the dynamics and impacts of large-scale protests. For example, future studies could explore the relationship between protest participation and subsequent political and social outcomes, such as policy changes, public opinion shifts, or the mobilization of grassroots movements. This research could contribute valuable insights to the field of public policy and inform decision-making processes in response to societal demands.

The October 2019 protests in Chile provided a significant case study that challenged the notion of a depoliticized society and demonstrated the enduring significance of political engagement in shaping urban environments. The measurement and estimation of participant numbers served as a tangible manifestation of collective action and the transformative power of protests. The contribution of this article is to provide a tool to actually quantify the number of adherents to different causes in the public space.

Finally, the findings of this study have potential applications in public policy. The ability to estimate participant numbers in large-scale protests can inform decision-makers and policymakers about the scale and impact of social movements. Understanding the magnitude of public engagement allows for a more informed approach to addressing social issues, developing inclusive policies, and fostering meaningful dialogue between the government and citizens. This study's methodology and insights can be valuable in shaping public policy frameworks that aim to address societal concerns and promote participatory democracy.

Disclosure statement

No potential conflict of interest was reported by the author(s).

Funding

This work was supported by Agencia Nacional de Investigación y Desarrollo; Fondo Nacional de Desarrollo Científico y Tecnológico.

ORCID

Francisco Vergara-Perucich http://orcid.org/0000-0002-1930-4691

References

24 Horas - TVN Chile, dir. 2019. 25 de Octubre: El Día En Que Chile Tuvo La Marcha Más Grande de Su Historia | 24 Horas TVN Chile. https://www.youtube.com/watch?v=v3fMwEGtNYg. Accessed March 9, 2024.

Arias-Loyola, M. 2021. Evade neoliberalism's turnstiles! Lessons from the Chilean Estallido social. *Environment and Planning A: Economy and Space* 53 (4):599–606. doi: 10.1177/0308518X21997832.

Bagguley, P., and Y. Hussain. 2016. Riotous citizens: Ethnic conflict in multicultural Britain. Oxon: Routledge. https://www.routledge.com/Riotous-Citizens-Ethnic-Conflict-in-Multicultural-Britain/Bagguley-Hussain/p/book/9781138250017.

BBC News Mundo. 2019. "La marcha más grande de Chile": la histórica manifestación de más de un millón de personas que tomó las calles de Santiago. *BBC News Mundo*, October 25. https://www.bbc.com/mundo/noticias-america-latina-50190029.

Beveridge, R., and P. Koch. 2019. Depoliticization and urban politics: Moving beyond the "post-political" city. In *Comparing strategies of (de)politicisation in Europe*, ed. J. Buller, P. E. Dönmez, A. Standring, and M. Wood, 189–208. Cham: Springer International Publishing. doi: 10.1007/978-3-319-64236-9_8.

Biggs, M. 2018. Size matters: Quantifying protest by counting participants. *Sociological Methods & Research* 47 (3):351–383. doi: 10.1177/0049124116629166.

Cho, S., J. Lim, and W. Jang. 2022. How many people participated in candlelight protests? Counting the size of a dynamic crowd. *Journal of Applied Statistics* 49 (7):1890–1899. doi: 10.1080/02664763.2021.1871591.

Clauset, A. 2019. Measuring street protest events. Edited by Michael Funk. *Science* 366 (6464):440.3–440. doi: 10.1126/science.366.6464.440-c.

DW. 2019. Casi un millón se manifestaron en Santiago de Chile – DW – 26/10/2019. dw.com. Accessed October 26, 2019. https://www.dw.com/es/casi-un-mill%C3%B3n-de-personas-se-manifestaron-en-santiago-de-chile/a-50996232.

Echeverría-Huarte, I., A. Garcimartín, R. C. Hidalgo, C. Martín-Gómez, and I. Zuriguel. 2021. Estimating density limits for walking pedestrians keeping a safe interpersonal distancing. *Scientific Reports* 11 (1):1534. doi: 10.1038/s41598-020-79454-0.

El Desconcierto. 2019. 'Los históricos registros que dejó «La Marcha Más Grande de Chile»'. Desconcierto/Periodismo digital independiente. Accessed October 25, 2019. https://www.eldesconcierto.cl/nacional/2019/10/25/los-historicos-registros-que-dejo-la-marcha-mas-grande-de-chile.html.

Fuentes, C. 2019. *Erosión de La Democracia*. Santiago de Chile: Catalonia.

Legacy, C., N. Cook, D. Rogers, and K. Ruming. 2018. Planning the post-political city: Exploring public participation in the contemporary Australian city: Planning the post-political city. *Geographical Research* 56 (2):176–80. doi: 10.1111/1745-5871.12285.

Matamala, D. 2019. *La Ciudad de La Furia*. Santiago de Chile: Catalonia.

Mayol, A. 2019. *Big Bang: Estallido social 2019*. Santiago de Chile: Catalonia.

McPhail, C., and J. McCarthy. 2004. Who counts and how: Estimating the size of protests. *Contexts* 3 (3):12–8. doi: 10.1525/ctx.2004.3.3.12.

Neufert, E., and P. Neufert. 2012. *Architects' data*. 4th ed. Chichester: Wiley-Blackwell.

Pritchard, David, and Francis Pakes, eds. 2014. *Riot, unrest and protest on the global stage*. London: Palgrave Macmillan UK. doi: 10.1007/978-1-137-30553-4.

Schussman, A., and S. A. Soule. 2005. Process and protest: Accounting for individual protest participation. *Social Forces* 84 (2):1083–108. doi: 10.1353/sof.2006.0034.

Swyngedouw, E. 2009. The antinomies of the postpolitical city: In search of a democratic politics of environmental production. *International Journal of Urban and Regional Research* 33 (3):601–20. doi: 10.1111/j.1468-2427.2009.00859.x.

Swyngedouw, E. 2011. *Designing the post-political city and the insurgent polis*. London: Bedford Press.

Sonin, K., Van Dijcke, D., and A. L. Wright. 2021. Isolation and Insurrection: How Partisanship and Political Geography Fueled January 6, 2021. *SSRN Electronic Journal* 13. doi: 10.2139/ssrn.3776854.

Vergara-Perucich, J. F. 2019. Actos de Disenso Como Urbanismo Democratizador: El Espacio Político En Santiago de Chile. *Urbe. Revista Brasileira de Gestão Urbana* 11 (0):1–12. doi: 10.1590/2175-3369.011.001.ao01.

Woods, M. 2022. *On the Chilean social explosion. Routledge studies in radical history and politics*. Abingdon: Routledge.