The new town square: Twitter discourses about balconies during the 2020 lockdown in Spain

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ABSTRACT

The COVID-19 pandemic and lockdown in Spain during Spring 2020 resulted in a ban on most uses of public space, producing a social redefinition of not only public spaces, but also private spaces such as homes. This paper examines the discourses related to balconies that appeared at this time on Twitter (X), an intermediate micro-space and hybrid between the public and private. The study uses data from tweets posted in Spain during the strictest phase of the lockdown (from 15 March to 1 May 2020). Based on a descriptive analytical approach – both quantitative and textual – the study applies text content analysis and natural language processing to identify and analyse the main topics of conversation related to the use of balconies. The study brought to light two primary and complementary results. Firstly, the balcony during the pandemic became a revitalized space in an exceptional situation, partially adapting to the most common practices characteristic of public space and thus reaffirming the importance of the existence of public spaces for citizen encounters. Secondly, the various uses of balconies received different types of attention and generated stronger or weaker interactions on social networks, demonstrating the complexity and diversity of relationships with public spaces.

1. Introduction

The lockdown decreed in Spain in March 2020 as a way to contain the pandemic caused by COVID-19 practically eliminated all the uses of public space in the country, with the exception of those related to the movement of individuals and vehicles for activities deemed essential (Royal Decree-Law 463/2020). Daily mobility was limited due to the risk of transmitting the virus (Iacus et al., 2020), as was the quintessential setting for social relationships and rendezvous: the public space (Delgado, 1999). After China, Italy and Spain were the first countries to enact strict lockdowns in Spring 2020. In this uncharted and strongly regulated context, two new spaces took on particular significance: one physical (the balconies and terraces of residences) and the other virtual (social networks as intangible town squares).

While society held its breath as the illness evolved, producing an endless stream of bad news, ingenious new practices performed on balconies became a source of increasing media coverage during the lockdown. These actions made good fodder for positive stories that were eye-catching and upbeat at a time when light-hearted entertainment was sorely needed. Although the media focus diminished once mobility was restored, academic interest in this phenomenon has continued, due to

the profound resignification of daily spaces that it represented. The prohibition against going outside led to a rediscovery of this microspace (Emekçi, 2021) and a proliferation of its uses.

The abrupt interruption in pre-pandemic life was a collective experience, a global multidimensional health, social, economic, political and personal crisis. Recent studies of the pandemic have analysed changes in phenomena related to public space like residential mobility (Duque-Calvache et al., 2021), daily practices (Del Campo Tejedor, 2021) and emotions (Bericat, 2022). This paper adds to the existing literature by connecting the disappearance of the normal public space and how it was replaced by two different, but interconnected practices.

With physical interactions limited, social networks provided a way to maintain connections with friends and family members, continue schooling and work and find sources of entertainment and information, and there was a corresponding sharp increase in their use (Mesa-Pedrazas et al., 2021). At the same time, more than ever they provided a place to express emotions and to share the experience of lockdown and daily life in quarantine, and in this context, balconies took centre stage in Spain, generating a great deal of media and research attention (Galloso Camacho, 2021).

Other papers have explored the new uses of balconies during the

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exceptional period of the COVID-19 pandemic using research techniques such as ethnography, visual analysis and architectural analysis, as well as theoretical considerations. All these approaches were limited by the lockdown situation, which reduced the scope and created a fixed point of view for the observer, as fieldwork was nearly impossible. The main contribution of this article is a real-time, nationwide, quantitative and qualitative approach to the uses of – and feelings about – balconies and their renewed role in everyday experiences. Social media may not accurately represent all social discourses in the way of a designed and programmed survey, but social media posts were gathering spontaneous reactions and interactions in a way that no survey could.

This paper aims to answer three research questions about these new communicative uses of balconies and their connection with the uses of public spaces, via an analysis of publications about them on a popular social network, Twitter (now X): 1) Did balconies replace the public space in Spain during the lockdown period? 2) What were the main functions and uses of balconies? 3) Which uses of balconies created a stronger engagement and more interaction between social media users?

The results of this study show how the reconfiguration of spaces during the lockdown led to a definition of the balcony as a hybrid space between the private and public. Moreover, that hybrid nature was a key trigger behind the use of balconies as a surrogate public space, as it made it possible to differentiate between inside and outside and to have relationships with people outside the household. The need to connect between citizens broke ground, with spaces and practices being adapted to respond to the suppression of routine patterns in a state of emergency. This, in turn, reinforced the importance of shared public spaces in the daily lives of citizens and the need to better understand and care for them.

2. Conceptual framework

2.1. Social practices in the public space

The public space is a multidimensional concept, which can be broken down into two parts: the physical or material dimension and the social dimension, linked to the collective construction of the sense of urbanity (Mesa-Pedrazas & Duque-Calvache, 2021). In recent decades, it has become the established term used to talk about city spaces, especially in institutional discourses (Delgado, 1999).

Although the conceptualization of the public space is a source of debate and controversy, as shown by Di Masso Tarditti, Berroeta, and Vidal Moranta (2017), it is commonly defined as an everyday space, a place of exchange, expression and meeting, in short, an open space for general use by the population (Borja & Muxí, 2000; Nouri, Rafieian, & Ghasemi, 2019). These uses can be understood as social practices, the acts performed by people in relation to one another and the space itself (Ríos & Rojas, 2012). In this respect, the public space is best analysed using four classifications.

The first distinguishes between the practices of transit and staying put in the public space. The network of streets and squares in cities and towns act as a corridor between different daily activities, and the increase in the privatization of public space, combined with the hectic pace of daily life, has given rise to concepts like what Oosterling termed 'transit-space' (cited by Plate & Rommes, 2007). In opposition to this dynamic and fleeting use of the public space are daily practices that involve a more conscious, prolonged and static staying in place, such as sitting on benches or in outdoor cafés, going for walks, playing games and the like. Spanish legislation incorporates this classification, for example, in Order TMA/851/2021, which distinguishes between spaces of transit and places to stay put.

The same order associates areas related to staying put in the public space with commercial activities, the second way of classifying practices in space, whether measured by consumption (street markets, outdoor cafés) or not (strolling, playing games and other get-togethers). When consumption absorbs an excess portion of the public space, it can lead to privatization (Devereux & Littlefield, 2017; Elorrieta Sanz, García Martín, Cerdan Schwitzguébel, & Torres Delgado, 2021; Leclercq, Pojani, & Van Bueren, 2020), understood as the "individualized use of that space, and can produce changes in access, management or even legal ownership" (Mesa-Pedrazas & Duque-Calvache, 2022, p. 195).

The third classification of practices in the public space addresses individual versus collective forms of expression. In addition to being a place of personal relaxation and expression, it is also conducive to group expression and representation by members of society (Borja & Muxí, 2000). Although the first form that springs to mind is political (demonstrations, rallies and protests at its most extreme), the public space also provides a setting for community parties and leisure activities, at times becoming an extension of the home in the case of neighbourhood exchanges and celebrations (Berroeta, Vidal, & Di Masso Taditti, 2016).

Finally, Castells (2009) also associates the public space with education, exchange and the confrontation of ideas, a multimodal communication system. This perspective includes social networks – like Twitter – and is closely related to the construction of power and control. Indeed, this fourth classification of practices in the public space is connected to informal social control; as a space shared with others, it becomes a setting for mutual oversight. While it is understood as and linked to the concept of neighbourhood security and daily life (Wickes, Hipp, Sargeant, & Mazerolle, 2017), the exercise of this control intensifies in situations distinguished by fear and extraordinary social norms. During the lockdown, the use of public space was limited and penalized, both formally and informally, and its traditional uses became an exception (Gerez Gómez et al., 2020). For that reason, during the lockdown the balcony – as a space between the private (the home) and the public (the street) – became more than ever the 'eyes on the streets', the phrase coined by Jacobs (2011 [1961]) to describe the practice of neighbourhood control.

2.2. The balcony as a microspace between everyday public and private spaces

Balconies, terraces, rooftops and the like provide not only a way to see outside the home, but also to be seen by the outside world. Mediterranean urban residential architecture has historically been characterized by having spaces that open onto the street (Aydin & Sayar, 2020; Grigoriadou, 2020), but many modern blocks built in major cities in Spain did not include them in their designs in order to maximize interior space. Thus, there are some social differences in the availability of balconies. In the larger cities, the average size of dwellings is smaller, and in many cases, there are no balconies, only windows. Data from a 2020 social survey about the living habits and conditions of the Andalusian population during the state of alarm (Institute of Statistics and Cartography of Andalusia, 2020) shows that during lockdown, 38.9 % of housing in cities had a balcony, as opposed to 51.6 % for intermediate density areas and 49.3 % for rural areas. Balconies can be used as elements of communication, to project messages beyond the home (for example by displaying flags or other symbols) and to interact with neighbours. They comprise, in short, a space 'less public than the street, but less private than the home' (Morant Marco & Martín López, 2013, p.500). The question thus arises: how can a part of the home – the most intimate and private of spaces – be considered a public space? The answer requires looking at its uses, rather than at the legal ownership. This leads to the definition of collective spaces, characterized by their common use and by being the sites of shared experiences (Cerasi, 1990). This, in turn, mirrors Oldenburg (2001) of the 'third place', the settings for informal social life, which the author considers public, although some are usually privately owned: bars, cafés, clubs, amongst others. Other authors eschew ownership and the public-private binomial in their consideration of the common, daily use of space, speaking of hybrid spaces (Nissen, 2008) or pseudo-public spaces (Paköz, Sözer, & Doğan, 2022).

Another way of understanding balconies and their role views them as

intermediate spaces (Delgado Perera, 2015) that allow individuals to gather information produced by their contact with the outside, and gain access to a wide range of communication options (p. 29). Although the balcony belongs to a private sphere, the home, it extends into the public network, to the point of occasionally being regulated by municipal urban plans. Moreover, not only does its structure 'make the private public', but balconies provide information about home interiors. They reveal whether the house is inhabited, and make it possible to analyse the activities and interests of the members of the home by observing their belongings, decorations or the clothes hanging on the balcony line. This association of balcony uses with variables like social class or gender is not new and, in fact, has been documented in other eras and places, like the early years of modern Venice (Cowan, 2012).

In short, the balcony is a hybrid, intermediate space, halfway between the public and private. It is a liminal space for a liminal period, the lockdown, a transformative experience, to adopt Turner (1974), during which the usual norms do not apply. In the extraordinary context of the lockdown in Spain, the obligation that citizens limit their lives to the private sphere heightened the importance of the balcony and its outward-looking uses, compensating for the activities that were forced to retreat inwards.

2.3. The resignification of places during the pandemic

The prohibition to leave home for work, schooling, sports activities or leisure concentrated living spaces in the most proximate areas: residences and neighbourhoods. This withdrawal of activities into a smaller radius than usual required a wide range of adjustments, large and small, to both the environments and the ways of engaging in practices (Mesa-Pedrazas et al., 2021). This, in turn, has sparked significant academic interest in learning about these new realities.

The specific case of housing has been studied from different perspectives, from an ethnographic approach to changes in domestic life that showed how residential deficiencies were aggravated in places like the favelas of Brazil (Parreiras, 2021), to how balconies became places of contact with the outside world (Ragavan, 2021), when they had been little-used and, in many cases, forgotten spaces before the pandemic (Khalil & Eissa, 2022). The pandemic also attracted interest from the viewpoint of architecture and interior design, resulting, for example in an analysis of the benefits and costs of having a home garden (Sofo & Sofo, 2020). Changes in the everyday use of different spaces were also widely studied from the perspective of urban design, which advocated a series of changes considered necessary to safely engage in urban activities (Shawket & El Khateeb, 2020), following other international empirical approaches to the use and perception of green zones (Ugolini et al., 2020) and some theoretical reflections on the role of public space in a post-COVID world (Kasinitz, 2020). Finally, in light of the lockdown being decreed in numerous countries, a variety of methodological works used Twitter posts as a source to study factors like interpersonal distance in urban life during the pandemic (Iranmanesh & Alpar Atun, 2021).

2.4. Social networks as virtual public spaces

The development of new information and knowledge technologies and the emergence of new means of communication based on Web 1.0 and Web 2.0, especially social networks, has been treated as a novel category of public space (Smith & Low, 2013). This constitutes a new layer in the debate around this concept in its social dimension that takes into consideration the exposure of privacy, intricately intertwined with socialization and the construction of personal and group identities (Sibilia, 2008). The growth of virtual communities and the composition of a digital society as a whole have helped to blur the limits between the public and private (Paköz et al., 2022), while at the same time dealing yet another blow to the time/space distanciation first identified in the late twentieth century by Giddens (1999).

Social networks have become particularly important in recent years

because they made it possible to overcome the control of physical spaces (Castells, 2012) implemented to contain the pandemic. Specifically, the social network Twitter has played a significant role in some of the most influential civil and social movements of recent years, to the point that they are commonly referred to using the corresponding hashtag symbol, a Twitter tool used to link topics, such as in the cases of #BlackLivesMatter and #MeToo (Bouvier & Rosenbaum, 2020). Because of the close relationship between Twitter and public opinion, its proliferation during the lockdown and the ability to access the posts on the network, the tool provides an excellent source of data, forming part of an updated public sphere, to use the classic term coined by Habermas (1974). Twitter was an accessible tool that could be assimilated into the social dimension of public space, fostering academic interest in the social media conversation around COVID-19. A glance at the literature reveals that a vast number of studies have been published using social networks both as a source of data and as a subject of study. In fact, the proliferation of studies has furthered the publication of many systematic and scoping reviews on the topic that try to summarize the amount of information produced (Gabarron, Oyeyemi, & Wynn, 2021; Goldsmith et al., 2022; Joseph et al., 2022). Particular attention has focused on the use of social media in general, highlighting the prominence of the COVID-19 conversation on Twitter (Goldsmith et al., 2022; Tsao et al., 2021) and, especially, misinformation and fake news (Gabarron et al., 2021; Joseph et al., 2022).

Some scholars have argued that social networks in and of themselves do not comprise a truly inclusive public – or, by extension – democratic space (English, 2013). Other nuanced or critical approaches focus on the risk of disinformation or fake news, the polarization of opinions, the weakness of these platforms with regard to promoting deep dialogues and their ability to deform the perception of public opinion thanks to information bubbles where users only come into contact with points of view that reflect their own (Arce García, Cuervo Carabel, & Orviz Martínez, 2020). Despite these limitations, the information provided by analysing this social network is relevant in this context, and the conclusions reached provide a deeper understanding of the concept of real public spaces, which cannot be grasped without including these virtual spaces.

3. Methods and data source

The data source for the study is the Twitter social media and social networking service (now rebranded as X), which has been used in other relevant social science and urban studies, such as Iranmanesh and Alpar Atun (2021), Kim, Chae, and Park (2018) and Song et al. (2021). The data source at the time of writing had particular advantages, such as accessibility to and a record of a large sample of publications. Using the official Twitter Application Programming Interface (API) tool called Tweet Downloader, a collection of tweets posted between 15 March and 1 May 2020 – in other words, the period when the use of public space was most strictly regulated due to the health lockdown in Spain – were downloaded. To use this tool, a series of download filters must be entered; they are listed in Table 1.

The search chain used in the end was as follows:

```
start_time=2020-03-15T00:00:00Z&end_time=2020-05-
02T00:00:00Z&max_results=&query=("balcón" OR "balcon" OR "balcones")-is:
retweet -is:nullcast -has:cashtags place_country:ES lang:es
```

Applying these criteria, a total of 8593 tweets were obtained belonging to 4852 unique users. After the records containing corrupt information or promotional advertising of any type had been filtered, the 7268 tweets that comprise the sample used in the analysis were identified. The sample size was significantly affected by a decision to discard tweets without geolocation. This selection criterion was necessary to collect only those tweets published in Spain and to be able to spatially locate the users. Some authors have noticed a certain degree of

Table 1
Tweet search criteria.

Criterion	Tweets included in the sample	Specifications and notes
Geography	Posted in Spain	Only geolocated tweets were included
Language	Posted in Spanish (tweets posted in Spain's other official languages were excluded)	The spaCy natural language processing library was used, which has pre-trained models for Spanish (not available in the country's other official languages)
Originality	Original tweets	Retweets were excluded to prevent noise
User	Only accounts not labelled 'promoted ads' by Twitter and unprotected accounts	Some accounts that promoted products or services got through this filter, and these posts were filtered in the pre-analysis phase; the API only allows public tweets to be downloaded
Search term	Messages that contained the words 'balcón', 'balcones' or 'balcon' ('balcony'/'balconies' in English)	Misspellings that are very common in social network communication were included ('balcon')

Source: Authors.

sampling by the source company when performing specific searches (Morstatter & Liu, 2017), but there is no evidence of a reduction in the sample size here.

After an initial descriptive frequency analysis of these variables, the texts in the tweets were processed using natural language processing and machine learning in Python in the Jupyter Notebook application, mainly using the NLTK and spaCy tools. Firstly, the texts were pre-processed, eliminating irrelevant words, punctuation symbols and emojis. Then TF-IDF vectorization was performed on the pre-processed text to extract the numeric characteristics of the text data, the product of the frequency of a particular term in a document (TF) and the inverse document frequency (IDF, which measures the importance of that word or term in a document compared with other documents). This technique was used to construct a matrix that was able to score and rank the words in each tweet by weight and calculate the correlation between the polarity of the documents and the scores. Then, a non-negative matrix factorization (NMF) was applied, a decompositional, non-probabilistic algorithm used to reduce the dimensionality of the data and, thus, model and analyse the topics. A content analysis of the tweets was conducted, making it possible to examine in more detail the uses of balconies mentioned in the posts, while analysing them together with the forms of interaction (mentions, replies, likes, retweets, hashtags, quotes) and multimedia content on Twitter (photographs, videos, links) (Fig. 1).

4. Results

4.1. The word of the day: balconies are everywhere in Spring 2020

> My hobby these days is looking out from my balcony
> (15/03/2020, Valencia)

> Nothing else to do but look over the balcony or out the window
> (15/03/2020, Malaga)

The results of a comparison of the mentions of balconies made between 15 March and 1 May 2020 with those made a year earlier are overwhelming: the number of such tweets multiplied by 10 (under the same search criteria, 8593 total tweets were found in 2020 versus 823 posted in the analogous period in 2019). The same comparison was performed with the posts published after the strict restrictions on movement and the use of public space had been lifted, in both 2021 and 2022. The results demonstrate that Spring 2020 was, indeed, an extraordinary and one-off point in time: the number of posts mentioning balconies in Spring 2021 (1055 tweets) and 2022 (738 tweets) were substantially lower. This is an interesting and significant result, given

that the pandemic was still active during those two years, albeit with different impacts and measures. Therefore, the presence of COVID-19 alone was not the determining factor; rather the restriction on the possibility of going outside during the state of lockdown dramatically increased the importance of the balcony.

In the earliest days of the lockdown, the novelty of the restrictions on contact with the outside world caused posts about balconies to proliferate, as the activities performed in these spaces began to emerge. Later, the number of daily posts decreased to the standard post rate (higher on weekends), but with some significant peaks towards the end, for instance 28 April, the day when it was announced that, after six weeks of strict lockdown, movement related to practicing sport and going for walks would be allowed beginning on 2 May, with time slots allocated by age. For many people, this date marked the end of an exceptional period, and to some extent, they felt the need to 'say goodbye' to the balconies after the boom and public exaltation of the preceding weeks.

> That's why I want this all to end as soon as possible…so that balconies can go back to being what they are…just balconies
> Stay strong!!!
> (01/05/2020, Valladolid)

> Day 46. Very little applause and for just four minutes. Fewer and fewer people on balconies at 10 pm #ClapForOurCarers [#AplausoSanitario]
> (27/04/2020, Cadiz)

> When it's ok to go outside we'll see how many of you are still clapping on your balconies 😔😔😔
> (01/05/2020, Alicante)

For the spatial distribution of the tweets, although the map scale (by province) is large, the information it provides is significant, as seen in Fig. 2. Since the phenomenon of using balconies as new public spaces was primarily urban, the provinces with the country's largest cities were amongst those that had the most tweets per inhabitant. Madrid, Valencia, Seville, Malaga, Murcia, Valladolid and Zaragoza all contain large metropolitan areas. The provinces that are most notably missing from this list contain major cities (Barcelona, Bilbao and Vigo), but are areas where a large number of tweets are written in other languages (Catalan, Basque and Galician, respectively). Although the decision to Include only those tweets written in Spanish was made for technical reasons, this evidently limited the study, which is missing an important portion of mentions made about balconies in regions where other languages are spoken.

4.2. Thematic analysis: what was said from and about balconies?

Six topics were selected by the authors by means of an iterative process. Nineteen factorizations of the TF-IDF matrix were computed, selecting for each a number of topics from two to 20. The topics that showed the greatest coherence and were most frequently repeated in these 19 models were then identified. Finally, a model with six topics was chosen as the one that best reflected the most frequent topics, showing a greater descriptive capacity for a qualitative analysis. Then, the 15 terms that most often appeared in the messages, grouped in each of the six thematic categories, were identified, and the team worked together to name each of the topics according to the words most commonly included in them. Readers interested in the procedure can consult the tables containing the Spanish terms and frequencies in Appendix A.

Translating the results into English in a way that conveys the full meanings of the terms in the tweets was problematic, due to the use of colloquial expressions closely tied to the local context and the slang words characteristic of social networks – including communication via memes. Choosing a name for each thematic category was difficult in its
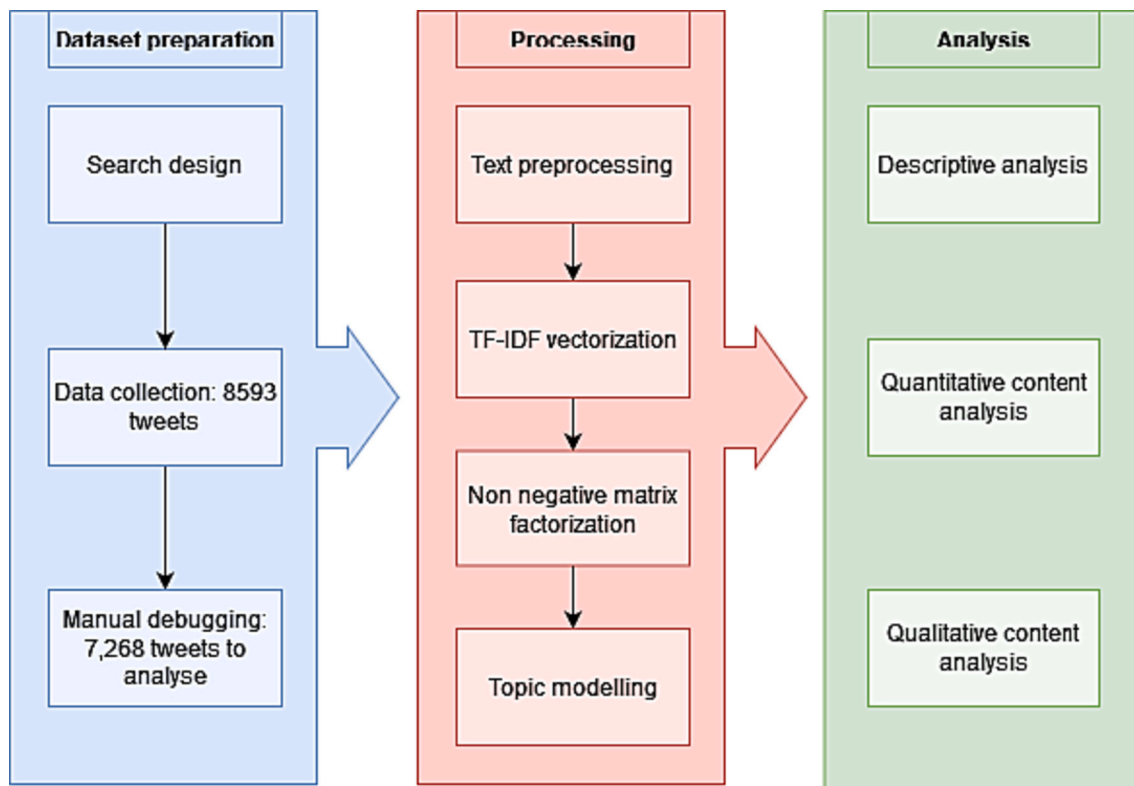
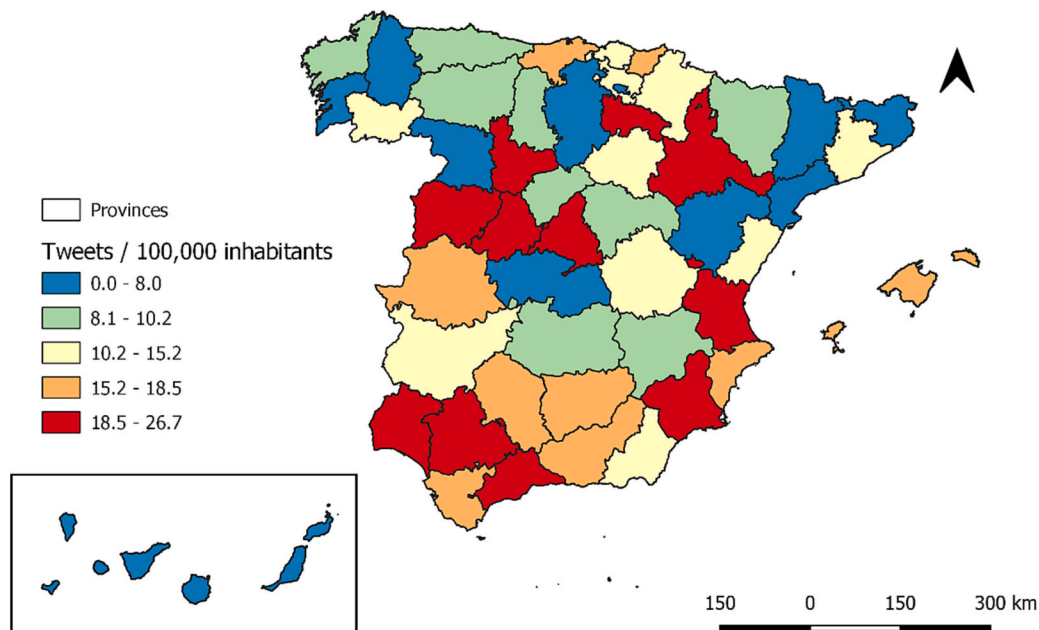**Fig. 1.** Workflow diagram.
Source: Authors.

Fig. 2. Density of tweets by province population.
Source: Authors, using data from the Twitter API Tweet Downloader tool, geographic reference data from the National Geographic Institute and census data (on 1 January 2020) from the National Statistics Institute.

own way, since although some of the word groups were quite coherent and easy to explain (like terms referring to paying tribute or social control), other categories were more vague (terms referring to communication or activities). Despite the statistical and quantitative nature of the applied analyses, naming each topic required a synthetic effort that was much more qualitative, and closely linked to language.

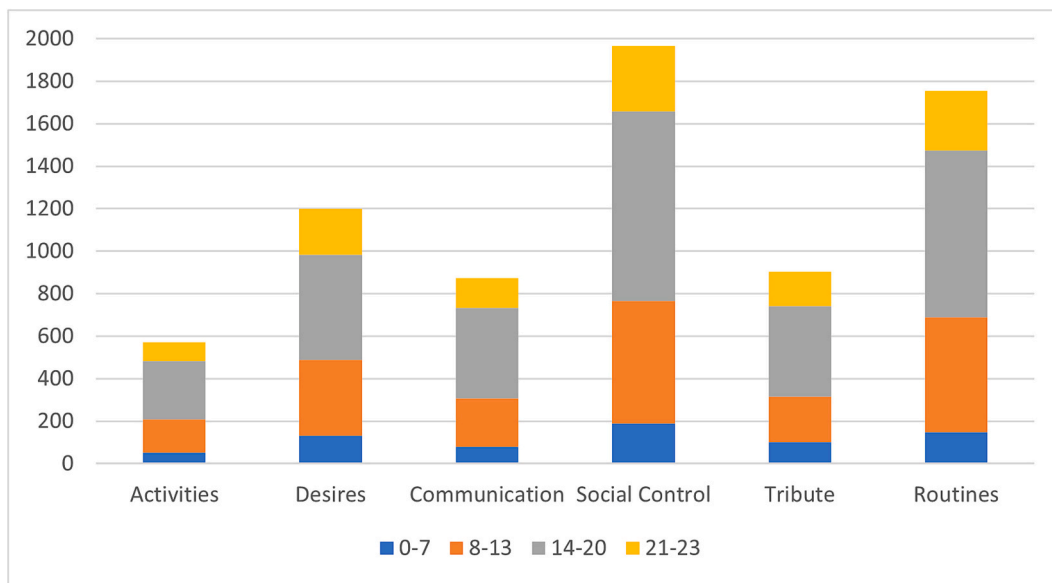Once the thematic classification was established, the main or dominant

Fig. 3. Number of tweets per topic and time distribution during the day.
Source: Authors, using data from the Twitter API Tweet Downloader tool.

topic in each tweet was identified, obtaining the frequency distribution presented in Fig. 3. The time distribution[1] of tweets per topic is also included. With the exception of 'Tribute', which clearly and logically increased at the time of day when the custom of applauding in recognition of health workers was established (between 8 and 10 p.m.), the rest of the topics have a similar distribution throughout the day.

The topics are very closely interrelated, but it is possible to make distinctions. Some are linked to uses of the balcony 'towards the outside', as a means of communication and socialization (Communication, Tribute, Activities, Social Control), while other topics are connected more to individual experiences and emotions (Routines and Desires), which corresponded to uses 'towards the inside' of the microspace within the home. In the frequency of tweets by dominant topic, two stood out (one in each of the topic groupings): Social Control and Routines.

The first topic block, communication, includes tweets about balcony activities done as part of a group or with the intention of being seen from outside, such as playing recorded or live music, hanging flags or signs, playing group games and the like. Some of these activities were adaptations of those formerly performed in public spaces before they disappeared.

> Communication via balcony is trendy now and it's my dream come true
>
> (28/03/2020, Barcelona)

> Good evening everybody!!! I hung the Spanish flag on my balcony as a tribute to everyone who's looking out for us. THANK YOU
> (15/03/2020, Valladolid)

> There are people on neighbouring balconies I've never seen before, not even outside. #CoronavirusSP [#CoronavirusESP]
> (15/03/2020, Lerida)

The preferred recipients for this type of communication were

neighbours, a figure that changed fundamentally during the lockdown. Unfamiliarity gave way to discovery and enthusiasm, at least in the early days. This rediscovery of the neighbourhood, and the ties created by proximity, transformed the experience of the surrounding space for many tweeters.

> My neighbour who puts a speaker out on his balcony and plays music for us after everybody claps for 15 minutes makes the best part of my day
>
> (29/03/2020, Balearic Islands)

Playing music, dancing and singing were common activities, carefully captured on video in the beginning. These improvised celebrations were seen as an escape valve, a way of making a complicated and extremely uncertain situation more tolerable. However, another social position clearly opposed these activities, viewing them as banal and even offensive in an extremely serious context.

> It's cocktail hour!!
> #StayAtHome [#QuedateEnCasa] have a beer on your house balcony! It's fun!!! You can talk to the neighbours and if your neighbours are like mine, enjoy, b/c we play music!!!
>
> (15/03/2020, Madrid)

> Almost 10,000 dead souls and there's music and parties on the balconies. You know what? Go to hell.
>
> (31/03/2020, Madrid)

Balconies did more than merely connect people; they also structured daily activity. These types of activities and emotions were grouped under the label 'Routines'. Many tweets talked about the different times of the day, the morning, afternoon and night, placing emphasis on the weather conditions:

> Day 6 of the quarantine, it's been 2 days since it was sunny and I can't go out onto my balcony, it's impossible live like this, fuck it
> (16/03/2020, Toledo)

> I go out onto my balcony. 1:07 AM. The cold of the night mixes with the long silence all around. That's normal at this time of day. But this is the situation 24 hours/day lately. And it's going to continue like this.

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[1] The irregular time intervals used correspond to the usual hourly distribution of routines in Spain. For a simple comparison of schedules between European countries: https://verne.elpais.com/verne/2016/03/18/articulo/1458309794_132930.html.

(18/03/2020, Madrid)

It's beautiful outside today and it's sunny and warm on the balcony and nothing like a cup of coffee while the streets are totally empty. Good morning [Egun on, Basque language] good people.☺
(15/03/2020, Guipuzcoa)

The last two examples also reveal a loneliness completely missing from the previous topic. Shifting the perspective from the overpopulated balconies to the world outside laid bare an emptiness and silence that were uncharacteristic of the city in earlier days.

The following thematic category, 'Tribute', refers to a custom that began in the early days of the lockdown. Social networks were used to send out a call to go to the balconies and clap for the country's health personnel. This applause was a recognition and form of symbolic compensation for workers who were exposing themselves to the virus, while subjected to workloads and tension levels that were much greater than usual. The success of the initiative, which was extensively followed and documented by the mass media, led the applause to consolidate and spread to other non-health professionals also seen as being exposed:

Last night a lot of us went out onto our balconies to clap for our health service professionals. It's a way of expressing how we feel, and how grateful we are to the people fighting for us
(15/03/2020, Valencia)

ATTENTION!!!! TIME CHANGE for the tribute to the healthcare workers, supermarket workers, cleaning staff and other professionals (*) So the kids can participate, it's been decided to change the balcony appearance to 8 p.m. Please pass it on!!!!!! EVERYTHING IS GOING TO BE ALRIGHT
(15/03/2020, Seville)

This activity continued throughout the lockdown period, although its meaning varied over time. On the one hand, the applause spread to new sectors like the police corps.[2] On the other, the initial consensus around the question began to break down, resulting in polarization and the politicization of the gesture, which became linked to specific political parties or choices. New forms of tribute (a minute of silence) and protest (banging on kitchen pans) appeared on the calendar and the daily agenda.

Most of you who've gone on your balconies to applaud or posted videos where you're super-proud of yourselves are the same ones who are later going to vote for a political party that cuts healthcare.
(15/03/2020, Almeria)

I haven't done it even one day, sorry. The people clapping voted for this social-communist traitor government. By the way yesterday after the applause, music and dancing on balconies at 9 o'clock nobody went out to do the minute of silence. I did. Nobody else. Disgusting.
(30/03/2020, Barcelona)

As noted above, balconies were the eyes on the street (Jacobs, 2011), and at a time when they were empty, this role was accentuated, which can be related positively to social order and safety or negatively to vigilance and social control (the title of the related thematic category). The tweets in this topic block dealt with the behaviour of people in the public space or in spaces visible from home balconies, but also commented on (and criticized) this vigilance. The most neutral messages contained reminders about the rules in force that were introduced for the lockdown.

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[2] The state security forces and corps seemed particularly in need of applause and recognition, even though their work was not received as positively – they were responsible for controlling compliance with the home lockdown – and their workload had not only not increased, but had actually decreased greatly.

You need to maintain 1-2 metres between people to avoid #COVID19 contagion
(20/04/2020, Madrid)

I can't see much activity from my balcony, just people with their dogs and little else
(18/03/2020, Valladolid)

Other users, however, had a more belligerent attitude, openly censuring certain behaviours or calling for formal sanctions, often accompanied by the threat of evidence in the form of a video or photo.

I see too many people from my balcony out on the streets with a loaf of bread. I think we can live for 15 days without bread, freeze it or some other alternative. I think bakeries should be closed and go buy just what is 'really' necessary, not going out every day to buy bread.
(15/03/2020, Valladolid)

This antisocial behaviour is shameful in a state of alarm like this. Can we film people smoking outside in groups to accuse them of breaking the lockdown? If so, we should film this behaviour from our balconies and share it.
(08/04/2020, Valencia)

The growing tension in many tweets is palpable, and they ended up creating a very complicated social climate in which anybody who found themselves out in public was labelled irresponsible or antisocial, without their circumstances or reasons for being outside being known. At times, they became the object of insults and threats and even had objects thrown at them.

Oh right so those of us who have dogs get clothes thrown at us, buckets of water or they scream insults at us from their balconies...
(26/04/2020, Vizcaya)

Studies on the reasons why people left their homes during this time in Spain (Mesa-Pedrazas et al., 2021) have shown that owners of pets – in this case dogs – who needed to go out on a regular basis comprised the group that most often went outside. As a result, they were seen as privileged, while at the same time envied and resented. This situation produced some interesting phenomena, such as borrowing pets to have a justification for going outside and a sudden, but fleeting, interest in adopting pets.

A woman yelled at me from her balcony, said I should lend her my dog tomorrow to take it for a walk.
We used to be the suckers with dogs, but we're the winners now, miss. Anyway, [the dog] will be thrilled.
(17/03/2020, Madrid)

Finally, opposite the group that was busy criticizing this supposedly improper behaviour stood those citizens who rejected the new control practices and unconstrained social sanctions. They coined a term to chide citizens who did not have the required authority or responsibility, 'balcony police', a term with an undeniably Foucauldian cast for the more social science-savvy Twitter users.

Idleness and weariness with the lockdown are turning some people into 'balcony police', who dedicate themselves to insulting people who are outside going about their business. Getting to my car to go to work is an extreme sport now...
(24/03/2020, Valencia)

Foucault would have enough for a book on forced lockdown and balcony police control ☺
(27/03/2020, Madrid)

The thematic category 'Activities' includes tweets primarily concerned with action; in fact, verbs are the most commonly used grammatical terms in them. The content of the action in these tweets was not

as important as the fact that something was being done, that the tweeter was taking an active role in the context of social paralysis and immobility. It is a transversal topic, with tweets appearing related to the topics 'Routines' and 'Communication'. Here, balconies replaced streets as the place where things happen and sightings by others occur, forcing some to care for their physical appearance even though they were still stuck at home.

> We're going to spend more time on our balcony than we used to in the streets
>
> (15/03/2020, Cadiz)

> For someone who usually works at home, suddenly it's 'Ok, I'm gonna get all dressed up to go out on my balcony, b/c that's where everyone's at now'
>
> (15/03/2020, Madrid)

However, other tweeters noted the ersatz, unsatisfactory character of these compensatory activities and the demand for a real opportunity to go outside and use the true public space.

> On Friday everything went so slooooooooowly and I couldn't even refuel myself on my balcony. (11/04/2020, Valencia)

> Well, guys, no. Let's not lose our heads. The quarantine TOTALLY sucks. You really gotta hate not going out, not living. Super cool that you've taken up macramé and you're dancing on your balcony, but being at home is living death.
>
> (21/03/2020, Guipuzcoa)

From the active category of what people were doing, the opposing topic, 'Desires', includes tweets about what people could not do and, therefore, missed, the desires and yearnings created by the pandemic and lockdown situation, like being near friends or engaging in certain activities. Even these dreams adapted to the circumstances; tweeters did not aspire to see their peers outside or in bars, but would have been content to live near them, to be able to share in their balcony leisure pastimes (apparently the elderly did not fulfil this need).

> If only my friends lived on my street this weekend we could throw a balcony party, but only old folks live on my street
>
> (20/03/2020, Malaga)

Tweeters who longed to throw parties on their balconies were, in turn, viewed jealously by those who did not even have that space. Some studies have suggested that the lockdown may have altered residential preferences regarding types and locations, producing a re-evaluation of less dense urban development and rural life in general (González-Leonardo, Rowe, & Fresolone-Caparrós, 2022). However, it is still too early to know the extent to which these changes have been incorporated into the collective imaginary related to housing.

> I really wish I lived in a flat now and I could do cool stuff on the balcony
>
> (16/03/2020, Toledo)

> What am I supposed to do, I don't have a balcony (
>
> (15/03/2020, Granada)

4.3. Interactions and engagement about balconies on social media

Analysing the additional information provided by the Twitter API, there are significant differences in the use of the content attached to the tweets (URLs, hashtags, photos, videos) and the forms of interaction (mentions, quotes, replies, retweets, likes) according to the dominant topic. In general, similar use trends can be identified with all the topics, as seen in Table 2, although the differences help to explain the type of content in each of them, and even the intent behind the post.

The topic 'Routines' stands out above the rest regarding all the tweet attachments, easily exceeding their use with the other topics. During the lockdown, people wanted – and probably needed – to share their day-to-day experiences with other people, either through links to different pages (usually posts on other social networks like Instagram), hashtags that made the tweet more visible or photos and videos that shared this new daily life with the outside world. Moreover, this topic, which contained content designed to be observed and not debated, placed less emphasis on interaction. Something similar occurred with the topic 'Desires', also a more personal matter, which notably used more attachments, reinforcing the idea of making the private public, which is associated with both the use of balconies and social networks during this period. Interestingly, this is also the topic with the second highest number of mentions, something usually used to share posts with a specific person (perhaps somebody whose company was desired at that time).

Although no topic particularly stands above the others with regard to the use of interactions, the differences between them are, nonetheless, significant. For example, the topic 'Social Control' does not only have the most mentions, but also the most replies, an indication that it was the subject of the most debate or, at least, exchange of ideas. Another topic closely linked to the use of interactions is 'Tribute'. Unsurprisingly, tweets about this topic also were retweeted at least one time, since many of these posts contained announcements about participating in group applause, the type of content particularly suited to being spread on Twitter.

Tweets related to the topic 'Communication', in turn, are notable for receiving at least one like, more than any other topic, which could be related to the posts containing political opinions and receiving support for them. This support is also reflected in the percentage of retweets, the third highest of the six topics. Finally, the topic 'Activities' follows a

Table 2
Topics by attachments/interactions (%).

| | Topic | | | | | |
	Activities	Desires	Communication	Social Control	Tribute	Routines
URLs	22.55	21.82	18.42	18.02	18.63	29.59
Hashtags	19.06	22.40	20.48	18.42	19.40	37.34
Photos	11.36	13.41	10.41	11.04	6.76	20.35
Videos	5.77	5.08	7.44	6.31	6.54	10.95
Any attachments	45.98	44.96	42.22	41.63	41.02	65.74
Mentions	41.26	37.14	30.32	41.37	32.37	30.73
Quotes	11.54	7.49	7.89	8.85	11.09	6.16
Replies	34.62	33.97	33.18	36.79	32.82	30.56
Retweets	20.63	24.65	26.32	21.88	27.72	32.04
Likes	62.94	63.95	67.96	67.53	66.52	67.79
Any interaction	87.24	83.93	85.70	87.68	88.36	80.22

Source: Authors, using data from the Twitter API Tweet Downloader tool.

different trend, having the least tweets that were retweeted or liked, although they are the second most likely to have an attachment. This pattern mirrors that of 'Routine', which, interestingly, has the same intent, to some degree: to share the daily acts that took place on or were related to balconies with other people.

5. Discussion

In response to the first research question posed at the beginning of the article, although some authors have defended balconies as the 'new public space' (Grigoriadou, 2020), our results instead found that balconies served as only partial substitutes for public space, and exclusively during the lockdown period. Analyses of the situation in 2021 and 2022 reveal a return to previous patterns of balcony usage, at least in their representation on social media.

Regarding the second research question related to the main functions and uses of balconies, we found evidence of different patterns of use. All the classic functions of public space discussed in the theoretical section – transit/staying put, commercial activities, individual and collective expression and communication (Berroeta et al., 2016; Borja & Muxí, 2000; Castells, 2009; Devereux & Littlefield, 2017; Elorrieta Sanz et al., 2021; Leclercq et al., 2020; Plate & Rommes, 2007) – have their equivalent in the topics detected in the analysis of the tweets (except, obviously, transit).

Some of the functions, especially those related to communication and socialization, were not recreated as they appeared in pre-pandemic studies (Morant Marco & Martín López, 2013). However, the impossibility of using public spaces multiplied the importance of balconies, as Aydin and Sayar (2020) observed in Turkey. Indeed, their findings correspond to a large extent with our own: during the pandemic, balconies were much more frequently used for eating and chatting, giving them the status of a place, in a true resignification of this space. This is seen in some of the tweets analysed, especially those that complain about the lack of these spaces or celebrate their rediscovery.

As with previous findings, the tweets in our study reflect how many activities normally carried out in public spaces were adapted to take place on balconies, such as exercising, which was 'rarely practiced at the balcony before lockdown' (Khalil & Eissa, 2022, p.243), commercial activity via e-commerce, listening to or playing music (Calvo & Bejarano, 2022) or expressing political views (Galloso Camacho, 2021). Although the last two of these activities did take place on balconies before the pandemic, their occurrence was much less frequent.

Communication and socialization functions (Borja & Muxí, 2000) were conditioned by the physical distance between the balconies (forcing people to shout or gesture to distant counterparts), as well as the lack of choice in relationships. Unable to choose one's neighbours, individuals were nonetheless forced to interact with them, in contrast to the wider freedom that conditions encounters in the public space (while unknown neighbours became friends (Calvo & Bejarano, 2022), this was sometimes only on a short-lived basis (Völker, 2023)). Collective activities on the balconies reflected an expression of group solidarity (Antchak, Gorchakova, & Rossetti, 2022), which was clearly reflected in important joint actions like the nightly community applause ('Tribute', in the analysis).

The third question concerns the use of balconies and their portrayal on social media. Prior findings identified a relationship between an increased use of balconies and a better appreciation of them, with an escalation in conversation about balconies on the Internet. Indeed, during the harshest phases of the pandemic, the Internet and social networks like Twitter were increasingly used to have 'a window of connection with the world, a common place, a meeting point that allows us to develop our social facet' (Martínez Martínez, 2020, p. 1) or, in other words, a public space. The case analysis presented in this paper found how, during lockdown, details were shared (in the form of links or audiovisual content) about activities usually shared physically with other people, especially those that are more routine. These findings are reinforced by other research, such as the study by Emekçi (2021), who also observed that an interest in balconies in Google searches was accompanied by high incidences of COVID-19.

Finally, the research conducted for this study has some shortcomings and limitations that deserve mention. Like every study based on the analysis of social networks, the main concern in this respect is user bias. Social network users are younger than the overall population, and their use has also been found to differ by gender, income and ethnicity (Pizzi, Pecourt, & Rius-Ulldemolins, 2023). Therefore, the scope of the results of this study is delimited by the Twitter-using community, the target population, and only provides a partial representation of the overall reality. In spite of these limitations, social networks are unquestionably relevant as a mirror held up to society, and as a spontaneous manifestation of social trends without any direct intervention on the part of scientists.

6. Conclusion

The COVID-19 pandemic provides a unique framework from which to observe the public space and its importance in the daily lives of citizens. Accordingly, the conclusions reached in this study help to explain human relationships with those spaces after the exceptional situation came to an end. The public space may be closed or its uses limited, but the functions that it performs in the lives of individuals cannot be repressed, because they are rooted in human nature and socialization. The first of these is communication and expression; people go outside, to streets and squares, to meet up with other people and connect with them. In a country where almost 5,000,000 people live alone at home, public space plays a key role in meeting the need for expressive contact. When people were not able to go out and enjoy themselves, disconnect from their work or demonstrate political discontent, balconies became a public microspace through their use 'towards the outside' (although ownership and access were, in fact, private, the connection with public spaces was used to produce this communicative flow).

This partial replacement was reinforced by another substitution of the communicative function of the space, in this case through social media. This was especially true for individuals whose homes did not have a balcony and who were limited to the virtual window offered by social networks and communication devices to engage in these practices. For many people, connecting, expressing themselves and discovering new daily practices were limited and mediated by technology. On the one hand, the fact that devices and networks made it possible to meet social and expressive needs without going outside was positive. On the other, virtual interaction has clear limitations, such as the creation of filter bubbles that limit contact in terms of diversity and the control exercised by large companies over this virtual space, which eludes public regulation and oversight. One of our future lines of research is to study the extent to which social media is replacing functions previously provided by public spaces, and the consequences of this social change for towns and cities.

This real-time study of new behaviours and perceptions of balconies during the COVID-19 lockdown reveals the immediate, urgent need for a surrogate public space, such as that experienced by the subjects of this study. In a matter of days, a previously underused microspace became the centre of social life and the preferred location to connect with others and perform certain activities after being evicted from the public sphere. Technology did not isolate citizens in their houses, forcing them to rely solely on virtual interactions; rather, social media was key for the promotion and even glorification of the newly discovered uses of balconies, as proven by the engagement and interaction data in this study. Human needs – and interaction in the public space is surely one of them – are as overriding as they are flexible, and will find their way through social, technological and spatial changes. That realization, however, has led us to recognize the importance of these practices, and to think of cities as places where human interaction not only survives, but thrives.

CRediT authorship contribution statement

Ángela Mesa-Pedrazas: Conceptualization, Methodology, Software, Data curation, Investigation, Writing- Original draft preparation, Writing- Reviewing and Editing; **Roberto Nogueras-Zondag**: Methodology, Software, Visualization, Formal analysis. **Ricardo Duque-Calvache**: Supervision, Validation, Writing- Original draft preparation, Writing- Reviewing and Editing, Funding acquisition.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Data availability

We have uploaded our analysis code to Github at: https://github.com/mesapedrazas/balcony_models

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Appendix A. Supplementary data

Supplementary data to this article can be found online at https://doi.org/10.1016/j.cities.2023.104595.

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