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MEASURING NEIGHBOURHOOD CHANGE IN PUBLIC SPACE: A Public Life Study in Poblenou, Barcelona

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ABSTRACT

This research aims to learn if gentrification processes and neighbourhood change might be manifested in observable patterns of public life. Through the systematic observation of pedestrian movement, staying behaviour and other indicators, the study provides a diagnostic of the current conditions in four sites in the Poblenou neighbourhood of Barcelona: the Rambla of Poblenou, Pere IV at Trullàs, Mar Bella beach, and the Superilla. The research team observed public life from 8:00-24:00 hrs during a week in June 2018. The study does not find clear evidence of gentrification processes but there are systematic differences across sites. The Rambla performs best overall, with the highest level of pedestrian traffic, afternoon staying behaviour and gender balance. Three of the four sites are gendered spaces, in which men have a disproportionate use of public space. Describing the current patterns of public life may inform urban design interventions and serve as a baseline for long-term studies that aim to measure neighbourhood change.

Keywords: gender, gentrification, superilla, public space

Topic: Espacio Público y proyecto urbano en la metrópolis contemporánea

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1. Introduction

Global cities are becoming victims of their own success. The high quality of life and attractive urban design of the world's most popular cities have set in motion economic and market forces that are pushing out local residents (Smith, 1996). This has created a fundamental paradox for architects, planners, city managers and urban designers: public investments in new public spaces may contribute to undesirable neighbourhood change including gentrification, displacement or excessive tourism (Anguelovski, Connolly, Masip, & Pearsall, 2018). This research project aims to learn if the neighbourhood change and gentrification processes are manifested in patterns of public life. Through the systematic observation of pedestrian movement, staying behaviour and other key indicators, this research aims to diagnose the current conditions of public life in the Poblenou neighbourhood of Barcelona (Catalonia, Spain). Describing the current patterns of public use may inform urban design interventions and serve as a baseline for long-term studies that aim to measure neighbourhood change.

The Poblenou neighbourhood in Barcelona provides a valuable case study to understand the effects of neighbourhood change. Like many post-industrial neighbourhoods located in globally attractive cities, Poblenou is in transition and transformation (Comissió d'Equipaments del Poblenou, 2016). The neighbourhood is home to the 22@ innovation district (Battaglia & Tremblay, 2012) which has attracted investment and new industries, but at the cost of the degradation of Cerdà's grid, and the evaporation of Barcelona's unique urban feel and design (Montaner, Álvarez, Muxí, & Casanovas, 2014). Tourism provides a solid economic base for the city, but amplifies the risk of losing accessible public space to commodified spaces of consumption for visitors (Burgen, 2017). The beach promenade is an attractive and well-designed urban amenity, but one that attracts temporary visitors who occupy vacation rentals at the expense of a dwindling housing stock for locals. New hotels and office buildings bring employment but take land that could be used for housing or other local amenities (O'Sullivan, 2017b).

The changes in Poblenou are not spontaneous effects of market forces, but rather a coordinated effort to revitalize the neighbourhood through modifications in zoning regulations (Marshall, 2004) and ambitious urban design projects – epitomized with the Superilla project (sometimes *Superblock* in English) (Rueda, 2016). Superilla's were conceptualized to limit vehicular traffic around the perimeter of nine blocks (three by three), thereby converting road space to public space for healthier community living (Rueda, 2019; Speranza, 2016) The Superilla project is an excellent example of how an innovative urban design intervention can lead to significant, yet contested impacts. The Superilla project has garnered significant international attention (Hu, 2016) and stirred local debates, with neighbours being both in favour and against the changes (O'Sullivan, 2017a). Yet to our knowledge, little empirical work has assessed the impact of the Superilla project on public life, although newer work on this topic is emerging (Speranza, 2018). This research hopes to provide specific data to inform this debate, but also to look beyond this contentious project and contextualize the use of public space in the Superilla with other more consolidated public spaces in the neighbourhood.

2. Objectives

This project aims to learn how observational methods may inform urban planners and designers when working in neighbourhoods undergoing important transformations, redesign and gentrification. The research consisted in observing public life in four sites in the Poblenou neighbourhood of Barcelona: the Rambla of Poblenou, Pere IV at Trullàs, Mar Bella beach, and the Superilla (Fig 1). The four chosen sites represent four distinct neighbourhood typologies found in Poblenou. The Rambla is a central artery within the older and historic village, or urban core, that has high residential densities and diverse commercial uses. The coastal promenade of Mar Bella is the primary tourist attraction in the neighbourhood, and is a distinguishing feature of Poblenou in comparison to other Barcelona neighbourhoods. The Pere IV site represents Poblenou's industrial past, currently in transition, and under high development pressure, but still without the residential density, commercial land uses, or pedestrian flows that are found in other parts of the neighbourhood. And finally, the Superilla is an innovative experiment in planning that is valuable to study to understand how people are responding to the design changes introduced (Speranza, 2018). The research project aims to learn how these four sites compare on a set of public life indicators: pedestrian traffic, staying behaviour and social cohesion activities, with particular attention to how the sites compare by gender. Finally, this research project aims to learn if the social cohesion indicators created by our research group are able to visualize the impact of gentrification processes in the use of public space.

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3. Hypothesis

The research hypothesized that we would find evidence of increased tourism at the Mar Bella and Rambla sites. At the start of the research, it was uncertain how the sites might compare in terms of pedestrian movement and staying behaviour. Furthermore, it was not clear how the Superilla site might compare to the other sites, and we were not aware of any previous systematic observation at these sites that could inform our hypothesis.

4. Methodology

This research was designed and implemented by a team of 17 Masters students and two faculty members at the School of Community and Regional Planning from the University of British Columbia. We worked in teams of four to five students during the first week of June 2018. We observed public life in 4-hour intervals, from 08:00 to 12:00; 12:00 to 16:00; 16:00 to 20:00 and 20:00 to 24:00 during weekdays. The study collected three types of data: (1) pedestrian traffic by gender and mobility type; (2) staying behaviour; and (3) social cohesion indicators. The first two data types followed methods proposed by the Gehl Institute and public life protocol (Gehl Institute, 2017; Gehl & Svarre, 2013). Our research team developed the social cohesion indicators (Anderson et al., 2018).

While our study is constrained by the limited times in which data was collected, it is worth stating that the person hours devoted to data collection was significant. The data collection team was comprised of 15 individuals collecting data over 16 hours for a total of 240 data-collection hours. This does not include the digitization of the data, graphical presentation or analysis. Therefore future public life studies should consider the large number of person-hours needed to collect and analyze this data. Some city governments are already aware of the huge undertaking associated with data collection and have organized themselves to undertake large public life studies with volunteers. For example the City of Vancouver undertook its Public Life study in collaboration with Gehl Architects and they deployed over 100 volunteers to collect data throughout the city (City of Vancouver, 2018). Our study is much smaller than the Vancouver Public Life Study, with only four sites rather than 100+, however we do analyze patterns later in the evening, and experimented with the social cohesion indicators, that aimed to understand the quality of the personal relationships between users.

Public life studies that count and measure pedestrian movements and behaviours are gaining increasing popularity around the world. This may be partially explained by the advance of new technologies, devices and sensors that allow for a greater level of sophistication in the measurement of city metabolism (Bakici, Almirall, & Wareham, 2013). However it is important to remember that we are not the first to use observational methods to count pedestrian movements in cities. In 1863, city managers in New York City meticulously counted visitor traffic into Central Park soon after its inauguration. The continuous and systematic observation allowed managers to quantify Central Park's roaring success with 4.23 million visitors in 1863, to over 10 million visits in 1873 (Barlow Rogers, 1987). Follow up studies in Central Park looked at patterns of use over time. This observational work illustrated that between 1973 and 1982, Central Park succeeded in improving its racial and ethnic diversity, but remained unbalanced in terms of gender, in which mostly men benefited from the open spaces and recreation areas (Barlow Rogers, 1987).

Assessing the success of a new urban design, infrastructure or facility is a common motivation for planners or citizens to adopt observational methods to study public life (Ryus et al., 2016). Observational work may also be deployed to study the effects of tactical urbanism interventions (Lydon & Garcia, 2015). For example, residents in Kingston, Ontario (Canada) partnered with researchers at Queen's university to study the impact of a temporary and tactical road closure of a downtown street in order to estimate how pedestrianization might be received by residents. They used a combination of observational methods, video footage and photographs to assess how the space changed according to four key dimensions of public space: accessibility, comfort, sociable and activities, as suggested by the Project for Public Spaces (Project for Public Space, n.d.). By combining counts of pedestrian traffic and sitting behaviour before and after the intervention, the research team found that the pop up pedestrianization made the place better for sitting, stopping, watching others and more exciting, fun and playful (Tulloch, 2016). This well-designed study provided convincing data pertaining to the likely impact of a potential pedestrianization or traffic calming program in the downtown.

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While out study in Poblenou, Barcelona is smaller in scope than the other studies mentioned, it is hoped that the data generated will be Year 1 of a long-term research project. We also provide an opportunity to compare the use, behaviours and patterns of public life of four sites which are under pressure to change. Lastly, it is interesting to compare how the innovative Superilla site compares to older and more consolidated public spaces. We collect data on pedestrian traffic, staying behaviour and social cohesion indicators.

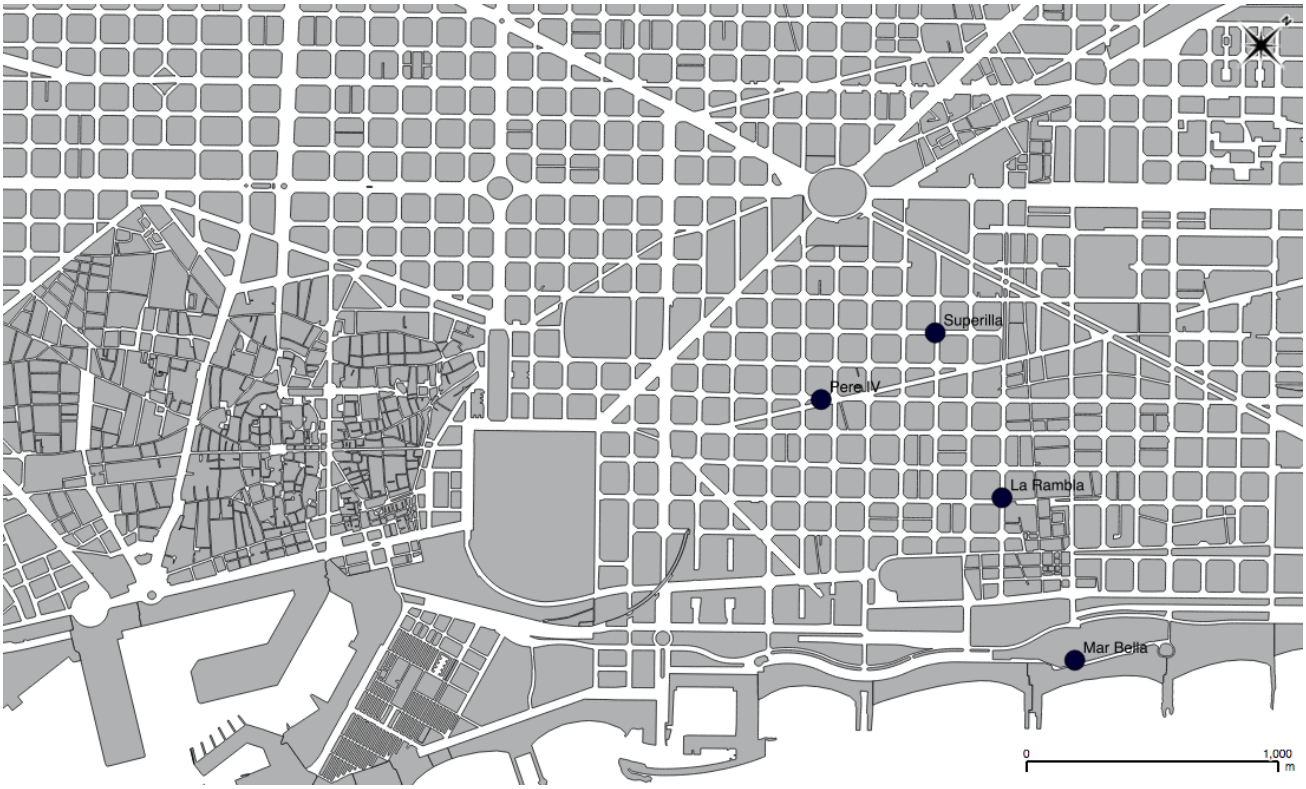

Fig 01. Location map of the four sites studied in the neighbourhood of Poblenou, Barcelona.

4.1. Pedestrian Traffic

The study measured pedestrian traffic at six locations within the four study areas: La Rambla del Poblenou (1 transect), the Mar Bella site (2 transects), the Superilla (1 transect), and Pere IV (2 transects). At each hour, we counted the people crossing the transect for a period of exactly 10 minutes. We counted people on foot, on wheels (bicycles, scooters and skateboarders) and people being carried in strollers or wheelchairs.

4.2 Staying Behaviour

The study conducted headcounts of the individuals staying in each public space at each hour. For each individual staying, we noted their gender, the size of their group, and their activity: in conversation, active recreation, passive recreation, attending to children, using electronics, eating/drinking, reading, cultural activity, civic work, playing, exercise, skateboarding, or commercial activity. We also recorded their posture: standing, sitting, sitting commercial, sitting private, and laying down.

Each site had a defined polygon within which we counted staying behaviour. The Rambla site included the Rambla segment between Ramón Turó and Ramón Llull in addition to the roundabout at the Casino, and the roundabout at Ramón Turó. The Superilla site included the pedestrianized segment of Sáncho de Avila, the intersection with Roc Boronat and the intersection at Sancho de Avila and Ciutat de Granada but not the other

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parts of the Superilla. The Mar Bella Site included the skatepark and pedestrianized walkways around the skatepark. The Pere IV site included the triangle of public space between Pere IV and Avila.[1]

4.3 Social Cohesion Indicators

Our team developed an additional set of indicators called social cohesion indicators that aimed to capture social relations or social connections among public users at the site. The social cohesion indicators captured if people were laughing, hugging, kissing (affection), kissing (salutation), shaking hands, photographing people, photographing objects, waving, nodding (salutation), high-fiving, smoking, or drinking alcohol. We also chose indicators that denoted if they were employees at one of the local firms (presence of a work badge) and indicators that the individuals might be tourists (presence of a selfie-stick). For each observation we noted the gender of the individual. Similar to the method used for the pedestrian data, we collected we observed the presence of absence of these indicators for a period of 10 minutes, every hour.

5. Results

5.1 Pedestrian Traffic

A comparison of pedestrian traffic at the four sites illustrates that the Rambla of Poblenou has the heaviest pedestrian traffic at all times (Fig 2). We report hourly flow estimates based on the 10 minute samples. Most sites peak at 18:00 hrs with the exception of Superilla which peaks during lunch hour (14:00 hrs) and moves in the opposite direction of the Rambla at this time. The Pere IV sites have steady pedestrian traffic throughout the day, and the Mar Bella Beach Access has the lowest traffic in the morning but rises in the afternoon.

The observed pedestrian traffic fit our expectations for mobility patterns that reflect everyday life in Barcelona. In the Rambla we observe a sharp increase around 9:00 when schools are starting and the workday begins. The second peak might be explained by the morning shopping in the commercial areas near and around the Ramblas. Traffic is reduced during lunchtime in the Ramblas and then surges back in the afternoon, after schools are out and the commercial businesses reopen. Pedestrian movement at the Ramblas peaks at 18:00 hrs with 2,808 pedestrians per hour.

It is notable that the Rambla had the most pedestrian traffic in all hourly measurements, regardless of the time of day. Even the lowest pedestrian traffic on the Rambla (564 ped/hr, at 23:00 hrs), surpasses the maximum traffic for three sites, specifically: Pere IV - Àvila (max 526 ped/hr at 15:00), Pere IV – Trullàs (372 ped/hr at 9:00 hrs), Mar Bella Beach Access (390 ped/hr at 18:00 hrs). In short, the Rambla site carries a pedestrian traffic that is an order of magnitude larger than most of the other sites studied.

[1] The Pere IV site also included the Trullàs Park but because it was often closed to the public, the values for many observations were 0 and these data are not reported.

DOI: 10.5821/SIIU.6622

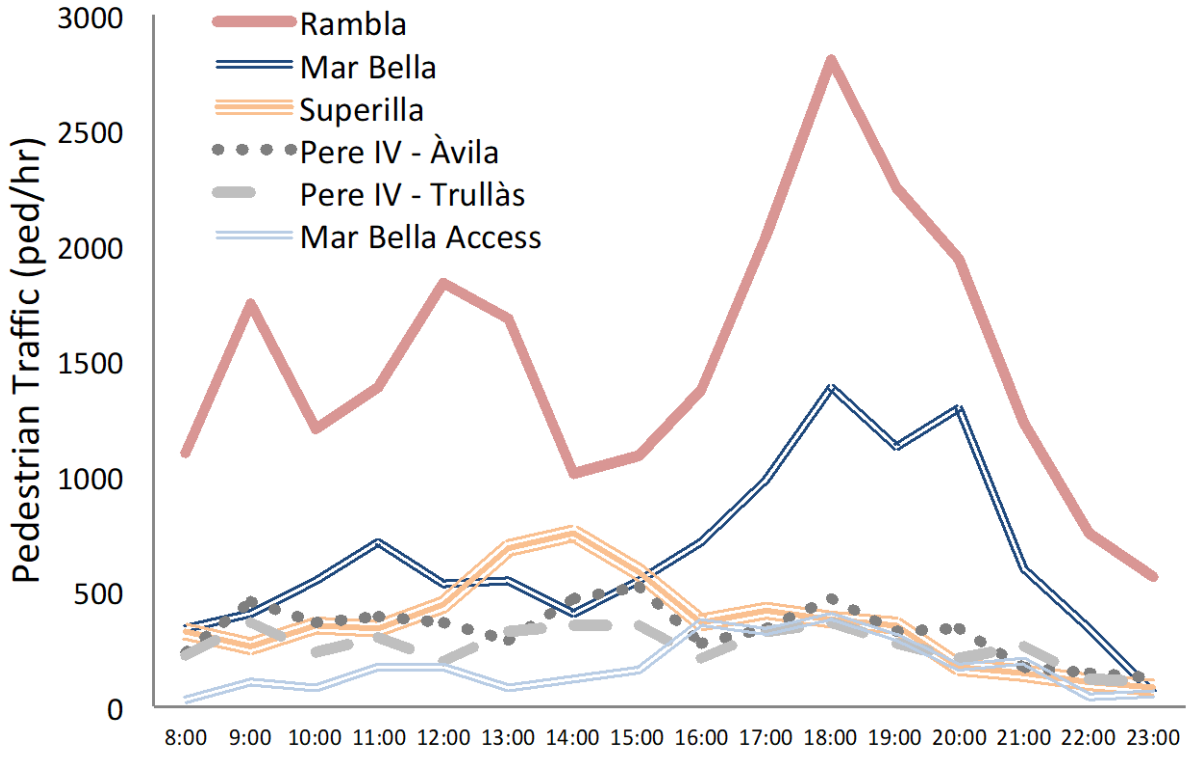

Fig 02. Pedestrian traffic at La Rambla, Mar Bella, Superilla, Pere IV and Avila, Pere IV and Trullàs, and Mar Bella (Beach access).

5.2 Staying Behaviour

We report the total number of public space users at each site for all activities combined in order to provide a first approximation of the observed staying behaviour (Fig 3). We observe that the Superilla site succeeds in enticing people to stay since this site has the highest number of public users in the morning and at lunchtime from 8:00 to 15:00 hours. The number of public users at the Superilla site peaks at 14:00 hours with 125 users, and then declines in the early afternoon, until it rises again after school is out.

In the afternoon, we see a surge of people gathering at the Rambla site, with a peak of 206 people at the 18:00 head count. This large number of people gathering at the Rambla can be explained by an event organized by a neighbourhood group at the Casino roundabout. On the day of our observation, the youth group *La Xemeneia* that organized an outdoor workshop on housing issues and gentrification, which attracted a considerable number of people. Thus it should be noted that the number of public users on this particular day are higher than they would have been without the event. At the same time, it reinforces the important role of this roundabout has as a gathering space in Poblenou neighbourhood.

Similarly, we observe a huge surge in the number of people using the Mar Bella site at 19:00 hours, when a large number of skateboarders and onlookers gathered at the Mar Bella Skatepark. In contrast to these highly used spaces, we observe a small number of people gathering at the intersection of Pere-IV and Àvila.

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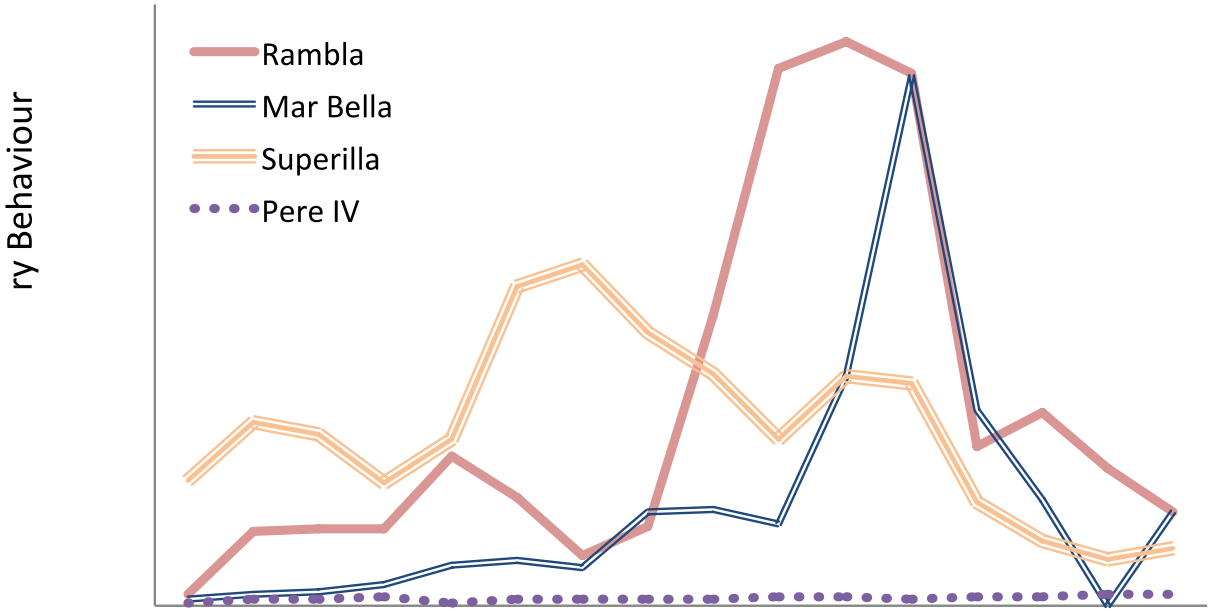

Fig 03. Total counts of stationary behaviour at La Rambla, Mar Bella, Superilla, and Pere IV sites.

5.3 Social Cohesion Activities

The social cohesion indicators provide additional insight that we cannot capture from the headcounts of staying behaviour or the pedestrian traffic data. Importantly, this data gives us a glimpse of the *interaction* between users and the quality of their social relationship. We find that the Rambla site does very well on most of the social cohesion activities, reinforcing the idea that the Rambla is a place for community building, neighbourhood gathering and interaction (Fig 4). The Rambla performs well across most indicators of salutation (handshake, kiss, wave and nod) as well as affection (kissing, hug, and laughing). The very high number of laughter heard in the Rambla is a strong indicator of social connections and leisure. Much of this laughing was from children and youth, who were walking through the site in the afternoon after school. The Mar Bella site also performs well for salutation and in the photography category (objects, people, self). At the Rambla we also observe the highest number of individuals smoking and consuming alcohol consumption, followed closely by the Pere IV. These are explained by the presence of outdoor terraces at both of these sites.

The Superilla site did not perform as well as the Rambla on most of the social cohesion indicators. In addition, we observed very little smoking, alcohol consumption or laughing at the Superilla site. But as expected, we did observe the highest number of work badges at the Superilla site, followed by the Rambla.

We did not observe selfie-sticks at any of our sites during our observation periods, signalling that mass tourism has not overwhelmed the neighbourhood yet. We were hopeful that the selfie-stick would be an indicator of tourism, and yet in the period studied, no selfie-sticks appeared. We did however observe that the Mar Bella site had the most photographs, both of people and of objects. The photographs are certainly related to the skatepark and may only be a weak indicator of tourism activity. We also observe a good number of salutations within the skatepark, suggesting that this is a place has a well-established community.

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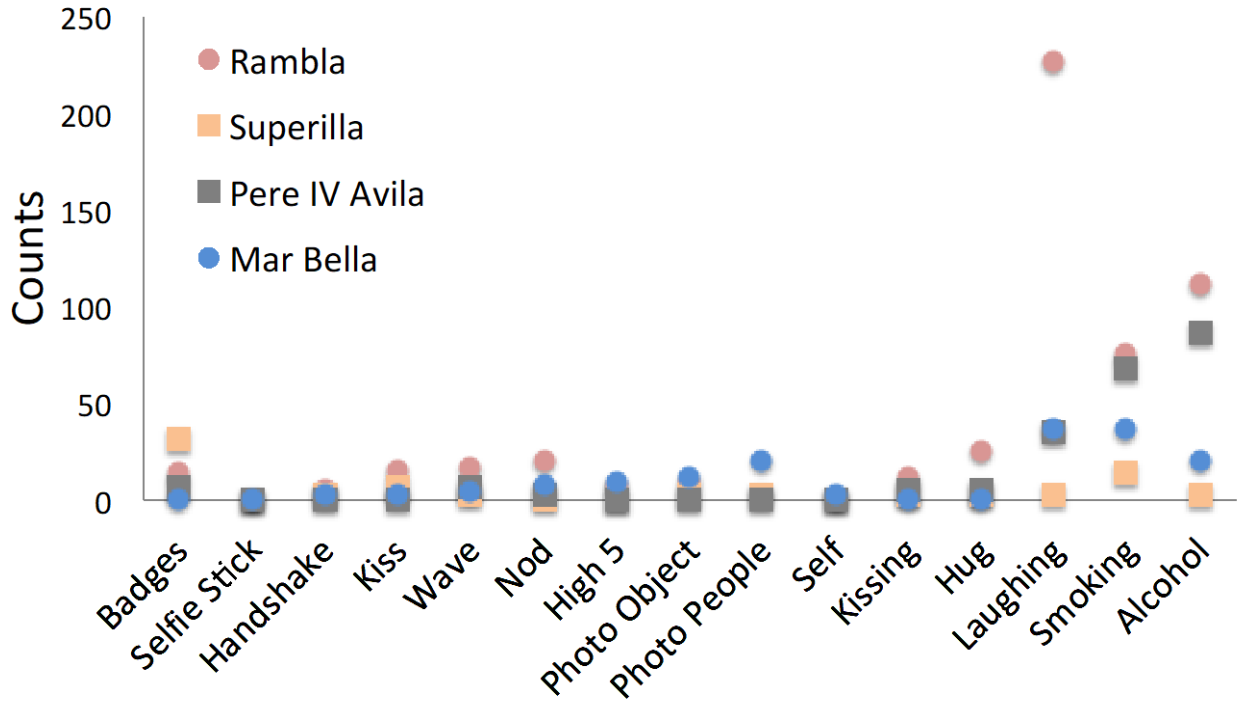

Fig. 04 Counts of the social cohesion activities observed in the Rambla of Poblenou, Superilla, Pere IV Avila and Mar Bella sites.

5.4 Gender Analysis

We observed important gender imbalances at three sites, Mar Bella, Superilla and Pere IV. Men dominated these spaces for all data types (pedestrian traffic, staying behaviour, and cohesion activities) and during all times of day. The gender imbalance was most severe at the Mar Bella site near the skate park, where 83% of those staying were men, in comparison to only 17% women. While it is not surprising that men dominated the skate park, it was surprising that men also dominated the pedestrian traffic along the beach promenade and on the path to access the beach promenade. The gender imbalance of the pedestrian traffic moving through the site is not obvious at first sight, but this pattern clearly emerged from the systematic observation. The nearby presence of nude beach, popular among the gay community, may partially explain the large number of men in the area. In addition, the observed gender imbalance for the pedestrian traffic might be exacerbated by the social norms about who in the family is more likely to have time to exercise.

We also observe a gender imbalance in the pedestrian traffic at the Pere IV site. Men were consistently more present than women in counts at the transects in front of the Trullàs park and on C/Àvila. In total, 62% of pedestrians at the Pere IV site were men while only 38% were women.

The pattern of gender imbalance in public space stands in contrast to census data showing that 51% of the inhabitants of the Poblenou neighbourhood are women (City of Barcelona, 2017). The 51% female population is consistent in the historic Poblenou neighbourhood as well as the surrounding areas of el Parc i la Llacuna del Poblenou and La Vila Olimpica del Poblenou

The Superilla site had mixed results when it came to gender balance. In total, the staying behaviour was balanced between women (52%) and men (48%). However the aggregate numbers mask important differences in the activities and purpose of their visit. Women were much more likely to be caretakers for the children or elderly. In the pedestrian data, we observe that the site was dominated by men (58%) over women (42%). The gender imbalance was most severe during the lunch period, when employees came out of the office buildings on their lunch break. This suggests that the innovation district appears to be employing more men than women. It raises the question about which gender is benefitting most from the public policies and investments behind the 22@ innovation district. Our observation also has implications regarding the roles taken by men and women in public space.

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We observed more gender balance at the Rambla site. The staying behaviour is roughly balanced between women (53%) and men (47%). Also, the pedestrian traffic data shows a reasonable gender balance throughout the day, until the afternoon, in which we observe more women moving through the site from 18:00 to 20:00 hours. This is the only site in which women clearly dominate over men for several consecutive hours and by a wide margin. However after 20:00 hours, the gender balance flips and once again men dominate in the evening and late evening.

Our gender analysis only confirms what is well-known and has been eloquently described elsewhere (Marston & Spain, 1993). Women's mobility patterns are different than men's (Miralles-Guasch, Melo, & Marquet, 2016), and women do not have a equal right to the city (Casanovas et al., 2014), especially at night (Ortiz Escalante, 2019). We provide additional empirical evidence that women are disproportionately absent from public spaces at certain types of locations and at certain periods of the day. The exceptions include spaces involving the care for others (children or elderly) as observed at the Superilla and Rambla sites.

6. Discussion

6.1 Gendered Spaces

A major theme to emerge across sites was the gendered nature of our spaces. Clearly men have a disproportionate use of public space in three of our four sites. Only the Rambla del Poblenou showed a gender balance. Understanding the causes, consequences and potential responses to these gendered spaces should remain high on the planning agenda in Poblenou and Barcelona more broadly. At the time of writing, Barcelona has committed feminist mayor and is home to a strong network of feminist organizations, including *Col.lectiu Punt 6*, a cooperative of feminist architects and planners who have been pushing the feminist planning agenda for over a decade (Casanovas et al., 2014; Ciocoletto, 2014). These favourable conditions suggest that there is ample expertise and political will to advance the feminist planning agenda. The city is uniquely well positioned to be at the forefront of feminist consultation and participatory planning which may leverage local knowledge to create more inclusive cities for all.

6.2 Neighbourhood Change

The observational methods applied were not able to uncover strong evidence of neighbourhood change or gentrification, as originally intended. We did not observe any selfie-sticks in the neighbourhood in our observation periods, suggesting that mass tourism may be present intermittently, but has not overwhelmed Poblenou. It remains to be seen how tourism will evolve and impact these sites in the near future. The Superilla site has received considerable media attention, which may continue to bring additional visitors if it is successful. Furthermore, the Pere IV site currently is on the periphery of the neighbourhood, but may undergo important changes or re-designs in the near future. If so, we hope our data may provide pre-intervention conditions to assess future neighbourhood change.

While this research was unable to uncover clear evidence of neighbourhood change in this observation period, we are also hopeful that future research at the same sites over a period of several years may be able to identify trends, or clearly identify the location and speed of potential neighbourhood changes. This observational work would need to be complemented with qualitative research that use interviews and other methods. Nevertheless, this study provides a rigorous baseline of mobility patterns, staying behaviour and social cohesion activities at the four sites.

6.3 Limitations

This research acknowledges several limitations. First, the focus is on public life from 8:00 to 24:00 on week days in June, and we do not observe public life during weekends or between 00:00 and 08:00 hours. Neighbours of the Superilla have complained that the newly created public space has attracted undesirable social activity and drinking of alcohol by youth, yet this could not be confirmed by our research.

Furthermore, our observations are not continuous over time, but rather staggered over the period of four days in the first week of June 2018. This research assumes that the daily sampling variability is low, and indeed,

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researchers of public life have argued that cities have stable and predictable patterns with low inter-day sampling variability (Gehl & Svarre, 2013). If this is indeed the case, our estimates should be reliable. Nevertheless, we have not seen any research to confirm daily sampling variability for pedestrian traffic or staying behaviour and such an analysis would be highly informative to produce greater confidence around our estimates.

This research also acknowledges differences in the size and shapes of the polygons at each study site makes the makes direct comparisons of the staying behaviour data more difficult. For example, the Rambla site considered the roundabout at the casino and the segment of the Rambla between Ramón Turó and Ramón Llull. The Superilla site considered the pedestrianized segment of Sáncho de Avila, the intersection with Roc Boronat and the intersection at Sancho de Avila and Ciutat de Granada but not the other parts of the Superilla. The differences between sites in terms of orientation, public services, seating, commercial areas, building frontage, sidewalk length, degree of pedestrianization and other urban design features certainly influence the probability of staying behaviour and pedestrian movement. Therefore the raw comparisons presented here are a useful starting point, but it should be recognized that many factors explain the observed usage of these public spaces.

6.4 Conclusions

We provide an overview of the pedestrian patterns, staying behaviour, and social cohesion of public users at four site in Poblenou, Barcelona. While this research was unable to uncover clear evidence of neighbourhood change in this observation period, we do see important differences in between sites, with the Rambla performing very well across most measures, indicating that the Rambla is highly used and is a place for strong social interaction.

We observe considerable gender differences across each site and it is not clear how the design of these spaces are aiming to reduce gender inequity or create more inclusive spaces for all. Our observational data reveals the effects of structural inequities in the labour market within the 22@innovation district (Superilla) and in the domestic division of care taking responsibilities (Superilla and Rambla) and gendered opportunities for outdoor recreation and sport (Mar Bella).

At the same time, our results confirm that Poblenou exemplifies Barcelona's contrasting personalities—one serving as a mainstream tourist destination, but simultaneously being the home for a cohesive neighbourhood. It is unclear if Poblenou will be able to continue to integrate new industries and investments while also retaining the local feel and community. There is a risk that gentrification, displacement and tourism may break the strong social fabric and history of community organization. We can anticipate that the transformations of Poblenou will continue to accelerate in the next decade, presenting an opportunity for deeply integrated forms of planning and collaboration between the City of Barcelona, activists, residents, economic interests and community organizations, to find innovative approaches for addressing these global problems.

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