Tranquillity amidst the bustle: Positive solitude and public open space design in high-density urban contexts. Urban Studies

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Abstract:

The prevailing paradigm in urban public open space (POS) design emphasises fostering social interaction; it overlooks the equally critical need for urban solitude, secrecy, and privacy. In this study, we aim to address this gap by contextualising positive solitude (PS) in POSs within high-density urban environments and examining the spatial conditions that shape these experiences, using Hong Kong as a case study. Empirical research methods, including behavioural mapping and on-site participant observation, are used to investigate four POSs in Sham Shui Po, Kowloon City, and Kwai Tsing. Through a comprehensive analysis of the role, function, and utilisation of POSs, this research elucidates residents' perceptions and practices of solitary space use, revealing that a significant proportion of Hong Kong POS users actively visit and utilise these spaces alone. Our analysis of how the physical and social characteristics of these spaces support PS experiences sheds light on the complex interplay between urban design elements and the fulfilment of residents' solitude needs. This research provides an in-depth understanding of PS in a crowded urban setting, advocating for developing evidence-based POS design guidelines that consider appropriate support for PS behaviours and activities.

Ultimately, this study contributes to the broader goal of creating more liveable and psychologically supportive urban environments, particularly in the context of high-density cities.

1. Introduction

Research has yielded intriguing insights into the everyday experiences of solitude, particularly the motivations behind individuals' decisions to spend time alone (Adams and Weinstein, 2023; Coplan et al., 2019). The concepts of solitude, aloneness, and loneliness have been distinguished, and solitude has been highlighted as a positive and welcomed part of daily life (Weinstein et al., 2023). Some individuals prefer solitude. Accordingly, positive solitude (PS) has been defined as the active choice of an enjoyable solitary experience (Ost Mor et al., 2021). Building on such concepts, much psychological research has focused on examining individual and situational factors relating to PS, such as preference and affinity level (Borg and Willoughby, 2022), personality (Coplan et al., 2019; Lay et al., 2019), and spiritual needs and motivations (Nguyen et al., 2021, 2022). However, investigations conducted in laboratory settings with strict control of external factors have been criticised for neglecting the role of the external physical environment in either intensifying the negative aspects of loneliness and isolation or enhancing the positive aspect of solitude (Bi et al., 2024; Nguyen and Taylor-Bower, 2023).

Such positive experiences of solitude occur in many different types of external physical environments across cultures and regions. One report indicates that over half (54%) of POS users in Hong Kong visit POSs on their own (Lai, 2018). This raises a different concern, as POSs are often expected to be important places for creating social opportunities (Bi, 2023; Carmona, 2019; Rossini, 2022; Xue and Manuel, 2001). In densely populated areas like Hong Kong, where POSs are scarce, this mismatch between user preferences and design intentions can have particularly severe consequences.

Hong Kong is one of the world's most populated regions and is renowned for its high density. Most of the over seven million residents live in a built-up area that covers only 25% of the total land, giving the city a compact urban form. The high tourist and visitor arrival numbers make Hong Kong's streets extremely crowded (Lai, 2017). In such a crowded context, POSs represent a critical asset. The Hong Kong Planning Standards and Guidelines (HKPSG) introduced the standard of 2 m^2 of POS per person (Planning Department, 2024). Such scarce public resources, which are supposed to serve the public, are unevenly distributed in Hong Kong. One report claimed that the most affluent regions, like The Peak, Kowloon Tong and Discovery Bay, have over 8 m^2 of POS per person, while Mong Kok has only 0.6 m^2 per person (Lai, 2017).

The development of Hong Kong POSs has been discussed for many years. The literature has noted the ineffectiveness of urban planning strategies for POSs (Xue and Manuel, 2001), governmental infringement on POS development (Tang and Wong, 2008), limitations on flexible use due to stringent rules and regulations (Carlow, 2013) and the rigid application of planning policies. However, our understanding of how people use POSs remains limited, especially why 54% use them alone. This paper investigates 29 POSs in Sham Shui Po, Kowloon City, and Kwai Tsing, the three districts with the most significant proportion of solitary use of POSs (Lai, 2017). We conducted an in-depth study in four selected spaces. By applying a combination of quantitative and qualitative methods, such as ethnographical participant observation, on-site interviews, and spatial analysis, we sought to assess POS users' attitudes and understanding of PS when they are using the POSs alone and their perceptions of the spatial environment from the perspective of the PS experience. We address the following research questions in this study: How do solitary users of POSs in Hong Kong perceive and utilise these spaces for solitude, and what design recommendations can be derived from their preferences to enhance the positive experience of solitude in densely populated urban areas?

2. Literature Review

2.1 The Need for Solitude

Researchers have categorised solitude into different forms. Larson (1990) defined solitude as an 'objective cybernetic separation, the severance of immediate exchange of information and affect' (p. 157). In the physical or virtual realm, seclusion hinders social and interpersonal connections. However, when examining more specific circumstances, the meanings of solitude become more intricately distinguished. Long et al. (2003) discovered that physical isolation is unnecessary for experiencing solitude without social interaction. One can still be in a state of solitude, even in the presence of others. Coplan et al. (2017) characterised this differentiation as a 'state of mind' rather than a 'state of being'. Nguyen et al. (2021) clearly distinguished between two types of solitude: 'public solitude', which refers to a situation in which multiple individuals are present but not engaging with each other, and 'private solitude', which refers to a situation in which individuals are physically separated from others. In psychology studies, the concept of 'private solitude' has been described as 'real solitude', a state in which individuals are intentionally isolated, therefore preventing any potential social relationships (Weinstein et al., 2022).

Perceiving solitude positively has been extensively examined (Lai et al., 2019). Ost Mor et al. (2021) conducted a phenomenological study to examine individuals' PS activities. Participants from a broad adult age range were invited to reflect on and write about the most important aspects of their PS. The researchers categorised forms of solitude according to the actions or objectives of the individuals, including stillness, spirituality, stress management, connection with nature, and recreational activities. The study highlighted that positive experiences of solitude are distinguished by voluntary choice and are very rewarding and meaningful for individuals. The researchers, therefore defined PS as 'the choice to dedicate time to a meaningful, enjoyable activity or experience conducted by oneself' (Ost Mor et al., 2021, p. 957). This definition

considers the conditions and outcomes of paradigmatic PS. It also distinguishes positive and negative forms of solitude, such as undesired loneliness and social isolation. In the current research, we use this concept as a foundation to understand the need for solitude in the context of POS.

2.2 Public Open Space: A Space for Recreation

The HKPSG (Planning Department, 2024) was first developed in the 1970s. Chapter 4 aims to establish a fair foundation for allocating land for recreational facilities and POSs. The guidelines also serve as a framework for planning and designing these facilities. The HKPSG defines the term 'open space' as 'the outdoor open-air space which is used principally for active and/or passive recreation use, developed either by the public or private sector', and it regards this definition as synonymous with 'recreation open space' (Planning Department, 2024). The term 'recreation' refers to an 'activity done for enjoyment when one is not working; the fact of people doing things for pleasure, when they are not working' (*The Oxford English Dictionary*, 1989). Although POS in Hong Kong is designed to offer a pleasurable time after work, its representation is still far from positive (Rossini, 2022). Many POSs lack design quality and have been hastily planned and constructed to meet the minimum size requirements for public spaces stipulated by the government.

Regarding design quality, Chapter 11 of the HKPSG provides broad recommendations for enhancing POSs by guiding design, greening, and accessibility factors. The Leisure and Culture Service Department (LCSD) manages most POSs in urban areas. However, most of the design strategies for POSs provided by the LCSD merely adhere to regulations and conventional guidelines, lacking contextualised considerations (Kwok, 1998; Rossini, 2022).

The strict management of POSs also challenges enjoying recreational activities in these spaces. The LCSD has posted lengthy warning signs and space management rules in POSs throughout Hong Kong's districts (Carlow, 2013; Jian et al., 2021; Rossini, 2022),

in strictly adhere to the Public Health and Municipal Services Ordinance (Department of Justice, 1960). Some regulations were created to consider public access preferences, such as banning dogs in most POSs, although several designated pet gardens have been created (e.g., in Sung Wong Toi Playground). However, other regulations have been applied for ease of maintenance rather than for users' comfort and enjoyment (Lai, 2017). 'No lying on benches' signs are commonly found to reduce 'nuisance' behaviour by severely restricting how benches can be used (*Public Health and Municipal Services Ordinance*, 2020). This strict control is observed in the formulation of regulations and the constant addition of hostile architecture in the specific spatial contexts of POSs. For example, the flowerbed borders between the columns of the east entrance of Sai Yee Street Garden, Mong Kok, served as convenient seats where solitary users could sit or lie down. The first author noticed on his daily commute that these flowerbed seats had been entirely blocked by newly installed fencing in the late spring of 2023. These fences had been designed to deter illegal crossing and also took up the entire width of the flowerbed edges, thus preventing sitting or lying down (Figure 1).

Figure 1. Flowerbeds at the east entrance of Sai Yee Street Garden, Mong Kok, Hong Kong, in January 2023 (left) and March 2023 (right).

Source: The authors.

2.3 The Neglected Majority

Although scholars have claimed that strict rules and regulations restrict the possibilities for developing typical public space activities (Carlow, 2013), none have discussed solitary activities in Hong Kong's unique environment and community.

The *Open Space Opinion Survey* (Lai, 2018) assessed the frequency and types of activities conducted in open spaces, the needs of people using them, and how well existing Hong Kong POSs meet these needs. The survey findings suggested that about 85% of Hong Kong residents visit POSs at least once a month. Retirees visit open spaces most frequently, followed by students and homemakers. Most (97%) users visit POSs within walking distance of their homes. Walking (74%) and resting or relaxing (68%) were found to be the most common passive activities. Only around 33% of users use POSs to socialise, and it is noteworthy that over half (54%) go to POSs on their own (Lai, 2018).

Being in solitude in urban spaces is not unusual (Nguyen and Taylor-Bower, 2023), and it is common in Hong Kong, a densely populated city with a compact urban form. A culture of solitude has emerged and gained popularity in recent years. Ichiran Ramen, a famous Japanese restaurant brand in the city, with long queues at the door almost every evening, went viral when it provided individual dining cubicles (Time Out Hong Kong, 2024). In addition, a book recommending pleasant strolling routes, unique sights and noteworthy open spaces in Hong Kong (Wong, 2023) recently became a best-seller.

Solitude has become a popular state and an aspect of many people's daily recreation in Hong Kong. Patterns of solo consumption have been identified and have led to the emergence of several new business models. Still, there has been little consideration of solitude in the city's recreational open spaces. Urban theorists, designers, and policymakers tend to dichotomise public spaces and solitude in the urban context (Komac, 2016). POSs in cities are commonly perceived and constructed as venues for

gatherings rather than as places for individual solitude (Carmona, 2019; Heu and Brennecke, 2023). Studies have suggested that providing different types of seating can facilitate social interactions in POSs (Gehl, 2013; Rossini, 2022). As argued by the urbanist and sociologist Richard Sennett, simply creating sociable spaces as a solution is an unspoken dogma shared by urban designers (Attiwill, 2024; Sennett, 2016).

To design POSs for better positive solitary use, designers should not ignore the cultural context and user preferences by repeating this inherent design dogma (Sennett, 2016). The literature review above reveals an absence of design recommendations considering solitary usage in POSs in densely crowded urban areas. Therefore, in this study, we aim to reveal the preferences and perceptions of users of POSs in Hong Kong regarding solitude from a bottom-up perspective. This can inform the rethinking of POS design in densely populated areas of Hong Kong when considering the notion of PS.

3. Research Methods

Following the previous discussion and the aims of our paper, we took a mixed-method approach involving quantitative analysis of solitary activities in POSs and qualitative analysis of specific environmental perceptions. The research consisted of three progressive stages. Stage 1 involved a preliminary screening of the targeted research sites based on reference data. POSs that are accessible and have the potential to accommodate high-quality passive recreational solitary use were selected as samples during the screening stage. The outcome of Stage 1 was a specific scope list of research sites that potentially have a greater prevalence of solitary behaviour. Stage 2 then consisted of a behavioural mapping study aimed at identifying and further scoping the sites with the highest incidence and proportion of solitary behaviour. The results of Stage 2 further narrowed down the list of sites for further qualitative study stages. Stage 3 involved on-site sensory observations of participants. In this stage, we documented their subjective environmental perceptions while sitting in the seats after solitary users had left, allowing qualitative sensory perceptions and experiences of the spaces to be

obtained. The quantitative data collected from the first two stages present a pattern of solitary behaviour in POSs in Hong Kong, while the qualitative data collected in Stage 3 provide an informative and contextualised understanding of the solitary experience.

3.1 Methods

3.1.1 Stage One: Site Screening

Before commencing the field research described above, we initially screened and selected the sites where the most positive forms of solitude occurred. We used online browsing and screening to comprehensively and systematically identify all LCSD-administered POSs. A total of 1,844 pleasure grounds in 18 districts of Hong Kong are listed in the Public Health and Municipal Services Ordinance (Department of Justice, 1960). As suggested in the *Open Space Opinion Survey* (p. 58-60), small sitting-out areas in Kowloon City and public housing open spaces in Sham Shui Po and Kwai Tsing together accommodate a large proportion of people going to POSs alone and a small proportion going with friends.

3.1.2 Stage Two: On-Site Behavioural Mapping

Following the initial online screening process in Stage 1, Stage 2 involved conducting an on-site behavioural mapping study. Behavioural mapping is a non-intrusive observational method that correlates the physical elements of the environment with the behavioural information of occupants by documenting their spatial and temporal characteristics (Gehl, 2013; Villani and Talamini, 2021, 2023). By visiting, observing, recording, and mapping the solitary activities in the selected POSs, we documented their spatial configuration, the number and distribution of solitary users, and the proportions of solitary users relative to total users and groups of users. The main objective was to identify and assess the study site areas with the highest occurrence and

proportion of solitary behaviour. The results of Stage 2 further narrowed down the list of selected sites for a further qualitative study stage.

3.1.3 Stage Three: On-Site Sensory Participant Observation

After targeting the most popular spots for solitary usage in the four sites in Stage 2, Stage 3 involved on-site sensory participant observations at those spots. By documenting our subjective environmental perceptions while sitting in these locations after solitary users had left, we could qualitatively assess the sensory perceptions and experiences of the spaces. This was in line with Jacobs' (1961, p. 1) exhortation to 'please look closely at real cities. While you are looking, you might as well also listen, linger and think about what you see'.

Observing and mapping the selected sites enabled us to determine the popularity and distribution of solitary behaviour in Hong Kong POSs. Some popular spots often used by solitary users for relaxation, exercise and leisure were identified. However, what makes them popular and what solitary users experience when using them remained unclear. We used the concepts and techniques of sensory ethnography (Pink, 2015) and participant observation (Seamon and Gill, 2016) to immerse the observer in the perspective of the participant, aiming to capture the solitary user's subjective view by impersonating them. The method of sensory ethnography enables experiencing, knowing and emplaced bodies to articulate the relationships among bodies, minds and the materiality and sensoriality of the environment as a whole.

3.2 Procedure and Data Collection

The Hong Kong Polytechnic University's Departmental Research Committee authorised this study (HSEARS20230521002). Each participant signed an informed

consent form for the on-site data collection, which was conducted between September and December 2023.

3.2.1 Stage One Procedure

During the screening phase, we listed all small sitting-out areas managed by the LCSD and in the public housing estates in these three districts. For the screening phase, 136 small sitting-out areas and 57 public housing estates were listed. After coding all the listed POSs, we marked them on maps by district (Figure 2). We then assessed the size, surroundings, greenery, main amenities and spatial features offered by each listed POS on Google Maps, Google Earth and Google Street View. A rating list was designed for the screening, which included size, the main activities afforded, accessibility, surroundings, frontages on the way to the entrance (e.g., the presence of shop fronts, blank facades, fences), spatial features (e.g., greenery, floors, fences), public furniture (e.g., seating, exercise equipment), and size. Two investigators were involved in this stage and reviewed the satellite maps, street views and user-uploaded pictures of the listed POSs from the abovementioned online platforms. They then scored items on the rating list based on the POS's affordance of solitary use. Those with higher scores indicate a higher level of affordance. The two researchers further discussed any opinion differences in the first assessment round. One more round was then conducted, and the results of the two investigators were consistent. POSs that were too small, too large, mainly designed for active recreation and group sports activities (e.g., basketball courts,

football courts, tennis courts, etc.), too far or inaccessible from the neighbourhood, or under construction or renovation were excluded from the list of study areas.

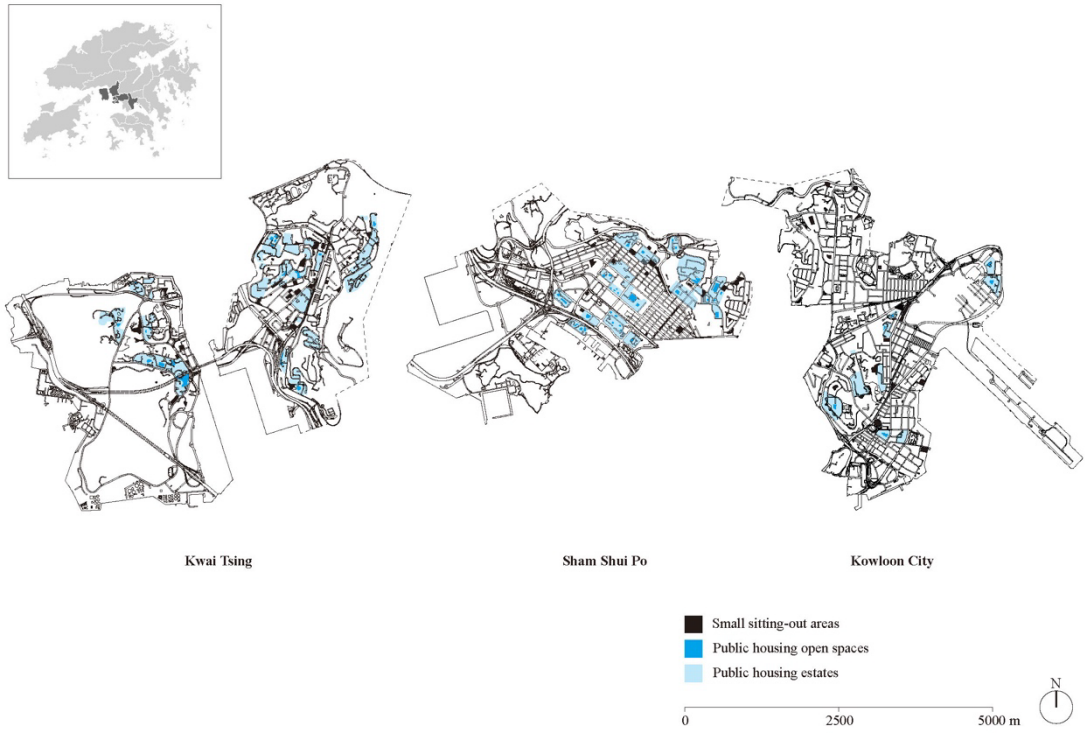

Figure 2. Distribution of the screened POSs in Sham Shui Po, Kowloon City and Kwai Tsing. Source: The authors.

3.2.2 Stage Two Procedure

According to Cohen et al. (2011), a three-day schedule with four observations per day can robustly assess the number of people using distinct target areas in urban public spaces. In the current study, we conducted on-site observations and place-centred behavioural mapping (Ng, 2016) at 28 sites from September to December 2023. The average temperature in Hong Kong slowly drops from 28 to 18°C between September and December, making it one of the best times of the year to enjoy outdoor recreation. Each site was visited three times a week, two on weekdays and one at the weekend. Each observation was divided into four timeslots: morning (08:30–11:30), noon (12:00–15:00), afternoon (15:30–18:30) and evening (19:00–21:30). During each

timeslot, videos, behaviour maps, and field notes were recorded on phone cameras and printed maps and in notebooks. Two investigators conducted the observations. A 30-minute break was planned between each observation timeslot to enable us to rest, back up data and organise the maps and notes. We used the data collected to identify the type of solitude or group use, activity distribution patterns and circulation flows in the selected sites.

3.2.3 Stage Three Procedure

Popular spots for solitary usage were found and marked on the maps after the previous stage. Following the sensory ethnography method (Pink, 2015), the two investigators kept a distance from the solitary users while they enjoyed solitude. After a solitary user left a spot, we quietly approached one by one, occupied the exact spot, and impersonated the users' behaviour with minimal disruption to the surrounding environment. The two investigators' roles changed from observing the behaviour of others to empathising with the experience from the users' perspective.

Our subjective perceptions of the environment were then documented in note form or on a voice recorder. At this stage, the two investigators had not engaged in any previous deliberation or training regarding any categories or system of coding. They both made direct notes on the spatial factors they observed and their subjective feelings about them. They could stay as long as they liked but did not exceed the previous solitary user's recorded solitary duration. The spatial factors included but were not limited to seat comfort, noise levels, birds chirping, sunlight, floor material, visibility of the self and distance from other people in the space (Edwards et al., 1992; Hall, 1966; Pink, 2015). They either wrote descriptive field notes or recorded oral reflections by phone. By using figurative depictional words to describe the environmental factors and abstract

descriptions of feelings, they were able to document the qualitative aspects of the connection between solitude and the POS.

The participant observation notes regarding the selected four sites were then subjected to thematic analysis (Braun and Clarke, 2006) using NVivo. The aim was to collate and report on the themes within the qualitative data and interpret the insights gained from the field observations.

Before coding, the field notes and audio recordings were organised into transcripts. By immersively reading the transcripts, we familiarised ourselves with the content. We then generated codes during the reading process and engaged in discussions. If we had differing viewpoints regarding the codes, we recoded them until we reached a consensus. Given that we had control over the selection of phrases and words in the field notes, we discussed and reconsidered our choice of words and the initial perceptions we intended to document whenever the other researcher had difficulty understanding them.

Thematic mapping was used to cluster latent codes into candidate themes (Braun and Clarke, 2006). After constructing new candidate themes based on these codes, the transcripts were re-evaluated to confirm whether the themes accurately represented the meaning of the perceptions. Further examination of the data finally identified three distinct themes.

3.3 Results and Findings

3.3.1 Stage One Results and Findings

After the screening in Stage 1, we selected 28 small sitting-out areas and POSs in public housing estates in three districts that potentially afforded the most frequent solitary behaviour. These consisted of five sitting-out areas, five public housing estates in Sham

Shui Po District, six sitting-out areas, three public housing estates in Kowloon City District, and five sitting-out areas and four public housing estates in Kwai Tsing.

During the assessment, several characteristics of sitting-out areas were identified. Some are located in the negative space created by the intersection of the main roads or secondary roads or under the overpasses. These spaces are often far from residential areas and lack good accessibility. They are noisy and full of traffic pollution. Overpasses block sunlight and views. For instance, Castle Peak Road/Ching Cheung Road Rest Garden is a small POS situated beneath a junction of multiple overpasses. To reach it from the nearest residential building, one must walk for 20 minutes and ascend 26 metres. The only entrance to the park is oriented towards a two-lane, no-parking highway entrance lane, making it difficult for residents to approach. Therefore, any similar spaces were excluded during the screening stage.

3.3.2 Stage Two Results and Findings

In Stage 2, empirical observation was conducted, and behavioural mapping data were collected at the 28 sites in three districts in Hong Kong, including small sitting-out areas and public housing estate open spaces. The observational data for each site included the number of solitary and group users in four timeslots over three days a week. Twelve sets of data were obtained from each site. The averages (as whole numbers) of each type of user at each site were calculated. The number of solitary users at each site was then calculated as a percentage of the total number of users for comparison. The initial analysis indicated that the proportion of solitary users in the public housing estates of Sham Shui Po and Kwai Tsing was higher than in the small sitting-out areas. In contrast, the results for Kowloon City District showed the opposite, with a larger proportion of solitary users observed in the small sitting-out areas than in public housing estate open spaces. Among all POSs, those defined as gardens and sitting-out areas were found to

be most popular amongst solitary users, while playgrounds accommodated more group users.

After comparing the empirical observation data, four sites with the highest occurrence and proportion of solitary behaviour were selected from the 28 in the three districts. These were Pak Tin Estate (80%) in Sham Shui Po, Fat Kwong Street Sitting-out Area (80%), Ma Tau Wai Road/To Kwa Wan Road Garden (80%) in Kowloon City District, and Cheung On Estate (68%) in Kwai Tsing.

On-site behavioural mapping was conducted during the observation visits. The raw notes on the base maps of the 28 sites were organised after data collection (Ng, 2016). The distributions of solitary and group activities in the different timeslots and days for each site were documented as behaviour maps (Figure 3). Those of the selected four sites were subjected to further detailed analysis to generate an understanding of behaviour distributions and the settings of the space. For instance, Fat Kwong Street Sitting-out Area, a relatively small 'pocket park', has seven three-seat benches and two chess sets, including two single seats and one chess table under the canopies, and two sets of exercise facilities beside the two entrances. In addition to accommodating relaxation and exercise for residents, the Fat Kwong Street Sitting-out Area also serves as a shortcut for the residents, who can walk through the two entrances. This makes the space popular with the inhabitants, who can travel between their homes and the street, and thus the space is divided into a zone of mobility (the southeast part, mapped in yellow) and a stationary zone (the northwest part, mapped in blue) (Figure 3).

Comparing the results using kernel density maps (Figure 3) revealed that the seats in the southeast part accommodate more short-term solitary use, due to their proximity to the two entrances and the shortcutting resident traffic, while the seats under the long canopy in the northwest part of the space are more popular for long-term solitary use and group use, as they are situated in the deeper corner of the 'pocket' and farther from the distraction of the residential traffic. The seats in the northwest part of the space are also positioned to follow the shape of the flowerbeds. As the backs of the seats face the

beds, they suggest the inaccessibility of the space behind them and thus create a sense of security. This impression of seclusion and security may be conducive to behaviours that require more isolation from the general hustle and movement in the space. However, the high-density solitary activity areas and the stationary zone do not entirely overlap in Ma Tau Wai Road/To Kwa Wan Road Garden. However, the most frequent solitary activity areas overlap with the To Kwa Wan MTR station D2 exit, which is the busiest in pedestrian traffic. Another interesting finding was that most solitary users chose to sit at one end of a three-seat bench to leave the other end free for another solitary user

(73.4%) rather than sitting in the middle of a bench and giving the impression of occupying the whole bench (26.6%).

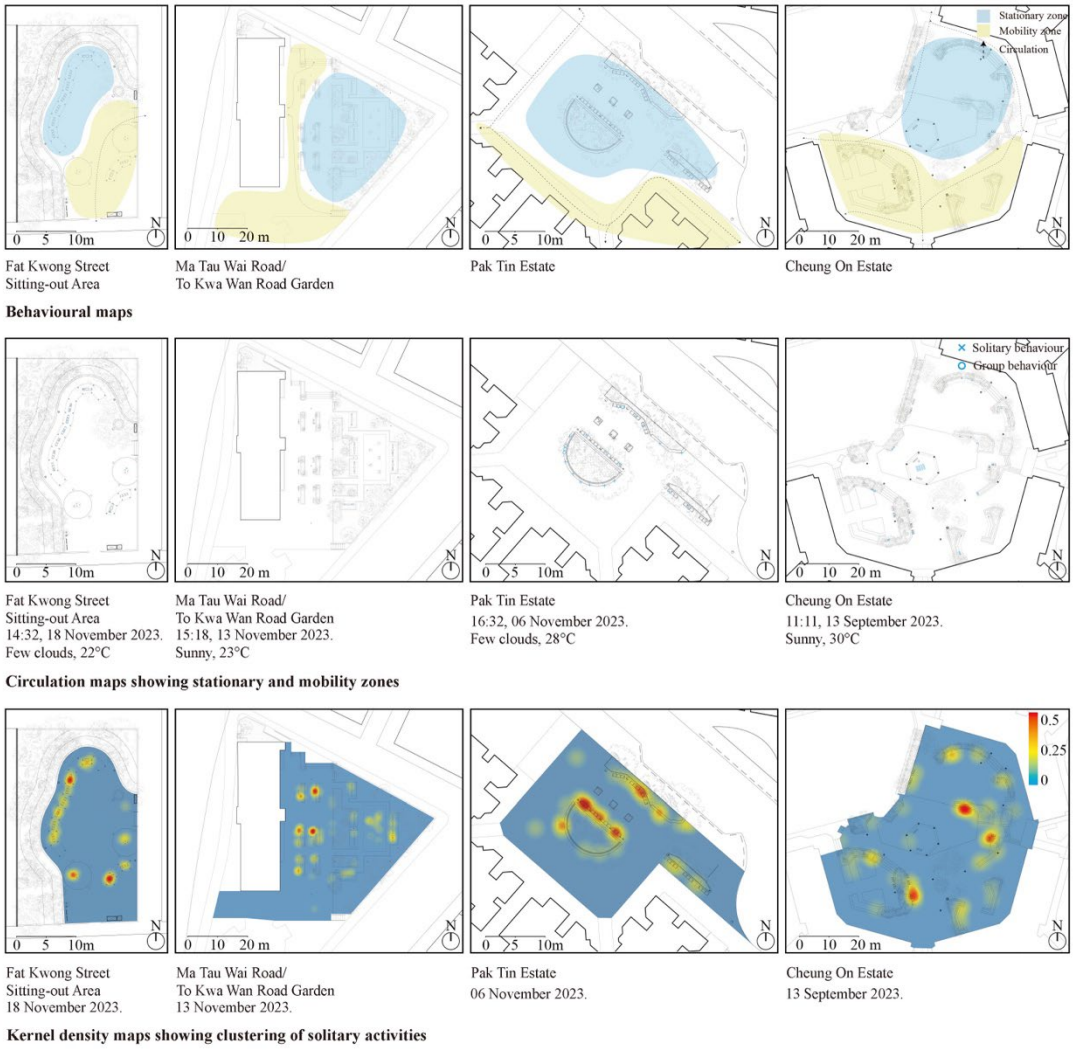

Figure 3. Behavioural maps, circulation maps and kernel density maps. Source: The authors.

3.3.3 Stage Three Results and Findings

This research stage aimed to investigate and understand the connections between on-site solitude perception and spaces. Thematic analysis revealed three themes regarding perceptions clustered by spatial experiences. The following text will use collected data

named by locations and sequences (e.g., #FKS01, the first investigation at Fat Kwong Street Sitting-out Area) as references.

Theme 1: Urban Solitude

In Hong Kong's urban environment, solitude contrasts with the typical experience of crowded urban life. It offers a respite from the rapid pace, noise, interaction, and constant movement in the city, providing individuals with moments of quiet and personal space with openness within the urban fabric (#MTG02). In particular, some of Hong Kong's POSs are situated at the exits of MTR stations or in front of community centres or serve as convenient shortcuts, resulting in the frequent view of individuals briskly passing through (Figure 4). Being stationary or enjoying solitude amidst the bustling surroundings allows a person the experience of solitude while immersed in the urban environment, without experiencing social isolation but engaging in self-reflection. The bustling surroundings also allow solitary users to enjoy observations of others (#MTG07, #FKS02). This can also explain the overlap between high solitary activity areas and busy circulation, as observed in Phase 2 (Figure 3). The greenery in a wide-open POS provides a natural environmental element that is not commonly found in Hong Kong's city centre (#MTG05). The shading under the trees and surrounding vegetation were noted as factors that make the spots popular for solitary users

(#MTG05). The accompanying bird chirpings also soothe and reassure these users in the hot climate (#FKS07, #PTE15).

Ma Tau Wai Road/To Kwa Wan Road Garden

Cheung On Estate

Pak Tin Estate

Figure 4. Photos of sites MTG, COE and PTE. Source: The authors.

Theme 2: Secrecy and Privacy

The experience of solitude provides a sense of secrecy and privacy, even within a crowd, fostering a space for introspection and self-concentration. Various environmental elements were considered when we were impersonating the users and experiencing solitude. For instance, some of the spots are located far from the entrances. The distance allows the spot to accommodate a solitary experience without disturbance or exposure to the bustling circulation near the entrances (#FKS02, #FKS10, #COE02, #COE07, #COE11). Some spatial characteristics were found to provide privacy protection. For example, facing outwards with a solid wall or flowerbed at the back can protect against unpredictable disturbances out of sight or distractions (#COE02, #COE04) and give a sense of privacy when scrolling on mobile devices (Figure 4) (#COE02). Solitary users also favoured some spots with physical protection. We perceived a sense of secrecy provided by physical blocking, such as bushes or corners of solid walls (#COE04, #COE07, #COE08, #COE16).

Theme 3: Sense of Community

Another crucial point noted by us was the presence of others. Solitude in the presence of others fosters a sense of belonging and community (Figure 4). Enjoying solitude is not uncommon and is considered acceptable in a space where many others are doing the same (#PTE01, #COE03). The presence of others nearby can diminish feelings of loneliness while remaining in a state of solitude (#COE08). We noted that the presence of others must be carefully considered in terms of distance (#PTE01, #PTE05, #COE02, #COE07). Being too close may affect each other's privacy and the quality of the solitary experience (#PTE01, #COE02). Being too far might result in a loose connection between people and lead to a negative solitary experience (#PTE05, #COE07).

Companionship enhances feelings of security because others are around (#PTE01, #PTE03). Enjoying solitude together also involves participating in social interactions

governed by social norms. This involvement enhances the sense of control and security in the environment, as it is easier to garner support and protection within a collective.

4. Discussion

The findings of this three-stage research illuminate the nuanced role that POSs play in facilitating PS among Hong Kong residents. Contrary to the popular belief that public areas are mainly used for socialising, our research highlights that many individuals actively seek out these spaces for solitary pursuits. This inclination towards seclusion is especially remarkable considering the crowded urban setting of Hong Kong, where opportunities for personal contemplation and tranquil pursuits are scarce. The concept of solitude holds philosophical importance in the densely populated metropolitan setting of Hong Kong. As Han (2015) noted, drawing on Nietzsche's notion of 'vita contemplativa', this can serve as a form of resistance against overcrowding and intrusive stimuli (Nietzsche and Levy, 1974).

Our findings suggest that individuals highly appreciate POSs for the openness and seclusion they offer, which are essential for promoting mental health and alleviating stress. Our analysis of behavioural mapping and sensory participant observations indicates that users partake in a diverse range of solitary activities, including passive forms of recreation such as reading and meditation and more active interests such as walking and exercising. These findings are consistent with previous research emphasising how isolation can facilitate creative and spiritual pursuits (Coplan et al., 2021; Ost Mor et al., 2021). However, unlike other studies, which suggest that different types of seats can increase opportunities for social interaction between users (Gehl, 2013; Rossini, 2022), we found that people in some Hong Kong POSs prefer to use urban furniture and seats for solitary use. In Pak Tin Estate (Figure 4), all three-seat benches are occupied by solitary users. However, we do not suggest that the placement of the three-seat bench is inappropriate and that narrower and segregated seating should be designed for solitary users. On the contrary, this three-seater arrangement is

attractive to frequent solitary users and offers a distanced solitary experience, as empty seats between users can represent a gentle partition. The reasons behind this phenomenon have yet to be studied. Future research may qualitatively explore the thoughts and emotions of various user groups. Further in-depth qualitative studies may reveal whether the observed solitude is positive or negative.

The findings have implications for public space design in densely populated cities, as present urban design principles are insufficient to include PS. According to the observations and behavioural maps produced in Stages 1 and 2, solitary use dominates some visited POSs. However, the HKPSG generally focus on allocating social and active recreation areas, often neglecting the significance of solitary utilisation. Our study suggests that urban planners should reassess these standards to accommodate both solitary and social uses. When reassessing the standards and reconsidering the design of public space affordances, planners and policymakers should carefully consider the context and avoid generic design norms. For example, a local news report (Lam, 2017) stated that complaints have been made about three single public seats on the Sands Street ramp in Hong Kong's Western District because they are useless and costly. The seats are located on an open ramped street, separated from the pedestrian path by fences and directly facing the street without any cover or shade. The inappropriate location and uncomfortable surroundings make sitting undesirable but open to criticism. These three seats were reported to cost HK$85,000 and are criticised by the residents, who refer to them as 'the lonely Dragon Thrones'. This case on Sands Street demonstrates a lack of thoughtful and contextually inappropriate proposals for POS solitary behaviour affordance.

The strict regulations and hostile architecture observed in some POSs also detract from their potential as refuges for solitary users. The signage regarding restrictions and physical barriers indicates the need for more adaptable design considerations. In addition to the ease of maintaining and providing security (Lai, 2017: 59), urban design

should also consider inclusivity and accessibility, thus ensuring that public spaces can be enjoyed by all, including those who prefer solitude.

5. Conclusion

This study highlights the importance and value of PS in POSs in Hong Kong and other densely populated urban contexts. Through quantitative and qualitative methods, including behavioural mapping and participant observation in Sham Shui Po, Kowloon City and Kwai Tsing, we explored how Hong Kong residents use these spaces for solitary activities and the spatial characteristics of these spaces that support such use.

Our findings indicate that many POS users in Hong Kong actively seek solitary experiences. This preference for solitude challenges conventional urban design paradigms and principles that prioritise social interaction over solitary recreation. Our study shows that POSs can serve as vital refuges for individuals seeking respite from the city's hustle and bustle, offering a sense of secrecy, privacy, and community. The implications of the study for urban design involve revising current POS design guidelines to accommodate and support PS inclusively. Hong Kong's POS should foster a spectrum of activities, balancing opportunities for PS with those that accommodate social interaction and collective activities. While our findings highlight a tendency for PS, this does not imply an intentional design strategy to exclude social behaviours. PS is just one aspect of public space usage. Instead, we suggest that spatial configurations, management practices, and socio-cultural factors may inadvertently encourage individual along with collective engagements. PS represents one of many public space experiences. It is essential to ensure that POSs remain inclusive and flexible, catering to various activities ranging from quiet reflection to dynamic social interactions.

In conclusion, our study enhances the understanding of the value of PS in high-density urban contexts such as Hong Kong. By recognising the need for PS in urban planning and POS design, the authors found much potential to create more balanced and inclusive POSs that cater to diverse user needs, including PS and social use. Therefore,

we advocate for more cross-cultural and cross-territorial studies on POS that consider PS. Environmental affordances that facilitate both positive solitary experiences and social interaction can enhance the overall quality of urban life, well-being, and resilience in densely crowded urban areas.

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