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Exploring the Inclusive Potential of Pet Parks From the Perspective of Spatial Justice: Hong Kong's Experience and Implications

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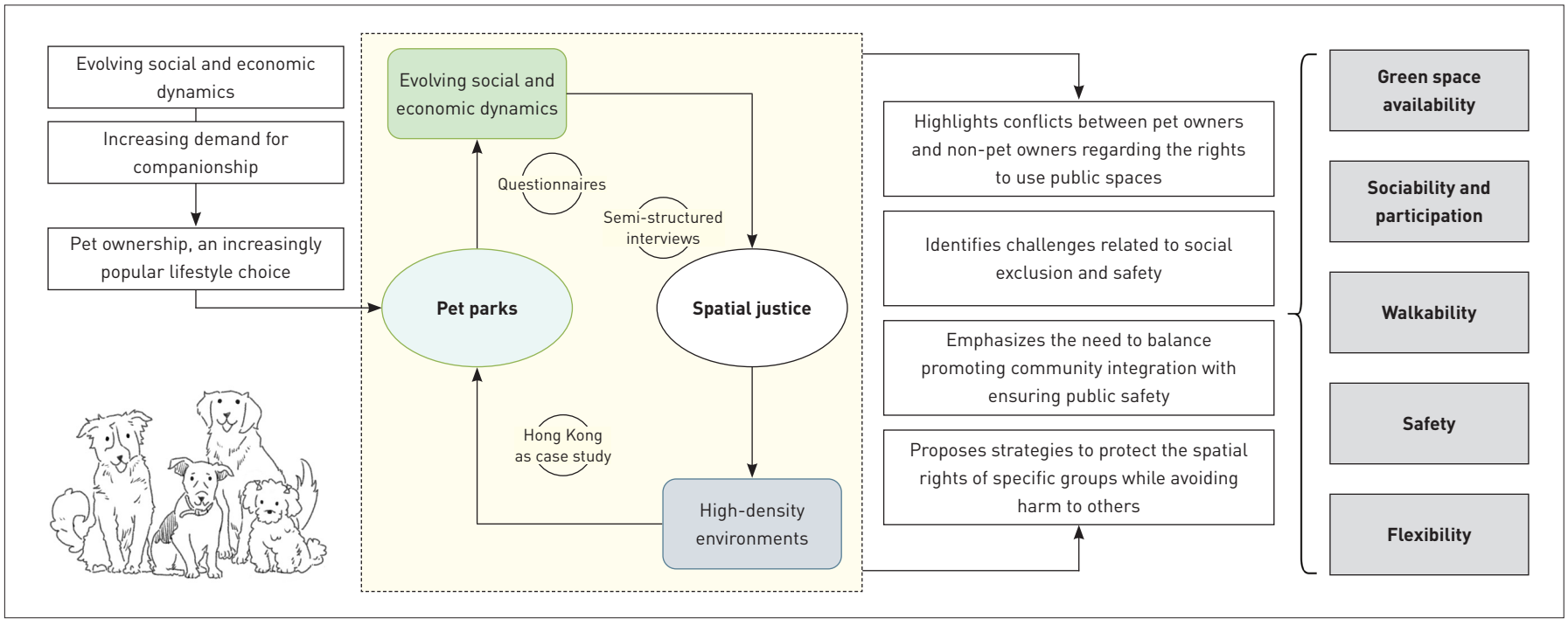
GRAPHICAL ABSTRACT



ABSTRACT

As social and economic dynamics continue to evolve and the demand for companionship increases, pet ownership has become an increasingly popular lifestyle choice. Pet parks, as a new form of urban public space, are gaining significant attention. This study, grounded in the theory of spatial justice, employs a combination of questionnaires and semi-structured interviews to evaluate four representative pet parks in Hong Kong, China. It explores how pet parks, as inclusive green infrastructure in high-density environments, contribute to urban community well-being and broader spatial justice. The study reveals the conflicts between pet owners and non-pet owners regarding the rights to use public spaces, examining how to guarantee the spatial rights of specific groups while avoiding harm to others. The findings indicate that green space availability, sociability and participation, walkability, safety, and flexibility in pet parks play a positive role in achieving urban spatial justice. However, pet parks also face challenges

related to social exclusion and safety, requiring a balance between promoting community integration and ensuring public safety. This study offers valuable insights for the development of pet parks, the creation of vibrant and diverse public spaces, and the promotion of harmonious human-animal environments in cities across China and other Asian countries.

KEYWORDS

Pet Park; Green Space; Public Space; Spatial Justice; Inclusivity; Hong Kong

HIGHLIGHTS

- Applies the spatial justice theoretical framework to the study of pet parks in an Asian city for the first time
- Explores the contribution of pet parks as inclusive green infrastructure in high-density environments to urban community well-being and spatial justice
- Points out that the frequency of pet park use is significantly correlated with its proximity, accessibility, affordability of use, and daily usage duration
- Highlights the green space availability, sociability and participation, walkability, safety, and flexibility in pet parks as factors conducive to realizing urban spatial justice

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1 Introduction

Shifting socio-economic trends and an increasing desire for companionship have propelled pet ownership into a burgeoning lifestyle choice[1]. The past decade has witnessed a substantial surge in pet ownership across Asian countries, including China, Singapore, Japan, and Republic of Korea[2]. By 2024, the global dog population is projected to reach 900 million and continue growing[3].

This global urban phenomenon of rising pet ownership has heightened the demand for services and facilities that support human-animal coexistence[4]. Amid escalating concerns over global aging, "pet-friendly" environments have also emerged as a crucial factor in developing age-friendly, healthy cities and promoting active aging[5][6]. Dog ownership, once primarily a private affair, has evolved into a more public behavior necessitating support from shared spaces[7]. Thus, it is crucial to reassess the intricate relationships between humans, animals, and the environment, and to incorporate these considerations into urban design, cultivating resilient and sustainable cities[7][8].

Over the past few decades, many local policies worldwide have actively responded to such needs at the planning level. In 1979, the world's first pet park was introduced into the North American urban landscape[2], and this concept gradually spread to cities across Europe, Asia, Africa, and Oceania. In Asia, for instance, the pet economy has flourished in recent years, with a rise in pet-friendly services and infrastructure (such as pet parks, pet grooming, pet training schools, and veterinary hospitals). Among these, pet parks have emerged as the fastest-growing types of shared landscape infrastructure[9]. These novel urban public spaces are considered innovative, scientifically grounded, and effective in reconciling conflicts between pet owners and non-owners[7], fostering a harmonious environment for human-pet coexistence[10].

2 Literature Review

2.1 The Rise of Pet Parks

Pet ownership encompasses a wide variety of animals, ranging from common companions such as dogs, cats, fish, and birds to less conventional choices like lizards. Pet parks, in this context, can be conceptualized as purposefully designed outdoor spaces with a certain scale, catering to the recreational needs of this broad spectrum of animal companions①. While some pet parks exist as

① This study focuses on pet parks specifically designed for dogs; therefore, the term "pet park" in the following text refers to dog gardens.

standalone projects, the majority are integrated within existing urban green spaces. These enclosed yet publicly accessible areas provide a safe environment for pets to roam freely off-leash, facilitating exercise and social interaction for both animals and their human companions[2]. These shared spaces also foster trust among pet owners, catalyze community engagement, and strengthen social bonds between residents, thereby creating a novel form of public space[11][12]. Furthermore, pet parks challenge anthropocentric urban paradigms by establishing what can be termed a "canine heterotopia"—a space that embodies the concept of a more-than-human world[13][14]. Within these environments, pets can exhibit their natural behaviors, effectively sharing the urban experience with their human counterparts.

While global planning guidelines offer some direction for pet park design and planning—addressing aspects such as human and pet spaces, shelter facilities, seating, greenery, ecology, and paving quality[4][7][15][16]—the spatial layout and design of pet parks vary significantly across different contexts. In Western countries, pet parks typically feature expansive grassed areas of approximately one acre (4,000 m^2), complemented by owner rest areas, shaded zones, and picnic facilities[15][17]. Eastern European pet parks are primarily designed for pet training, incorporating obstacle courses for pet-human interaction and minimal seating[14]. In China, Hong Kong's pet parks present yet another model, characterized by fenced enclosures with double-gate systems to prevent pet escapes. These parks often include dedicated recreational facilities and resting lawns for pets, alongside essential amenities such as dog excreta collection bins, hand-washing facilities, and drinking fountains (Fig. 1). Recognizing the growing demand for diverse public spaces and the potential to enhance residents' quality of life and social inclusion, other Chinese cities have recently begun planning and constructing pet parks.

While pet parks are increasingly becoming a focal point in public discourse, empirical research on their planning, design, and utilization remains notably limited[18], particularly within the Asian context. Existing urban planning research predominantly explores the potential public benefits of these spaces. Studies indicate that pet owners' journeys to and from pet parks contribute significantly to the physical and mental well-being of diverse demographic groups, with particular benefits observed in children and the elderly[19][20]. Furthermore, these spaces have been shown to facilitate social engagement among individuals with cognitive impairments[21]. The presence of animals, including birds and dogs, enhances the attractiveness of these parks, potentially encouraging physical activities even among non-pet owners[22]. The accessibility and proximity of pet parks to residential areas emerge as critical factors influencing their usage frequency and public perception[23]. These spaces play a pivotal role in fostering social interactions among residents[24], with pet owners demonstrating a higher propensity to engage with public spaces compared with non-pet owners[11]. Moreover, pet parks cultivate unique social dynamics, where users often interact with each other, actively participate in the stewardship and maintenance of these shared spaces[11], and develop a profound sense of place attachment[1][11].

2.2 Pet Parks and Spatial Justice

Urban spatial inequality manifests in multifaceted forms. Contemporary research predominantly emphasizes distributive justice, addressing the inequitable allocation of urban spatial resources, spatial differentiation, and the inadvertent clustering

1. A typical pet park in Hong Kong, providing facilities for pet entertainment, drinking, and excreta collection.

→ © Izzy Yi Jian, Jiemei Luo, Caterina Villani, Kin Wai Michael Siu

of demographic groups in specific locales[25]. Edward W. Soja propounded a vision of spatial justice that advocated for diverse social groups to engage freely and dynamically in the production and consumption of space under relatively equal conditions, thereby safeguarding the exercise of spatial rights[26]. This conceptualization of spatial justice complements and extends notions of distributive justice, the urbanization of social justice, and Henri Lefebvre's work on "the right to the city."[27]

Broadly conceived, spatial justice aims to promote the inclusivity and accessibility of public spaces for all residents[28]. In the context of public spaces, the spatial justice performance extends beyond equitable distribution to encompass the functionality and inclusivity of spaces at a local scale, emphasizing the capacity of public spaces to meet diverse group needs, particularly those of marginalized populations[29]. The authors previously developed a research framework for evaluating spatial justice performance in urban public open spaces, comprising five dimensions: access and management, sociability and diversity, demand and provision, social stratum and information, and social inclusion[29]. They posit that optimizing spatial justice performance hinges on enhancing spatial accessibility and proximity, fostering community connections, improving social inclusivity, and enriching social interaction[29][30]. A holistic consideration of these factors facilitates the creation of truly universal public spaces that transcend individual socio-economic constraints[30]. Applying this theory to pet parks, especially given scarce urban land resources, necessitates examining their potential as open, inclusive public spaces and the impact of their spatial characteristics on the social environment, with particular attention to their usability across all social groups. While investigating how pet parks accommodate and expand the spatial rights of pet owners, it is crucial to explore strategies for mitigating potential infringements on non-pet owners' rights and actively enhancing their benefits. This study pioneers the application of the spatial justice theoretical framework to outdoor public green spaces, specifically pet parks. It aims to broaden the theory's explanatory power in specialized space categories, elucidate the justice tensions and integration potential of pet parks in urban contexts, and provide theoretical underpinnings for policy formulation.

While urban studies concerning animal spaces and geography are proliferating, there remains a notable paucity of relevant research in East Asia[31]. Moreover, investigations into the relationship between pet park design, spatial characteristics, and spatial inclusivity are particularly scarce[4]. Such existing research often overly focuses on exploring the relationship between space and direct users (mainly pet owners), potentially overestimating the inclusivity of pet parks as new urban public spaces for broader social groups. In addition, the inflexible design of pet parks in some cities restrict their ability to accommodate a variety of activities, thereby limiting their potential contribution to public interests, particularly in terms of advancing broader urban spatial justice[32].

2.3 Social Impact of Pet Parks on Communities

Pet parks not only serve as spaces for interaction and relaxation of pets and their owners, but also exert profound social impacts on communities. Scholars in animal geography and critical pet studies conceptualize pet parks as urban spatial practices that continuously shape human-animal relationships within social contexts[33][34]. Daniel Matisoff et al. have explored pet parks as part of the "new commons," viewing them as embodiments of local resources that residents collectively utilize, enhance, manage, and preserve[11]. Public participation in the rule-making and maintenance of pet parks represents a localized collective practice and place-making process. This engagement fosters the generation of places with shared information and norms[35], and correlates significantly with increased collective actions and a heightened sense of community belonging[11].

However, tensions between pet parks and other urban public spaces are emerging. Akin to specialized areas like skate parks, pet parks are enclosed spaces with highly dedicated design purposes, primarily for pet exercise and interaction. Their openness and accessibility often hinge on the localized practices of a select group of users[36][37]. For example, research indicates that fences and gates, as fundamental spatial features of pet parks, mirror the physical demarcations of gated communities. These boundaries, ostensibly for safety and reputation maintenance, implicitly embed exclusionary mechanisms in their design[14]. This approach potentially contradicts the core principle of public spaces being "open and freely accessible to all," potentially eroding residents' trust in park management and local authorities[11][37]. Due to the frequent utilization by certain residents, often those of higher socioeconomic status, and their pets[35], pet parks may disproportionately serve specific social groups (pet owners) and species (predominantly dogs), while overlooking the needs of other community members. This trend risks diminishing the public nature of these spaces and may adversely impact the well-being of some residents[4][26].

Beyond evident spatial segregation, the emergence and proliferation of pet parks underscore the commercialization and

privatization of urban spaces mediated by pets. This phenomenon aligns closely with the development of neoliberal spaces, reflecting users' gender, class, racial characteristics, and privileges[38][39]. Research on the formation of dog-landscapes in Chicago of the USA illuminates their profound impact on social structures. These landscapes have become integral to middle- and upper-class lifestyles, often resulting in the displacement of economically disadvantaged residents from their original communities[40]. Paradoxically, in the process of gentrification, while affluent groups ostensibly advocate for community diversity, they simultaneously establish usage norms for pet parks. This practice effectively delineates the "insiders" of these spaces, leading to the marginalization of economically disadvantaged minority groups and those perceived as "outsiders"[35].

In cities with limited green spaces, the planning and governance of urban public areas present significant challenges[41]. The alignment of enclosed green spaces designated for specific uses with the diverse interests of communities in high-density urban environments remains an unexplored area of research[14][35]. Moreover, questions arise regarding the capacity of these novel public spaces to accommodate flexible use, foster inclusivity, and contribute to urban sustainable development through the creation of shared green spaces[4][40]. Consequently, it is crucial to develop a conceptual framework for inclusive infrastructure, grounded in spatial justice theory, to evaluate the potential of pet parks in providing accessible and open public spaces that cater to a wider urban demographic.

Although relevant research has constructed a theoretical framework of spatial justice to explore Hong Kong's public spaces[42], studies focusing on pet parks under this theoretical framework are still in their early stage. Given that Hong Kong is one of the most densely populated areas with the scarcest public spaces in the world, this study chose Hong Kong's pet parks as the research object. Through questionnaires and semi-structured interviews, it collected and analyzed the views of pet park users on the following questions. 1) How do social and spatial factors work together to foster inclusive use of pet parks? And 2) how can the role and function of pet parks be reconceptualized within the theoretical framework of spatial justice? The aim of this study is to examine how pet parks contribute to the understanding of public spaces, analyze their potential in advancing broader spatial justice performance in urban environments, and investigate how pet parks can effectively address diverse social groups' needs and foster social inclusion while maintaining their primary function as human-animal interaction spaces.

3 Research Methods

3.1 Sample Selection

Hong Kong, with its exceptionally high population density and compact built environment[43], faces intense competition for urban public space usage[44]. The city serves as an exemplary case for examining the spatialization of pet-keeping in high-density urban settings[45]. In 2018, Hong Kong reported approximately 220,000 pet dogs, with ownership concentrated among households earning HK$40,000 or more per month, reflecting the high costs of pet keeping[46]. By May 2024, Hong Kong had established 52 pet parks and 175 inclusive parks for pets[47][48]. Nevertheless, the majority of public spaces in Hong Kong continue to prohibit dogs, and public transportation systems, including buses and subways, only allow guide dogs.

This study examined four pet parks, including Ma On Shan Sai Sha Road Pet Garden (MOS), Butterfly Valley Road Pet Garden (BVR), Sung Wong Toi Playground (SWT), and the Central Section of the Central and Western District Promenade (CWP). These sites represent diverse community types within Hong Kong, encompassing new towns, older dense low-income neighborhoods, recently developed areas within the historic downtown, and the central business district (Table 1). The selected parks, chosen for their popularity, ensure the collection of sufficient user data for analysis.

3.2 Questionnaire Design

Survey questionnaires can effectively analyze pet parks' contributions to urban sharing practices, social capital enhancement, and increased participation[11]. In this study, the questionnaire was based on variables from existing research[29] and expands the spatial justice conceptual framework by incorporating multiple variables essential for exploring the characteristics of shared practices in pet parks. The questionnaire comprised two parts. The first part includes 47 questions across 12 dimensions: accessibility and proximity (A), walkability (B), community sharing (C), sociability (D), diversity (E), safety (F), maintenance (G), management (H), participation (I), amenities and facilities (L), design (M), and spatial provision (N). Each question corresponds to a certain variable within the corresponding dimension. For instance, question C3, "If I look at people in this park, I recognize someone I did not expect to meet here," was to assess the "user diversity" variable in the "community sharing" dimension; question H2, "When using this park, I do not feel constrained because of strict rules," was to evaluate the "intensity of rules and regulations" variable in the

Table 1: Basic information of the sample pet parks

Park name	Completion time	Area (m^2)	Location/ park type	District	Number of pet parks in the district	Surrounding community type	Main public facilities	Opening hours
MOS	2009	2,360	Beneath the overpass	Sha Tin District	1	New town	Seating, dog excreta collection bin, dog toilet, lawn for dogs	All day
BVR	2014	7,000	Beneath the overpass	Sham Shui Po District	3	Older dense urban neighbourhood	Temporary restroom, pet activity area, pet play facility, dog excreta collection bin	7:00 ~ 24:00
SWT	2019	1,880	Within an urban park	Kowloon City District	4	Recently developed neighbourhood	Drinking fountain, wash basin, dog excreta collection bin	All day
CWP	2014	4,700	Within an urban park	Central and Western District	5	Central business district	Restroom, hand washing facility, pavilion, dog excreta collection bin, lawn	All day

"management" dimension; question I2, "I hold others accountable for park rules," was to assess the "voluntarily helping monitor others' compliance with park rules" variable in the "involvement" dimension[49]. To quantify respondents' agreement levels, the questionnaire employed a five-point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree).

The second part of the questionnaire included 21 questions designed to understand pet park users' usage habits, purposes, motivations, and socio-demographic characteristics. Following the initial questionnaire design, the research team conducted a pre-test with 10 volunteers to evaluate the questionnaire's format, question wording, and effectiveness of the overall design. Based on the feedback, the questionnaire was refined and finalized. To accommodate different language preferences, the questionnaire was available in both Chinese and English.

3.3 Data Collection

This study required questionnaire respondents to have visited their evaluated pet park at least once in the past three months and to be familiar with its surroundings. Pet ownership was not a prerequisite for survey participation. The questionnaire survey was conducted from January to April 2022. While a small number of questionnaires were distributed on-site, the majority were distributed online, following common practices in similar research[12]. Participants who indicated willingness for follow-up interviews were contacted via telephone.

To expand the data collection scope, social media platforms were utilized to recruit participants from local interest groups typically joined by community members and pet owners. Completing the questionnaire took approximately 30 minutes. All respondents provided informed consent before beginning the answering. The study posed no risks, participation was voluntary, and no incentives were offered. Semi-structured telephone interviews, conducted in Chinese or English, lasted about 15 minutes for each. Interviewees shared their motivations for using the evaluated pet park and provided detailed insights into the parks' accessibility and diversity. Interview questions included "Do you think this park is enjoyed by people who are different from you (younger/older or from different ethnicity)?" and "Who benefits from Dog parks?" With consent, all the interviews were audio-recorded, transcribed verbatim, and then translated into English. The research team then discussed the interview content, reached a consensus on the conveyed meanings, and categorized the results thematically.

3.4 Data Analysis

This study employed exploratory factor analysis to further analyze the data collected from the first part of the questionnaire. This method categorizes variables that best explain each relative dimension based on their inter-correlation, reducing a large set of variables to a smaller number of core factors[50]. Initially, Pearson Correlation analysis was conducted using BIM SPSS Statistics 26.0 software. Concurrently, Cronbach's alpha, Kaiser-Meyer-Olkin (KMO) test, and Bartlett's test were used to ensure data reliability and validity. All variables were then transformed and standardized

to enhance the comparability and reliability of results. To balance the distribution of variables across factors, principal component analysis was employed to extract the main factors[29], with Equamax selected as the rotation method. Only variables with factor loadings above 0.6 were included in the final analysis. The number of factors was determined using a scree plot[29], ensuring both analytical accuracy and clear factor interpretation.

4 Research Results

4.1 Characteristics of Respondents

The survey received 156 valid responses (53 from MOS, 32 from BVR, 47 from SWT, and 24 from CWP). The majority of respondents were female (73.1%), Chinese nationals (91.7%), aged 30 ~ 39 (27.6%), and professionals (30.8%). Most lived in private housing (65.4%), held tertiary education or above (68.6%), reported monthly household incomes exceeding HK$40,000 (35.9%), and were childless (76.9%). Pet owners constituted 64.1% of respondents.

The socio-demographic characteristics varied significantly across the four parks. SWT had the highest proportion of pet owners at 87.2%. BVR and CWP had larger proportions of young people aged 18 ~ 21 (37.5% and 45.8%, respectively). BVR, located in one of Hong Kong's lowest average income areas (Sham Shui Po), had a higher proportion of respondents with monthly household incomes below HK$10,000 (25.0%). CWP attracted more younger adults (18 ~ 29 years old, 66.6%) and respondents from diverse cultural backgrounds (4.2% from other Asian regions, 8.3% from Europe and America, and 16.7% from other regions). Additionally, CWP had the highest proportion of respondents living in public housing (45.8%). A total of 46 respondents voluntarily participated in the semi-structured interviews: 9 from MOS (No. 1 ~ 9), 15 from BVR (No. 10 ~ 24), 10 from SWT (No. 25 ~ 34), and 12 from CWP (No. 35 ~ 46). Among them, 16 were non-pet owners (unless otherwise specified, interviewees mentioned in subsequent text were pet owners).

4.2 Pet Park Usage Preferences

Questionnaire results revealed that most pet park users walked to the park (66.7%), visited 2 ~ 5 times weekly (46.8%), and stayed for over 45 minutes per visit (28.2%). Due to the limited number of dog-friendly public spaces, pet owners often travelled considerable distances to reach pet parks—with a median journey of 1.6 km and an average of 5.4 km. Besides, other 14.1% used the subway and 10.3% drove.

Visiting patterns varied across parks. CWP saw higher usage on weekdays (20.8%), while SWT was used on both weekdays and weekends by 61.7% of respondents. The duration of visits also varied, with 66.0% of MOS users staying 30 minutes or less, while 53.2% of SWT users stayed for more than 45 minutes.

Correlation analysis revealed significant relationships between park usage frequency (O2) and factors such as park proximity influencing residential choice (A1, $r = 0.289$, $p = 0.000$), park accessibility (A2, $r = 0.287$, $p = 0.000$), affordability (A5, $r = 0.216$, $p = 0.000$), and daily usage duration (O4, $r = 0.276$, $p = 0.000$). Although frequent users often visited the park alone or with pets (O3, $r = 0.838$, $p = 0.000$), interview results indicated that pet owners had strong social motivations, including exercising, socializing their pets, and interacting with other owners. Park selection often depended on proximity to home and the availability of dog-friendly spaces. Interviews with SWT users showed that for 6 out of 10 interviewees, it was the only nearby pet park, while 7 chose it for its spaciousness, allowing dogs to run freely. Non-pet owners cited convenient transportation and proximity as primary reasons for using the park, with some pet enthusiasts attracted because "there are many dogs to watch."

4.3 Factor Analysis Results

The analysis yielded a Cronbach's alpha coefficient of 0.933, indicating high internal consistency and reliability of the questionnaire[51]. The KMO value of 0.864, coupled with the Bartlett's test result ($\chi^2 = 4{,}284.138$, $df = 1{,}128$, $p = 0.000$), confirmed the reliability and appropriateness of the factor analysis method[52]. Exploratory factor analysis distilled the questionnaire variables into a clear five-factor structure, collectively explaining approximately 50% of the total variance. The first factor accounted for over 28% of the total variance, with each subsequent factor explaining at least 4%. Factor loadings for selected variables ranged from 0.600 to 0.785, falling within acceptable parameters[53]. Through comparison with existing urban design considerations[29], the factors were identified as "green space availability," "sociability and participation," "walkability," "safety," and "flexibility."

5 Inclusive Potential of Pet Parks From a Spatial Justice Perspective

The questionnaire data analysis results indicated that the five factors mentioned above had significant impacts on the spatial justice performance of pet parks. The semi-structured interview

results further elaborated the findings of the factor analysis (Table 2).

5.1 Green Space Availability

The "green space availability" factor encompasses variables related to amenities and facilities, design, and spatial provision. Key variables cover the provision of exercise spaces (L4) and basic service facilities (L6), both considered essential for the park's inclusive potential and justice expression. Satisfaction with green space elements, particularly "enough grass area" (M4) and "enough large trees" (M3), emerged as crucial. Additional variables reflect satisfaction with fair spatial allocation, including park size (N1) and the number (N2) and size (N3) of community public spaces.

CWP, which allows pets throughout and operates 24 hours, exemplifies these factors. Interviewees reported engaging in diverse activities in such larger pet parks, including picnicking and jogging with pets, and elderly visitors exercising with companions. Some interviewees, constrained by work schedules, frequently used the park at night (No. 41 interviewee). SWT users predominantly valued the park's greenery, noting its positive impact on the entire

Table 2: Conceptual framework for understanding the inclusive potential of pet parks from the perspective of spatial justice

Factor	Variable	Factor loading	Eigenvalue	Percentage variance (%)
Green space availability	M4: I feel there is enough grass area in this park	0.726	13.793	28.735
	L6: I think there are enough public facilities (e.g., toilets, vending machines)	0.710		
	N2: I am satisfied with the number of open public spaces in this district	0.679		
	L4: I think there is enough space for active recreational activities (e.g., doing exercise, dancing)	0.675		
	N1: I am satisfied with the size of this park	0.655		
	N3: I am satisfied with the size of the open public spaces in this district	0.650		
	M3: I feel there are enough large trees in this park	0.603		
Sociability and participation	D1: I interact with other visitors in this park	0.785	3.685	7.677
	C3: If I look at people in this park, I recognize someone I did not expect to meet here	0.733		
	C4: If there are problems in this park, I am willing to help resolve conflicts	0.700		
	I2: I hold others accountable for park rules	0.692		
	D2: I think this space favors social interaction	0.616		
Walkability	B2: I think the walking experience to reach this park is pleasant	0.684	2.425	5.053
	B1: I can easily walk from my starting place to this park	0.679		
Safety	F2: I feel safe using this space at night	0.747	2.150	4.479
	G1: I think this park is well maintained	0.653		
	M6: I feel there is enough lighting when it is dark in this park	0.637		
	G2: I feel the facilities (e.g., public furniture, landscape) are in good conditions	0.605		
Flexibility	H2: When using this park, I do not feel constrained because of strict rules	0.650	1.914	3.988
	L2: I think this park provides adequate seating and public furniture	0.623		

community. Even first-time visitors expressed that "everyone would like this green park" (No. 27 interviewee).

Some interviewees noted an evolution in human-pet relationships from ownership to companionship, emphasizing the need for shared outdoor spaces and pet acceptance (No. 2 interviewee, non-pet owner). Several interviewees also considered pet parks to be important, but highlighted the scarcity of suitable pet spaces in Hong Kong (No. 28 and No. 37 interviewees). While 81.40% of questionnaire respondents supported expanding pet-friendly public spaces, there was interviewee advocating for animal rights and the health benefits of dog parks for both pets and owners (No. 6 interviewee). Meanwhile, a minority (3.85%) of respondents opposed expanded pet access, emphasizing the need for increased awareness of pet-related disturbances. Some other interviewees raised concerns about hygiene, pet control, and public acceptance, suggesting that pet access should be contingent on owners maintaining cleanliness (No. 4 interviewee, non-pet owner).

5.2 Sociability and Participation

Sociability and participation factor includes variables of community sharing, sociability, and participation. It examines the park's capacity to stimulate and promote communication and interaction among users (C3, D1, D2), as well as users' sense of belonging and responsibility towards the park (C4, I2).

Consistent with previous research findings, this study confirmed pet parks' effectiveness in connecting community groups. These spaces gathered users with a shared interest in pets within a small public space, encouraging spontaneous social interactions, fostering a sense of community belonging, and strengthening the bonds and commitments between pet owners. Correlation analysis revealed that users who chose to live near the park (A1, $r = 0.301$, $p = 0.000$), visited frequently (O2, $r = 0.173$, $p = 0.031$), helped resolve conflicts (C4, $r = 0.472$, $p = 0.000$), ensured compliance with park regulations (I2, $r = 0.392$, $p = 0.000$), and participated in maintenance (I3, $r = 0.274$, $p = 0.001$) experienced a stronger sense of community (C2). Additionally, encountering users from diverse geographical or cultural backgrounds (E1) correlated with increased sense of community (C2, $r = 0.424$, $p = 0.000$) as well.

Interview results further illuminated these findings. CWP users were described as "very diverse," including local office workers and foreigners (No. 36 interviewee). Some interviewees also noted that pet dogs often serve as catalysts for social interactions between neighbors and strangers, including those who do not own pets (No. 11 interviewee, non-pet owner). SWT emerged as a popular venue for pet exercise and training, as well as parent-child interaction (No. 31 interviewee, non-pet owner). An interviewee of MOS, a local cleaner and non-pet owner, viewed the pet park as a respite from daily routine. However, No. 31 interviewee also perceived pet parks as potentially exclusive spaces primarily benefiting pet owners, despite their seemingly open nature.

5.3 Walkability

Walkability factor reflects users' walking experience to and from the park, including whether it is accessible on foot (B1) and whether the walking experience is positive (B2).

As mentioned earlier, pet park users highly valued the proximity of the park to their residences and the walking convenience. They often perceived the park's spatial boundaries (such as enclosed or not) based on its location and design. At the same time, given the restrictions on carrying pets on public transportation in Hong Kong, the opportunity to walk to a pet park becomes even more important. No. 32 interviewee noted that SWT, adjacent to major residential areas, had high walking accessibility and was a relatively large pet park rare in the surrounding area. Questionnaire results also showed that MOS and BVR, located in slightly remote areas, had relatively lower walkability, increasing visitors' cost of using pet parks. However, some interviewees pointed out that BVR was large in scale and with convenient parking facilities, which compensated for its lack of walking accessibility (No. 12 interviewee).

5.4 Safety

Safety factor includes variables related to design, safety, and maintenance, with particular emphasis on the park's night lighting (M6) and the perceived safety of nighttime users (F2), i.e., whether the space provides a safe environment, especially when used at night. Variables related to the safety of public service facilities in the park include users' satisfaction with park maintenance (G1) and the operational status of public facilities (G2).

Previous studies have highlighted that pet parks offer positive social externalities in reducing community crime rates and enhancing community safety[2]. Active users of pet parks naturally provide surveillance of the space, acting as "eyes on the street."[54] In pet parks, the directly perceived safety is influenced by two key relationships—between humans and pets, and between humans. For example, interview results showed that "dog barking may affect families who want to picnic in the park, making them feel uncomfortable," and some citizens who fear dogs may "not necessarily know how to interact with dogs," thus "dislike animals," leading to further human-pet conflicts (No. 30 interviewee). No. 22 interviewee, a non-pet owner, believed that the society should

increase public education efforts to raise pet owners' awareness and ability to manage pets in public places to avoid accidents; and this improvement should be built upon a foundation of well-supplied and maintained pet facilities, "especially the maintenance of (venue) cleanliness."

Correlation analysis results showed that respondents' perceived safety (F2) was significantly correlated with expectations that other visitors comply with park regulations (I2, $r = 0.273$, $p = 0.001$), active participation in park maintenance (I3, $r = 0.259$, $p = 0.001$), and social interactions within the park (D1, $r = 0.290$, $p = 0.000$). This implied that for pet parks, safety was linked to the social capital built through active user engagement. Meanwhile, this study found that although homeless people were potential users of pet parks, the inclusivity of these spaces for them was relatively limited. Questionnaire statistics showed that about 32.1% of respondents felt uncomfortable seeing homeless people in pet parks, while about 25.0% held a neutral attitude. Safety issues are closely related to the establishment of social boundaries, which determine who is welcome and who belongs in public places. The potential sense of insecurity associated with the presence of homeless people might be mitigated through effective park maintenance (G1, $r = 0.284$, $p = 0.000$) and the upkeep of facilities (G2, $r = 0.223$, $p = 0.005$)[55].

5.5 Flexibility

Flexibility factor includes two variables of management and amenities and facilities, namely whether the pet park enforces strict usage regulations that make people feel constrained (H2) and whether it provides adequate recreational facilities (L2).

The design of pet parks, especially the provision of recreational facilities such as seating, is very important for park users. For example, No. 9 interviewee noted that the park offered very limited recreational facilities, lacking tables, chairs, and rain shelters, with only the small grassy area receiving positive feedback. No. 44 interviewee pointed out that the lack of recreational facilities meant that, aside from pet owners, the park could only attract elderly people playing chess during off-peak hours. It is worth noting that most interviewees agreed that more pet-friendly facilities should be added.

6 Conclusions

Pet parks, as an emerging form of urban public space, are garnering increasing attention globally, particularly in high-density Asian cities. This study, grounded in the spatial justice theoretical framework, employed questionnaires and semi-structured interviews to examine how pet parks in Hong Kong's high-density environment function as inclusive green infrastructure, enhancing urban community well-being and contributing to broader spatial justice. The research expanded the explanatory power of spatial justice theory in specific public spaces, focusing on the trade-offs between pet owners and non-owners regarding public space usage rights. It explored the interest-driven nature and complexity of urban public space allocation, examining how to protect specific groups' spatial rights while safeguarding others' interests. The findings reveal that greater green space availability, sociability and participation, walkability, safety, and flexibility of pet parks are conducive to realizing urban spatial justice.

By frequently and regularly sharing specific spaces and through a shared care for pets, pet park users can gather and engage in informal social activities. Community awareness, participation in public spaces, sense of integration, and responsibility are crucial for the construction of inclusive green infrastructure. Although this sense of community promotes the accumulation of social capital, it may also have negative impacts on pet parks, such as increased pressure within the community and excessive concentration of power which weaken the inclusivity of the parks. Moreover, pet parks are facing challenges of social exclusion and safety issues, requiring a balance between promoting community integration and ensuring public safety.

The study advocates for a holistic approach to the spatial planning of pet parks, emphasizing public space multi-functionality and addressing diverse social group needs to reduce isolation, especially given limited urban green space resources. It recommends expanding public spaces for trained pets and their owners, and leveraging community organizations and professional trainers to promote inter-group understanding and create safe, civilized pet park environments. This research offers valuable theoretical and policy insights for Hong Kong and other Asian cities in formulating policies of human-animal interaction spaces. It also provides experience for Chinese cities initiating pet park development, guiding the creation of diverse, vibrant public spaces and harmonious human-pet environments.

Finally, given that this study primarily focuses on Hong Kong, applying the findings to other cities will require careful consideration on local contexts. Additionally, as data collection relied on retrospective self-reported questionnaires, and online surveys may have sample bias, future research should expand the sample size and types, taking into account the concerns of non-pet park users and the feedback of pet park users, especially focusing on the opinions and needs of special groups like the elderly. Future

research directions could include analyzing the social structures of communities near pet parks and conducting comparative studies on pet park governance based on social network data, to further explore their potential as inclusive green infrastructure that fosters social integration.

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ELECTRONIC SUPPLEMENTARY MATERIAL

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Competing interests | The authors declare that they have no competing interests.

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空间正义视角下的宠物公园社会共融潜力：香港经验与启示

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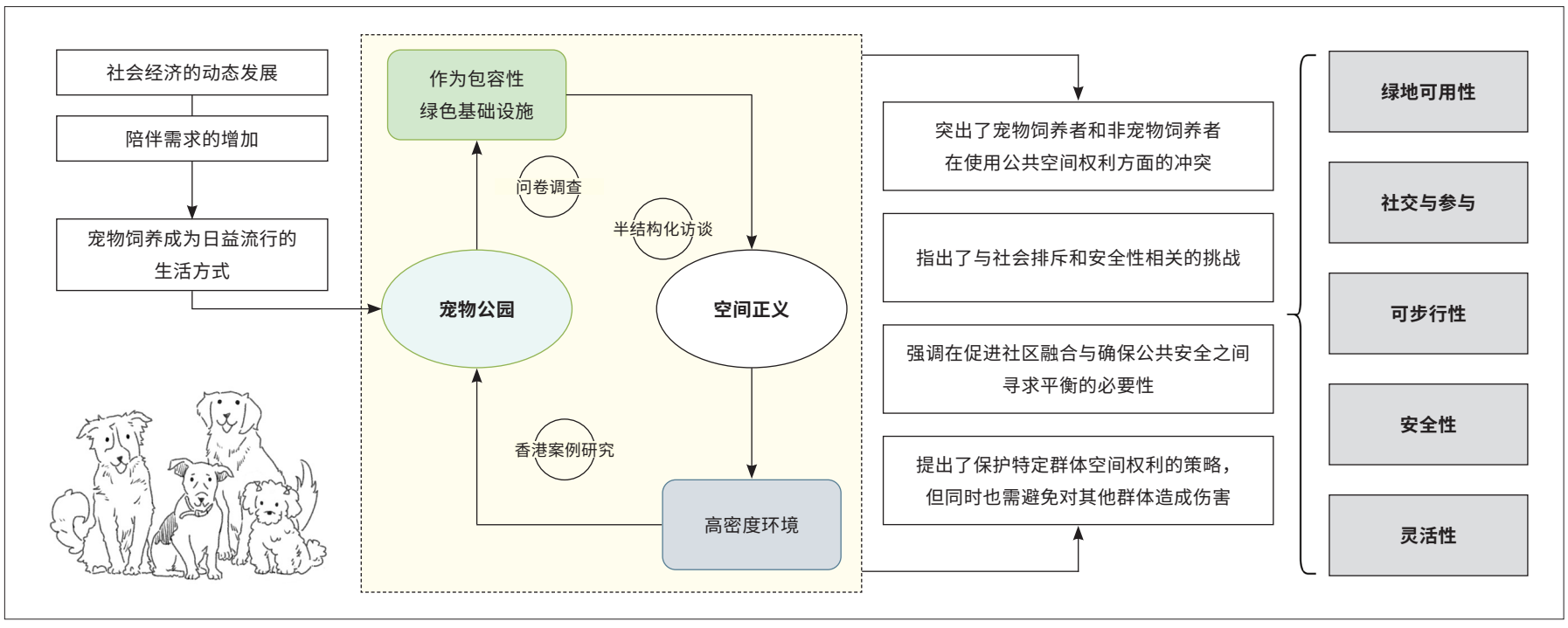
图文摘要



摘要

随着社会经济的不断变化及人们陪伴需求的增加，宠物饲养已成为一种日益普及的生活方式。作为城市公共空间的一种新型形式，宠物公园正受到越来越多的关注。本研究以空间正义理论为基础，通过问卷调查和半结构化访谈相结合的方法，评估了中国香港的四个代表性宠物公园，并探讨了在高密度环境下，宠物公园作为包容性绿色基础设施，如何促进城市社区福祉并为更广泛的空间正义作出贡献。研究揭示了宠物饲养者与非饲养者在公共空间使用权方面的博弈，探讨了如何在保障特定群体空间权利的同时，避免损害其他群体的利益。研究结果表明，宠物公园良好的绿地可用性、社交与参与、可步行性、安全性和灵活性对实现城市空间正义具有积极作用。然而，宠物公园也面临社会排斥和安全问题的挑战，需要在促进社区融合和保障公共安全之间找到平衡。本研究可为中国及其他亚洲城市在宠物公园建设、创造多元活力公共空间及促进人宠和谐环境方面提供科学支持。

关键词

宠物公园；城市绿地；公共空间；空间正义；共融；香港

文章亮点

- 首次将空间正义理论框架应用于亚洲城市的宠物公园研究中
- 探讨了高密度环境中宠物公园作为包容性绿色基础设施对城市社区福祉和空间正义的贡献
- 宠物公园的使用频率与其距离远近、可达性、使用可负担性及日常使用时长显著相关
- 指出宠物公园良好的绿地可用性、社交与参与、可步行性、安全性和灵活性有利于推动城市空间正义的实现

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编辑 王颖，周佳怡

1 引言

不断变化的社会经济趋势和陪伴需求的增加使得饲养宠物成为一种日益普及的生活方式[1]。在过去十年中，中国、新加坡、日本和韩国等亚洲国家的宠物拥有量大幅提升[2]。截至2024年底，全球宠物犬的数量预计达9亿只，且仍在持续增长[3]。

宠物拥有量的增加作为一种全球性的城市现象，对满足人类和非人类共存的服务和设施提出了更高的要求[4]。随着全球人口老龄化问题的加剧，“宠物友好”亦成为建设老年友好型健康城市和支持积极老龄化的关键因素之一[5][6]。而宠物犬饲养也已经从私人行为逐渐演变为一种更加公共、需要公共空间支持的行为[7]。因此，重新审视人、动物与环境之间的关系并在城市设计中加以考量，对于构建更具韧性和更加可持续的城市至关重要[7][8]。

在过去数十年中，世界范围内已有较多地方政策在规划层面对此类需求做出了积极回应。1979年，全球首个宠物公园出现在北美城市景观中[2]，后被逐渐推广至欧洲、亚洲、非洲和大洋洲的多个城市。以亚洲为例，近年来，宠物经济蓬勃发展，宠物友好型服务和基础设施（如宠物公园、宠物美容、宠物培训学校和兽医医院）数量不断增加，其中宠物公园更是成为一种常见的、增长最快的共享型景观基础设施[9]。这种新型城市公共空间被认为是缓解宠物饲养者与非饲养者之间矛盾[7]，营造人宠和谐共栖环境的创新、科学且有效的举措之一[10]，有助于提升居民生活质量、促进社会共融。

2 文献综述

2.1 宠物公园的兴起

广义上来讲，宠物既包含狗、猫、鱼、鸟等常见动物，也包含蜥蜴等较为冷门的动物。为上述各类宠物专门设置的具有一定规模的室外活动场地均可称为“宠物公园”①。一般来说，除少数宠物公园作为独立项目建设外，其他类似空间多附属于常规公园，是向公众开放的封闭空间，宠物可以不受牵引绳束缚在其中自由活动，为宠物及其饲养者提供了锻炼和互动的机会[2]。通过空间共享，宠物公园有利于提高饲养者之间的信任，促进社区参与和居民之间的社会联系，形成新型公共空间[11][12]。因此，宠物公园作为一种超越人类世的表达，颠覆了城市背景下的人类中心主义观念，营造了犬类的异托邦[13][14]。宠物得以在其中展现其自然行为，与人类共享城市生活。

全球各地的规划指南虽然对宠物公园的设计规划做出了一定的指导，涉及服务于人类和宠物的面积、遮阴避雨设施、座椅、绿化环境、铺地质量等[4][7][15][16]，但宠物公园的空间布局和设计仍呈现出极大的差异性。西方国家宠物公园的草地面积通常为1英亩（约4 000m^2），并设有饲养者休息区、阴凉处和野餐桌等[15][17]。东欧国家的宠物公园主要为训练宠物而设计，因而会配备供宠物与人互动的障碍设施，以及少量座椅[14]。中国香港的宠物公园一般设有围栏及双重闸门以防止宠物走失，部分场地设有专供宠物使用的游乐设施和休憩草坪，场地配套设施通常包括犬粪收集箱、洗手台、饮水器等（图1）。近几年，其他中国城市也在逐步规划与兴建宠物公园，以应对日益增长的公共空间多样化需求。

尽管宠物公园逐渐成为公共话语中的热门话题之一，但关于宠物公园规划、设计与使用的实证研究仍然非常有限[18]，尤其是在亚洲地区。大体而言，现有城市规划的相关研究多关注于宠物公园所提供的潜在公共利益。例如，宠物饲养者在前往与使用宠物公园的过程中与宠物一起

① 本文的研究对象是专门为宠物犬设置的宠物公园，因此下文提及的“宠物公园”均指代此类公园。

散步，这不仅有助于不同人群（特别是儿童与老年人）的身心健康[19][20]，还能促进认知障碍者的社交活动[21]。此外，宠物公园中动物（包括鸟类、狗等）的存在也能使该空间更具吸引力，甚至鼓励非宠物饲养者进行更多的体育锻炼[22]。宠物公园可达性对遛狗活动有显著影响，宠物公园与居民区的邻近程度亦是决定其使用频率和感知的关键因素之一[23]。宠物公园在居民的社会交往中也发挥着重要作用[24]——宠物饲养者比非宠物饲养者更倾向于进入与使用公共场所[11]；而宠物公园的不同使用者也常常彼此互动，深度参与共享空间的巡视和维护[11]，并表现出更深的场所依恋[1][11]。

2.2 宠物公园与空间正义

城市空间不平等的表现形式多样。当前研究多聚焦于分配正义，涉及城市空间资源的不均衡分布和空间分异，以及群体在特定空间中的无意聚集[25]。爱德华·W．苏贾曾主张，应允许不同社会群体以相对平等的条件自由、动态地参与空间的生产与消费，以保障空间权利的行使[26]。这一有关空间正义的主张与分配正义、社会正义的城市化，以及列斐伏尔关于“城市权力”的研究相辅相成[27]。

广义上的城市空间正义指促进公共空间的包容性和可达性，以造福所有居民[28]。在公共空间的语境中，空间正义的表达不仅关乎分配的公正性，更涉及空间在局部尺度的功能性与包容性，关注公共空间是否能满足不同群体的需求，尤其是满足和保障边缘群体的需求及权益[29]。笔者曾在研究中提出城市公共开放空间的空间正义表达研究框架，全面评估了可达性与管理、社交多样性、供需关系、社会阶层感知及社会融合五个维度[29]，认为优化空间正义表达的关键在于增强空间的可达性和邻近性、促进社区的紧密联系、提升空间的社会包容度，以及丰富社交互动的层次[29][30]。对这些因素的综合考量有助于构建一个超越个体社会经济背景限制、真正普惠的公共空间[30]。基于这一理论，尤其在城市土地资源紧缺的情况下，探讨宠物公园的空间正义表达应关注其作为开放、包容的公共空间的潜力，以及其空间特性对社会环境的影响，特别是对所有社会群体的可用性。因此，在考察宠物公园如何包容并扩展饲养宠物居民的空间权利的同时，需探究如何有效减少对不携带宠物的公园使用者权益的潜在侵犯，积极维护他们的利益。本研究首次将空间正义理论框架应用于以宠物公园为代表的户外公共绿地，旨在扩展该理论在特殊空间类中的解释力，厘清宠物公园在城市环境中的正义张力和共融潜力，从而为相关政策的制定提供理论支持。

总体而言，与动物空间和地理相关的城市研究数量正呈上升趋势，但东亚地区的相关研究仍显不足[31]，重点关注宠物公园的设计和空间特征与空间包容性之间关系的研究也相对较少[4]。且这类研究往往过度聚焦于探讨空间与直接使用者（主要为宠物饲养者）的关系，从而可能高估了宠物公园作为新型城市公共空间对更广泛社会群体的包容性。此外，一些城市的宠物公园设计在功能设置上缺乏灵活性，使得相应空间难以满足其他活动的需求，这在一定程度上限制了宠物公园对公共利益的贡献，特别是在城市更广泛空间正义方面的潜力[32]。

2.3 宠物公园对社区的社会影响

宠物公园不仅为宠物及其饲养者提供了一个互动和放松的空间，也对社区有着深远的社会影响。一方面，动物地理学学者和批判性宠物研究将宠物公园视为社会空间中持续塑造人与动物关系的城市空间实践[33][34]。丹尼尔·马提索夫等人从概念视角探讨了宠物公园作为一种“新型公共空间”的作用——这些公园被视为当地资源的体现，居民能够集体使用、升级、管理和保护这类空间[11]。参与宠物公园的规则制定与维护是一种地方性的居民共同实践与空间营造，能够促进产生具有共同信息和规范的场所[35]，与更多的集体行动或更强烈的社区归属感显著正相关[11]。

另一方面，宠物公园与其他城市公共空间的矛盾也初见端倪。与滑板公园等特定的空间类型相似，宠物公园是具有高度专用设计目的（如供宠物锻炼和互动）的围合空间，其开放性与可达性常取决于少数使用者的在地性构建[36][37]。例如，有研究指出，栅栏和大门是宠物公园的基本空间特征之一，这种物理空间的界定类似于门禁社区，旨在维护场地安全和声誉，体现了一种设计上的隐性排斥机制[14]。这在一定程度上与公共空间“开放、所有人可以自由使用”的基本理念相悖，甚至可能使居民失去对公园管理者和地方当局的信任[11][37]。由于部分居民（通常经济状况较好）及其宠物的频繁使用[35]，宠物公园可能会更倾向于服务特定的社会群体（宠物饲养者）和特定的物种（通常为宠物犬），而忽视了其他居民的需求，这种趋势将导致其公共性降低，并可能会对部分居民的福祉产生负面影响[4][26]。

除了明显的空间隔离之外，宠物公园的兴起与发展也被认为凸显了以宠物为媒介的城市空间的商品化和私有化，与新自由主义空间的发展密切相关，体现了使用者的性别、阶级、种族特征和特权[38][39]。有研究展示了美国芝加哥宠物空间景观的形成过程及其对社会结构的影响——这些景观成为了中上层阶级生活方式的一部分，导致经济状况较差的居民被迫迁离[40]。而在士绅化过程中，虽然富裕群体倡导社区多样性，但实际上他们制定了宠物公园的使用规范，定义了这类公园真正的“主人”，使贫困少数族群和被视为“异类”的群体受到排斥[35]。

在绿地稀缺的城市中，规划和治理城市公共空间是一项颇具挑战的任务[41]，为某一特定用途划定围合绿地空间是否能够保障高密度城市环境中不同社群的利益仍有待探究[14][35]。这种新型公共空间能否服务于灵活的使用功能，从而在城市中创建包容和共享的绿色空间、助力城市可持续发展也受到质疑[4][40]。因此，以空间正义的理论框架为基准，构建一个共融基础设施的概念框架，来检视宠物公园能否为城市更广泛的人口群体提供可及和开放的公共空间十分必要。

虽然相关研究已构建了空间正义理论框架以探讨香港公共空间[42]，该理论框架下以宠物公园为主体的研究尚处于萌芽阶段。鉴于香港是世界上人口最稠密和公共空间最匮乏的地区之一，本研究选择香港的宠物公园作为研究对象，通过问卷及半结构式访谈方法，收集并分析了宠物公园使用者关于以下几个问题的观点。1）社会和空间因素如何协同发挥作用，以促进宠物公园的公平使用？2）如何在空间正义的理论框架下重新定义宠物公园的角色和功能？本研究旨在探讨宠物公园如何帮助我们更深刻地理解公共空间，分析其在促进城市更广义的空间正义表达上的潜力，同时探究在不妨碍构建人与动物互动空间初衷的前提下，宠物公园如何有效响应不同社会群体的需求，实现更广泛的社会共融。

3 研究方法

3.1 宠物公园样本选择

香港人口密集，建成环境密度极高[43]，城市公共空间的使用存在着激烈的竞争[44]，因此能够作为高密度城区养宠空间研究的典型案例[45]。2018年的统计数据显示，香港共有约22万只宠物犬；因养宠成本较高，月收入在4万港元及以上的家庭养犬占比最大[46]。截至2024年5月，香港已建成52个宠物公园和175个宠物共享公园[47][48]。但香港大部分公共空间仍禁止犬类进入，巴士、地铁等公共交通也不允许携带除导盲犬外的其他宠物犬。

本研究以马鞍山西沙路宠物公园（MOS）、蝴蝶谷道宠物公园（BVR）、宋王台游乐场（SWT）和中西区海滨长廊中环段（CWP）共4个宠物公园为研究对象（表1）。其所在地代表了香港不同类型的社区形态，即新市镇、人口稠密的低收入老旧社区、旧城新近开发社区，以及中央商务区；所选公园较受欢迎，能够确保收集到足够的用户数据。

3.2 问卷设计

调查问卷能够有效分析宠物公园在促进城市共享实践、提升社会资本和社区参与度方面的贡献[11]。本研究的问卷基于既有研究[29]的变量进行设计，同时扩展了空间正义的概念框架，纳入了深入探讨宠物公园共享实践特质所需考虑的多方面变量。问卷由两部分组成，第一部分包括47个问题，涵盖12个维度，分别是可达性和邻近性（A）、可步行性（B）、社区共享性（C）、社交性（D）、多样性（E）、安全（F）、维护（G）、管理（H）、参与性（I）、公共设施（L）、设计（M）和空间供给（N）。每个问题都与一个维度下的研究变量相对应。例如，问题C3“我觉得我会在这个公园中碰见意料之外的使用者”对应“社区共享性”维度下的“使用者多样性”变量；问题H2“在使用这个公园时，我没有因为严格的使用与管理规定而感到拘束”对应“管理”维度下的“规章制度强度”变量；问题I2“我会帮忙监督其他使用者是否遵守了公园的规定”对应“参与性”维度下的“自愿帮助监督他人遵守公园规则”变量[49]。同时，问卷引入李克特五级量表，用1~5分别表示“非常不同意”“不同意”“中立”“同意”和“非常同意”。

问卷第二部分包括21个问题，旨在了解宠物公园使用者的使用习惯、目的与动机，以及社会人口学特征。问卷设计完成后，研究团队首先对10名志愿者进行了预测试，以评估问卷的格式、问题措辞和整体设计的有效性，优化后生成最终问卷。为了满足不同使用者的语言习惯，问卷提供中英文两个版本。

表 1：样本公园基本信息

公园名称	建成时间	面积（m^2）	位置／类型	行政分区	行政分区内宠物公园数量	社区形态	公共设施	开放时间
MOS	2009	2 360	立交桥底	沙田区	1	新市镇	座椅、狗粪收集箱、宠物厕所、草坪（狗只活动区）等	全日
BVR	2014	7 000	立交桥底	深水埗区	3	人口稠密的低收入老旧社区	临时卫生间、宠物活动区、宠物游戏设施、狗粪收集箱等	7:00~24:00
SWT	2019	1 880	城市公园内部	九龙城区	4	旧城新近开发社区	饮水机、洗手设备、狗粪收集箱等	全日
CWP	2014	4 700	城市公园内部	中西区	5	中央商务区	卫生间、洗手设备、避雨亭、狗粪收集箱、草坪等	全日

3.3 数据收集

由于本研究针对性较强，问卷调查对象需在过去三个月中至少去过一次所填写的宠物公园且熟悉公园周边地区，而是否携带宠物并不是能否参与问卷调查的先决条件。问卷调查于2022年1~4月进行，除少量现场发放的问卷外，主要沿用同类研究中常见的在线网络问卷发放方法[12]，并对在问卷中表明愿意接受后续采访的参与者进行电话访谈。

为扩大数据采集范畴，本研究借助社交媒体平台，在社区成员、宠物饲养者等通常加入的本地兴趣群组中招募受访者。问卷填写耗时约30分钟，所有受访者在开始填写前均签署参与研究同意书，给予知情同意。本研究不涉及任何潜在风险，参与调查属自愿性质，未提供任何奖励。半结构式访谈采取中文或英文电话采访形式，耗时约15分钟。受访者需分享选择使用所评价宠物公园的动机，以及对宠物公园可达性与多样性更详尽的理解。访谈问题包括“您认为与您不同的人群（年龄或种族等）喜欢此公园吗？”“谁会受益于狗公园？”等。在受访者同意的前提下，对采访内容进行录音，并将其逐字转录，再统一翻译为英文。随后，研究团队就采访结果所传达的内容和意图进行讨论、达成共识，并进行归类。

3.4 数据分析

本文采用探索性因子分析法进一步分析了问卷第一部分收集的数据。该方法利用不同变量间的相关性，对最能解释每个相对维度的变量进行归类，从而将众多变量简化为少量核心因子[50]。首先，采用BIM SPSS Statistics 26.0软件对数据进行皮尔逊相关性分析，同时利用克隆巴赫系数、抽样适合性检验（KMO检验）、巴特利特检验来确保数据的信度和适用性。而后，对所有变量进行标准化处理，以提升结果的可比性和可靠性。为了使每个因子中的变量数量相对均衡，本研究使用主成分分析法来抽取主要因子[29]，并选择最大平衡值法作为旋转方法，仅选取因子载荷大于0.6的变量纳入最终分析。最终，因子数量的确定参考了碎石图[29]，以确保分析的准确性和因子解释的清晰度。

4 研究结果

4.1 受访者特征

调查问卷共收到156份有效答复（MOS共53份、BVR共32份、SWT共47份、CWP共24份）。总体而言，大部分受访者为女性（73.1%）、中国籍（91.7%），年龄为30~39岁（27.6%），属专业人士（30.8%）；他们居住在私有住房中（65.4%）、拥有大专及以上学历（68.6%）、家庭月收入逾4万港元（35.9%）、无子女（76.9%）；受访者养宠比例为64.1%。

比较而言，4个公园受访者的社会人口学特征差异较大。SWT的受访者养宠比例最高，达87.2%。在BVR和CWP中，18~21岁的青年人占比较大（37.5%和45.8%）。BVR的受访者家庭月收入低于1万港元的比例较高（25.0%），而该宠物公园亦位于香港平均收入最低的区域之一（深水埗）。更多青年人（18~29岁，占比66.6%）和拥有不同文化背景的受访者常使用CWP（亚洲其他地区4.2%，欧美地区8.3%，其他地区16.7%）。就住所类型而言，CWP的受访者居住在公共住房中的比例最高（45.8%）。共计46名受访者自愿参与了后续的半结构式访谈，其中MOS受访者9名（编号为1~9），BVR受访者15名（编号为10~24），SWT受访者10名（编号为25~34），CWP受访者编号为12名（编号为35~46）。其中16位为非宠物饲养者（下文未特殊标注的即为宠物饲养者）。

4.2 宠物公园使用偏好

问卷数据表明，总体来看，宠物公园使用者常常选择步行前往该公园（66.7%），每周访问2~5次（46.8%），每次逗留的时间超过45分钟（28.2%）。城市中准许犬类入内的公共场所较少，因此不少饲养者距宠物公园较远——路程中位数约为1.6km，平均值为5.4km。同时，也有14.1%乘坐地铁、10.3%开车前往。

受访者在4个宠物公园的使用模式不尽相同。相较其他公园，CWP在工作日的使用频率更高（20.8%），而61.7%的受访者会在工作日和周末均使用SWT。从逗留时间来看，MOS的受访者逗留的时间普遍较短，逗留30分钟以内的人群占66.0%；SWT的受访者逗留时间相对较长，逗留超过45分钟的人群占53.2%。

相关性分析结果显示，公园使用频率（O2）与认为该公园是选择住所的重要因素（A1，r=0.289，p=0.000）、认为到达公园很方便（A2，r=0.287，p=0.000）、使用公园的可负担性（A5，r=0.216，p=0.000），以及日常使用时长（O4，r=0.276，p=0.000）显著相关。虽然更频繁前往公园的使用者常单独（包括携宠）访问该公园（O3，r=0.838，p=0.000），但访谈数据显示，宠物饲养者表现出较强的社交需求，他们去宠物公园的动机是“锻炼”“让自己的宠物有机会与同类社交”，以及与其他饲养者聊天。他们常根据距住所距离及是否有其他可供犬类进入的公共场所来选择使用特定的公园。例如，在SWT的10位访谈受访者中，有6位提到SWT是住所周边的唯一宠物公园，而有7位表示选择该公园是因为空间比较大，宠物犬可以自由奔跑。而该使用公园的非宠物饲养者亦表示，交通方便、离住所近是驱使他们使用该公园的主要原因，他们可以在此运动、休闲，也有宠物爱好者表示使用该空间是因为“有很多狗可以看”。

4.3 因子分析结果

分析结果表明，本研究数据的克隆巴赫系数为0.933，表明问卷具有较高的内部一致性，问卷结果可靠[51]。KMO值为0.864，巴特利特检验的结果（χ^2=4 284.138，df=1 128，p=0.000）也证实了因子分析法的可信

度和拟合度[52]。本研究通过探索性因子分析法将问卷中的变量简化为包含5个因子的清晰结构，这些因子代表了不同的维度，共解释了约50%的总方差。其中，第一个因子解释了超过28%的总方差，每个因子解释的总方差至少为4%。所选变量的因子载荷量为0.600~0.785，较为合理[53]。本研究将提取的因子与现有的城市设计考量因素[29]进行比较，将因子分别确定为“绿地可用性”“社交与参与”“可步行性”“安全性”和“灵活性”。

5 空间正义视角下的宠物公园共融潜力

问卷数据分析结果表明，上述五大因子对宠物公园的空间正义表现具有重要影响。半结构式访谈结果进一步对因子分析的结果（表2）进行了说明阐释。

5.1 绿地可用性

绿地可用性因子包含了公共设施、设计及空间供给的相关变量，涵盖了对运动空间（L4）和基础服务设施（L6）的考虑，认为其供应对该公园的共融潜力及正义表达至关重要。至于对绿地要素的满意度，公园提供“足够的草地”（M4）与“足够的大树”（M3）十分重要。其他变量则反映了对空间分配公平要素的满意度，包括公园的大小（N1）及社区内公共空间的数量（N2）和大小（N3）。

具体而言，CWP全域允许宠物进入且24小时开放。访谈受访者表示，他们愿意在面积较大的宠物公园中进行更多活动，包括野餐及与宠物一起慢跑等，也有老年人与同伴在此进行体育锻炼。在访谈中，受访者谈到，由于工作时间的限制，他们常常会在夜间使用该公园（41号受访者）。而SWT的受访者多偏好该公园的绿化，认为其积极影响能惠及整个社区。即使是首次到访的使用者也表示“所有人都会喜欢这个绿色的公园”（27号受访者）。

另有受访者表示，在现今城市中，人宠关系逐渐由单一的饲养转变为陪伴，“人和动物都在同一个空间生活”，需要常在户外公共空间共度时光，“应该接纳宠物”（2号受访者，非宠物饲养者）。多位受访者认为，宠物公园很重要，但香港适合宠物活动的公共空间仍十分有限（28号、37号受访者）。约81.4%的问卷受访者表示支持开放更多宠物可使用的公共空间；也有访谈受访者指出社会应“关注动物权益”，“开放更多公园让犬类进入可以促进宠物及主人的身心健康”（6号受访者）。但另有3.85%的问卷受访者持反对意见，认为饲养者应提高对宠物干扰行为的感知程度，减少宠物自身及人宠互动行为对他人的干扰。其他访谈受访者还提出了卫生、宠物的可控性和公众是否接受等有待深入探讨的问题，如“对公园开放给宠物持开放态度，但大前提是宠物主人要保持地方清洁”（4号受访者，非宠物饲养者）。

5.2 社交与参与

社交与参与因子涵盖社区共享性、社交性和参与性相关变量，例如公园是否能激发并促进使用者之间的交流、互动（C3、D1、D2），以及使用者对该公园的归属感与责任感水平（C4、I2）等。

与过往文献研究结果相一致，本研究发现宠物公园能够有效联接居民群体。这类公园的使用者既对宠物有共同的兴趣，又被聚集在一个小型的公共空间中，这一过程鼓励随机的社交互动，有助于使用者感受到社区的归属感，加强宠物饲养者之间的联系和信任。相关性分析结果也表明，那些选择住在公园附近（A1，r=0.301，p=0.000）、经常去公园（O2，r=0.173，p=0.031）、愿意帮忙解决冲突（C4，r=0.472，p=0.000）、确保他人遵守公园规定（I2，r=0.392，p=0.000）及参与公园维护（I3，r=0.274，p=0.001）的使用者，通过与他人的互动感受到了更强烈的社区感（C2）。受访者若在宠物公园接触到不同地理或文化背景的空间使用者（E1），也可能获得更强的社区意识（C2，r=0.424，p=0.000）。

根据访谈结果，有受访者表示，使用CWP的“用户很多元”，包括附近的本地上班族、外国人等（36号受访者）。另有受访者认为，宠物犬能成为邻里和陌生人（包括非宠物饲养者）之间社交的催化剂，而宠物饲养者也在这个过程中发挥了关键作用（11号受访者，非宠物饲养者）。宠物锻炼和训练在SWT非常受欢迎，亦有不少家庭选择在这里进行亲子互动与教育（31号受访者，非宠物饲养者）。MOS的一位受访者（该地区的清洁人员，非宠物饲养者）则认为，宠物公园为其辛苦而平淡的日常生活提供了一个避风港。同时，也有受访者认为，看似开放共享的宠物公园是造福小部分用户（即宠物饲养者）的专属空间（31号受访者，非宠物饲养者）。

5.3 可步行性

可步行性因子反映了使用者往返公园的步行体验，包括是否步行可达（B1）及步行体验是否积极（B2）。

如前文所述，宠物公园的使用者高度重视他们的住所邻近性和到宠物公园的步行便利性，并常常通过宠物公园的位置和设计来确定其空间边界（如是否围合）。同时，由于香港公共交通对于携带宠物乘坐的限制，能否步行到达宠物公园显得更加重要。SWT的使用者表示，该公园毗邻主要居住区，步行可达性高，是周边区域少见的相对较大的宠物公园（32号受访者）。问卷结果也显示，位于稍偏远地区的MOS和BVR的可步行性相对较低，增加了宠物公园的使用成本。但也有受访者指出，BVR规模大，停车设施较为便利，弥补了步行可达性上的不足（12号受访者）。

5.4 安全性

安全性因子包含了设计、安全和维护的相关变量，尤其注重公园的

表 2：空间正义视角下的宠物公园共融潜力理解概念框架

因子	变量	因子荷载量	特征值	方差百分比（%）
绿地可用性	M4：我觉得这个公园里有足够的草地	0.726	13.793	28.735
	L6：我认为这个公园内有足够的基础服务设施（如厕所、自动贩卖机）	0.710		
	N2：我对这个社区的公共空间数量感到满意	0.679		
	L4：我认为这个公园有足够的空间供运动使用（如锻炼、跳舞）	0.675		
	N1：我对这个公园的大小感到满意	0.655		
	N3：我对这个社区的公共空间大小感到满意	0.650		
	M3：我觉得这个公园里有足够的大树	0.603		
社交与参与	D1：我会和公园里的其他使用者交流互动	0.785	3.685	7.677
	C3：我觉得我会在这个公园中碰见意料之外的使用者	0.733		
	C4：如果这个公园里有突发情况，我愿意帮忙解决	0.700		
	I2：我会帮忙监督其他使用者是否遵守公园的规定	0.692		
	D2：我觉得这个公园可以促进社交互动	0.616		
可步行性	B2：步行到这个公园的路途让我感到愉快	0.684	2.425	5.053
	B1：我可以轻松地从出发地步行到这个公园	0.679		
安全性	F2：我觉得夜间使用这个公园是安全的	0.747	2.150	4.479
	G1：我觉得这个公园养护良好	0.653		
	M6：我觉得这个公园夜晚照明充足	0.637		
	G2：我觉得这个公园内的休闲娱乐设施（如公共桌椅、草坪）状况良好	0.605		
灵活性	H2：在使用这个公园时，我没有因为严格的使用与管理规定而感到拘束	0.650	1.914	3.988
	L2：我认为这个公园提供了足够的公共桌椅	0.623		

夜间照明水平（M6）和夜间使用者的安全感（F2），即该空间是否提供了让人感到安全的环境，尤其是在夜间。至于涉及公园公共服务设施在使用方面安全性的变量，则包含使用者对公园维护情况（G1）和公共设施运行状况（G2）的满意度。

过往研究指出，宠物公园在降低社区犯罪率、提升社区安全等方面表现出社会正外部性[2]。宠物公园的积极使用者无形中对空间形成了自然监视，充当了“街道之眼”[54]。在宠物公园中，直接感知的安全度来源于两个方面——人与宠物的关系及人与人的关系。例如，访谈结果显示，“犬吠可能影响到在公园野餐的家庭，让他们感到不安”，而部分恐犬的市民则可能“未必知道如何与狗相处”，从而“讨厌动物”，产生进一步的人宠矛盾（30号受访者）。另有受访者认为，社会需加大公众教育力度，提高宠物饲养者在公共场所管理宠物的意识及能力，避免意外发生，而这一切需要建立在宠物设施的良好供应及维护之上，“尤其是对（场地）清洁的维护”（22号受访者，非宠物饲养者）。

相关性分析结果表明，受访者所感知的安全度（F2）与期望其他游客遵守公园规定（I2，r=0.273，p=0.001）、主动参与公园维护（I3，

r=0.259，p=0.001）和公园内的社交互动情况显著相关（D1，r=0.290，p=0.000）。这意味着就宠物公园而言，安全性与使用者积极参与建立的社会资本有关。此外，本研究发现，尽管无家可归者也是宠物公园的潜在使用者，但公园对其包容性相对不足。问卷统计数据显示，约32.1%的受访者认为在宠物公园看到无家可归者会感到不舒服，约25.0%的受访者则持中立态度。安全问题与社会界限的建立密切相关，这些界限决定了公共场所欢迎谁、归属于谁。无家可归者带来的潜在不安全感或可通过良好的公园保养（G1，r=0.284，p=0.000）和设施维护情况（G2，r=0.223，p=0.005）来缓解[55]。

5.5 灵活性

灵活性因子包含管理和公共设施两个变量，即宠物公园是否设立令人感到拘束的严格使用规定（H2）和提供充足的休憩设施（L2）。

宠物公园的设计，尤其是座椅等休憩设施的提供，对于公园使用者非常重要。例如，有受访者认为，公园提供的休闲娱乐设施十分有限，缺少桌椅和避雨设施，唯一得到积极评价的是场地中面积有限的草地（9号受访者）。另有受访者表示，休闲娱乐设施的匮乏导致公园除宠物饲养者外仅能在空闲时段吸引下棋的老年人（44号受访者）。值得一提的是，大部分访谈受访者都认同应增设宠物友好设施。

6 结语

宠物公园作为城市公共空间的一种新兴形态，在全球范围内，尤其是在亚洲高密度城市中，愈发受到关注。本研究基于空间正义理论框架，采用调查问卷和半结构式访谈的形式，检视了香港高密度城市环境下宠物公园作为包容性绿色基础设施如何增进城市社区福祉，并对更广义的空间正义有所贡献。研究拓展了这一理论在特定类型公共空间中的解释力，特别关注宠物饲养者与非饲养者在公共空间使用权方面的博弈。本研究探讨了城市公共空间分配中的利益驱动和复杂性，审视了空间正义理论在单体公园设计中的内涵——如何在保障特定群体空间权利的同时避免损害其他群体的利益。研究结果显示，宠物公园良好的绿地可用性、社交与参与、可步行性、安全性和灵活性有利于实现其在城市空间正义中的表达。

通过高频率和常规化地共享特定空间、出于对宠物的共同关怀，宠物公园的使用者能够相聚并进行非正式的社交活动。社区意识、对公共空间的参与、融入感和责任感等对包容性绿色基础设施的建设至关重要。尽管这种社区意识促进了社会资本的积累，但也可能对宠物公园产生负面影响（如社群内部的压力增大和权力过度集中，削弱了公园的包容性）。此外，宠物公园正面临社会排斥和安全问题的挑战，需要在促进社区融合和保障公共安全之间找到平衡。

本研究主张，在宠物公园的空间规划中应进行整体宏观考量，注重公共空间的多功能性和满足广泛社会群体的需求，以减少社会隔离现象，特别是在城市绿地资源紧张的背景下。同时，建议开放更多公共空间供受过训练的宠物及其饲养者使用，并借助社区组织和专业训宠师的力量，促进不同群体间的相互理解，营造文明、安全的宠物公园环境。本研究对香港及其他亚洲城市制定人与动物互动空间的城市政策具有重要的理论和政策参考价值。当前中国许多城市的宠物公园营造正处于起步阶段，本研究也为建设多元活力公共空间、构建人宠和谐环境、普及宠物公园提供了相关经验。

最后，鉴于本研究主要聚焦于中国香港，将研究结果应用于其他城市时需结合当地实际考虑更多因素。同时，由于数据收集依赖于受访者自述的回溯型问卷，网络问卷因其形式局限亦可能带来样本偏差。未来的研究应扩大样本量和类型，兼顾非宠物公园使用者的顾虑与宠物公园使用者的反馈，特别是要关注老年人等特殊群体的意见和需求。未来的研究方向可包括宠物公园周边社区的社会结构分析、基于社交网络数据的宠物公园治理比较研究，以进一步探索宠物公园作为包容性绿色基础设施在促进社会共融方面的潜力。

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补充材料

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图 1. 香港一处典型的宠物公园，园内提供宠物娱乐、饮水、粪便收集等设施。