

Research on the user behavior between China and USA elderly people in public space

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Abstract

The user experience difference between China and USA elderly people in using public space was discussed in this paper based on the questionnaire process. 1960 elderly people were selected from the four cities in Shanghai (China), Wuxi (China), New York City (USA), Cincinnati (USA) to complete the questionnaire, and the result shows the similarities and differences between the elderly people in China and USA. That is: The using frequency of the public space for the former is much higher than the later; the main purpose of the former in public space is sports and fitness, and relaxation is the chief choice of the later; weather condition and easy communication are the key factors for former to participate in public space, while timing is that for the later; all the elderly people in the two countries are favorite on the sports and fitness, but the party chatting is the feature of the former and the sightseeing is the feature of the later; the facility requirement is the most important attributes for the former to the public space, and the interaction design is the unique demands of the later, while the former had no interests on that demands. In the end, the reason for all the similarities and differences were analyzed in this paper, and the culture, the economics, as well as the politics factors were discussed in detail.

Key words: User behavior; questionnaire; public space; USA; China; elderly people

During the process of Chinese urban modernization, the development and construction of public space has accompanied a process of westernization; this development trend constantly draws from and pursues western concepts of urban public space. In the current wave of ever-changing urban space construction in Chinese cities, Chinese designers and urban managers have given relatively little consideration to the significance and value of designing urban public spaces from the perspectives of their users. Currently, the main body of users of China's urban public spaces is the elderly, whose public lives are closely related to traditional Chinese culture. Conducting a study of the characteristics of public space use and the preferences of users by comparing elderly Chinese and elderly Americans helps Chinese researchers and designers to identify the unique needs of elderly Chinese people with regard to public space.

When researching the inherent physical characteristics of public space, academics have also conducted a good deal of research focusing on the users of public space. This class of research can further help people to understand that urban public spaces, which are used to hold daily activities and in which events occur, are affected by the preferences of their users. In the United States and United Kingdom in the 19th century, urban public spaces began to be developed extensively; being

viewed as places that could help the working class to improve their health and quality of life, in contrast to their dirty and cramped living conditions.¹ From Broomhall's Master's thesis, "Study of the Availability and Environmental Quality of Urban Open Space used for Physical Activity," one can see that there are many objective factors affecting public space. These factors include the quality and quantity of space, and the effects of the characteristics (e.g. socioeconomic status, age, gender, and ethnicity) and psychological factors (e.g. self-efficacy, perceived obstacles) of potential users on individual preferences.² From this, one can learn that in the field of urban public space research, the study of the usage behaviors of public space users has become a popular topic. Since the beginning of this century, Chinese society has become an aging society (China's Fifth National Population Census, conducted in 2000, shows that the population of those aged 65 and older was 88.11 million, or 6.96% of China's total population; the Sixth National Population Census, held in 2008, revealed that the population of those aged 65 and older increased to 118,831,709, or 8.87% of China's total population). However, most research regarding Chinese urban public space remains focused on children, young people, and the middle class. The developmental characteristics of population aging in China share some characteristics with American population aging, but also differ in some places. This paper aims to compare elderly people and their use of urban public space in China and the United States, and to thereby determine the similarities and differences of the values, cultural conception, and behavioral norms of American and Chinese elderly people with regard to public spaces. In doing so, this paper provides researchers and designers with valid information regarding the modes of use of public spaces by elderly people in the United States and China.

1. Questionnaire Design:

This study's questionnaire primarily addresses the following four questions. (1) The scope of objectives for which elderly people will visit public spaces; (2) The factors affecting elderly people's ability to reach public spaces; (3) The types of activities in which elderly people participate in public spaces; (4) The qualities that elderly people require in public spaces. It is hoped that addressing these four questions will allow for the collection of characteristic factors describing elderly people's use of public space, and individual preferences for public space qualities resulting from personal characteristics.

2. Data Analysis

2.1 Sample

This study has chosen 196 respondents from Shanghai and Wuxi in China, and New York and Cincinnati in the United States; the sample was selected primarily by random sampling; specific characteristics of the sample are shown in Table 1.

Table 1: Distribution of Basic Sample Characteristics

Characteristics	%	
Age Group (years)	China %	United States %
60-69	62	69.2
70-79	34	23

80+	4	7.8
Gender		
Male	45	46
Female	55	54

Table 1 reveals the following information. The ages of respondents range from 60-85. For Chinese respondents from Shanghai and Wuxi, 62% of respondents are aged 60-69, 34% are aged 70-79, and 4% of respondents are aged 80 and above. For American respondents from New York and Cincinnati, 69.2% of respondents are aged 60-69, 23% of respondents are aged 70-79, and 7.8% of respondents are aged 80 and above.

2.2 Question Analysis

2.2.1 Analysis of Frequency of Travel to Public Spaces

The characteristics of frequency of travel to public spaces based on questionnaire surveys are analyzed in Table 2.

Table 2: Statistics on the Frequency of Elderly Travel to Public Spaces (unit: persons)

Travel Frequency	China			United States		
	Total	Age Group	# of People	Total	Age Group	# of People
>1/ Week	76	60-69	45	56	60-69	22
		70-79	24		70-79	16
		80+	7		80+	8
>1/ 6 Months	17	60-69	10	30	60-69	18
		70-79	5		70-79	6
		80+	2		80+	6
<1/ 6 Months	7	60-69	4	14	60-69	7
		70-79	2		70-69	4
		80+	1		80+	3

The proportion of people traveling to use public spaces from the younger elderly age group for both countries was much higher than the middle and older elderly age groups. The participation rate in public space activities of China's middle age group was higher than that of America's. However, the participation rate in public space activities for America's older age group was higher than that of China's. With regard to the frequency of travel to public spaces, elderly people in both countries mostly travel to public spaces at least once a week. Furthermore, data for Chinese elderly people were higher than those of Americans by 20%.

2.2.2 Objective Analysis

In the questionnaire, this question used an open response format, allowing respondents to summarize their personal objectives for going to public spaces. On the basis of this questionnaire, the authors have distinguished between two main categories of objectives for travelling to public spaces; the first is leisure, and the second is physical exercise. Here, activities such as climbing,

jogging, walking, and cycling are classified as physical exercise, and activities such as dancing, singing, reading, and scenery viewing are considered leisure activities. On this basis, statistical results are shown in Table 4.

Table 4: Public Space Objective Analysis

Type	% (n=196)	
	China	United States
Leisure	46	58
Physical Exercise	54	42

The data in Table 4 shows that most elderly Chinese people emphasize physical exercise in public spaces, at a rate nearly 9% higher than leisure. This is closely related to the current Chinese attitudes to health, wherein an increased number of elderly people hope to use exercise in public spaces as a means of improving their health. At the same time, American elderly people are more focused on leisure, with the prevalence of this type of activity exceeding physical exercise by 16%. This shows that American elderly people are more concerned with mental relaxation, and the spirit of public spaces is the pursuit of this goal.

2.2.3 Public Space Activity and Behavior Analysis

In Table 5, we have analyzed specific questionnaire data regarding the activities and behaviors of elderly people in public spaces, and have listed the top five activities and behaviors for elderly people in both countries.

Table 5: In which activities do you participate in public spaces

	China	United States
Walking	17	30
Scenery Viewing	0	25
Conversation	3.7	9
Sitting	23.6	5
Physical Exercise	37.9	30
Cards and Chess	12.1	0

Data in Table 5 shows that there is a relatively large variation between the activities pursued by elderly people in China and the United States. In China, elderly people enjoy group activities, such as group exercises including dancing and tai chi; these activities account for 37.9% of the responses of Chinese elderly people. In the United States however, individual activities are preferred, such as solo walking and solo scenery viewing. Furthermore, in the US, there are more independent physical exercises, such as mountain climbing, jogging, and cycling; such activities account for 30% of responses from American elderly people.

2.2.4 Analysis of Factors Affecting Ability to Reach Public Spaces

This question was presented in a multiple-choice format; respondents were required to choose a single response indicating the most important factor affecting their ability to reach public spaces from those listed in Table 6.

Table 6: Factors Affecting Your Ability to Reach Public Spaces

Type	%	
	China	United States
Time	26	41.7
Distance	8	19.4
Transportation Equipment	8	0
Climate	31	30.6
Other	10	8.3

One can see from the data presented in Table 6 that with regard to Chinese people, climate is the most important factor affecting elderly people's ability to reach public spaces, at 31%. Furthermore, with regard to the United States, time was the most commonly selected factor, at 41.7%. Previously, a good deal of research has stated that distance is an important factor affecting people's ability to reach public spaces, but in this study, only 8% of elderly Chinese people selected distance, which indicates that distance is not a determining factor for most elderly Chinese people.

2.2.5 Analysis of Public Space Characteristics

This question used an open response format, and aims to discover the preferences of Chinese and American elderly people with regard to public space characteristics. According to questionnaire open format response content, the authors have summarized the responses in four characteristics, as shown in Table 7. These characteristics are: natural environment, cultural and functional infrastructure, interactivity, and safety.

Table 7: Your Requirements for the Characteristics of Public Spaces

Characteristic	%	
	China	United States
Natural Environment	29.4	40
Cultural and Functional Infrastructure	49	30
Interactivity	0	26
Safety	21.6	4

The data presented in Table 7 shows that the top two characteristic requirements for public spaces for elderly Chinese people are functional infrastructure and natural environment, at 49% and 29.4%, respectively. For elderly American people, the top two requirements are natural environment and cultural and functional infrastructure, at 40% and 30%, respectively. American and Chinese elderly people have the following requirements with regard to natural environment: beauty, scenery, and field of view; with regard to nature, they require a natural environment, open venues and open spaces, trees, shade and greenery, lakes, reservoirs, bodies of water, beaches, soil, birds and animals, sunlight, climate, and fresh air. These preferences were the same for both countries, but American elderly people's requirements for environmental characteristics exceeded Chinese preferences by 10%. At the same time, Chinese elderly people's preference for public space environmental infrastructure exceeds Americans' by 19%. Elderly Chinese people are especially attentive to satisfying basic user requirements for infrastructure, such as long benches, tables, and cleanliness of public toilets. On the other hand, elderly Americans are more attentive to

whether public spaces hold concerts, and whether they have cultural and functional infrastructure that supports the spirit of cultural exhibitions. At the same time, a relatively large number of elderly Americans require interactivity in public spaces (26%). They hope for the opportunity to interact with people of other age groups, and hope that interactive behaviors can be enhanced in the public space. However, elderly Chinese people did not express a demand for interactivity in public space experiences. An unexpected result of this data reveals that 17.6% more elderly Chinese people stated safety as a required characteristic of public spaces.

3. Results and Analysis

3.1 Variation in the Behavioral Requirements of Chinese and American Elderly People

Variation in the behavioral requirements of Chinese and American elderly people has led to differences in their activities and behavioral objectives with regard to public spaces. Elderly Chinese people's behavioral requirements in public spaces tend to emphasize individual health and leisure, making physical exercise the most important behavioral objective of Chinese elderly people in public spaces. Chinese elderly people who are currently above age 60 grew up in the initial period after the establishment of the People's Republic of China; from a young age, they have been taught and raised to develop a habit of participating in-group activities; these behavioral habits deeply affect their behavioral patterns in their old age. Accordingly, in public spaces, elderly Chinese people more frequently display group activity behaviors. However, elderly Americans' behavioral requirements emphasize individual preferences and their pursuit. More Americans choose to go to public spaces to participate in leisure activities. Compared to the collective behavior of elderly Chinese people, elderly Americans are more attentive to democracy and freedom, and emphasize nurturing individual interests and hobbies. As such, elderly Americans participate in significantly fewer group activity behaviors in public spaces than elderly Chinese people. In their everyday lives, elderly Americans mostly go to public spaces individually, or with friends or relatives.

3.2 Variation in the Personality Characteristics of Elderly People in China and the United States

There are distinct differences between the personality characteristics of Chinese and American elderly people. Most elderly Chinese people grew up in a relatively closed society, before China's reform and opening; as a result, their personalities are more introverted and cautious when compared to the American baby boomers. Elderly Chinese people's use of and preferences for public spaces also display this unique introversion and caution. For example, with regard to the characteristic requirements for public spaces, Chinese people's requirement for safety was much higher than Americans' requirement for safety. It is commonly stated that Chinese urban crime rates are much lower than those of American cities, and so Chinese elderly people should naturally be more relaxed towards safety in Chinese urban public spaces. However, the survey results show that because of the introversion and caution of elderly Chinese people, they are much more alert with regard to safety when compared to Americans. Elderly Chinese people's safety requirements

are not limited to personal safety, but also extend to property safety, especially as they are concerned about the safety of their own property. In another regard, the introverted and cautious elderly Chinese people's willingness to interact with strangers is clearly lower than that of elderly Americans. This can be explained by the fact that a low proportion of elderly Chinese people indicated that interactivity was a quality that they required of their public spaces. Compared to American baby boomers, who are extroverted and outgoing, elderly Chinese people have introverted personality characteristics, and although they are willing to interact with young people, they often do not know how to express themselves, and are more likely to interact and participate in activities with people with whom they are more familiar.

3.3 Variation in the Social and Cultural Backgrounds of Chinese and American Elderly People

Differences in the social and cultural backgrounds of Chinese and American elderly people also cause differences in the types of activities in which they participate in urban public spaces, and their characteristic preferences for these spaces. China is currently experiencing a period of rapid socioeconomic and technological improvements, which is its first stage of modernization. In order to satisfy people's demand for material consumption and economic security, society gives priority to economic development. However, the American society has entered a stage of stable socioeconomic and technological development, which is the second stage of modernization; in order to satisfy people's demand for happiness and self-realization, priority is given to the development of people's quality of life.⁵

As a result, variation exists between the preferences for public space characteristics for elderly people from both countries. Chinese elderly people focus on the physical infrastructure of public spaces, such as whether public spaces provide a place for physical exercise, and related supporting services. However, elderly American people tend to focus on the personal experiences and quality of life that they can derive from public spaces, for example, whether public spaces provide them with beautiful natural environments, cultural infrastructure and services, and interactive activities.

4. Conclusions

This study surveyed elderly people in China and the United States as a means of comparing and contrasting the behavioral modes of these people in public spaces, the activities in which they participate, and their individual preferences. Using qualitative and quantitative research methods, this paper explored the significance and cultural value of the behaviors of elderly people in public spaces. This study finds that the frequency of visits, behavioral participation, and individual preferences of elderly Chinese people in public spaces vary significantly from those of elderly Americans. For example, elderly Chinese people utilize public spaces more frequently, engage in more group exercise activities, and because of their greater introversion and caution when compared to elderly Americans, their requirements with regard to functional infrastructure and safety in public spaces are clearly higher than those of elderly Americans.

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