



# A Study on the Characteristics of Residential and Tourist Behavior in Tourist Oriented Rural Public Spaces-- Taking Jiwodu Village in Yangshuo, Guilin as an Example

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**Abstract.** In the context of rural tourism development, there are conflicts of interest and differences in demand between tourists and residents in the use of rural public spaces. Taking Jiwodu Village as an example, this study applies the theory of environmental behavior to analyze the public space usage and cognitive characteristics of residents and tourists through field research and questionnaire surveys, summarizes the current problems, and based on the close relationship between environment, people, and behavior, summarizes the behavioral characteristics and needs of residents and tourists. In response to the above issues and findings, propose appropriate optimization strategies for the renovation of public spaces, in order to provide theoretical and practical references for organic renewal of similar rural areas.

**Keywords:** public space; Residents and tourists; Environmental Behavior; Tourism oriented rural areas; behavior characteristics

## 1 INTRODUCTION

Rural public space, as the material carrier of residents' production and life, is a spatial place for daily communication and settlement, as well as a spatial link connecting rural society. Excessive tourism development and the continuous influx of urban tourists weaken the local cultural characteristics of rural public space to a certain extent, and interfere with residents' daily production and life. There are two main users in tourism oriented rural areas, and tourists and residents have different spatial needs and usage, inevitably leading to conflicts and contradictions between living and tourism. Therefore, clarifying the spatial behavior characteristics and use needs of residents and tourists is of great significance for optimizing the function of tourism-oriented rural public space and promoting the integration and sharing of residence and tourism.

At present, the research content and perspective of tourism countryside are relatively simple. Many studies on tourism oriented rural public spaces both domestically and

internationally focus on the needs of residents. From the perspective of temporal and spatial behavior, research methods mainly include field observation, questionnaire surveys, travel path tracking, spatial syntax, scales and cognitive maps, social network analysis, etc. However, further research is needed to analyze conflicts between residents and tourists based on the study of user behavior characteristics of public spaces, in order to achieve sharing of residents and tourists. Based on the perspective of public space construction in tourism-oriented countryside, this paper analyzes the development basis and development status of tourism-oriented countryside, providing sufficient theoretical basis for the development of similar rural public space, so as to promote its effective development.

## 2 RESEARCH AREA AND RESEARCH OBJECT

Jiwodu Village in Yangshuo, Guilin is located in the scenic Yulong River National Tourism Resort. Founded in 1736, the village covers an area of about 7 square kilometers, and receives 80,000 to 100,000 tourists every year. On August 26, 2020, it was selected into the second batch of national rural tourism priority villages list. However, as the use time of tourists and residents in the public space overlapped with the height of the area, the uneven distribution of public space resources resulted in the encroachment of residents' original right to use the public space, which led to the conflict of residence and travel in time and space. The study of these problems is of great significance to promote the sharing of residence and travel (Fig 1).

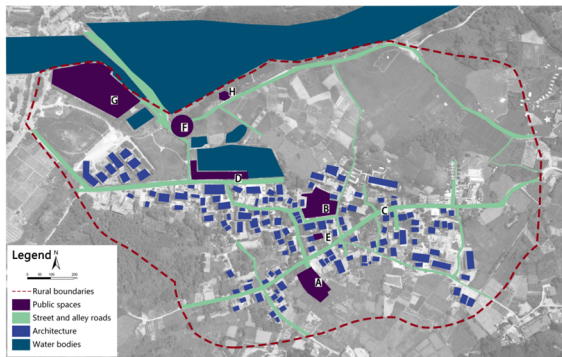


Fig. 1. Study area.

## 3 RESEARCH METHODS

### 3.1 Field Observation Method

This study conducted in-depth research on eight typical public spaces in Jiwodu Village from June to July 2023, including cultural squares, green spaces, street and alley spaces,

waterfront spaces, residential spaces, ancient tree leisure spaces, tourist squares, and observation pavilions. The study adopts field observation method, focusing on specialized content closely related to the physical environment in public spaces. The research methods mainly include map marking method and on-site counting method. The former marks public space nodes on surveying maps and uses different symbols to record people's activity types and positions, in order to reveal the public life of users in public spaces; The latter selects a specific time period of the day (7:00-21:00), and takes photos and samples of public spaces every hour (i.e. every two hours) for a duration of 10 minutes. Without disturbing the active population, the gender, age distribution, and main types of activities are recorded. Finally, the data is organized and filled in a table (Table 1) by watching the captured images. These methods aim to comprehensively and accurately understand the usage status of public spaces in Jiwodu Village, and provide scientific basis for future planning and management.

### 3.2 Questionnaire Survey Method

The survey questionnaire mainly includes two aspects: the basic information of the respondents and the usage characteristics of public spaces by the users. Conduct a "perception emotion behavior" analysis on two users based on their usage characteristics of public space, including spatial cognition, subjective emotion scale, and behavioral preference perception of public space. Spatial cognition includes the user's perception of the form, function, and spatiotemporal behavior of public spaces; The subjective emotion scale includes item design from three aspects: material environment, functional activities, and emotional identity; Preference perception is the process of obtaining tourist preference space through questionnaire surveys and drawing a heat map of pedestrian flow based on on-site observation data.

A total of 180 questionnaires were distributed and 172 were collected, with a response rate of 95.6%. The sample data is shown in Table 1. By distributing questionnaires, organizing and summarizing the results obtained, obtaining valid results and inputting them into an Excel spreadsheet, and using SPSS software for validity testing and reliability analysis, laying the foundation for subsequent analysis work. Reliability test of questionnaire results  $\alpha$ . The reliability coefficient is 0.817, and the reliability test is qualified.

**Table 1.** Summary of Sample Features

		Tourists (127)	Residents (45)	Total (172)
Gender	Male	52	28	80
	female	75	17	92
age	Under 18 years old	11	4	15
	18-30 years old	53	14	67
	30-55	57	20	77

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years old			
Over 55	6	7	13
years old			

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## 4 THE ANALYSIS OF THE CHARACTERISTICS OF TOURISM-TYPE RURAL PUBLIC SPACE HOUSING PARADE

### 4.1 "Perception-emotion-behavior" Analysis

Tourists tend to evaluate the physical environment and functional activities of public space more than emotional attachment. This shows that tourists have a more obvious perception of the physical environment of Jiwodu Village, but there are still deficiencies in the in-depth cognition of the touristic countryside. At the same time, the overall cognition of residents tends to be consistent with that of tourists, although the rating is slightly higher. Residents reported higher overall satisfaction with public Spaces compared to visitors, indicating a stronger emotional connection and dependence on these Spaces.

The residents' emotion towards the place is one of the important driving forces to support the development of the tourist destination and influence the tourist experience<sup>[1]</sup>.

The emotional bond formed during interaction improves the quality of tourism experience, and promoting meaningful interaction between residents and tourists is of great significance to enhance mutual understanding and strengthen emotional bond (Fig. 1).

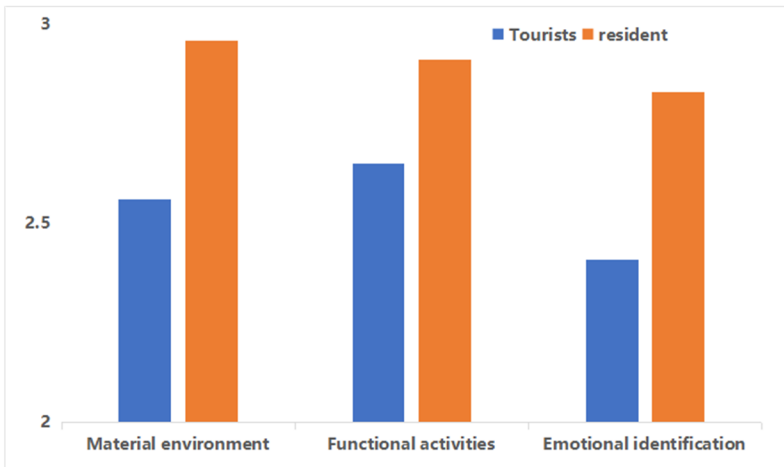


Fig. 2. Comparison of Cognitive Characteristics of Residential and Tourist Spaces.

Users' behavioral preferences are affected by the overall evaluation of rationality and emotion<sup>[2]</sup>, and heat maps depicting the flow of people in different Spaces can be generated according to the research results and statistics. Through the analysis of user behavior and heat map, it is found that residents show different preferences for different public Spaces. Tourists tend to like streets, tourist plazas and other areas, which are rich in tourist facilities and cultural significance. In contrast, residents are more inclined to residential areas and other Spaces that serve the functions of daily life, meet the realistic demands of residents' daily life and social communication, and have certain publicity and domain<sup>[3]</sup>. This difference in preferences highlights the importance of meeting the different needs and expectations of residents and visitors, emphasizing the importance of establishing a balance between meeting visitors' desire for rich experiences and providing residents with functional everyday Spaces that enhance their quality of life. Understanding these differences can make more efficient use of public Spaces, enhance the overall visitor experience and foster a sense of belonging among residents (Fig. 3).

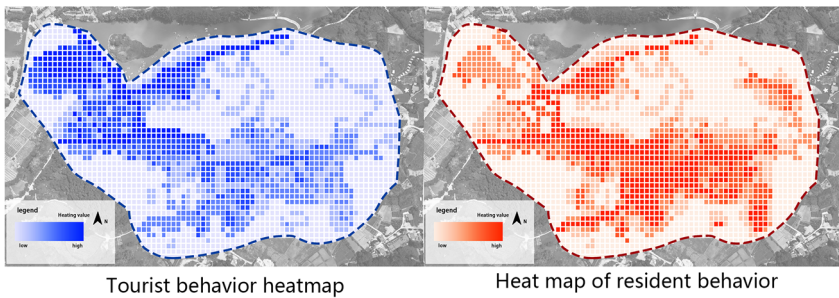
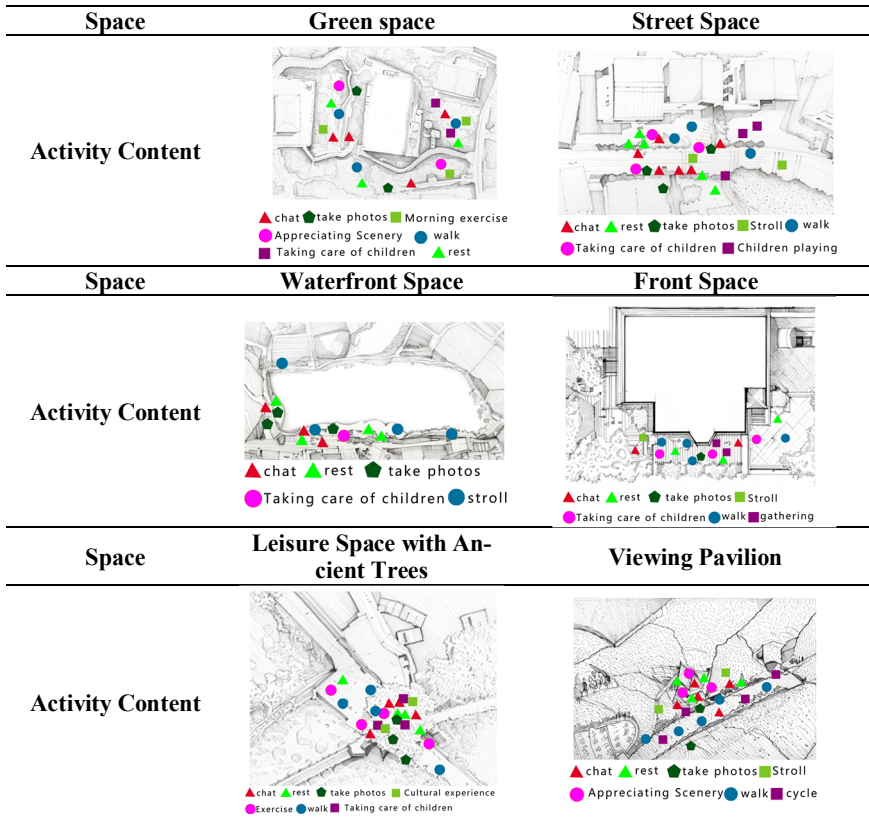


Fig. 3. Heat map of public spaces for residents and tourists.

Jan Gale divided residents' activities into necessity, spontaneity and social activities, emphasizing that public space affects social behavior through human behavior characteristics and interaction with the environment, and the use of public space is diversified in spatial dimension. In order to grasp the spatial and temporal distribution characteristics of users' activity behaviors in tourism-oriented rural public Spaces, the activities of different subjects in each public space are summarized as follows (Table 2).

Table 2. Activity types at different time periods in different spaces.

Space	Cultural square	Tourist square
Activity Content	<ul style="list-style-type: none"> <li>▲ chat    ⬠ take photos    ● take a walk</li> <li>● Taking care of children    ▲ rest</li> <li>■ stroll    ■ Morning exercise</li> </ul>	<ul style="list-style-type: none"> <li>▲ chat    ▲ rest    ⬠ take photos    ● walk</li> <li>● shopping    ■ game    ■ line up</li> </ul>



## 4.2 Tourism-type Rural Public Space is Characterized by Parade

Based on the close connection among environment, people and behavior, this paper analyzes the use characteristics and behavior characteristics of residential and recreational public space, and summarizes the behavior characteristics of residential and recreational public space in rural areas:

(1) From the perspective of main users, residents and tourists are the main users of public space; From the use of space, the highest frequency of activity is mainly street, square, green space and other public space; From the use time, 9:00-11:00 and 15:00-17:00 in the afternoon are the time periods with the highest frequency of public space activities, and the types of activities are the most abundant; From the perspective of users, compared with teenagers and the elderly, middle-aged people use public space more.

(2) For tourists, it has obvious characteristics of transience, contingency and concentration, showing obvious fragmentation characteristics; It shows spontaneity, routine and repeatability to the inhabitants. Residents and tourists show different behavior characteristics, and there are also differences in public space behavior preferences. Tourists prefer places with rich tourism facilities and tourism culture such as streets and tourist

plazas, while residents prefer places with daily life functions such as front space of houses.

In short, the use characteristics of public space reflect the multi-faceted interaction between environment, people and behavior, and the differences in the use of different types of public space highlight the different needs of different groups. In order to meet the different needs and expectations of users, further research and cooperation among stakeholders are essential to optimize the design and management of tourism-oriented rural public Spaces.

## **5 STRATEGIES FOR CREATING PUBLIC SPACE BASED ON RESIDENT AND TOURIST CONFLICTS AND SHARING**

Based on the conflicts and exchanges between different groups, the dynamic sharing relationship between residents and visitors can be discussed and analyzed from three aspects: space, time and subjective intention.

In terms of time, residents spend longer and more dispersed time; The time used by tourists is more centralized and random.

In space, the types of space activities of residents and tourists overlap to a certain extent, and they have their own rules of space use. In terms of subjective will, residents and tourists share the same will, but there is not enough communication.

The design of rural public space should be different from that of the city<sup>[4]</sup>, and the design of tourism-oriented rural public space must take into account the needs of the two main users, that is, pay attention to the characteristics of spatial behavior and the differences in needs of residents and tourists<sup>[5]</sup>, resolve the conflicts between residential and tourism, and promote the sharing and integration of residential and tourism.

Based on the behaviors and needs of the main body of the tourism-oriented rural public space, the contradictions and conflicts of different people in terms of space, time and subjective will. The strategies of space reconstruction will be proposed below to balance the contradiction between space use and demand of different groups.

(1) Optimize spatial structure and route design. Different space types have different functional requirements and conflicts between residence and tourism. In order to meet different needs, point-like Spaces with both viewing and leisure functions should be designed, layout and quantity should be reasonably planned to avoid congestion during peak hours, different functional areas should be divided, and time limits should be set to balance the needs of residents and tourists. The different needs of residents and tourists in the linear space (street space, waterfront space) can easily lead to traffic conflicts. Clear guide signs should be set up to guide different groups to use the space rationally. Under the premise of not affecting the style, the passage area should be appropriately widened, and tourist guide signs and rest viewing nodes should be set up to reduce the passage conflict. Faceted space (such as cultural square, green space), as a place for residents' activities and tourists' leisure, should be designed to balance different needs, and through reasonable space layout and landscape design, to meet the landscape sight needs of different people.

(2) Time and space conversion to enhance the sense of experience. The temporal crossing of activity and presence in a shared space can create tension between residents and visitors. To solve this problem, it is necessary to design and guide the spatial behavior of the two groups based on time consideration, so as to create a harmonious environment for shared living and tourism experience. According to the time analysis of residents and tourists, make reasonable use of public space, enhance the functional compound of public space, and arrange different types of activities for different groups at different times.

(3) Control the number of tourists and give play to the active role of residents. The authenticity of residents' daily life is extended through the method of time-limited number management, and the original sightseeing tour is changed into a deep cultural experience tour, so as to give tourists a full sense of rural experience. At the same time, policy encouragement and other means to attract more local residents to invest in the tourism industry, provide more employment opportunities for local people, create income, stimulate residents' enthusiasm for tourists, and play a positive role in the conflict between tourists and residents.

## 6 CONCLUSION AND DISCUSSION

Based on the close connection among environment, people and behavior, the behavioral characteristics and needs of residents and tourists are obtained through the analysis of public space usage characteristics and cognitive characteristics of residents and tourists. Based on the results, the behavioral characteristics of tourists and resident in rural public space can be summarized, the characteristics of residence and tourism conflict in time sharing, space sharing and subjective sharing can be summarized, and the corresponding improvement strategies can be proposed based on the displayed problems.

As a link between residents and visitors, public space plays an important role and plays an important role in the tourism countryside. Tourism conflicts and sharing are common in tourism rural public space. The construction of tourism rural public space should pay attention to the demands of various users, find the balance between residents and tourists, resolve the conflicts between residents and tourists, and promote the sharing and integration of tourism.

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