

Safety Evaluation and Improvement of Homestays from the Perspective of Tourists' Perception: A Case Study of Tangjiajia Hot Spring Village in Nanjing

MIN Xu, YU Ziping*

(Nanjing Xiaozhuang University, Nanjing, Jiangsu 211171, China)

Abstract Safety is one of the basic needs of tourists, and their sense of security is a necessary condition for the successful operation of homestays. Based on the theory of tourist perception, Nanjing Tangjiajia Hot Spring Village is taken as the research object. This paper analyzes the tourists' perception of homestay safety facilities and services through questionnaire survey, field investigation, interview, and other methods. It proposes strategies for improving homestay safety, aiming to provide safety management references for China's homestay industry and promote its sustainable development.

Keywords Tourist perception, Homestay safety, Safety facilities, Safety services

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A homestay refers to a small-scale accommodation facility that utilizes idle resources such as local residential buildings, with the host participating in reception, to provide tourists with an experience of local nature, culture, and production lifestyle^[1]. With the promotion of the “comprehensive tourism” strategy and the implementation of the rural revitalization strategy, the homestay industry has ushered in unprecedented development opportunities. According to the *Big Data Report on Chinese Mainland and Taiwan's Homestay Industry* (2023), there were 97,730 homestays in Chinese mainland in 2022^[2]. However, with the rapid development of the homestay industry, its safety issues have gradually become a focus of attention for all sectors of society, directly affecting the satisfaction of tourists and the sustainable development of the entire industry.

Starting from the perspective of tourists as the core stakeholder, this paper uses a combination of quantitative and qualitative research methods such as questionnaire survey, field investigation, and interview to explore in depth the current situation and improvement strategies of homestay safety issues. As direct experiencers and evaluators of homestay services, tourists' perception and feedback have immeasurable value in improving the safety level of homestays and optimizing service quality. Nanjing Tangjiajia Hot Spring Village is famous for its rich hot spring resources and unique homestay culture, attracting a large number of tourists to experience it. The development of its homestay industry has certain representativeness and typicality. Through research, it is expected to provide valuable references for homestay operators, tourism management departments, and tourists

to jointly promote the development of the homestay industry towards a safer, higher quality, and more sustainable direction.

1 Review

1.1 Homestay safety

According to Maslow's hierarchy of needs theory, safety is the most basic need of people and is closely related to their lives. In academia, safety is defined as a stable state of a person or thing, where there are no threats or dangers, and no accidents occur. Enz et al. believe that in the hotel environment, safety refers to protecting employees and guests from potential harm or death. Safety includes not only protecting employees and guests, but also protecting guests' personal belongings and hotel buildings^[3]. Huang Xiaohua believes that room safety includes room items and facilities, room security, and the safety awareness of service personnel^[4]. Gao Yefeng points out the fire safety problems of homestays from the perspective of fire safety: low fire resistance rating of buildings, inadequate fire separation and spacing, incomplete fire truck access and evacuation facilities, inadequate safety measures for fire, electricity and gas use, etc^[5]. Hu Cheng et al. conduct an investigation on the safety of homestays in H province and point out that there are many illegal cases and public security disasters and accidents in the development of homestays^[6].

1.2 Tourist safety perception

In 1982, Gronroos proposed the theory of customer perceived service quality^[7]. This theory suggests that customer satisfaction is closely related to the difference between their psychological expectations and actual feelings towards a product or service. If the actual

experience of customers is close to or exceeds their expectations, then customers are often satisfied with the service. Based on this theory, service providers can take measures to better meet customers' perceived needs and improve service quality.

George points out that tourists from different backgrounds, such as personal characteristics and nationality, have significant differences in their perception of security^[8]. Chen et al. indicate that women are generally more sensitive to safety risk perception than men. In addition, they also reveal a certain connection between safety perception and travel experience, that is, experienced tourists often have lower levels of safety concerns^[9]. Eitzinger et al. attribute the reasons that affect the perception of tourism safety to various external factors, including infrastructure, natural factors, and industry factors, as well as internal factors, including individual tourist behavior and time arrangements^[10].

Zou Yongguang believes that perceived safety has a significant impact on the competitiveness of tourist destinations^[11]. Wu Bihu et al. find that the distance between tourist destinations, the chosen mode of transportation, and the organizational form of travel all have an impact on the perception of tourism safety^[12]. Deng Yilun et al. confirm the impact of economic security, functional security, social security, and emotional security on the willingness to purchase homestays^[13].

From this, it can be seen that the perception of homestay safety is an individual's perception of homestay safety formed through intuitive observation and subjective internal feelings and experiences. Many scholars at home and abroad have analyzed the perception of hotel room

safety and tourism safety, but there is relatively little research on the perception of homestay safety.

2 Empirical study on Nanjing Tangjiajia Hot Spring Village

2.1 Overview of the research area

The tourism development process of Tangshan in Nanjing is a rich and colorful chapter with a long history. As early as the Southern Liang Dynasty, Tangshan hot springs were the royal hot springs, attracting high-ranking officials, nobles, and literati to visit and bathe. Therefore, Tangshan has the reputation of “millennium holy springs, health paradise”. In 2007, Tangshan Hot Spring Tourism Resort officially started construction, and was awarded the title of “World Famous Hot Spring Town” by the World Federation of Hot Springs and Climate Health after five years. In 2015, Tangshan Hot Spring Tourist Resort became one of the first national level tourist resorts.

Nanjing Tangjiajia Hot Spring Village is located on Tanglong Road within the Tangshan Hot Spring Tourist Resort and was officially opened to the public in early May 2013. This is a hot spring homestay village that combines rural style, Jiangnan style, and European Mediterranean style. It has built more than 30 characteristic hot spring homestays with over 400 beds; there are 6 catering enterprises with 500 seats. Tangjia Hot Spring Village has a very advantageous geographical location, with its southern end adjacent to Tangshan Toll Station on the Shanghai–Nanjing Expressway. Provincial Highway S337 and Huanzhen North Road pass through the village in the north–south and east–west directions respectively, making external transportation extremely convenient. In addition, the village has abundant hot spring resources and a rare advantage in developing the tourism and leisure industry. Meanwhile, the village also preserves a rich historical and cultural heritage. It is said that the empress dowager of the Southern Liang Dynasty and the youngest daughter of the famous Tang Dynasty painter Han Huang both bathed in hot springs here and cured their illnesses. Nowadays, Tangjiajia Hot Spring Village has become a tourist destination that integrates hot spring health preservation, leisure vacation, and rural experience.

2.2 Questionnaire design and distribution

2.2.1 Questionnaire design. The questionnaire includes three aspects: first, basic information of the occupants, including gender, age, and education level; second, the safety facilities of

homestays, which specifically include escape facilities, door and window locks, monitoring and alarm systems; third, the safety services of homestays, including food safety, surrounding community environment, and safety regulations and emergency plans.

2.2.2 Questionnaire distribution and collection. The survey was conducted from May 6 to 13, 2024, and mainly took place at popular homestays such as Huazhu · Nanjing Fusheng Hot Spring Homestay, Sanjian Shuishe Private Spring Homestay, Nanjing Ziyue Designer Hot Spring Reading Homestay, and Banmu Private Spring Homestay in Tangjiajia Hot Spring Village. A total of 240 questionnaires were distributed and 218 were collected. After excluding incomplete questionnaires, 203 valid questionnaires were obtained, with a questionnaire collection rate of 90.83% and an effective rate of 93.12%.

2.3 Characteristics of the surveyed population

2.3.1 Gender structure. Table 1 shows that among the survey respondents, males account for 41.38% and females account for 58.62%. On site observation and interviews reveal that men mainly come with their partners. Some male guests express that if they are not accompanying their partners, they would choose star rated hotels in Tangshan Town. The interview also find that many female guests accompany their girlfriends to experience hot spring homestays or check in at popular homestays. Among them, the ones who checked in more frequently are Nanjing Ziyue Designer Hot Spring Reading Homestay and Huazhu · Nanjing Fusheng Hot Spring Homestay. So there are more female buyers than male buyers, which is basically in line with the actual situation.

2.3.2 Age structure. 12.31% of the survey respondents are under 30 years old, and 8.87% are over 50 years old. The age of most homestay guests is between 30 and 50 years old, showing a peak pattern of high in the middle and low on both sides. This indicates that stable employment

and certain economic conditions are the basis for purchasing hot spring homestays for consumption.

2.3.3 Educational background structure. In the survey sample, “primary school and below” account for 16.75%, while “middle school or vocational school” and “junior college” account for a total of 57.63%. These data reflect the impact of different historical backgrounds on educational opportunities, especially among guests over the age of 40, many of whom do not have the opportunity to receive high-quality education. The total proportion of “bachelor degree” and “master degree or above” is 25.62%, indicating that people with higher education are more likely to experience hot spring homestays.

3 Analysis of safety perception in homestays

3.1 Safety facilities

3.1.1 Escape facilities. Half of the guests are “very satisfied” or “somewhat satisfied” with the escape facilities of the homestay, while 37% choose “very dissatisfied” or “somewhat dissatisfied” and 13% choose “average” (Fig.1). These data indicate that there are still some issues with escape facilities in the homestay industry, which deserves attention. A field investigation is conducted on the installation, maintenance, and updating of the escape facilities in Tangjiajia homestays, and the following issues are found: outdated facilities, the escape facilities in the homestay have been in use for a long time, severely aging and unable to meet modern safety standards; improper maintenance, some equipment lacks necessary maintenance, and is left unattended for a long time, resulting in the inability to function properly; insufficient updates, some homestays have not updated their escape facilities in a timely manner, such as fire equipment, emergency lighting, etc.

3.1.2 Door and window locks. The guests have a good overall evaluation of the safety of the door and window locks of the homestay. Among

Table 1 Demographic characteristics of survey subjects

Item	Factor	Number	Percentage//%
Gender	Male	84	41.38
	Female	119	58.62
Age	Under 30 years old	25	12.31
	30–40 years old	71	34.98
	41–50 years old	89	43.84
	Over 50 years old	18	8.87
	Elementary school and below	34	16.75
Educational background	Middle school or vocational school	73	35.96
	Junior college	44	21.67
	Bachelor degree	42	20.69
	Master degree or above	10	4.93

them, the total proportion of “very satisfied” and “somewhat satisfied” is 52%, the proportion of “average” is 25%, and the total proportion of “somewhat dissatisfied” and “very dissatisfied” is 23% (Fig.2). This indicates that the majority of guests approve of the safety performance of the door and window locks in the homestay, while nearly 1/4 of guests do not approve. According to on-site inspection, many room locks in Tangjiajia homestays are old-fashioned household locks, not smart locks, and some homestays need to improve their door and window safety performance. The survey also shows that female guests who stay at the Banmu Private Spring Homestay have the lowest satisfaction with door locks. The Banmu Private Spring Homestay uses old-fashioned household mechanical locks that require a key to open. The thickness of the door is relatively low, and the sound insulation is poor. Some guests have reported that they can hear the sound of neighboring or opposite rooms during their evening break, which affects their rest and privacy.

3.1.3 Monitoring and alarm facilities. Regarding monitoring and alarm facilities such as cameras and alarms, the survey shows that the sum of the proportion of “very satisfied” and “relatively satisfied” is 41%, indicating that 40% of guests believe that the installation of cameras and alarms in homestays is reasonable, and privacy protection measures are in place. The proportion of “average” reaches 35%, indicating that more than one-third of guests hold a neutral attitude towards the installation of cameras and alarms in the homestay. The sum of the proportions of “somewhat dissatisfied” and “very dissatisfied” is 24%, indicating that nearly a quarter of guests are dissatisfied with the monitoring and alarm facilities of the homestay (Fig.3). The interview finds that guests believe that some homestays have improperly installed cameras and alarms, and lack trust in the privacy protection measures of the homestays.

3.2 Security services

3.2.1 Food safety. The survey shows that guests have a good evaluation of the food safety in homestays. Among the 5 options, the total proportion of “very satisfied” and “somewhat satisfied” reaches 53%, indicating that most guests have a positive attitude towards the food safety of the homestay. However, 47% of customers expresses “average”, “somewhat dissatisfied”, and “very dissatisfied”, indicating that there are still some issues that need to be improved (Fig.4). Through on-site inspections of the cooking facilities in homestays, it is found that some homestays do not have

professional kitchens. For example, the breakfast at the Banmu Private Spring Homestay is provided with convenient foods such as frozen dumplings for guests. The cooking facilities are an induction cooker in the restaurant that is also used by service personnel, without standardized disinfection and cleaning rooms. Some homestays have directly outsourced their room breakfast to breakfast shops in Tangshan Town. Overall, the food provided by Tangjiajia homestays to guests is mainly convenient, partly due to cost considerations, and partly because the guests living in Tangjiajia Hot Spring Village are mostly tourists who love to check in and experience novelty, and do not have high requirements for meals. Therefore, the homestay manager has been negligent in this regard.

3.2.2 Surrounding social environment. Regarding the evaluation of the safety of the social environment around the homestay, 19% of guests expresses “very satisfied”, 31% of guests expresses “somewhat satisfied”, 24% of guests rates it as “average”, 19% of guests rates it as “somewhat dissatisfied”, and 7% of guests rates it as “very dissatisfied”. Further analysis reveals that there are differences in the safety evaluation of the surrounding social environment of homestays among guests of different age groups. Among young customers under the age of 30, a total of 58% expresses “very satisfied” and “somewhat satisfied”, while a total of 20% expresses “somewhat dissatisfied” and “very dissatisfied”. At the same time, a total of 40% of middle-aged and elderly guests aged 50 and above expresses “very satisfied” and “somewhat satisfied”, while a total of 30% expresses “somewhat dissatisfied” and “very dissatisfied” (Fig.5). It can be seen that young guests have a relatively good evaluation of the safety of the surrounding social environment of homestays, while middle-aged and elderly guests have a poorer evaluation because they are more cautious and sensitive to environmental safety risks.

3.2.3 Safety regulations and emergency plans. Nearly half of the guests expresses satisfaction with the safety regulations and emergency plans of the homestay, with the highest proportion of “somewhat satisfied” at 28%. However, a considerable number of guests are dissatisfied with the emergency plan of the homestay, with a total of 30% being “somewhat dissatisfied” and “very dissatisfied” (Fig.6). During the interview, tourists mention that the safety knowledge and emergency response capabilities of homestay staff are limited, and they are not sufficient to quickly and effectively solve problems in emergency situations. Guests suggest that homestay

management personnel should develop more detailed and practical emergency plans based on the actual situation, and post them in prominent locations for guests to refer to at any time.

4 Conclusions and recommendations

4.1 Conclusions

Research has found that tourists generally have a good evaluation of the safety facilities in homestays, with over half of the guests satisfied with the evacuation facilities and also quite satisfied with the door and window locks, as well as the monitoring and alarm system. The evaluation of homestay safety services varies greatly. Most guests have a positive attitude towards the food safety status, safety regulations, and emergency plans of the homestay. Guests generally pay attention to the safety level of the social environment around the homestay. Young guests have relatively high satisfaction with the safety of the social environment around the homestay, while middle-aged and elderly guests have lower satisfaction.

4.2 Improvement strategies for homestay safety management

4.2.1 Improving safety facilities.

(1) Updating and maintaining security equipment. Necessary safety facilities such as door locks should be updated. It should regularly conduct detailed inspections, testing, and maintenance of escape, monitoring, and alarm equipment to ensure that safety devices are always in good condition. It is necessary to establish comprehensive maintenance records, detailing every inspection, test results, and maintenance situation, and laying the foundation for the use and maintenance of equipment.

(2) Strengthening the supervision and inspection of fire-fighting facilities. Regulatory departments at all levels should strengthen supervision and inspection of the use of fire protection facilities in homestays, and ensure that the equipment is used and maintained correctly, to extend the service life of the facilities, improve their safety performance, and reduce the risk of fire caused by facility failures. Regulatory departments at all levels should disclose their responsibilities and scope of power, and accept supervision from the public and relevant departments to ensure the transparency and fairness of the regulatory system.

4.2.2 Improving service quality.

(1) Giving full play to the leading role of industry standards and service norms. It should actively implement industry standards such as the *Basic Requirements and Evaluation of*

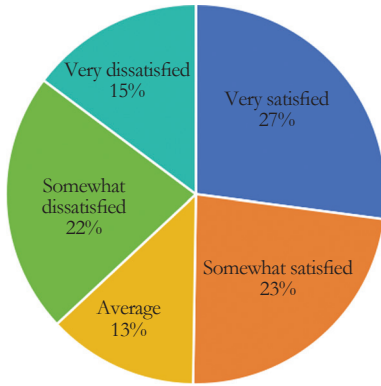


Fig.1 Evaluation of escape facilities

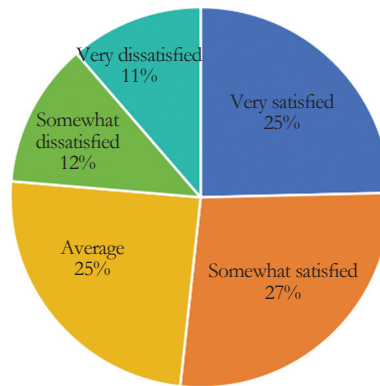


Fig.2 Evaluation of door and window locks

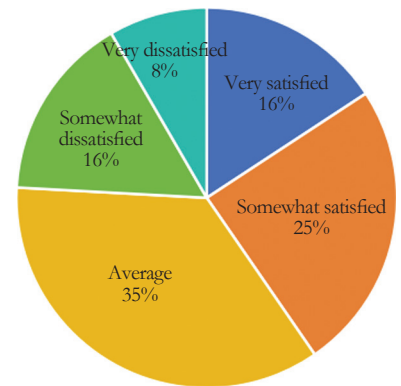


Fig.3 Evaluation of monitoring and alarm facilities

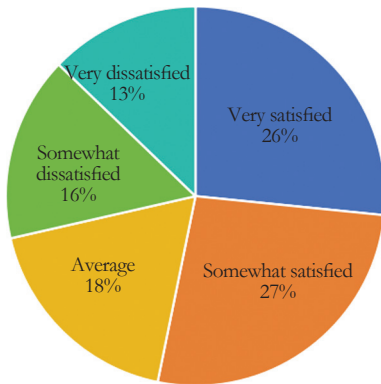


Fig.4 Evaluation of food safety

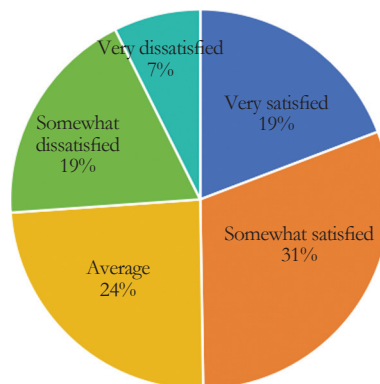


Fig.5 Evaluation of the safety of the surrounding social environment

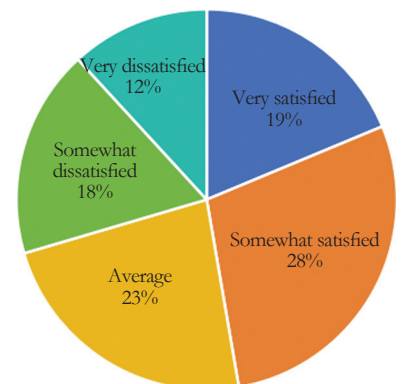


Fig.6 Evaluation of safety regulations and emergency plans

Tourist Homestays (LB/T 065-2019) issued by the Ministry of Culture and Tourism, and carry out safety management level assessment. It should establish and improve the safety management and quality supervision mechanism of homestays, ensure food safety, and prepare emergency plans. The experience and practices of excellent homestays with demonstrative effects could be summarized and promoted.

(2) Advocating for humanization and personalized services. Homestay operators need to adapt to changes in consumer psychology and safety needs, strengthen sharing and communication with guests, especially female and middle-aged guests, understand their needs, and strive to create a safe and harmonious atmosphere. Service personnel should continuously enhance their awareness of security services, improve their security service skills and reception level, adopt personalized service methods, and respect guests' privacy habits, thereby enhancing the sense of security and satisfaction of homestays.

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