A study on the sustainable development of shared communities based on the behavioral characteristics of youth people

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Abstract: As urbanization continues to accelerate, shared communities have emerged conforming to the current background of the times. Shared community is a option of youth groups in the transition period. It is both a new form of living and a new way of life. Beginning from the behavioral characteristics of youth people and their needs for living space, this paper is based on the national situation to conduct a analysis of the growable spatial form, the spatial model to promote interaction and the virtual community under the background of information age, and to proposes strategies to promote the sustainable development of shared communities.

1. Introduction

In the tide of urbanization, major demographic changes accordingly. Especially in cities with more active market economy, a large number of youth people stay in big cities in the hope of getting more development potential and employment opportunities, and the inflow of youth migrant labor force has become an important factor in the talent market. How to solve the issue of housing problem of youth groups has become a urgent subject on construction of the city. Since 2015, China has been introducing policies related to rental housing, making the rental market enter a period of rapid development. [1] With the development of sharing economy, shared bicycles, shared rechargeable batteries, and even shared cars have emerged in our lives. The creation of shared communities captures the pulse of the times and
is rapidly developing under the concept of sustainable development.

The emergence and development of shared communities have to some extent relieved the housing pressure of youth people, attempt to break the traditional housing model and re-examine the housing needs, lifestyles and social needs of youth groups. The researches on the behavioral characteristics and living needs of modern youth people are involved in the books and papers such as Song Ying's "Research on the Design of Urban Youth Shared Housing Units", Hu Shuang's "Research on the Interior Design of Micro-Houses", Zhong Cheng's "Research on the Design and Space Utilization of Small Youth Housing" and Zhao Xiaozeng's "Research on the Design of social Interaction Space of Youth Apartments". However, the research on the sustainable development of shared communities based on environmental behavior science in the context of intelligent society and the behavioral characteristics of modern youth people still further analyzes a series of problems of difficult housing for youth people, expensive rents, and inadequate supporting facilities. This will not only alleviate the housing problems of youth people in big cities, especially in first-tier cities, but also shape a healthy and friendly environment for youth people and further enhance the soft power of cities.

2. The concept of shared community and its development history

Shared communities are generally considered to be communities consisting of people living together in a certain geographical area, whose members share common interests, acquainted and interconnected with each other, exercise social functions, formulate social norms, and shaping unique value system and social welfare establishment. The earliest origins of the modern shared community are in the co-housing model that began to emerge in Denmark in the 1960s. Over the past two decades, the concept of shared communities has gradually expanded to several countries in Europe, North America, and Australia. Although the development of shared communities in China is relatively recent, the Siheyuan in traditional residential houses and the Hakka huts all have similar characteristics to shared communities. Japanese architect Hiroshi Aoyamai designed the 400 Boxes, a shared community whose floor plan was inspired by Beijing's quadrangle. In terms of form, the shared community mainly includes tangible and intangible sharing.

2.1 Tangible sharing

Tangible sharing is mainly about resource sharing, including space sharing (such as living rooms, halls, courtyards, rooftops), facility sharing (such as kitchens, sanitary facilities, recreational facilities), and social cultural and entertainment resources (such as various social gatherings, book clubs, sharing salons, film and art screenings, concerts).

2.2 Intangible sharing

Intangible sharing includes the sharing of information, the exchange of skills, and the emotional connection between people. Using social space as a platform to provide a space with reasonability for exchanging idea and communication, it facilitates the stronger connection between people and information and skill sharing. Thus, it realizes its function as an ideal social scene.

3. Analysis of the demand for shared community living based on the behavioral characteristics of youth

According to the age classification of youth by the National Bureau of Statistics of China, youth is defined as people between 15 and 34 years old. With the rapid development of China's economy level and the acceleration of urbanization, the life needs as well as the psychological characteristics of the youth group have been changed obviously. Maslow's theory divides human needs into physiological needs, security needs, love and sense of belonging, respect and self-actualization in order from lower to higher levels. Youth people are no longer satisfied with material needs alone in their lifestyles, but are more focused on spiritual needs.

In this paper, the investigation and analysis of the housing needs of the youth groups in the more
economically active cities were conducted by means of a web-based questionnaire. A total of 500 questionnaires were issued, and 432 copies were valid, including 198 males and 234 females.

By analyzing the data of the questionnaire, people with monthly salary of 5,000-10,000 yuan (chart (1)) accounts for 47%, the income of most youth people in cities with high consumption level is still slightly weak. Chart (2) shows that 41% and 30% of people choose 15-30m² and 30-45m² respectively for housing area, accounting for 71% of the total number of people, which can be seen that more people prefer small area housing. Chart (3) shows that 55% of youth people feel that rent is a factor determining the choice of rental housing. From the results of data analysis, it can be seen that due to the limitation of low salary and high rent modern youth people can choose smaller and smaller area.

Chart (1) Monthly Salary

Chart (2) Housing size selection

Chart (3) Factors influencing rental choice

Chart (4) shows that the demand for the space function in the room, in addition to the sleeping area that must possessed, is ranked from high to low as bathroom space, work and study area, meeting space and kitchen, accounting for 38%, 31%, 20% and 11% respectively. The bathroom space, which ensures the living comfortable, is the most cared space for youth people. The kitchen becomes the space that youth people do not care about, the reason if which absolutely associate with the busy work of youth people in nowadays. And modern network ordering services and physical restaurants are developing faster, they have a variety of methods and channels can solve the problem of eating, for youth people, cooking is no longer just a need.
Chart (4) The degree of demand for function space in the room

Chart (5) shows that it is different with the traditional way of socializing that due to the development of modern Internet, the youth group is more likely to socialize in virtual spaces. In the survey on the degree of demand for social space, 36% of people choose for it, which has the largest proportion. This indicates that the youth group is eager to socialize with others in reality, and the function of social area is set to provide a platform for the youth group to socialize in real life.

Chart (5) Level of demand for social space

4. Design strategies for shared community environments that meet the behavioral characteristics of youth people

4.1 Planning growable space forms to realize the functional diversity of private space

Hiroshi Aoyama once said, "In a big city like Beijing, housing prices are getting more and more expensive, and the area of houses that ordinary youth people can rent or buy is getting smaller and smaller, so can our life be bigger in such a small area of house?" Designers have to use the limited space to create unlimited by the means of design. Based on the lifestyle and physiological and psychological scale of the youth group, the private space is designed following the principle of "small space, big layout".

Taking YOU+2.0 International Youth Community Shenzhen flagship store as an example, the apartment is mainly small unit, divided into two types: inside and outside house and connected house (as shown in Figure 1.2). From the layout, the partitions are reduced and the boundaries between...
function areas are blurred to maximize the use of space. In the connected house, the designer turns the balcony into a "bay window by the bed", the desk into a "countertop by the bed", and the sofa into an "extension of the bed". This kind of small size house with rich and changeable functional space is more favored by youth people.

4.2 Realize tangible sharing with spatial layout that promotes interaction

When people gather in asocial space, interpersonal communication is usually in groups of three or five, which social psychology calls subgroup ecology. According to John James' study on informal subgroup of 7,405 people and working subgroup of 1,458 people, groups of 2-3 people are very important as the basic unit in group analysis (Figure 3). The seat arrangements should be arranged in groups as much as possible to facilitate the gathering of people (Figure 4).

| Number of subgroup | proportion |
|--------------------|------------|
| 2                  | 74%        |
| 3                  | 21%        |
| 4                  | 6%         |
| 5 and above        | 2%         |

In daily life, people always keep a certain distance from each other. The size of this distance can be determined by the size of personal space. Personal space is centered on individual, with the smallest spatial scope needed to meet the psychological comfort, it will have different spatial needs in different situations and has variable characteristics. The scientific distance is conducive to promoting interaction and maximizing the utilization of space resources. For example, two communicators at a moderate distance will have more positive feelings. Dr. Edward Hall, an American anthropologist, introduced the concept of interpersonal distance, which is determined according to the closeness of interpersonal relationships and behavioral characteristics, i.e., including: closeness distance, individual distance, social distance and public distance (Chart 6).
Interpersonal distance | Features |
--- | --- |
Public Distance | Distance | The distance of facing a large group of people for a speech |
Social Distance | 1.2~3.6m | Common distance for official or business relations |
Individual distance | 0.45~1.2m | The proper distance for two people to talk normally |
Closeness distance | Within 0.45m | The distance between relatives and close friends |

Chart (6) Interpersonal distance

It is human's animal instinct to need to occupy a certain area and keep a certain distance from others. People do not want to be easily disrupted by external people and objects in their daily life and production activities. There are different necessary physiological and psychological range and realm corresponding to different activities, the distance between seats and the scale of the seat itself should meet the requirements of its range and realm. The maximum social circle to meet the users' mutual communication is 3m (as in Figure 5.6).

"Social centripetal space" is described by psychologist R. Sommer as a psychological space that promotes communication and creativity in a relaxed and friendly atmosphere. At the level of physical space it consists of an inwardly curved enclosure of places or a semi-enclosed structure of seats, which makes the space conducive to the establishment of intimate relationships. [2] The opposite is referred to
as a social centrifugal space (e.g., Figure 7). As shown in the figure, when in a centrifugal environment the number of brief and sustained interactions are 36 and 47, respectively, while in a centripetal environment brief interactions increase by 25 and sustained interactions increase by 26. Therefore, the social centripetal principle is used to design the seating arrangement to provide better social needs for people.

4.3 Building virtual communities for intangible sharing

With the continuous development of science and technology, "Internet+" has become a significant representation in nowadays. The Internet technology is constantly changing the structure and mode of human social interaction, and people can interact and communicate optionally across space and time under the role of Internet, and this new form of organization is "virtual community". Virtual communities are based on information technology Internet technology as a platform, play a new media and self-media to get the form of communication, become a citizen information networking and self-organization of the gathering place. [3]

As an extension of traditional communities, the core of virtual communities is to realize intangible sharing, i.e., the sharing of information, the exchange of skills and the emotional connection between people. To build virtual communities to realize intangible sharing, firstly, we should make use of modern new technologies to optimize the platform for knowledge sharing and skill exchange, and realize the efficient dissemination of knowledge sharing and the establishment of community knowledge warehouse; secondly, the government needs to improve the normative system of virtual communities; finally, we should optimize the structure of virtual community members to improve the community knowledge sharing ability.

5. Conclusion

The rental market is in a stage of rapid development, and youth shared communities and the housing problem of youth groups are receiving more and more attention from the society. Through reading, research and analysis of literature, this paper explores the behavioral characteristics and housing needs of youth groups and summarizes the design strategies for the environment of shared communities, such as planning a growable spatial form to realize the functional diversity of private space, using a spatial layout that promotes interaction to realize tangible sharing, and building a virtual community to realize intangible sharing. It is hoped that a healthy and friendly living environment can be built to alleviate the housing problems of youth groups.

References

[1] Yu Siyao. Exploration of youth sharing community model in the context of shared city [D]. Shanghai Jiaotong University, 2018.
[2] Zheng L. H. Spatial factors in intercultural communication[J]. Open Times, 1997(05):43-49.
[3] Cao Yihua. Research on knowledge sharing mechanism of virtual communities in the era of "Internet+" [D]. Shanghai Normal University, 2019.
[4] Zeng Qun, Chen Xin, Article. Research on resource construction of virtual community knowledge sharing platform [J]. Librarianship Research, 2015(07): 54-58+18.

[5] Li Yilong. An analysis of the design of social space in long term rental apartments for youth groups - Beijing Sino-Ocean Bonanza as an example [J]. Architecture and Culture, 2019(01): 93-94.

[6] Hu Shuang. Research on the interior design of micro-houses [D]. Central South University of Forestry Science and Technology, 2019.