

# Research on the Influence of Subjective Characteristics of Xi'an Community on Resident Satisfaction: Based on the Perspective of the Life Circle\*

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## ABSTRACT

Based on the first-hand data from the daily activity survey of community residents in Xi'an, this paper focuses on the impact of community subjective characteristics on residents' satisfaction from the perspective of life circle theory, and conducts empirical research using structural equation models. The results show that residents' subjective perception of various facilities is directly related to residents' overall satisfaction with the community, among which educational facilities have the most significant impact on residents' satisfaction. The overall residents' satisfaction with the community is relatively good, but they are satisfied with various types of facilities. Residents' social and economic attributes have little influence on community satisfaction, and the main factor affecting their satisfaction is the subjective characteristics of community residents.

*Keywords: life circle, community, subjective and objective characteristics, residents' satisfaction, educational facilities*

## I. INTRODUCTION

In the context of rapid urbanization, the main contradictions in Chinese society have changed. People have begun to pursue a higher standard and high-quality life, and community residents' needs for the community have further increased. Human-oriented have gradually become the development of various cities' important guiding ideology [1,2]. At present, academia has gradually begun to pay attention to the construction of urban living space and the improvement of residents' quality of life. Residents have a stronger demand for education, medical, shopping and other service facilities and their quality in the community's life circle, and they are increasingly seeking more convenience and beauty [3, 4].

Community satisfaction research began in the 1950s abroad [5]. It started relatively late in China, and there were many systematic researches in the past ten years. Communities are the basic spatial units for residents to live in cities. In recent years, driven by the rapid development of large cities and the commercialization of housing, a large number of urban communities have begun to appear. However, insufficient living facilities

and lack of belonging have followed, which has also triggered this series of problems, will affect the quality of life of residents, thereby affecting the evaluation of residents' satisfaction with the community.

In recent years, the rise of community life circle research has provided new ideas for improving the quality of life of residents. The analysis of the characteristics of various facilities configuration in the community from the perspective of life circle is of great significance for in-depth exploration of the influencing factors of residents' satisfaction. The formation and development of the concept of life circle mainly came from Asia, and foreign research on life circle was also mainly concentrated in Japan and South Korea [6]. In China, academia has also carried out early research on the concept, composition, delineation and function of the life circle. At present, there have been a lot of theoretical and practical studies on life circle. The research progress of life circle in China has been summarized, and it is found that the research mainly focuses on concept definition, life circle structure and community public service facility configuration. [7-11].

From the perspective of the life circle and the human-oriented planning concept, this paper focuses on the community satisfaction of Xi'an residents and studies the influencing factors of community satisfaction. The research combines the distribution

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characteristics of various facilities in the living circle with the subjective perception of residents, and explores space optimization schemes to improve the satisfaction of residents' communities, and provides a reference for the planning of community living circles in Xi'an.

## **II. RESEARCH AREA AND DATA**

### *A. Research area*

This paper selects Yanta District of Xi'an City as the main research area, and selects residents of two typical communities as the research objects. The walking speed of adults is 60-100m/min. Since the walking distance is directly proportional to the degree of fatigue experienced by the human body, the speed of people walking for a certain period of time will slow down. After comprehensive consideration, this article sets the life circle range as: The five-minute life circle is an area that can be reached by residents of the community within a five-minute walk. The space is set in a radius of 500m with the residential community as the center. The main body of this range is residential units, which involve less external space; the ten-minute living circle is the area within a ten-minute walk of the residents of the community, and the space is set in a range of 800 m as the center of the residential community. This range involves more external space on the basis of the five-minute living circle, and the internal facility resources can be used by neighboring community residents; the fifteen-minute living circle is an area that can be reached by residents of the community within a 10-minute walk, and the space is set in the residential community is the center and 1000 m is the radius. Resources in this range can be used by residents of multiple communities and people outside the community, covering a wide range.

### *B. Data sources*

The questionnaire survey takes individuals as the survey unit, and its content includes the residents' personal and family socioeconomic attributes, daily activities and travel conditions, and subjective feelings in life. According to the completeness of the questionnaire and the data required for the research, 242 valid questionnaires were finally obtained, and the effective rate of the questionnaire was 80.67%.

### *C. Data content*

There are three types of data used in this paper, namely the social and economic attributes of residents, the satisfaction of residents with the community and facilities, and the perception characteristics of the community. The social and economic attributes of residents are obtained from the survey of basic personal information in the questionnaire. Residents' community satisfaction is measured by "Are you satisfied with the

community" in the questionnaire, and a five-star scale from "Very dissatisfied" to "Very satisfied" is used to measure residents' comprehensive evaluation. The characteristics of community perception in this article are obtained from six aspects: overall convenience for shopping and commerce, overall convenience for transportation and communication, overall convenience for education facilities, overall convenience for sports and entertainment, overall convenience for medical and health, and overall convenience for society and culture. It is measured on a five-star scale from "disagree" to "strongly agree".

### *D. Socio-economic*

Attributes of the sample Statistics on the socio-economic attributes of the respondents ("Table I"), among the 242 valid samples, males and females accounted for 48.8% and 51.2% respectively, and the proportions were relatively balanced; the number of people in all age groups was relatively even; married people accounted for the majority; nearly 90% of the interviewees have stable jobs; the average monthly income is concentrated between 5,000 and 9,000 yuan.

**TABLE I. PERSONAL ECONOMIC ATTRIBUTE**

Attributes	Category	Quantity	Proportion
Gender	Male	118	48.8%
	Female	124	51.2%
Age	18~34	87	36%
	35~55	78	32%
	55~75	77	32%
Marital status	Married	154	64%
	Unmarried	88	36%
Profession	Unemployed, retired	7	3%
	Self-employed	82	34%
	Ordinary worker	71	29%
	Technician	29	12%
	Personnel of enterprises and institutions	53	22%
Monthly income	<3000	53	22%
	3000-4999	83	34%
	5000-9999	70	29%
	10000-30000	30	12%
	Above 30000	6	2%

### III. COMMUNITY SATISFACTION CHARACTERISTICS

#### A. Overall characteristics of community satisfaction

Statistics on the overall situation of the sample community's satisfaction showed that the samples that chose "relatively satisfied" were the most, followed by "general", and the other three items were fewer. Among them, the proportion of samples who chose "very dissatisfied" was the lowest. This shows that urban community residents in Xi'an are generally more satisfied with the community.

#### B. Satisfaction characteristics of various types of facilities

1) *Configuration standards for various facilities in the living area:* To understand the subjective perception characteristics of community residents from the perspective of the life circle, it is necessary to divide the reachable range of various facilities according to certain standards, so as to compare the distribution status of the community facilities in the case with the standards, and help understand the supply and demand

of community residents problems in order to find deeper reasons that affect their satisfaction. According to relevant domestic research, "Table II" is used as the walking time standard for residents to reach various facilities in the community living circle.

TABLE II. COMMUNITY RESOURCE ALLOCATION STANDARD

First-level index	Second-level index	15min	10min	5min
		life circle	life circle	life circle
Shopping and business	Supermarket			✓
	Convenience store			✓
	Food market		✓	
	Financial outlets		✓	
	Courier point			✓
Transportation Facilities	Public transportation lines		✓	
	Communication network		✓	
Educational facility	Kindergarten			✓
	Primary school		✓	
	Middle school	✓		
Sports and entertainment	Gym	✓		
	Park			✓
	Leisure Square			✓
Medical hygiene	General Hospital	✓		
	Community Health Center	✓		
	Pharmacy			✓
Society and culture	Senior Activity Center	✓		
	Youth Activity Center	✓		
	Community Service Center	✓		

2) *Satisfaction of various facilities:* From the figure, we can see the satisfaction distribution of various facilities. In general, residents are more satisfied with various facilities. They have the highest satisfaction for shopping and commerce, and have the lowest

satisfaction for sports and entertainment, society and culture. Among them, a relatively large proportion of residents are dissatisfied with educational facilities and leisure facilities.

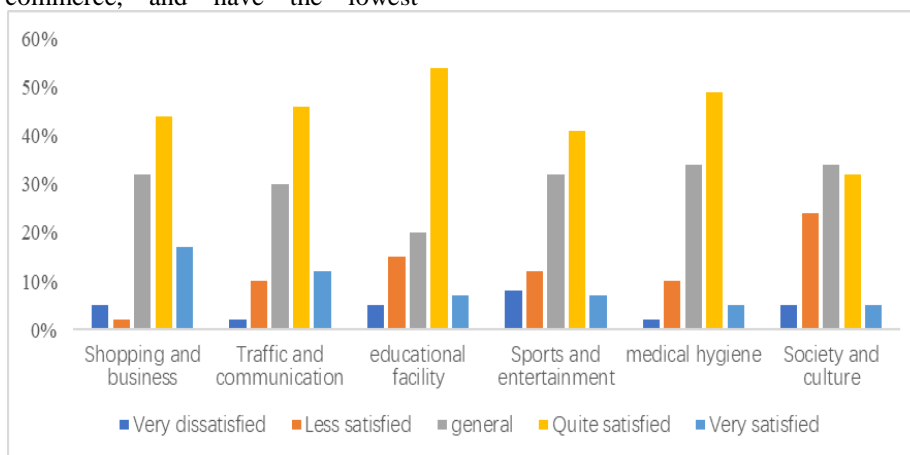


Fig. 1. Satisfaction of various facilities.

**IV. THE IMPACT OF COMMUNITY SUBJECTIVE PERCEPTION ON SATISFACTION**

The subjective perception characteristics of the community have a significant impact on the community (Table III). Residents' perceptions of the convenience of community shopping and commerce, transportation and communication, education facilities, sports and

entertainment, medical and health, social and cultural all have a significant positive impact on the overall satisfaction of the community, and these six influences on community satisfaction. The degree from high to low is educational facilities, transportation and communications, medical and health care, sports and entertainment, shopping and commerce, society and culture.

TABLE III. STANDARDIZED REGRESSION COEFFICIENT OF STRUCTURAL EQUATION MODEL

	Shopping and business		Transportation Facilities		Educational facility		Sports and entertainment		Medical hygiene		Society and culture		Community satisfaction	
	Beta	P	Beta	P	Beta	P	Beta	P	Beta	P	Beta	P	Beta	P
Shopping and business	NA		NA		NA		NA		NA		NA		0.087***	0.021
Transportation facilities	NA		NA		NA		NA		NA		NA		0.172***	<0.001
Educational facility	NA		NA		NA		NA		NA		NA		0.232***	<0.001
Sports and entertainment	NA		NA		NA		NA		NA		NA		0.141***	<0.001
Medical hygiene	NA		NA		NA		NA		NA		NA		0.156***	<0.001
Society and culture	NA		NA		NA		NA		NA		NA		0.072***	0.033



Fig. 2. Relationship between variables.

**A. Educational facilities**

Among the perception characteristics of various facilities, the perception of convenience of educational facilities has the greatest impact (coefficient 0.232). With the growth of the population and the increase of population mobility between urban and rural areas, educational facility resources have become the focus of attention. The demand for high-quality educational resources leads to a close relationship between them and the degree of satisfaction. Therefore, it has a greater impact on the overall satisfaction of the community.

**B. Social and cultural facilities**

Impact of the weak is residents' perception of community social and cultural facilities convenience condition coefficient (0.072), investigate its reason, in the process of rapid urbanization and social and cultural facilities construction has not reached the corresponding level, community residents is less on the use of such facilities, although residents quality of life have higher requirements, but the focus of the current is still in and can meet the daily needs.

**C. Shopping and business facilities**

There are generally small and medium-sized shopping places around modern urban communities, which can basically meet the daily shopping needs of

community residents. Therefore, the convenience of shopping and commercial facilities is no longer the main factor for residents to evaluate community satisfaction.

#### *D. Transportation and communication facilities*

The use of transportation facilities is related to the personal economic situation of residents. Residents who choose private cars to travel have a weaker perception than those who choose public transport. Affected by economic factors, the group with lower monthly income in the survey objects pay more attention to this type of facilities.

#### *E. Sports and entertainment facilities*

Under the background of current social economy rapid development, people began to pursue more healthy, more casual way of life. At the moment in the life circle of scope for the use of residents leisure entertainment facilities is very limited. As a result, some residents will feel less satisfied with the community. The lack of fitness and entertainment places is the main reason for their low satisfaction.

#### *F. Medical and health facilities*

In the process of on-the-spot investigation, the many residents reflect some communities within 15 minutes of life circle, there is no general hospital or specialized subject hospital, only small clinics or pharmacies exist, which makes residents feel that the medical and health facilities are not convenient enough, and the quality of life was reduced, which in turn affected the evaluation of community satisfaction, but for residents who often used private cars to travel, this was not the dominant factor affecting the satisfaction.

## **V. CONCLUSION**

This paper takes community residents as the main object of study, explores the impact of residents' subjective perception on community satisfaction from the perspective of life circle, and takes Xi'an Community as a case to discuss the relationship between residents' perception of convenience of various facilities in the life circle and overall community satisfaction. The research conclusions are as follows:

There is a direct relationship between residents' subjective perception of various facilities and their overall satisfaction with the community. The convenience of educational facilities, social and cultural facilities, shopping and commercial facilities, transportation and communication facilities, sports and entertainment facilities, and medical and health facilities all have a positive impact on community satisfaction.

Overall, residents are satisfied with the community, but there are differences in satisfaction with various types of facilities. Among them, the satisfaction with shopping and commercial facilities is the highest, while the satisfaction with sports and entertainment, social and cultural related facilities is the lowest.

The social and economic attributes of residents have little impact on community satisfaction, and the main factor affecting their satisfaction is the subjective characteristics of community residents.

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