

A Study of Cultural Facilities Utilization Based on Questionnaire -A Case Study of Gymnasiums, Museums and Galleries in Beijing

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Abstract

According to the result of a questionnaire survey of gymnasiums, museums and galleries' utilization in Beijing, a few suggestions are given to the future cultural facilities construction based on the analysis of the overall characteristics of cultural consumption and behavioral preference of different groups. The results show obvious socio-differentiation between groups of people, therefore more attention is called for to diversity as well as special groups of women and senior people in cultural facility utilization.

Keywords: Cultural facilities, Questionnaire, Behavioral preference, Beijing case study

1. Introduction

Culture is the soul of a city. The city of Beijing has a history of more than 3000 years and thus deep culture foundation. As early as 1983, it is explicitly written in Beijing Urban Master Planning that Beijing is positioned as the cultural center of the whole country. Plus, cultural facilities serve as carriers of culture which partly represent the overall level of a city and have a wide range including libraries, museums, galleries, gymnasiums, theatres and so on. Among them, gymnasiums are places for body exercises while museums and galleries for mind opening, both of which are typically representative of civilization. Besides, with development of the city and improvement of the citizens' living condition, the demand for cultural activities and facilities are increasing rapidly. Based on these points, this article chose museums, galleries and gymnasiums in the city of Beijing as subjects and sampling questionnaire survey as the approach for studying behavioral characteristics of cultural facilities utilization from a demand prospective in order to provide worthwhile suggestions for future cultural facilities construction.

2. Data and Method

The subjects for sampling questionnaire survey are citizens from eight administrative districts of Beijing city including Dongcheng, Xicheng, Chongwen, Xuanwu, Haidian, Chaoyang, Shijingshan and Fengtai districts. According to the

empirical data of sample size and population in urbanized area in Beijing, the survey delivered 1,800 questionnaires and receives 1,800 of which 1573 are effective in 2007. With Excel software as analysis tool, both quantitative and qualitative methods are employed in the analysis of the most commonly utilized facilities, the characteristics of travel behavior for cultural activities, the behavioral characteristics of cultural facilities utilization and behavioral preference based on different property which as a whole demonstrate the characteristics of cultural consumption in Beijing and its socio-differentiation phenomenon.

3. The social property of respondents

As is shown in Table 1, the rate of gender is 1.04:1(male to female) showing a slight difference and a small gap in cultural consuming power and demand between male and female consumers, partly due to the development of society and women's rising status; ages of respondents mostly lie within the range from 19 to 50 who are the major groups of cultural consumption; because of One Child Policy in China, 55 % respondents come from 3-membered family consisting of parents and one child; as for income level, most cultural consumers are those with below ¥3,000CNY per month, accounting for 78%, including 31% respondents with below ¥1,500CNY per month. There is little doubt that cultural consumption is highly related to educational background. Accordingly, respondents without a formal schooling of at least senior high is merely 18 % and more than half respondents have diploma of higher education or above.

4. The overall characteristics of cultural facilities utilization in Beijing

4.1 Analysis of the most commonly utilized cultural facility

As stated by the analysis of 1573 effective questionnaires, 44 % respondents choose gymnasium as the most commonly utilized cultural facility, while 30 % choose museums and 26% choose galleries, as is shown in Table 2.

Respondents choosing indoor gyms are almost twice as those picking outdoor gyms; inclusive gyms offering various sports equipment are more popular than specialized ones. As for museums, the most commonly used ones are technology museums followed by art museums and religion & ethnic museums. Same with gymnasiums, comprehensive museums and galleries are more prevalent than thematic ones, because the former meet the needs of more consumers with different tastes and demands while the latter is narrower and suitable only for a certain group of people.

4.2 Characteristics of travel behavior for cultural activities

Analysis of travel behavior, including the ways of transport and travel time, could be useful in planning cultural facilities as well as locating stations of public transportation and parking lots near cultural facilities.

As is shown in Table 3 and Table 4, most respondents choose public transportation including buses and subway, accounting for 48 %. The reason is that public transportation system in Beijing is relatively well developed and most of the cultural facilities lie at the edge of circle road where locates a large number of stations for buses and subways, so that for common citizens, especially those unable to afford private cars, public transportation is the optimum way both in cheap and convenient. On the other hand, with the increasing income level of citizens goes the number of private cars, consequently respondents travelling with cars account for as much as 17 % and is predictably increasing. Based on points above, both stations of public transportation and sufficient parking lots should be planned near cultural facilities in order to satisfy consumers with diverse needs.

Travel time is associated with transport network as well as cultural facilities layout pattern and to some extent reflects accessibility of cultural facilities. According to the questionnaire, 47% of the respondents need 0.5-1 hour of travel time followed by 37 % below 0.5 hour. On the other hand, still 16 % of respondents spend more than one hour on the road, indicating that much should be done in order to improve the accessibility.

4.3 The behavioral characteristics of cultural facilities utilization

Characteristics of cultural facilities utilization include main purpose, frequency and time span of cultural facility utilization as well as average cost each person (including traffic cost).

As is shown in Table 5, cultural consumption is mainly for the purpose of health improvement as well as mind opening, accounting for 34 % and 29 % respectively, and followed by entertainment 19 %. Cultural consumers who intend to use cultural facilities to keep fit are mainly those choosing gymnasiums as the most commonly used facility, while respondents who usually go to galleries and museums would like to broaden their horizon in the process of cultural consumption.

Consumers who pick the frequency of one to five times per year form the largest portion and the next is once per week. Frequency is highly related to the most commonly utilized facility: for those who often go to gyms, their activity frequency is counted by weeks, which means that, averagely, they make use of gyms at least once a week; while for those who commonly go to galleries or museums, the frequency is counted by years, i.e. once per year or above. Those who go to galleries or museums 3 times per year or above rarely exist. This is partly due to the property of each facility

type: consumers use gyms in order to keep fit, so they go there on a regular or even daily basis while galleries and museums are facilities for exhibition where a variety of displays last for a period of time, and different displays meet different needs, so that there is no need for consumers to use them on a weekly basis.

The third index is time span of utilization. Most respondents stay one to four hours, accounting for 90 %, including 57 % spending one to two hours. Respondents who stay less than an hour and a whole day (eight hours) are merely 10 % totally. Apparently, for most cases, one hour is too short for consumers to enjoy thoroughly and one whole day (eight hours) is too long and unnecessary for either doing sports in gyms or watching displays in galleries or museums. In that case, reasonable plans should be made according to time span index in order to control opening period and passenger flow for the reason that longer time span could possibly thwart flow turnover and therefore cause congestion which would weaken the sense of satisfaction of consumers.

As for average cost each person, respondents who consume less than \(\frac{4}{50}\)CNY accounted for nearly one half, followed by\(\frac{4}{50}\)-100 CNY37%. Based on further analysis, average cost is highly associated with income level. Most of the consumers who spend \(\frac{4}{100}\)CNY or above are mid-high or high-income groups with more than\(\frac{4}{3}\),000CNY income per month.

5. Behavioral preference analysis based on respondents group

Groups of people with different property behave differently during the process of cultural consumption. By the method of cross-analysis of consumer property and behavioral characteristics of cultural consumption, a picture of socio-differentiation in cultural consumption could be explicitly demonstrated. The article chooses gender, age, income, educational background as group property and the most commonly used facility, main purpose, average amount of utilization time per year as well as average cost each person (including traffic cost) as behavioral characteristics indices. Average amount of utilization time per year (AUT) is counted by utilization frequency (UF, per year) and time span each time (TS, hours):

$$AUT = UF \times TS \tag{1}$$

5.1 Behavioral characteristics of different gender property groups

Figures 1 to 3 show the behavioral differences between male and female consumers. Men are more interested in gyms than women. Consequently, there are a greater percentage of men than women respondents with utilization purpose of keeping fit. Although because of physiological and psychological disparities between male and female people, fewer women engage in physical activities, demands of women consumers of gyms should not be ignored. With the development of society in recent years, new groups of career women and white-collar women have a quite different way of life compared with traditional ones: they lead a fast-paced life under great pressure both from work and family; also, they favor new and progressive attitudes of consuming supported by solid financial foundation owing to high level income, as a result, their demand for gyms consumption is expected to increase. Besides, as is shown in Table 1, women average cost is \forall 4 CNY more than that of men which is another evidence of importance of further exploring women market of cultural consumption.

Another obvious difference between men and women is average amount of time of cultural facility utilization per year: men with 104 hours per year while women 91 hours per year.

5.2 Behavioral characteristics by age property groups

As is shown in Figure 4, there is a greater percentage of respondents in groups under 35 years old who choose gyms for the reason that they are more energetic and active and most gyms service are designed to meet the needs of young people only. However, from Figure 5 is a noticeable demand for physical exercises of senior people group above 60 most of whom have enough spare time having retired from work as well as want of physical exercises due to weakening body condition. In such case, more attention to senior people group is called for during cultural facilities construction. For the middle-aged people between 35 and 60, more demand for utilization of museums and galleries can be shown in Figure 4 and 5.

The distribution of average cost based on age property is similar to American football with a big stomach and small ends. Both groups under 18 most of whom are still not yet financially independent and senior people who more or less live a traditionally thrifty life spend much less than other age groups. Young and middle-aged people between 26 to 50 years old are main groups of high cost cultural consumption.

Contrary to 'American football' of cost distribution is average amount of utilization time per year: younger people and senior ones take more time in cultural consumption than middle ones, especially people from 36-50. The reason for this is that middle-aged consumers are mainly career people with less leisure time, compared with younger ones most of whom have relatively flexible time schedules as well as senior ones having retired from work.

5.3 Behavioral characteristics by income property groups

As is shown in Table 1, the most obvious tendency is that average cost is highly related to income property: generally, the more one earns, the more one spends, and the reason is self-evident. There is no clear regular pattern between income level and most commonly used facility, main purpose as well as amount of time.

5.4 Behavioral characteristics by educational background property groups

According to Figures 7 and 8, people with relatively higher educational background, especially those with master degree or above, have more demand for knowledge growth and thus a relatively greater percentage of them would like to go to museums and galleries. On the contrary, people with bachelor degree or below are more likely to go to gyms for physical exercises.

Besides, similar to income level, the higher one's educational background is, the more money one spends, partly due to the relationship between educational background and income level: generally speaking, the higher one's background is, the more money one earns and thus the more one spends. However, the pattern for average amount of utilization time is reverse: people with higher educational background spend less time in cultural consumption per year for the reason that they often use museums and galleries which has a low-frequency visit feature (seen 4.3 above).

6. Conclusion and suggestions

Based on the analysis of overall characteristics of cultural consumption in gymnasiums, galleries and museums and behavioral characteristics of different groups, clear disparity is shown in cultural consumption between different gender, age, income and educational background groups. In order for Beijing to consolidate the status of 'cultural center' of the whole country, it is imperative to improve services of cultural facility. A few suggestions are given below according to the analysis:

6.1 Diversity should be taken into account in designing and planning cultural services

With the development of society and culture, there is an increasing demand for cultural consumption and the consumers are becoming more diverse, including groups of people of different ages, gender, income level, educational background and so on. These people have diverse behavioral characteristics of cultural consumption. In such case, cultural service should be designed both inclusively and thematically in order to meet the needs of various consumers.

6.2 Focus on the improvement of infrastructures and surrounding environment

Both transport systems including bus and subway stations and lines as well as parking lots and spatial distribution pattern of cultural facilities should be properly designed in order to decrease traffic time and increase the accessibility. Besides, reasonable plans should be made according to time span index in order to control opening period and passenger flow in case of congestion which would weaken the sense of satisfaction of consumers.

6.3 More attention is called for to special groups, especially for women and senior groups.

In recent years, more and more women have career of their own and are becoming financially independent. With well educational background and special taste, their demand for cultural consumption is increasing rapidly. However, most facilities especially gyms are male-oriented. Accordingly women market has great potential and should not be ignored. Meanwhile, senior people are also a special group which calls for special attention and care. They have enough retirement pensions and spare time, and are vulnerable to loneliness and idleness at the same time, therefore more than ever need rich cultural activities. Furthermore, as early as 1990, Beijing had stepped into aging cities already-more than ten years ahead of the whole country. Nevertheless, some study shows that few cultural services in Beijing are aimed at senior people. Consequently, senior people group consumers are worth noticing in future cultural facility service design.

References

Feng, Liyun. (2004). Study on the Aging Problem of Beijing and the Consumption of Senior Citizens. *Journal of Beijing Union University (Humanities and Social Science)*, 2(1), 100-104.

Liu, Feiyan. (2005). Analysis of Cultural Consumption of Urban Senior People. *Journal of Consumption and Economics*, 21(2), 62-64.

Wang, Yuesheng. (2006). The Changing Family Structure in Contemporary China: An Analysis. *Journal of Chinese Social Science*, 1, 96-108.

Zhang, Jingqiu. (2004). A Study on Spatial Distribution of Cultural Facility and Cultural Function in Beijing. Social Science of Beijing, 2, 54-60.

Zhang, Jingqiu. (2008). Study on Spatial Differentiation of Cultural Facility Utilization in Beijing. Beijing: Chinese Literature Press.

Zhang, Xuemin. (2006). Research on the Influence of Education Degree to Inhabitant's Consumption. *Journal of Education and Economics*, 3, 1-5.

Zhang, Zhimei. (2007). Analysis of the Sports Consumption Factors of Our Nation's Women. *Journal of Changchun Normal University (Natural Science)*, 26(1), 126-128.

Table 1. Social property percentage of respondents and cross-analysis of social property with average cost and average amount of utilization time per year

item		Percentage (%)	Average cost	Average amount of utilization	
		Percentage (%)	(CNY)	time per year (Hours)	
Gender	Male	51	65	104	
Gender	Female	49	69	91	
	≦18	12	47	142	
	19-25	22	61	102	
A ~~	26-35	23	84	98	
Age	36-50	22	77	77	
	51-60	12	59	74	
	≧61	9	45	110	
	Below senior	18	50	112	
	high	10		112	
Educational background	Senior high	29	57	99	
	Bachelor	44	73	96	
	Master or above	9	98	73	
	≦1500	32	50	128	
	1501-2000	21	57	78	
Income (CNY)	2001-3000	26	93	109	
	3001-5000	18	93	82	
	≥ 5001	3	116	128	
Family structure	single	13	-	-	
	Two members	16	-	-	
	Three members	55	-	-	
	Four members or above	16	-	-	

Notes to table 1: family structure is not taken into account in cross-analysis and hence no statistics are shown of average cost and average amount of utilization time per year in the corresponding blank.

Table 2. The most commonly utilized cultural facility

	Gymnasiums (44)				Galleries (26)		
Item	Outdoor	Indoor comprehensive	Indoor specialize	Compr	ehensive	Thematic	
Percentage (%)	38	33	29		53	47	
	Museums (30)						
Item	Technological	Artistic	Thematic	Religious and ethnic	Historical	Archeological	
Percentage (%)	27	20	22	5	12	14	

Table 3. Percentage of travel method

Item	Walk	Public transport	Bike	Private car	Others
Percentage (%)	12	48	16	17	7

Table 4. Percentage of travel time

Item (hours)	Within 0.5	0.5-1	1-1.5	1.5 or above
Percentage (%)	37	47	14	2

Table 5. The behavioral characteristics of cultural facilities utilization

	Percentage (%)	
	Organizational activity	6
	Mind opening	29
Purpose of Utilization	Accompanying family members	12
	Entertainment	19
	Health improvement	34
	Once per week	32
	Twice per week	12
Frequency of utilization	Three or more times per week	9
	One to five times per year	46
	Five times per year or above	1
	Less than an hour	6
Average amount of	One to two hours	57
utilization time each	Two to four hours (within half a day)	33
	Four to eight hours (with one day)	4
	Below 50	46
Average cost each person	50-100	37
(CNY)	100-200	13
	Above 200	4

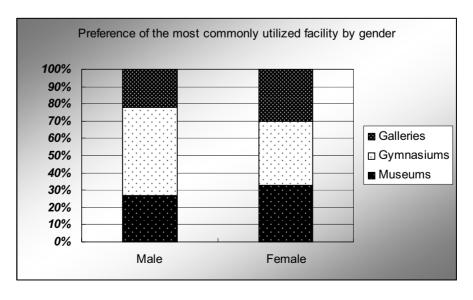


Figure 1. Preference of the most commonly utilized facility by gender

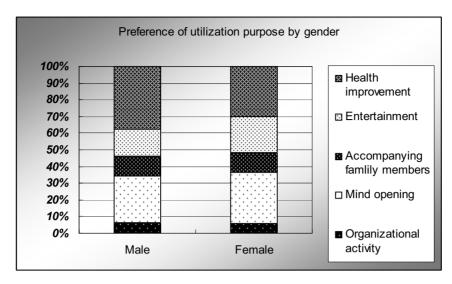


Figure 2. Preference of utilization purpose by gender

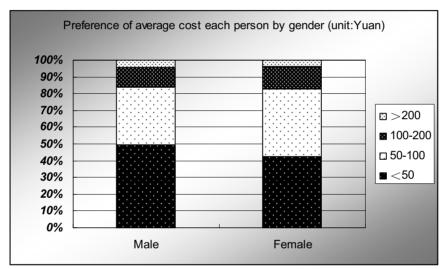


Figure 3. Preference of average cost each person by gender

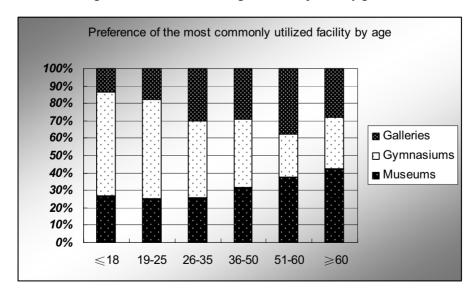


Figure 4. Preference of the most commonly utilized facility by age

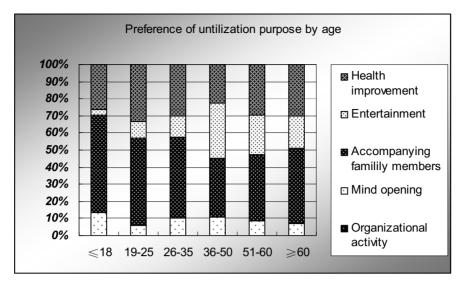


Figure 5. Preference of utilization purpose by age

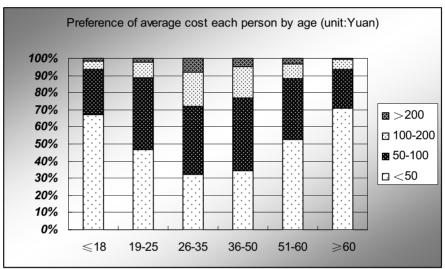


Figure 6. Preference of average cost each person by age

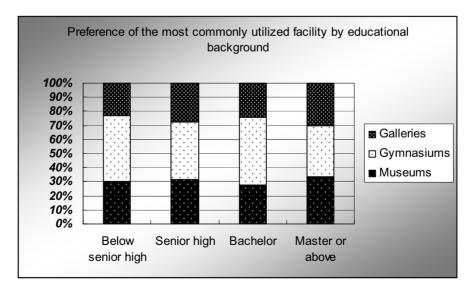


Figure 7. Preference of the most commonly utilized facility by educational background

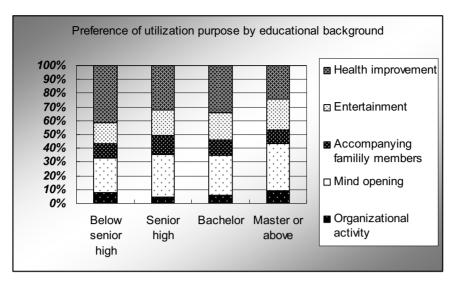


Figure 8. Preference of utilization purpose by educational background