

A Study on the Characteristics of Tourist to the Water Recreation Space on Sightseeing Agricultural Park in China

중국 농촌지역 수변놀이공원의 방문객 특성 분석

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요약

중국에서는 관광, 휴식, 체험교육의 목적으로 농촌지역의 놀이농원이 증가하고 있다. 특히 농촌지역 수변공간의 놀이공원에 대한 이용의 증가는 수변공간에 대한 경관 및 단지 설계가 중요한 요소로 작용하고 있다.

이 연구에서는 산둥성 등주시의 수변놀이농원의 이용자 1194명을 대상으로 설문지와 관찰 등의 연구방법을 통하여 이용 행태와 요구를 분석하였다.

이용자들은 연령대에 따라 다른 이용행태 및 요구를 보이고 있다. 먼저 이용행태에서 20대 이하는 흥미와 동적인 놀이의 이용행태를 선호하며, 연령대가 증가함에 따라 덜 동적인 이용행태를 선호하였다. 또한 모든 이용자들은 새롭고, 흥미롭고, 편안한 이용시설에 대한 요구가 높았다.

경관요소에 대한 평가에서 20대와 41살 이상의 집단간에 유의미한 차이를 보이고 있으며, 20-40살 집단간에는 유의미한 차이가 없었다.

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20대의 이용자들은 시설이용에서 안전성과 레크리에이션기능에 대한 요구가 높았고, 41살 이상의 이용자들은 휴식시설과 공간의 확대를 요구하였다.

또한 이용자들의 대부분이 휴식시설에 대한 요구에서 그늘, 편안함, 양적인 차원에서 시설확대 및 보완의 요구가 높았다.

따라서 농촌관광에서 여가공간의 이용하는데 있어서 방문객의 태도와 만족도에 관한 연구들은 인본주의에 바탕을 둔 편의시설의 확대와 질적 개선이 요구되고 있으며, 이러한 결과를 토대로 최근에 증가하고 있는 중국인의 한국관광 및 방문에 대비하여 중국인의 관광시설선호와 이용만족 증가를 위한 실증적인 자료 수집과 대안모색이 필요하다.

주요어(Key words) : 농촌관광농원(Sightseeing Agricultural Park),
수변놀이공원(Recreation Space On Water),
방문객특성(Characteristics of Tourist)

1. Introduction

As a new form of landscape art integrated with sightseeing tour, agriculture production and landscape architecture, sightseeing agricultural park has quite a number of functions such as tour sightseeing, relaxation labour, salubrious recreation and education etc., which can be beneficial to carry out high unification of the economic social and ecological performance. Meanwhile its special position is being pay widespread attention by modern people (Wang Hao, 2003; Lu Yunting etc., 1995).

Recreation space especially recreation space on water is an

important part of sightseeing agricultural park where people could participate in recreation activities.

Construction of recreation space on water started in 2005 and the total number is 38 in 21 sheng by the end of 2008 in China. Among 38 parks, 20 parks were recently approved.

Currently, most of all recreation space on water are establishing in protected areas supporting by laws and regulations.

Now domestic landscape designers always pay more attention to beauty effect than tourists' needs when design it (Yang Guoliang, 2001; Xu Feng, 2003; Jiang Weibing etc., 2003; Chen Wei, 2005), so how to satisfy tourists' behavior and perceptions has become the most important problem that designers are faced with.

The main objective of this study is to investigate the behavior and mentality characteristic of tourists of different age and to estimate the landscape elements of recreation space on water based on environment behavior psychology (Li Daozeng, 1999) to provide theory basis for humanism design of sightseeing agricultural park.

2. Research methods

2.1. Inquiry time and place

A field survey was conducted at Ying Tai ecological sightseeing agricultural park in Tengzhou City, Province Shandong which is integrated with sightseeing agriculture, ecological eatable, hot spring relaxation, tourism vacation etc., and it covers 32 ha and water covers about 6ha in July to September, 2007.

The recreations on water are the most presentative, and the establishment including artificial sand beach, high slideway, enfant castle, paddling pool and whiffing platform etc., are abundant and novel and deeply subjected to the tourists' fancy. The average tourists measures more than 800 persons per day and sometimes reach to more than 2000 persons.

2.2. Procedure

This article investigated the behavior and perceptions of tourists and their satisfactory degree to the recreation space on water by researching methods and analyzed the behavior and mentality characteristic of tourists of different age and their estimation to it.

2.3. Data collection

Questionnaire investigation combined with accessing on spot is the primary research methods, by which can gain enough information. The amount of total questionnaire is 1215, thereinto the amount of available is 1194 and the percentage of availability is to 98.3%. Spss version 11.5 was used in data analyses.

3. Research results and analyses

3.1. Tourist behavior and mentality

3.1.1. Tourist behavior

The person's behavior is affected by individual age, sex, living habits, educational background, occupation, income, social class and culture etc., and individual age is the primary factor(Xu Conghuai, 1996; Li Tao, 2000).

To research expediently, tourists are divided into five kinds including teenager(under 20 years old), youth(20~29 years old), young and middle age(30~40 years old), middle age(41~55 years old) and old age(above 55 years old).

From table 1, we can see difference between tourists' behavior of different age is distinctive. Tourists' under 20

years old primary behavior are paddling and surfing; Tourists' between 20~40 years old primary behavior are surfing and swimming; Tourists' between 41~55 years old primary behavior is swimming and boating; Tourists' above 55 years old primary behavior are whiffing and resting. Tourists gradually tend to choose relatively quite and less violent recreation with age. For most tourists, surfing is the most recreations which they have participated in, secondly is swimming and paddling.

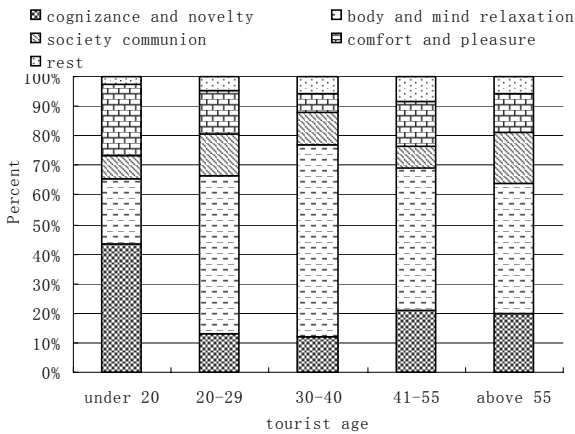
〈Table 1〉 Tourists' behavior of different age(%)

Behavior Age	Swimming	Whiffing	Surfing	Boating	Paddling	Sunbathing	Looking	Resting	Chatting	Eating	Others	Total
Under 20	11.5	1.0	31.1	2.3	35.0	1.2	5.8	4.9	3.4	3.6	0.2	100
20-29	20.7	2.5	32.1	9.5	13.2	8.6	5.1	2.4	4.5	1.1	0.3	100
30-40	23.5	7.5	25.6	14.1	2.2	10.5	6.4	5.3	2.3	1.5	1.1	100
41-55	21.6	14.9	11.2	19.5	1.1	13.3	6.1	7.5	2.1	2.4	0.3	100
Above 55	12.1	33.9	0	3.4	0	1.7	16.1	22.4	4.6	2.9	2.9	100

3.1.2. Tourist perceptions

Need is the premise and foundation of individual behavior. People have public and private, diverse and selective, live and vivid needs to public environment(Zhang Chunxing, 1994; Yang Guiqing, 2000), which is the same to the recreation space on water. According to Ma Siluo need grade theories (Cheng Ming edit and translate, 2003), we set five kinds of perceptions including cognizance and novelty, body and mind

relaxation, society communion, comfort and pleasure and the rest(safety, respect etc.) on the premise that physiological needs have been satisfied. Because tourists' of different age mental characteristic and social class are different, the perceptions that they participate in recreation to satisfy are also different. Fig. 1 lists tourists' perceptions of different age. It is clear that tourists' under 20 years old perceptions are mostly secondly. Tourists' above 20 years old perceptions are mostly body and mind relaxation, thereinto tourists between 30-40 years old account for the maximum portion(64.7%). For tourists above 55 years old, society communion also occupies a certain ratio.



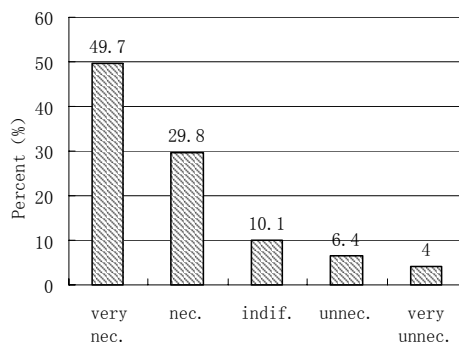
<Fig. 1> Tourists' of different age perceptions

3.2. Tourist estimation to recreation space on water

3.2.1 Tourist general estimation to recreation space on water

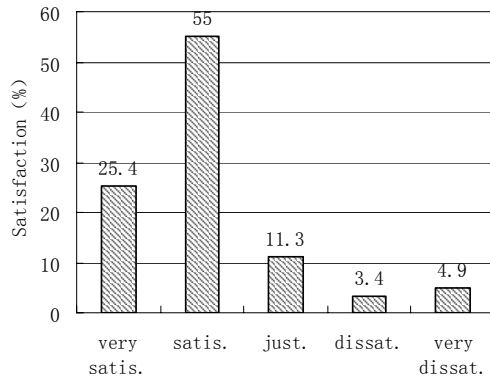
3.2.1.1 Tourist general estimation to set up recreation space on water

To attract tourist, a lot of recreation items have been set up in sightseeing agricultural park, but because of higher maintenance cost, there is a lack of recreation on water. We try to study on the meaning of setting up recreation space on water and list tourist estimation to it(Fig. 2). Tourists who think that it is necessary to set up it come to an above 75%, which shows clearly that recreation space on water is deeply subjected to the tourists' fancy and various recreation space on water should be set up in sightseeing agricultural park to provide more abundant recreation items for tourists.



〈Fig. 2〉 Tourist estimation to set up recreation space

3.2.1.2. Tourist general estimation to recreation space on water
 Tourists pleased with overall image and function of recreation space on water come to above 80%(Fig. 3). Satisfaction is rather high, which shows recreation space on water has a certain attraction.



Note: nec. means necessary, indif. means indifferent, unnec. means unnecessary.

〈Fig. 3〉 Tourist general estimation to recreation space

3.2.2. Tourist estimation to landscape elements of recreation space on water

3.2.2.1. Tourist estimation to safety, size, opening degree and layout of recreation space on water

The space safety, size, opening degree and layout are foundation to satisfy basic perceptions and ensure various recreations going on wheels. This space chooses skidproof ground material to ensure tourist treading safely, and it is

divided into private space, half-private space and public space, meanwhile the space size is appropriate, which can ensure tourist definite individual distance. The space has other advantages such as suited opening degree, reasonable layout and easy reaching.

The difference of satisfaction to safety, size, opening degree and layout between tourists in addition to 20~40 years old is distinctive. Tourists' under 20 years old satisfaction to safety is lower, only 34.7%; Tourists' between 41~55 years old satisfaction to layout is rather lower, only 23.9%. It is clear that tourist under 20 years old has high request to safety and tourists' between 41~55 years old has high request to layout. As a whole, tourists' satisfaction to safety, size, opening degree and layout of recreation space on water is high(Table 2).

<Table 2> Tourist estimation to safety, size, opening degree and layout of recreation space on water(%)

Age	Satis- faction	Safety			Size			Opening degree			Layout		
		Satis.	Just.	Dissat.	Satis.	Just.	Dissat.	Satis.	Just.	Dissat.	Satis.	Just.	Dissat.
Under 20		34.7	44.3	21.0	80.3	14.2	5.5	73.7	19.0	7.3	85.6	12.5	2.1
20-29		80.7	18.4	0.9	57.6	30.9	11.5	66.1	25.2	8.7	83.3	13.0	2.7
30-40		75.8	22.2	2.0	56.3	34.9	8.8	75.3	17.3	7.4	82.1	14.2	3.7
41-55		76.3	21.5	2.2	82.6	8.7	8.7	77.2	20.7	2.3	23.9	48.9	27.2
Above 55		65.9	27.3	6.8	81.8	11.4	6.8	72.7	2.05	6.8	90.9	4.5	4.6

Note: Satis. means satisfactory; Just. means just passed; Dissat. means dissatisfactory, same as below.

3.2.2.2. Tourist estimation to landform (water body) of recreation space on water

The landform treatment of this recreation space on water is suitable. High place is reconstructed to be massif, and low place to be lake, meanwhile rockery is set up in water body to enrich landform). Water figure is mainly natural type and bank is mostly built by manual material. It is particular that massif naturally divides quiet activity (boating and whiffing etc) field from sportive activity (surfing, paddling etc.) field and artificial sand beach is set up to satisfy tourists' needs to rest and paddle. From Table 3, we can know tourists satisfaction to landform (water body) of recreation space on water is different. To landform change, tourists' between 30~40 years old satisfaction is lower and they have higher needs; To water body beauty, the difference between tourists' between 20~40 years old satisfaction is not distinctive. As a whole, tourists' satisfaction to landform (water body) is high.

<Table 3> Tourist estimation to landform (water body) of recreation space on water(%)

Age \ Satisfac-tion	Landform change			Water body beauty			Water body function		
	Satis.	Just.	Dissat.	Satis.	Just.	Dissat.	Satis.	Just.	Dissat.
Under 20	82.4	12.8	4.8	87.8	9.3	2.9	82.9	12.9	4.2
20-29	81.5	13.3	5.2	75.4	18.5	6.1	69.9	22.7	7.4
30-40	58.3	31.5	10.2	78.0	17.3	4.7	72.4	21.5	6.1
41-55	85.9	7.6	6.5	92.4	3.3	4.3	86.0	7.5	6.5
Above 55	75.0	18.2	6.8	80.0	13.3	6.7	75.0	18.2	6.8

3.2.2.3. Tourist estimation to square and road of recreation space on water

Square and road constitute the venation of recreation space on water and act the function of distributing and organizing traffic. This square in the space has regular style. Combined with repast service, the square is the place for tourist to rest and repast. The road surface around water body is mainly paved from hardy material (often natural material) such as sand, scree etc., which appears pure and beautiful and has appetency to tourist. Meanwhile it has been disposed to prevent slip and resist attrition and possesses perfect waterproof and draining capability.

The difference of satisfaction to square and road between tourists in addition to 30~55 years old is distinctive. The satisfaction of tourists between 20~29 years old to square size, road breadth and ground material are all the lowest, so tourist between 20~29 years has higher request to them. As a whole, tourists' satisfaction to square and road is higher (Table 4).

(Table 4) Tourist estimation to square and road of recreation space on water(%)

Age	Satis- faction	Square size			Road breadth			Ground material		
		Satis.	Just.	Dissat.	Satis.	Just.	Dissat.	Satis.	Just.	Dissat.
Under 20		85.9	11.7	2.4	83.3	15.7	1.0	84.7	11.1	4.2
20-29		60.2	27.7	12.1	58.1	31.4	10.5	59.0	27.2	13.8
30-40		80.5	16.8	2.7	77.9	20.7	1.3	79.3	16.3	4.4
41-55		81.5	13.1	5.4	78.1	17.1	4.8	79.4	13.0	7.6
Above 55		75.5	17.8	6.7	73.5	22.4	4.1	74.4	8.6	7.0

3.2.2.4 Tourist estimation to landscape plants of recreation space on water

Landscape plants are zoetic materials, which include arbor, shrub, climber, lawn and water plant and little flower. From Table 5, we can know the difference of satisfaction to landscape plants between tourists in addition to 20~40 years old is distinctive. Satisfaction of tourists above 41years old is lower and not come to 50% and satisfaction of tourists under 20 years old is the highest. It can be seen that tourists' request to landscape plants' color, ordonnance and abundance becomes higher with age. Although everyone thinks virescence in this space is good, many people put forward some improving opinions based on individual behavior pattern: increase shade trees and beautiful flowers; Set up ingoing lawn; Add diversity of trees. Thereinto the request of increasing shade trees is exigent. There is a lack of shade trees in some recreation space on water, so that few tourists

use it in the daytime. It is clear that designer should pay more attention to landscape needs than individual needs when design recreation space on water.

(Table 5) Tourist estimate to landscape plant of recreation space on water(%)

Age	Satis- faction	Landscape plant color			Landscape plant ordonnance			Landscape plant abundance		
		Satis.	Just.	Dissat.	Satis.	Just.	Dissat.	Satis.	Just.	Dissat.
Under 20		85.2	11.7	3.1	72.0	8.7	19.3	81.3	14.5	4.2
20-29		77.7	15.7	6.6	64.7	12.5	22.8	74.3	18.4	7.3
30-40		78.1	15.2	6.7	65.1	12.2	22.7	74.4	18.2	7.4
41-55		43.0	39.8	17.2	29.3	37	33.7	42.9	40.0	17.1
Above 55		27.9	65.1	7.0	9.5	74.6	15.9	30.6	61.2	8.2

3.2.2.5. Tourist estimation to garden construction of recreation space on water

In this space, kiosk and corridor are primary constructions. As landscape elements in open space, kiosk and corridor not only beautify environment but also satisfy tourist request to rest and communion.

The difference of satisfaction to garden construction style between tourists is not distinctive, but to garden construction material and scale, there are some distinctive. The satisfaction of tourists between 41-55 years old to them are all highest, and the dissatisfaction is 0. It is clear that this ages don't have high request to garden construction(Table 6).

〈Table 6〉 Tourist estimation to garden construction of recreation space on water(%)

Age	Satis- faction	Garden construction style			Garden construction material			Garden construction scale		
		Satis.	Just.	Dissat.	Satis.	Just.	Dissat.	Satis.	Just.	Dissat.
Under 20		78.0	16.8	5.2	84.8	12.8	2.4	87.1	11.2	1.7
20-29		70.0	23.1	6.9	78.1	19.5	2.4	74.5	21.6	3.9
30-40		79.5	15.1	5.4	67.8	23.0	9.2	62.6	25.3	12.1
41-55		81.7	18.3	0	87.2	12.8	0	88.3	11.7	0
Above 55		75.0	18.2	6.8	77.3	18.2	4.5	75.0	18.2	6.8

3.2.2.6. Tourist estimation to small establishments of recreation space on water

The establishments in this space are important landscape elements and closely linked with people. This article mostly thinks about rest establishments, recreation establishments and revelation establishments.

From 〈Table 6〉, we can know the difference of satisfaction to rest establishments between tourists is little distinctive and to recreation establishments and revelation establishments between tourists in addition to above 41 years old is distinctive. The satisfaction of tourists above 41years old to rest establishment is the lowest, which appears high request to it. The satisfaction of tourists under 20 years old to recreation establishments is relative lower, which also appears higher request to it. Most tourists are critical of rest establishments because of not enough, not convenience or not

comfort. Thus the problem about rest establishments should be resolved first. we should improve upon such aspects as shade, comfort and quantity.

〈Table 7〉 Tourist estimation to small establishments of recreation space on water(%)

Age \ Satisfaction	Rest establishments			Revelation establishments			Recreation establishments		
	Satis.	Just.	Dissat.	Satis.	Just.	Dissat.	Satis.	Just.	Dissat.
Under 20	36.6	54.0	9.4	71.5	21.1	7.4	62.5	27.5	10.0
20-29	40.2	51.8	7.9	64.4	26.8	8.8	63.9	26.5	9.6
30-40	37.1	55.1	7.8	86.2	9.9	3.9	86.2	10.4	3.4
41-55	23.9	60.9	15.2	75.5	22.4	2.1	89.2	9.7	1.1
Above 55	20.9	58.1	21.0	71.7	21.8	6.5	82.2	17.8	0

4. Discussion and conclusion

Tourists of different ages choose different recreations. Tourists under 20 years old like to choose irritative activities, and with age, they gradually inclined to relatively quiet and less violent activities. Tourists of different age have different perceptions. Tourists' under 20 years old perceptions are mainly cognizance and novelty and above 20 years old are body and mind relaxation. For most tourists, they participate in recreations to satisfy their needs of relaxation and cognizance and novelty. Based on environment

behavior psychology, trying to find out the relationship between tourist perceptions and recreation space on water to design it humanistically is one of primary research directions for the future.

Tourists affirm the necessary to set up recreation space on water in sightseeing agricultural park and have good general impression. Tourists' age affects the estimation to landscape elements. Rather distinct influence mostly focus on the tourists under 20 years old and above 41 years old. The difference of satisfaction to landscape elements between tourists of 20~40 years old is not distinctive, so we can regard it as a same age in the future study. Tourists under 20 years old have high request to safety and recreation establishments and above 41 years old also have higher request to rest establishments and space layout, which are related to their behavior and mentality characteristic.

The estimate to landscape elements come to approving degree in addition to rest establishments (only 40%). They think the rest establishments should be improved upon such aspects as shade, comfort and quantity. Meanwhile shade trees should be increased to promote tourists to use recreation space on water during the summer.

In china, the most tourists, recreation activities which they participate in at best are surfing, cultural activities and whiffing.

Environmental facilities which promote tourists to participate in these activities are aquatic recreation facilities, kiosk and

flower shelve, seat with shade, square, extravehicular Table and chair and large trees.

Based on an overall consideration of various factors, we think environmental facilities which considerably influence tourists to use recreation space of sightseeing agriculture park are aquatic recreation facilities, seat which shade, kiosk an flower shelve, extravehicular Table and chair, square and playing facilities.

There are a lot of factors which influence tourists to use recreation space of sightseeing agriculture park, this study carried out environmental facilities.

Based on environment behavior psychology, trying to find out the relationship between tourists needs and all factors of recreation space to design it humanism is one of primary directions for the future.

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