

The Benefits and Sustainable Development for the Urban Parks in Nanjing, China

by
Chen Yang



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*Presented as part of the requirement for the award of MA Degree in Sustainable Leisure
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Chen Yang

Supervisory Committee:

Rick Rollins, PhD
Co-Supervisor
Faculty, Recreation and Tourism Management
Vancouver Island University

Pete Parker, PhD
Co-Supervisor
Faculty, Recreation and Tourism Management
Vancouver Island University

Bob Payne, PhD
External Reviewer
Professor Emeritus
Lakehead Univeristy



DECLARATION

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Student signature

I agree that this Thesis may be available for reference and photocopying, at the discretion of the University.

Student signature

Chen Yang

ABSTRACT

This study focuses on urban parks in Nanjing, China. It aims to investigate benefits and level of satisfaction of Xuanwu Lake Park in Nanjing, in order to better understand the role of urban parks in Nanjing and to seek insights for sustainable development. The concept framework of this study was the “behavior approach”, which suggests that satisfaction is shaped by motivations and setting characteristics (environmental, social, and managerial dimensions). The research data was collected with a questionnaire survey with a response rate of about 90%. The main findings are summarized as follows: (a) visitors are concerned about these motivations: to get close to nature, to relax and renew, to exercise, to integrate friends, to gain joy, to contemplate, and to read; (b) motivations that are satisfied with include: to rejuvenate people, to reduce stress, cultural activities, to socialize, and to know more people; (c) visitors are concerned about these benefits: increasing city’s attractiveness, boosting tourism industry, improving local environment, and educational uses; (d) benefits that are satisfied with include: wilderness protection, and promote community cohesion; (e) facilities with high satisfaction are: trails, ornamental plant layout, and fingerboards; (f) highest satisfaction with service is security guard; (g) highest satisfaction with management are safety, water preservation and pet control; (h) the first four facilities needed are more fitness facilities, more amusement facilities, more trash bins, and more parking lots; (i) it is suggested to decrease visit cost, improve environmental quality, expand the park, more cafes, washrooms, grocery stores, and activities in the park. Overall, the study provides some support for the “behavioral approach” model.

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CHAPTER ONE

INTRODUCTION

Urban parks can play a vital role in big cities, providing important leisure spaces for urbanites where people can mingle and enjoy a variety of recreation activities, escape high pressure from work, socialize, and get closer to the nature (Koon, 2009). These benefits of urban parks have been documented in many parts of the world, but little attention has been given to understanding the impact of urban parks in China.

Therefore, this thesis focuses on the urban parks in Nanjing, China. The purpose of the research is to investigate benefits and levels of satisfaction with urban parks in Nanjing. It is very important to do the research, because if urban parks are not valued they may not be retained and the land could be used for other purposes.

Although the number of city parks has increased in China, these urban parks are meeting with great pressure (Shi, 2008; Zheng, 2009; Xu, 2011). One concern is the excessive use of urban parks in China. For example, in some cases, park facilities are obsolete, and tourists are dissatisfied with park services, and with confusing regulations (Luo, 2007; Zheng, 2009; Xu, 2011). Some of the city parks in China still lack effective management, resulting in littering, water pollution, and other environmental problems (Zheng, Tang, & Che, 2003; Luo, 2007).

Another issue is how to harmonize the balance between park's classical landscape protection and modern urban development and expansion. For example, park managers should

consider that the natural environment in the parks must fit with the surrounding modern buildings, in terms of the architecture. Also, how to explore its potential and refresh its functions will directly affect the sustainability of urban park system in China (Sun, 2005; Luo, 2007; Li, 2009).

There are a number of major gaps in current literature. Firstly, very little research on urban parks is published. Instead, the majority of research discusses national parks and protected areas. Secondly, there are very few academic articles written in English that describe China's city parks. Thirdly, there is little research that examines the negative impacts of urban parks. Thus, this research focuses on the functions of urban parks specifically in Nanjing, using a questionnaire survey about Xuanwu Lake Park to examine sustainability of urban parks in Nanjing, and to look for suggestions to address the issues and to improve the parks in the future. The goal of this research is to contribute to the long term sustainability of urban parks, and to better understand how people feel about the benefits, facilities, services, and management of urban parks in China.

1.1 Research questions

This research aims to better understand the role of urban parks for citizens of Nanjing. The following research questions will be addressed:

- 1) What are the characteristics of visitors to Xuanwu Lake Park?
- 2) What are motivations to visit the park?
- 3) To what extent do people consider the economic, environmental and social benefits

of Xuanwu Lake Park?

- 4) How satisfied are visitors with facilities, services and management of Xuanwu Lake Park?
- 5) What improvements are suggested for Xuanwu Lake Park?

1.2 Importance of the topic

The topic has a strong link with “leisure and sustainability”. Sustainability means to develop and meet peoples’ requirements without damaging the next generation’s availability of resources (Kates, Paris, & Leiserowitz, 2005). A sustainable park means it can not only meet contemporary individual’s need but also could be preserved for the next generations (Chiesura, 2004). Parks are important to a city’s tourism and they are also critical to the city dweller’s leisure pursuits. Urban parks play an important role in city’s sustainable development and social well-being due to economic, environmental and social benefits. For example, urban parks could be a good habitat for animals, such as birds. On the other hand, if urban parks are not valued they may not be retained and the land could be used for other purposes. In addition, from an economic perspective, urban parks enhance the visual character of a city, making a city more livable (social benefit) and attractive to tourists (economic benefit).

Nanjing has a large resource of city parks. If people could take advantage of them and manage them well, urban parks will make a great contribution to people’s well-being and social development; otherwise, city parks will become a waste of the resources. There are

120 parks in the city of Nanjing and they are the cornerstone of the local tourism industry, attracting millions of visitors to the city. This visitation generates significant tourist income, due to the entrance fee and other visiting cost, like cost for boating, grocery and meals (Wang, 2010). The park may provide numerous job opportunities related to tourism. However to contribute to sustaining these benefits, the investigation could reveal the issues that exist and find the ways to develop which would be beneficial to the community and to the local tourism industry.

CHAPTER TWO

LITERATURE REVIEW

Urban parks play an increasingly important role in citizen's lives, because they are thought to provide numerous environmental, economic and social benefits. There are increasing high stress for people living in big cities around the world, so parks in urban areas may be important in people's daily life in reducing stress (Fu & Nie, 2004; Li, 2009). Urban parks have become the first choice of daily casual recreation in China, representing 29.7% of entire leisure activities (Tan & Zhao, 2007).

The concept map (Figure 1) is derived from the "behavioral approach" model. It assumes that individuals have a willingness to visit a park because of the anticipated motives and benefits which include economic, environmental, social and cultural benefits. For example, people enjoy visiting urban parks, because it could meet their social needs, such as making friends. And these motives would "push" people to select a preferred visitor experience. The park experience includes the activities and the settings while visiting the park. Facilities, services and park management are the major components of the park setting. Next, people's assessment of their experience determines satisfaction of the activities and settings of the park as well as the long-term benefits. These satisfaction ratings form a feedback loop that will determine if people will visit the park again or refer it to other people. Also, people provide feedback, if asked, and this feedback could contribute the park's sustainable improvement.

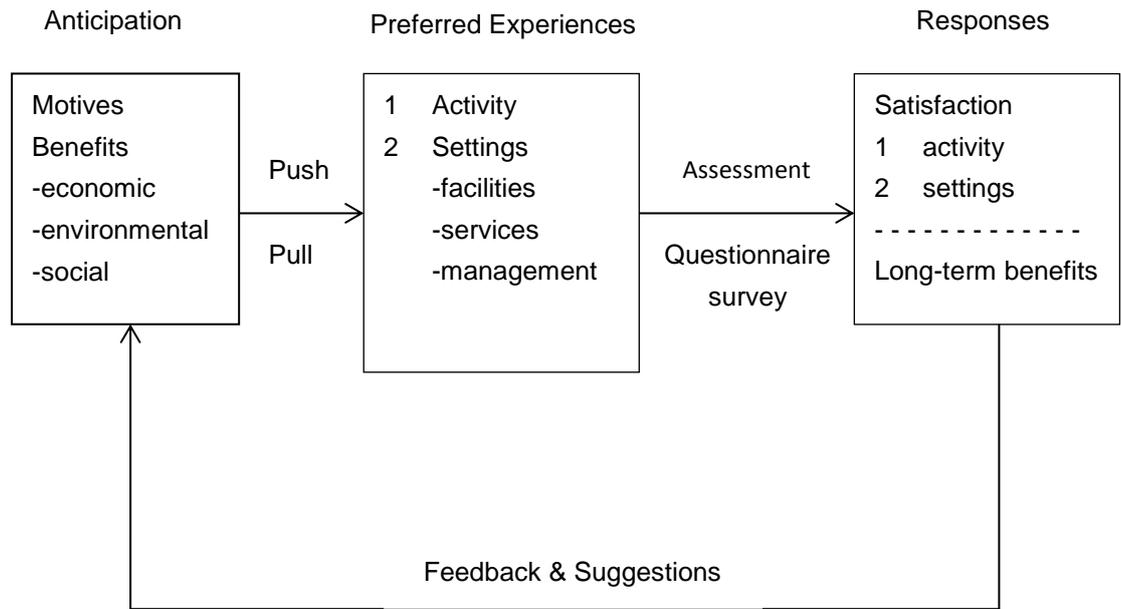


FIGURE1. Concept map of "behavioral approach"

Modified from: (Chapter 6 Social Science, Conservation and Protected Areas Theory, *National parks and protected areas in Canada*, "The Behavioral Approach" model, p. 137)

2.1 Motivations to visit natural areas

It is very important to explore visitors' motivations to visit natural areas, which may help to ensure people's satisfaction with visitor experience (Manfredo, Driver, & Tarrant, 1996; Holden, 1999; Van der Merwe & Saayman, 2008). Satisfaction has been defined as visitor's fulfillment response. It is a judgment that a natural area is providing a pleasurable level of visiting-related fulfillment, including levels of under or over fulfillment (Manning, 2003; Lopez & Sanchez, 2012).

The push-pull framework is used in examining motivations. The push factor is an internal motivation that drives people to visit preferred natural area, the pull factor is an external motivation that affects people by convincing them that a particular natural area is appropriate for them (Klenosky, 2002; Jang & Wu, 2006; Phau, Lee, & Quintal, 2013).

The “push” motives include: escape the daily routine, rest and relaxation, friendship building, socialization, self-esteem, health and fitness, and adventure (Holden, 1999; Swanson & Horridge, 2006; Jang & Wu, 2006; Phau, Lee, & Quintal, 2013). There are other motivations, to visit a park, the visitor want to achieve a sense of belonging (Phau, Lee, & Quintal, 2013). And people visit a natural area, because of novelty or nostalgia (Van der Merwe & Saayman, 2008; Phau, Lee, & Quintal, 2013).

The “pull” motives include: a selected park attributes and tangible resources, such as facilities, beaches, events, activities, cleanliness and safety, and historical sites (Fluker & Turner, 2000; Klenosky, 2002; Jang & Wu, 2006; Van der Merwe & Saayman, 2008). It is argued that push and pull factors are not independent, they are fundamentally related to each other and have mutual impact (Klenosky, 2002; Phau, Lee, & Quintal, 2013).

2.2 Environmental benefits of urban parks

Urban parks can help to enhance environmental quality, because there are large amount of trees and other green plants in the parks. Water evaporation in the forest regulates humidity and temperature. As a result, park vegetation will help to avoid ‘heat island effect’ in the city efficiently. Further, the green plants reduce the dust and absorb some harmful or toxic gas, and release oxygen into the air to improve air quality. Trees prevent soil erosion and store purified water (Shafer, Lee, & Tuner, 2000; Kong, 2010).

Other research conducted in Beijing shows that parks benefit conservation and enhancement

of the biodiversity within urbanized area, because parks in the city are the best habitat for some wildlife, including birds and insects (Li, Ouyang, & Meng, 2006; Wang, 2012). Urban parks are also ecological reserves for some plants which benefit from protection, including rare plant communities (Mahan, Vanderhorst, & Young, 2009). In addition, urban parks are universally valued as wildlife refuges and essential livable-city ingredients which could improve the living environment in the city (Jim & Chen, 2003; Zhou & Edward, 2011).

2.3 Economic benefits of urban parks

In terms of the economic benefits, many researchers believe that the development of urban parks is beneficial to local tourism. The historical and recreational values of parks, such as heritage building and historical events, can increase the attractiveness of the city and promote it as a tourist destination (Tagtow, 1990; Luttik, 2000; Chiesura, 2004; Shi, 2008). Urban parks work like a factory that could boost local economy (Ma, Ryan, & Bao, 2009; Dearden & Rollins, 2010).

Urban parks can generate employment opportunities and revenues, as well as increasing tax revenues (Tagtow, 1990; Luttik, 2000). For instance, when developing a new park in the city, the managerial staff, cleaners and grocery sellers in the park will be recruited, generating many employment opportunities. On top of that, governmental revenues will increase, due to the entrance fee and some charges for entertainment facilities, such as a Ferris wheel. In addition, when people consume food and drink in the park, sales tax will be charged.

2.4 Social benefits of urban parks

Urban parks provide aesthetic, psychological and health benefits. Aesthetic benefits are derived from the contrast to the surrounding built environment reflection. Psychological benefits include the opportunities to relax, reduce stress, and get close to nature (Ulrich, 1981; Jim & Chen, 2006; Shi, 2008; Dearden & Rollins, 2010). Health benefits are associated with the opportunities for exercise. Urban parks can encourage the use of outdoor spaces, increase social integration and interaction among friends, and promote community cohesion (Coley, Kuo, & Sullivan, 1997; Chiesura, 2004; Kong, 2010). Tan and Zhao (2007) argue that city parks play an important role in meeting the social needs of the people, such as making new friends or attending parties in the park, and have become an important element of urban life in China. Visiting parks could fulfill spiritual satisfaction and meet individuals' social needs (Shi, 2008; Chen, 2009; Dearden & Rollins, 2010).

Urban parks provide amenity-recreation venues in a city (Jim & Chen, 2003). Recreational opportunities and amenities have been identified as important human-use services generated by urban parks, and high quality green parks can bring a green and healthy life style to people (Jim & Chen, 2006; Shi, 2008). Urban parks and open green spaces are of a strategic importance for the quality of life of our increasingly urbanized society (Chiesura, 2004; Shi, 2008; Wang, 2010).

Urban parks provide joy and reduce stress (Ulrich, 1981; Jim & Chen, 2006; Shi, 2008; Dearden & Rollins, 2010). Also, urban parks provide a sense of peacefulness and tranquility

to visitors, rejuvenate city dwellers, enhance contemplativeness, help people to relax and renew, and reduce aggression (Kaplan, 1983; Kuo, Bacaioaca, & Sullivan, 1998). As a result, urban parks promote the development of social ties (Kuo et al., 1998).

2.5 Cultural benefits of urban parks

Culture is important to a region, because culture has a long history and represents the spirit of local people, such as bravery and diligence. It is argued that city parks are good place to express regional culture, because city parks provide opportunity to display the city's historical and cultural characteristics. Building a city of green parks with local cultural characteristics may address the issue of culture loss as a result of the current urbanization process in China. Urban parks could help to build regional culture ambience (Sun, 2005; Huang, 2010; Xu, 2011).

Table1. Benefits of Urban Parks

	Benefits	References
Environmental	Enhance environmental quality	(Shafer, Lee, & Tuner, 2000; Kong, 2010)
	Purify the water	
	Regulate humidity and temperature and avoid 'heat island effect'	
	Clean the air	
	Conserve and enhance biodiversity	(Li, Ouyang, & Meng, 2006; Wang, 2012)
	Wildlife refuge	(Jim & Chen, 2003; Zhou & Edward, 2011)
	Improve living environment	(Mahan, Vanderhorst, & Young, 2009)
Economic	Stimulate local tourism industry	(Tagtow, 1990; Luttk, 2000; Chiesura, 2004; Shi, 2008)
	Increase the attractiveness of the city	
	Promote the city as a charming tourist destination	
	Boost local economy	(Ma, Ryan, & Bao, 2009; Dearden & Rollins, 2010)
	Generate employment and revenues	(Tagtow, 1990; Luttk, 2000)
	Increase tax income	
Social	Encourage the use of outdoor spaces	(Coley, Kuo, & Sullivan, 1997; Chiesura, 2004; Kong, 2010)
	Integrate friends	
	Promote community cohesion	
	Meet social needs	(Tan & Zhao, 2007; Shi, 2008; Chen, 2009; Dearden & Rollins, 2010)
	Fulfill spiritual satisfaction	
	Amenity-recreation venues	(Jim & Chen, 2003)
	Bring a green and healthy life style to people	(Chiesura, 2004; Shi, 2008; Wang, 2010)
	Reduce stress	(Ulrich, 1981; Jim & Chen, 2006; Shi, 2008; Dearden & Rollins, 2010)
	Provide a sense of peacefulness and tranquility, rejuvenate city dwellers	(Kaplan, 1983; Kuo, Bacaioaca, & Sullivan, 1998)
	Enhance contemplativeness, help people to relax and renew	
	Reducing aggression	
Development of social ties	(Kuo, Bacaioaca, & Sullivan, 1998)	
Cultural	Express regional culture	(Sun, 2005; Huang, 2010; Xu, 2011)
	Build regional culture ambience	

2.6 Challenges

However, very little research mentions the negative impact or challenges of urban parks. In terms of economic impacts: (1) during the peak season, the price for the entrance fee and products selling in the park may increase, which could negatively impact local residents. (2) It may be difficult to buy a house near to an urban park, because of the rise of property values (Dearden & Rollins, 2010).

The negative impacts on environment include: (1) Urban parks may increase environmental issues, such as, litter and air pollution, and overuse of water; (2) may increase concerns of crowding and parking (Dearden & Rollins, 2010); (3) when large amount of tourists visit urban parks, it has resulted in serious environment pollution and damage of facilities and habitats due to peoples' uncivil behaviors (Shi, 2008; Zheng, 2009; Xu, 2011).

The negative social impacts include: (1) Parks may play a negative role on people's perceptions. Some surveys have reported residents' feelings of insecurity associated with vandalism, and fear of crime in deserted places (Chiesura, 2004). (2) Parks may result in commodification of regional culture. Parks may allow exhibitions of regional culture that cater to visitors' interests, rather than display local culture in an authentic way (Huang, 2010; Dearden & Rollins, 2010).

Also, there is a challenge of growing demand of more green spaces like urban parks in big cities (Jim & Chen, 2003). Research of green spaces in Kowloon, Hong Kong, discussed that

the fragmented urban parks development, as a result of conventional urban planning practices by former colonial government before 1997, discourages environmental integrity and community cohesion. Therefore, better landscape design can facilitate the optimum use of the existing urban parks, which will benefit local environment and community (Koon, 2010).

2.7 Urban parks in China

Most studies show that according to the issues and shortcomings that exist among city parks, there is a strong need for developing more urban parks (Chiesura, 2004; Sun, 2005; Luo, 2007; Li, 2009; Xu, 2011). Parks are important to the city's sustainable development and social well-being. As parks have so many benefits economically, socially and environmentally, all of the benefits might contribute to the sustainable development of a city. For example, building parks could create more economic benefits, which would lead to more funds provided to support other city development (Zheng, Tang, & Che, 2003; Luo, 2007; Li, 2009).

There exists some specific research that is linked with visiting habits and leisure activities that could influence people's life in the urban park. For instance, Li, Ouyang and Meng (2006) focus on 24 parks within the inner city of Beijing, in order to investigate how human activities have influenced park green cover configuration and floristic characteristics. They outlined that parks in the city are good place of biodiversity in the urbanized area. The age and landscape of urban parks in one city are major indicators for assessing park biodiversity.

Green space and urban park planning is critical. In Guangzhou, China, it is argued that

Chinese cities face a growing demand for green spaces, resulting from population and urban growth, improvement in disposable income and quality of life, increase in leisure time and pursuits, and rising environmental awareness and expectation (Jim & Chen, 2006).

A number of studies highlight that due to current concerns that exist in China's urban parks, it is urgent to improve the quality of urban parks in China (Zheng et al., 2003; Luo, 2007; Wang, 2010; Xu, 2011). There are a number of suggestions about sustainable development of urban parks. For example, Koon suggests that the parks should set up cultural activities, and design more jogging lanes (Koon, 2009; Huang, 2010). Citizens should be encouraged to participate in the parks development planning (Jim & Chen, 2006).

Park managers should consider 'environmental carrying capacity' and 'social carrying capacity' of urban parks. Environmental carrying capacity means the environment's maximal load, the maximum population size of people that the park environment can sustain indefinitely, without creating unacceptable change (Hui, 2006, P.317; Dearden & Rollins, 2010). Park managers are supposed to consider the environmental carrying capacity through the whole process of decision-making, and control of tourist volume, in case of damage to the environment in the park.

"Social carrying capacity' could be defined as the level of use beyond which unacceptable impacts occur to visitor experience" (Dearden & Rollins, 2010, p.172). Social carrying capacity limits use levels in parks in order to reduce visitor impacts and crowding is the basic

notion (Zheng, 2009; Dearden & Rollins, 2010). On the other hand, it is important to make park facilities meet the needs of modern urban development. For instance, urban parks provide more space for visitors to socialize (Fu & Nie, 2004; Chiesura, 2004). Here is a significant challenge for urban parks in China. On the one hand, there is a need to provide more facilities and services in urban parks; on the other hand, higher use levels can impact on service and environmental carrying capacity. Financial support from local government to ensure parks' sustainable development is needed constantly (Fu & Nie, 2004; Xu, 2011).

2.8 Research in Nanjing

A regional study in Nanjing city discusses a recent movement to a high-density development mode, which may reduce the number of urban parks. It suggests that the best way to solve this issue is to build canopy-road green way to link parks in the city (Jim & Chen, 2003). Liang & Ma (2010) conducted a survey on the status of public park facilities in Nanjing. The key findings could be summarized as follows:

- Visitors have a high demand for facilities, in particular toilets and garbage bins are highlighted.
- Different types of parks have different demands. For instance, municipal parks need more parking lots, while community parks do not because they are not far from people's residence.
- People have different level of satisfaction toward each category of facilities. But overall, visitors are not satisfied with the facilities in the parks.
- Numerous issues are highlighted. For instance, inadequate amount of facilities, no clear

and understandable signs, some of the facilities are not updated.

This thesis used a similar research method. A questionnaire survey was used to focus on visitor's satisfaction and preferences with facilities, services, management and with the explanation.

2.9 Summary

Although there are a number of studies related to urban parks that are published in Chinese, there is still a lack of comprehensive studies of all aspects about urban parks. International efforts to preserve the natural environment are mainly concerned with large, bio-diverse and relatively untouched ecosystems or with individual animal or vegetal species, either endangered or threatened with extinction. Much less attention is being paid to that type of nature close to where people live and work, to small-scale green areas like urban parks in cities and to their benefits to people (Jim & Chen; 2003; Chiesura, 2004). Urban parks have remained relatively understudied until recently (Benton, 2006; Tan & Zhao, 2007).

There are three gaps in current literature. Firstly, very little research focuses on urban parks in English. Secondly, very little has been studied about urban parks in China. Thirdly, there is little research that examines the negative impacts of urban parks. Thus, this research focuses on the functions of urban parks in Nanjing, using a questionnaire survey as the method to examine sustainability of urban parks in Nanjing.

To sum up, urban parks are becoming more and more important in big cities in China (Chiesura, 2004; Sun, 2005; Luo, 2007; Li, 2009; Xu, 2011). There are environmental benefits, such as enhancing the landscape, improving the environment, purifying water, cleaning the air, regulating humidity and temperature, avoiding 'heat island effect' and conserving biodiversity. Also, urban parks have economic benefits, such as boosting local tourism industry, increasing the attractiveness of the city, promoting the city as a charming tourist destination, generating employment and revenues and increasing tax income.

Moreover, urban parks provide social benefits. For example, urban parks increase social integration and interaction, promote community cohesion, meet social needs and fulfill spiritual satisfaction. In terms of the cultural benefits, urban parks are a good place to express regional culture. Leisure activities in urban parks enhance people's quality of life, so green space and urban park planning is critical.

It is also argued that there are some negative impacts or challenges in urban parks. These include spatial fragmentation, increase of crime rate, environmental issues, and growing demand of more green spaces like urban parks in big cities.

There are a number of studies about urban parks in Chinese that show that according to the issues and shortcomings that exist among city parks, there is a strong need for developing urban parks. Few specific studies exist that deal with visitor habits and leisure activities. Other studies explained concerns about quality of urban parks in China. They suggest that park

managers should consider environmental carrying capacity and social carrying capacity of the park when making strategies for sustainable development. A specific study of Nanjing parks investigates the concerns of the facilities and provides recommendations for improvement.

However, few studies mention the negative impact of urban parks, and there is still a lack of comprehensive study of all aspects about urban parks, as illustrated in the concept map (Figure 1). The other two gaps in the literature are: very little research focuses on urban parks in English and very few academic articles that describe China's city parks in English. Thus, this study focuses on one urban park in Nanjing, China, and tries to fill the gaps.

CHAPTER THREE

RESEARCH METHODS

The purpose of this study is to investigate benefits and level of satisfaction with urban parks in Nanjing, in order to better understand the role of urban parks in Nanjing and to seek insights for sustainable development. Therefore, the core research questions can be summarized as follows:

- 1) What are the characteristics of visitors to Xuanwu Lake Park?
- 2) What are motivations to visit the park?
- 3) To what extent do people consider the economic, environmental and social benefits of Xuanwu Lake Park?
- 4) How satisfied are visitors with facilities, services and management of Xuanwu Lake Park?
- 5) What improvements are suggested for Xuanwu Lake Park?

3.1 Study site

The study took place in Nanjing, China. Nanjing, an ancient city in southeast of China, which has undergone significant urban growth in recent years, like many big cities in China. The role of urban parks in Nanjing will provide some insights for urban planning in Nanjing and other cities in China. Moreover, Nanjing is my hometown, so I am familiar with the study site. Also, Nanjing was awarded as the “The best city for the contribution of leisure in China 2012”, which means it was recognized by the national government because of its leadership in leisure. Because of their recognition, park visitors might be more interested in participating in

this study.

The study was conducted in Xuanwu Lake Park, one of the largest and well used parks of Nanjing. The park was built around the lake covering an area of 4.44 square. The Ming city wall borders the park to its south and east. The lake covers 3.18 kilometers and the land covers 1.26 kilometers. There are five small isles distributed on the lake with many bridges connect with each other and the mainland. So people can walk to these isles to visit. It is the largest central park in Nanjing with the function of entertainment, leisure and exercise. There are numerous facilities and services provided in the park (chatting rooms are designated indoor areas for visitors to chat, rest or play cards and chess). Other facilities include trails, grocery stores, recreation facilities, and fitness appliances. Xuanwu Lake Park is not only one Nanjing's state-level scenic area, but also a high standard tourist attraction that has a good reputation in China. Nowadays, it is free to all visitors, attracting over 100 thousand visitors per day during holidays.

3.2 Questionnaire survey

A paper questionnaire was designed, through reviewing the literature of related studies. The questionnaire contains the following contents: (1) your experience in the park today; (2) reasons for visiting; (3) benefits of park; (4) satisfaction with perceived benefits; (5) satisfaction with facility, service, and management; (6) demographics; and (7) suggestion for development. Each respondent spent approximately 15 minutes to complete the questionnaire.

3.3 Sample

The survey was conducted in Xuanwu Lake Park, The eligible respondent was any park visitor who was 18 or older, and included permanent residents in Nanjing and visitors. The questionnaires were distributed to people randomly as follows:

- The purpose of random selection is to avoid bias, so that the sample represents the population.
- People were interviewed when convenient (when sitting or standing in one place).
- Randomness was approximated by walking around the lake.
- Possible weaknesses are some people would not be selected if they do not sit down or stand in one place.

The investigator distributed the questionnaire and waited until people finished the questionnaire, then collected them, which resulted in about 10 completed questionnaires per day. The sampling time includes three periods: 9:00-12:30 AM, 1:30-5:00 PM, and 6:00-9:30 PM. The investigator selected a period of time to conduct the survey in one day, every three days was a cycle. The survey period was 42 days, so 420 questionnaires were collected in the end. The research was conducted during June to August, 2013. The response rate was estimated to be 90%.

3.4 Strengths and weaknesses

The reason that the questionnaire survey was the research method for the thesis is simply because the prevalence of this type of research method in China nowadays. People in China

seldom reply to a mail survey, because it costs money and time. If using telephone survey, the time of telephone calls would be short and the answer would be simple, thereby it is difficult to study in-depth within the limitations of telephone equipment (McCartt et.al., 2011).

In terms of the strengths of this method, firstly, it saved money and saved time (Veal, 2011). It should have a high respondent rate (Veal, 2011), because the researchers asked the people in person whether they could finish this questionnaire, and the researcher was there and collected the answer sheet immediately when questionnaire was completed. Lastly, the results are easy to analyse.

However, this type of method still has a number of weaknesses. The questionnaire design process was quite difficult and time-consuming (Veal, 2011). The researcher spent much time in its design to make it clear and understandable to respondents (at least two months before the research was undertaken). Before the survey started, a pilot was conducted by a few students of VIU and also with a few in Nanjing.

3.5 Ethics issues

To take ethical issues into account, I guaranteed the results would be confidential and would not provide any personal information to anybody or organizations. Before respondents started to complete the questionnaire, a consent form was provided to them. The consent form was used as a guide to introduce the research to respondents.

During the survey it was guaranteed that no photo would be taken, no name was provided, and no contact information would be recorded to make sure the survey was anonymous.

Within the questionnaire, there was no question about the respondent's name, address or telephone number. The only information that was needed was the background of the respondents: gender, age, income, and education level. Also, if people were unwilling to complete the survey because it has something related to the privacy, they could stop participating (See Appendix D. Ethic Review Form).

In terms of the potential benefits, respondents were told that the results of this study would be provided to the park management team, and may contribute to sustaining high quality experience in the park, so that the participants could enjoy visiting urban parks better.

There was no known or anticipated risk to the respondents by participating in this research.

The participation in this research was completely voluntary and the participant could withdraw at any time without any explanation. If anyone who decided to withdraw before completion of the survey, the information provided would not be included in the study. However, once participants have completed and submitted the survey, the information they have provided remained in the study results. It was impossible to distinguish their responses from those of other participants. The methodology was submitted to the VIU ethics committee and was refined based on committee's recommendations.

3.6 Planned analysis

One approach of analysis was the use of "importance-performance" analysis. The importance

and satisfaction results depicted in Figure 2 can be combined in different ways to provide for data analysis and explanation. Data from this study could be graphically displayed as in Figure 2 on a two-dimensional importance–satisfaction grid: importance level values form the vertical axis and satisfaction level values form the horizontal axis.

For example, in the questionnaire, the level of importance and satisfaction of benefits was provided by the respondents. Each level has representative number: ‘no importance at all=1’, ‘low importance=2’, ‘medium importance=3’, ‘high importance=4’ and ‘very high importance=5’. Similarly, the satisfaction level from the horizontal axis could be marked as: ‘very unsatisfied=1’, ‘somewhat unsatisfied=2’, ‘not sure=3’, ‘somewhat satisfied=4’ and ‘very satisfied=5’. Thus, the results could be displayed by the grid, which will be more perceptual.

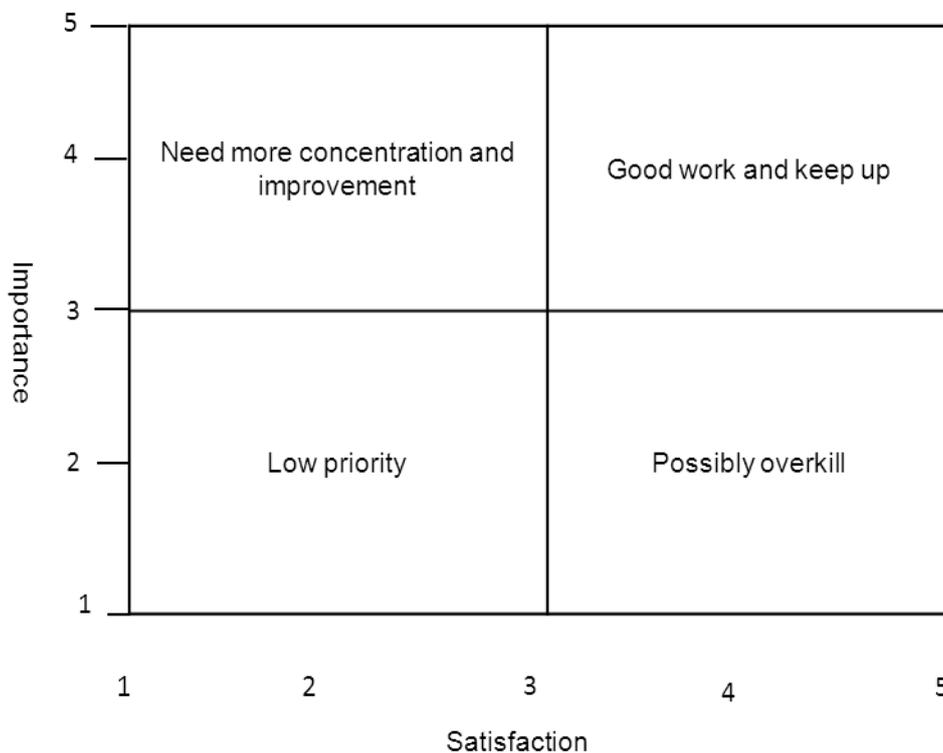


FIGURE 2. Importance–satisfaction grid for benefits of visiting urban parks

The grid is divided into four quadrants, by using two crosshairs: an importance crosshair set

at 3; and a satisfaction crosshair set at 3. These four quadrants can be labeled as follows:

1. *Good work and keep up*: These benefits are important and been satisfied by the visitors.
2. *Need more concentration and improvement*: If the attribute falls into this area: some benefits are important but with low satisfaction level.
3. *Low priority*: This means the satisfaction and importance level are both low for the attribute.
4. *Possibly overkill*: This means the people are satisfied with the attribute, but the attribute is not very important.

However, this “quadrant” approach was not used in this study. It has been criticized because it does not show whether the difference between importance and satisfaction is significant or not (Barrett, Brandon, Gibson, & Gjertsen, 2001; Ziegler, Dearden, & Rollins, 2012). Moreover, there is a debate about where to place the crosshairs. Some argue to use the mean for satisfaction and the mean for importance. Other suggest using medium score, some suggest focusing on high level of importance and satisfaction (Randall & Rollins, 2009).

Instead of the quadrant approach, the “iso-line” approach was used, which aims to examine and compare the expected and achieved outcomes. The “iso-line” approach has been used in various studies (Martilla & James, 1977; Dearden & Harron, 1994; Abalo, Varela, & Manzano, 2007; Deng, 2007). Importance represents expected outcomes while satisfaction means outcomes that have been achieved. It is developed by plotting for each motivation, the importance value on the ordinate axis and the satisfaction value on the abscissa axis. An “iso-line” divides the figure into two parts in which the ratings of importance and satisfaction

are same. Items above the line mean the achieved outcomes are not very satisfied (importance greater than satisfaction), if the items are below the line, it is believed that such outcomes are quite satisfactory (satisfaction greater than importance). So there are two areas in the figure, one is "area of concern" located above the diagonal line, and "area of satisfaction" located below that line. It is used because it overcomes some problems of the "quadrant" approach, since the differences between two measures (importance and satisfaction) are displayed, using distance and direction. This makes it is easy to identify whether the difference is significant. The t-test analysis and a Chi-square analysis is used in the study.

CHAPTER FOUR

RESULTS

4.1 Introduction

There are a number of gaps in the literature of urban park particularly in China. Therefore, the goal of this study was to better understand the role of urban parks in China. The gaps are listed as follows: (a) very few studies mention the negative impact of urban parks; (b) there is still a lack of comprehensive study of all aspects about urban parks; (c) very little research focuses on urban parks in China that are published in English. Thus, this thesis will focus on urban parks in Nanjing, China in English, in order to make efforts to fill the gaps of current studies and try to provide some recommendations that could improve the quality of urban parks in China.

The purpose of the research is to investigate benefits and level of satisfaction of the urban parks in Nanjing, in order to seek insights for sustainable development. The research questions are summarized below:

- 1) What are the characteristics of visitors to Xuanwu Lake Park?
- 2) What are motivations to visit the park?
- 3) To what extent do people consider the economic, environmental and social benefits of Xuanwu Lake Park?
- 4) How satisfied are visitors with facilities, services and management of Xuanwu Lake Park?
- 5) What improvements are suggested for Xuanwu Lake Park?

The study took place in Nanjing, China, with survey research in one of the largest and famous parks of Nanjing named Xuanwu Lake Park. Nanjing is located in southeast of China, and is one of the biggest cities in China with a population of approximately 9 million. It is an ancient city with large number of scenic areas and historical sites. Xuanwu Lake Park is a high standard tourist attraction that has a good reputation in China. It attracts over 100 thousand visitors per day during holidays. Also, visiting urban parks in Chinese culture plays a significant role in various leisure activities (Xu, 2011). For these reasons, is very important to conduct research on urban parks in Nanjing.

4.2 Research Question 1: What are the characteristics of Visitors to Xuanwu Lake Park?

This part mainly discusses the characteristics of sample. It describes several features of visitors, include age, income, education level, and place of residence. The findings depict visiting habits, such as group characteristics, frequency of visit, and time of visit, how to travel to the park, time on the way to the park and activities in the park. Each characteristic is presented by Table 2 that was generated by SPSS based on the responses of the questionnaire survey. There are a few key findings following Table 2. All of these characteristics are important, because they created a broad background of visitors, so it could help the researcher and audiences have better understanding about who are visiting Xuanwu Lake Park. Moreover, these results lay a foundation of deeper study of research questions, such as importance and satisfaction level of benefits, facilities, services and management.

Table 2. Characteristics of Visitors to Xuanwu Lake Park

Response	Percent (%)	Response	Percent (%)
<u>Age (Q16)</u>		<u>Frequency of Visiting Park in a Month (Q2)</u>	
below 20	12.4	1-2 times	62.1
20-30	17.9	3-5 times	23.8
31-40	16.7	6-8 times	9.5
41-50	19.3	9-11 times	4.3
over 50	33.8	over 11 times	0.2
<u>Monthly Income (Q17)</u>		never	0.0
under 350 USD	15.0	<u>Time to Visit Park (Q3)</u>	
350-650 USD	42.6	before 9:00	31.4
651-1000 USD	26.2	9-11:00	9.3
1001-1500 USD	12.1	11-13:00	7.9
over 1500 USD	4.0	13-18:00	22.1
<u>Education Level (Q18)</u>		after 18:00	29.3
elementary school	6.7	<u>How to Travel to Park (Q4)</u>	
secondary school	29.0	by walk	32.6
bachelor	46.2	by bus or metro	26.7
master	14.8	by bike	24.5
PhD	3.3	by car	12.1
<u>Place of Residence (Q20)</u>		by taxi	4.0
Nanjing	77.4	<u>Time Spent Traveling to Park (Q5)</u>	
other China	19.3	below 10 mins	37.6
other International	3.3	10-20 mins	27.6
<u>Visit Park Alone or With Others (Q19)</u>		20-30 mins	22.4
alone	72.9	30-40 mins	9.0
with friends	54.3	over 40 mins	3.3
with family	49.8	<u>Participation of the Activities in the Park (Q6)</u>	
with others	0.0	chatting room	67.1
<u>Participation of the Activities in the Park (Q6)</u>		boating	60.0
chatting room	67.1	picnic & camping	42.4
boating	60.0	BBQ party	42.4
picnic & camping	42.4	ball games	38.3
BBQ party	42.4	others	0.0
ball games	38.3		
others	0.0		

Base on table 2, 33.8% of the visitors are over 50 years of age. Visitors younger than 20 years occupy 12.4%, which is the least. There are 42.6% visitors with the income of 350-650 USD and only 4% people have over 1500 USD income. It shows that 46.2% people have bachelor degree and 93.3% visitors attended secondary school at least. Most people come to visit the park from China (96.7%) and there are 77.4% are natives of Nanjing. Only 3.3% visitors come from other places in the world. The table points out that 72.9% people come alone, 54.35% visit with friends and 49.8% visit with family, and no people come with others.

Obviously, people are interested in visiting the park alone, and a large number of people come with family or friends.

There is 85.9% visit the park 1-5 times per month, and only 0.2% visit more than 11 times so most people like to visit park 1-5 times in one month. The number of people who visit more than 2 times (37.9%) suggests that people enjoy visiting the park. The most important time to visit the park are before 9:00 AM and after 6:00 PM. Over half people come to the park by walking (32.6%) or bike (24.5%) and 30.7% choose public transportation. This means that 83.9% go to park in a sustainable way (walk, bike and public transport). This table also indicates how long it takes to travel to the park. It shows that 65.2% get to the park in less than 20 minutes and only 12.3% spent over 30 minutes to travel to the park. The activity that visitors like to join most is chatting room (67.1%). The chatting room is a large room, which is a designated indoor area for visitors to chat, rest or play cards and chess.

4.2.1 Summary

Based on the results of the sample characteristics, there are a series of key observations listed below:

- People at age over 50 like to visit the park most; nearly half of the visitors have an income range of 350-650 USD per month.
- Most visitors come to visit the park from China (96.7%) and 77.4% are natives of Nanjing.
- In terms of the education level, 46.2% people have bachelor degree and 93.3%

visitors attended secondary school at least.

- People enjoy visiting park alone (72.9%), visiting with friends (54.3%), and visiting with family (49.8%).
- Most people (85.9%) visit the park 1-5 times per month. People prefer to visit the park before 6 in the morning and after 6 in the evening.
- The park is not very far away from the residence of visitors' with 65.2% requiring less than 20 minutes to travel to the park. There are 83.9% visitors choose to go to park in a sustainable way (walk, bike and public transport).
- The activity that visitors like to join most is chatting room (67.1%), and boating (60%). But 61.7% dislike playing ball games in the park.

4.2.2 The visitor experience

According to the 'behavioral approach', individuals like to visit the park because of motivations and benefits that are expected to be achieved from the visit experience (Figure 1).

For instance, visitors may enjoy visiting park because they have motives to get close to nature. The visitor experience includes the activities and the settings used while visiting the park. Activities are selected because they fit with benefits and motivations. Facilities, services and park management are three important setting characteristics.

Responses about satisfaction with activities and settings of the park can generate feedback that can be used to improve sustainability of facilities, services, and management. In order to make visitors have more satisfied motivations to visit the park.

The behavioral model suggests that people visit parks to fulfill motivations. In this study, we collected data on the “importance” of several motivations. Also, the satisfaction of benefits and motives was measured. The linkage between importance level and satisfaction or achievement was explored. Lastly, this section outlines satisfaction of the settings in the park, including facilities, services and management.

4.3 Research Question 2: What are motivations to visit the park?

Table 3. Motivations to Visit Park-Importance (Q7)

Motive	Importance (%)					Mean	Std. Deviation
	1-No Importance	2-Low Importance	3-Medium Importance	4-High Importance	5-Very High Importance		
get close to nature	0.0	0.2	8.1	38.6	53.1	4.4	0.7
relax and renew	0.0	1.7	11.9	48.3	38.1	4.2	0.7
reduce stress	0.2	0.7	16.0	57.4	25.7	4.1	0.7
exercise	0.0	1.9	17.9	48.3	31.9	4.1	0.8
gain joy	0.7	18.6	46.4	25.5	8.8	3.2	0.9
integrate friends	6.0	13.8	36.4	37.9	6.0	3.2	1.0
rejuvenate people	5.7	15.0	47.9	24.0	7.4	3.1	0.9
cultural activities	9.0	24.0	37.6	26.2	3.1	2.9	1.0
socializing	5.7	45.7	31.4	13.3	3.8	2.6	0.9
know more people	14.5	41.4	28.8	12.6	2.6	2.5	1.0
contemplativeness	14.8	42.9	24.5	14.5	3.3	2.5	1.0
good place to read	21.0	46.0	25.7	7.4	0.0	2.2	0.9
others	0.0	0.0	0.0	0.0	0.0	2.0	0.0

The four most important motives are get close to nature, relax and renew, reduce stress, and exercise. The four least important motives are socializing, know more people, contemplativeness, and good place to read.

Table 4 below displays findings of a parallel question, asking people to identify their “three most important motives”.

Table 4. Three Most Important Motivations (Q8)

Motive	Response (%)			Total
	First Most Important	Second Most Important	Third Most Important	
relax and renew	87.9	3.7	7.0	98.6
reduce stress	7.1	25.6	48.2	80.9
get close to nature	4.3	38.6	27.1	70.0
exercise	0.7	31.1	15.7	47.5
rejuvenate people	0.0	0.0	1.9	1.9
gain joy	0.0	0.0	0.0	0.0
socializing	0.0	0.0	0.0	0.0
cultural activities	0.0	0.0	0.0	0.0
know more people	0.0	0.0	0.0	0.0
integrate friends	0.0	0.0	0.0	0.0
contemplativeness	0.0	0.0	0.0	0.0
good place to read	0.0	0.0	0.0	0.0

Table 4 highlights that first most important motive is relax and renew, second most important motive is get close to nature, the third most important motive is reduce stress, and the fourth is exercise. These findings are similar to Table 3 indicating strong convergent validity.

Table 5. Motivations to Visit Park-Satisfaction of Achievement (Q10)

Motive	Satisfaction (%)					Mean	Std. Deviation
	1-Very Unsatisfied	2-Somewhat Unsatisfied	3-Not Sure	4-Somewhat Satisfied	5-Very Satisfied		
get close to nature	0.2	1.9	14.8	30.2	52.9	4.3	0.8
relax and renew	0.5	2.9	17.9	47.6	31.2	4.1	0.8
exercise	0.7	4.0	15.7	58.6	21.0	4.0	0.8
rejuvenate people	1.4	11.2	40.0	34.8	12.6	3.5	0.9
integrate friends	3.6	25.0	31.4	33.1	6.9	3.1	1.0
reduce stress	0.0	2.4	14.8	50.0	32.9	3.0	1.1
gain joy	8.3	29.8	33.3	18.6	10.0	2.9	1.1
cultural activities	8.1	29.5	36.2	21.4	4.8	2.9	1.0
socializing	6.9	46.2	27.1	16.7	4.0	2.6	1.0
know more people	14.8	39.3	30.5	14.8	0.7	2.5	0.9
contemplativeness	27.9	40.0	26.2	5.7	0.2	2.1	0.9
good place to read	40.7	32.9	16.9	53.6	21.2	2.0	1.0

Motives that are most satisfied include get close to nature (4.3), relax and renew (4.1), exercise (4.0), and rejuvenate people (3.5). Areas of low satisfaction are socializing, know more people, contemplativeness, and good place to read.

Importance-satisfaction analysis aims to examine and compare the expected and achieved outcomes. Importance represents expected outcomes while satisfaction means outcomes

that have been achieved. Figure 3 was developed by plotting for each motivation, the importance value on the ordinate axis and the satisfaction value on the abscissa axis. An “iso-line” divides the figure into two parts in which the ratings of importance and satisfaction are same. Items above the line mean the achieved outcomes are not very satisfied (importance greater than satisfaction), which might need more management focus. Oppositely, if the items are below the line, it is believed that such outcomes are quite satisfactory (satisfaction greater than importance). So there are two areas in the figure, one is “area of concern” located above the diagonal line, and “area of satisfaction” located below that line.

This approach differs from the use of a “quadrant” where crosshairs divide the importance-performance grid with four quadrants: (1) good work; (2) need more concentration; (3) low priority; (4) possibly overkill. This “quadrant”: approach has been criticized because it could not show whether the difference between importance and satisfaction is significant or not. Moreover, there is a debate about where to place the crosshairs. Some argue to use the mean for satisfaction and the mean for importance. Other suggest using medium score, some suggest focusing on high level of importance and satisfaction (Randall & Rollins, 2009).

The “iso-line” approach used here overcomes these problems, because the differences between two measures (importance and satisfaction) are displayed, using distance and direction. This makes it is easy to identify whether the difference is significant. If the distance

of the item above the line is great, it would represent that it is very unsatisfied. The greater of the distance exists, the lower level of satisfaction is.

The subsequent figure shows the importance-satisfaction analysis for motives.

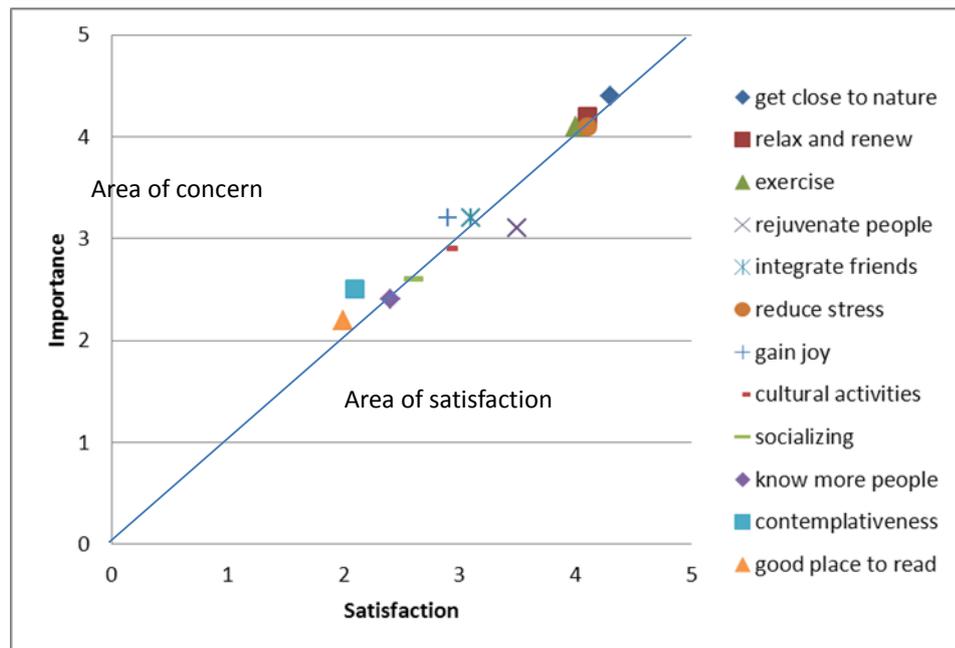


FIGURE 3. Importance-Satisfaction: Motivations

In Figure 3, motives in the “Area of concern” include: get close to nature, relax and renew, exercise, integrate friends, gain joy, contemplativeness, and good place to read; Motives in the “Area of satisfaction” include: rejuvenate people, reduce stress, cultural activities, socializing, and know more people.

Because this is a sample, we need to utilize a statistic test to determine if the “apparent gap” is likely to be typical of the population. A paired sample t-test is used because, according to the principles of Statistics, a sampling error may exist, even though random sampling is very strict (Ryan & Sterling, 2001; Veal, 2011). Whether the gaps are caused by the sampling error

or truly exist in the overall population should be determined by a t-test. A significance value is calculated for each gap. If significance is 0.05 or smaller, the gap is statistically significant.

Table 6. Gaps Between Satisfaction and Importance of Motivations

Motive	Mean Satisfaction	Mean Importance	Gap (Satisfaction-Importance)	t-test	Sig. (2-tailed)
get close to nature	4.3	4.4	-0.1	-2.22	0.027*
relax and renew	4.1	4.2	-0.1	-3.32	0.001***
exercise	4.0	4.1	-0.1	-3.10	0.002***
rejuvenate people	3.5	3.1	0.4	5.53	0.000***
integrate friends	3.1	3.2	-0.1	-1.34	0.180
reduce stress	4.1	4.1	0.0	1.19	0.234
gain joy	2.9	3.2	-0.3	-4.85	0.000***
cultural activities	2.9	2.9	0.0	-0.81	0.417
socializing	2.6	2.6	0.0	0.00	1.000
know more people	2.4	2.4	0.0	0.00	1.000
contemplativeness	2.1	2.5	-0.4	-5.70	0.000***
good place to read	2.0	2.2	-0.2	-3.85	0.000***

Notes: "Positive gaps" indicate areas of satisfaction. "Negative gaps" indicate areas of concern

The significant gaps in motives include: get close to nature, relax and renew, exercise, rejuvenate people, gain joy, contemplativeness, and good place to read. Another consideration is standard deviation, which means values variability. For example, mean importance of "get close to nature" (Table 3) is 4.4, but the standard deviation is 0.7. This means that some people rate this motive more important than the mean and some people rate this motive lower. Taking this information into account for Figure 3, we would conclude that for some people, they would fall into the "area of satisfaction", although most would be in the "area of concern".

4.4 Research Question 3: To what extent do people consider the economic, environmental and social benefits of Xuanwu Lake Park?

Table 7. Benefits of the Park In the City-Importance (Q9)

Benefit	Importance (%)					Mean	Std. Deviation
	1-No Importance	2-Low Importance	3-Medium Importance	4-High Importance	5-Very High Importance		
Economic benefits:							
increase city's attractiveness	2.9	3.3	9.3	34.0	50.5	4.3	1.0
boost tourism industry	0.5	8.8	35.5	42.4	12.9	3.6	0.8
Environmental benefits:							
wilderness protection	1.2	11.2	27.4	47.4	12.9	3.6	0.9
improve local environment	4.5	15.5	42.1	28.1	9.8	3.2	1.0
Social benefits:							
promote community cohesion	2.1	14.8	40.5	31.2	11.4	3.4	0.9
education uses	15.2	56.4	22.1	6.2	0.0	2.2	0.8
Others	0.0	0.0	0.0	0.0	0.0	2.0	0.0

Table 7 highlights that four most important benefits are increase city's attractiveness, wilderness protection, boost tourism industry, and promote community cohesion. While education uses is the least important. Economic benefits include increase city's attractiveness (mean=2.9), and boost tourism industry (mean=3.6). Environmental benefits are wilderness protection (mean=3.6) and improve local environment (mean=3.2). They are also very important for the city. Social benefits include promote community cohesion (mean=3.4), and education uses which is least important (mean=2.2).

Table 8. Benefits of the Park in the City-Satisfaction of Achievement (Q11)

Benefit	Satisfaction (%)					Mean	Std. Deviation
	1-Very Unsatisfied	2-Somewhat Unsatisfied	3-Not Sure	4-Somewhat Satisfied	5-Very Satisfied		
Economic benefits:							
increase city's attractiveness	2.1	6.2	16.9	53.6	21.2	3.9	0.9
boost tourism industry	1.7	11.0	31.9	46.9	8.6	3.5	0.9
Environmental benefits:							
wilderness protection	2.6	10.5	27.6	47.9	11.4	3.6	0.9
improve local environment	1.4	22.9	41.9	27.9	6.0	3.1	0.9
Social benefits:							
promote community cohesion	3.1	19.0	28.1	38.6	11.2	3.4	1.0
education uses	30.0	36.9	27.6	5.5	0.0	2.0	0.9
Others	0.0	0.0	0.0	0.0	0.0	2.0	0.0

Satisfaction with economic benefits include (Table 8): increase city's attractiveness (mean=3.9), and boost tourism industry (mean=3.5). Satisfaction with environmental benefits include: wilderness protection (mean=3.6), and improve local environment (mean=3.1).

Satisfaction with social benefits include: promote community cohesion (mean=3.4), and education uses (mean=2.0). Visitors are satisfied with increase city's attractiveness most. The other three most satisfied are wilderness protection, boost tourism industry, and promote community cohesion. However, people are unsatisfied with education uses most: 66.9% are somewhat unsatisfied or very satisfied.

The importance-satisfaction analysis and gaps table with t-test are also used in analyzing benefits of the park in the city.

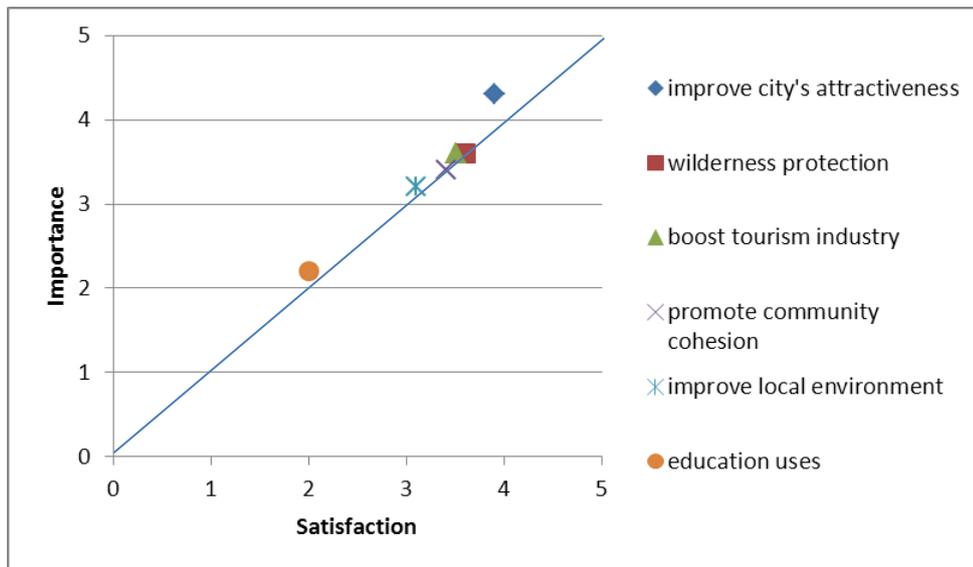


Figure4. Importance-Satisfaction: Benefits of the park in the city

In Figure 4, benefits in the “Area of Concern” include: improve city's attractiveness, boost tourism industry, improve local environment, and education uses. In the “Area of Satisfaction” include: wilderness protection, and promote community cohesion.

Table 9. Gaps Between Satisfaction and Importance of Benefits for the city

Benefit	Mean Satisfaction	Mean Importance	Gap (Satisfaction-Importance)	t-test	Sig. (2-tailed)
improve city's attractiveness	3.9	4.3	-0.4	-6.87	0.000***
wilderness protection	3.6	3.6	0.0	-0.73	0.467
boost tourism industry	3.5	3.6	-0.1	-1.48	0.141
promote community cohesion	3.4	3.4	0.0	0.11	0.914
improve local environment	3.1	3.2	-0.1	-1.47	0.142
education uses	2.0	2.2	-0.2	-2.01	0.045*

Notes: "Positive gaps" indicate areas of satisfaction. "Negative gaps" indicate areas of concern

Table 9 describes the gaps between importance and satisfaction for economic, environmental, and social benefits. Two gaps are significantly effect: (1) improve city's attractiveness; (2) education uses.

4.5 Research Question 4: How satisfied are visitors with facilities, services and management of Xuanwu Lake Park?

Table 10. Satisfaction of the Facilities (Q12)

Facility	Satisfaction (%)					Mean	Std. Deviation
	1-Very Unsatisfied	2-Somewhat Unsatisfied	3-Not Sure	4-Somewhat Satisfied	5-Very Satisfied		
trails	0.5	4.3	13.6	44.3	37.4	4.1	0.8
ornamental plant layout	0.0	1.9	16.4	59.8	21.9	4.0	0.7
fingerboards	3.3	6.4	18.3	58.1	13.8	3.7	0.9
benches for rest	2.6	14.8	29.8	39.5	13.3	3.5	1.0
washrooms	3.8	18.6	22.1	47.9	7.6	3.4	1.0
garbage bins	7.6	16.7	37.4	35.5	2.9	3.1	1.0
playgrounds	8.1	25.7	35.0	25.7	5.5	3.0	1.0
recreation facilities	20.2	43.6	28.6	6.2	1.4	2.2	0.9
fitness appliances	22.4	48.3	24.0	5.2	0.0	2.1	0.8
parking lots	26.9	45.2	18.6	6.2	3.1	2.1	1.0

Table 10 describes satisfaction levels for facilities in the park. Three facilities with high satisfaction are trails, ornamental plant layout, and fingerboards. Two facilities with medium satisfaction are benches for rest and washrooms. Facilities with low satisfaction are garbage bins, playgrounds, recreation facilities, fitness appliance, and parking lots.

Table 11. Satisfaction of Services (Q14)

Service	Satisfaction (%)					Mean	Std. Deviation
	1-Very Unsatisfied	2-Somewhat Unsatisfied	3-Not Sure	4-Somewhat Satisfied	5-Very Satisfied		
security guard	0.0	3.8	13.6	55.0	27.6	4.0	0.7
tour guide	9.0	17.4	35.2	32.9	5.5	3.1	1.0
information centre	11.0	31.2	42.1	11.7	4.0	2.7	1.0
sightseeing bus	12.9	30.7	36.7	17.4	2.4	2.7	1.0
garbage recycling	14.5	31.9	38.1	12.9	2.6	2.6	1.0
grocery selling	17.1	49.5	20.7	10.5	2.1	2.3	0.9
others	0.0	0.0	0.0	0.0	0.0	2.0	0.0

Table 11 describes satisfaction levels for services in the park. Security guard (4.0) has high satisfaction. Satisfaction with tour guide and satisfaction with information centre is medium, while the satisfaction with the other services are low.

Table 12. Satisfaction of Management (Q15)

Management	Satisfaction (%)					Mean	Std. Deviation
	1-Very Unsatisfied	2-Somewhat Unsatisfied	3-Not Sure	4-Somewhat Satisfied	5-Very Satisfied		
safety	0.0	4.8	14.0	38.1	43.1	4.2	0.9
water preservation	0.0	6.0	17.4	56.9	19.8	3.9	0.8
pet control	1.0	6.7	17.9	54.5	20.0	3.9	0.8
plant preservation	1.9	11.4	26.0	44.8	16.0	3.6	0.9
cleanliness	8.6	33.8	25.0	25.5	7.1	2.9	1.1
rules and regulations	10.0	37.4	27.4	19.3	6.0	2.7	1.0
visiting cost	21.4	37.9	33.3	6.7	0.7	2.3	0.9
others	0.0	0.0	0.0	0.0	0.0	2.0	0.0

Table 12 describes satisfaction levels for management in the park. Safety, water preservation and pet control have high satisfaction. Plant preservation is medium. Cleanliness, rules and regulations, visiting cost are rated as low satisfaction.

Table 13. Overall Impression of Park (Q1) (mean=1.7, Std. Deviation=0.9)

Response	Percent (%)
like	57.1
somewhat like	23.1
not sure	15.5
somewhat dislike	4.3
dislike	0.0

Table 13 describes overall impression of the park. There are 90.2% like or somewhat like the park and no people dislike it, but 15.5% are not sure.

4.6 Research Question 5: What improvements are suggested for Xuanwu Lake Park?

Table 14. Other Facilities Needed (Q13) (233 no responses)

Response	Number
more fitness facilities	37
more amusement facilities	27
more trash bins	21
parking lots	17
more wash rooms	15
need bicycles for rent	14
fishing place	12
place to rest in summer	12
more playgrounds	10
sightseeing cars and more tress	10
more cafeterias	8
place for singing and dancing	2
more tour guides	2

Table 14 describes responses to the open ended question 13 “Are there any facilities you think are needed”. There were 187 visitors specified what facilities are needed. Among the valid responses, the first four facilities needed are more fitness facilities (37), more amusement facilities (27), more trash bins (21), and parking lots (17).

Table 15. Suggestions for Sustainable Development (Q21) (183 no responses)

Response	Number
decrease visit cost	92
better environment (less garbage, better air quality)	55
expand park/too crowded	35
more facilities/cafes/washrooms/grocery store/activity	22
protect water	13
more information centre	8
easy to get lost	4
fingerboards need to be more specific	4
more small animals for watching	4

Table 15 describes responses to the open ended question 21 “Do you have any suggestions for the sustainable development for Xuanwu Lake Park”. There are 237 people responded to this question. Most visitors are unsatisfied with the visiting cost, 92 respondents suggested to decrease visit cost, which include the cost for meals, boating, sightseeing cars, and groceries.

The park should decline the prices. 55 people look forward a higher environmental quality, such as better air quality and less garbage in the park, and the manager is expected to control littering challenge. Also, 35 people highlight that the park is too crowded. They expect to expand the park to have better visiting experience. 22 visitors need more facilities, cafes, washrooms, grocery stores and activity.

4.7 Summary

The majority of visitors enjoy visiting this park (57.1% like the park and 23.1% somewhat like the park). 33.8% are people over 50 years old. And 93.3% visitors have a minimum of secondary school education level, 68.8% visitors have the income within 350-1000 USD a month. Also, the park attracts 96.7% Chinese visitors and 3.3% foreign travelers.

The park plays a significant role in meeting individuals' desired leisure pursuits. The first three important motives are relax and renew, get close to nature and reduce stress. In terms of the benefits for the city, increase city's attractiveness and wilderness protection are very important. Visitors are satisfied with getting close to nature (52.9%) but most of them are unsatisfied with good place to read (40.7% of very unsatisfied). They are satisfied with increasing city's attractiveness (74.8% of somewhat satisfied and very satisfied). However, people are unsatisfied with education uses most. In general, visitors have a high satisfaction level for the facilities, service and management, especially for the trails and security management. But more fitness and amusement facilities are required. Also, the park operator needs to put more efforts in cleaning to provide better environment to visitors.

Generally, most people have a good overall impression of the park. Most are satisfied with the activities, facilities, services and management provided by the park. In terms of the importance level of motives, the first most important motive is relax and renew, the second most important motive is get close to nature, and the third is reduce stress. As for the benefits for the city, it is argued that increasing city's attractiveness and wilderness protection are the most important, while the education use is not very important.

The satisfaction with getting close to nature is very high. A large number of visitors are unsatisfied with good place to read (73.6%). Also, they are satisfied with "relax and renew" and "reduce stress". Visitors are satisfied with increase city's attractiveness most. Moreover, Visitors are somewhat satisfied with each benefit. But individuals are unsatisfied with park's education uses. In terms of facilities, visitors are pleased with trails and ornamental plant layout. However, it is indicated that a couple of facilities are not satisfactory, for example, parking lots, recreation facilities and fitness appliance. In particular, fingerboard is rated low, with of 58.1% indicating somewhat unsatisfied.

Regarding management of the park, results indicate that the first place of satisfaction is safety. The park provides a safe environment, with 82.6% satisfaction of security guard and 81.2% satisfaction of safety management. 66.6% are unsatisfied with grocery selling. People are unsatisfied with relatively expensive visiting cost which only have 7.4% satisfaction rate. Also, garbage recycling and information center are not satisfactory. There is a focus on cleaner environment, and more rules and regulations are required. But the park is managed well

regarding water preservation and pet control.

Based on suggestions (open ended questions), 92 visitors are unsatisfied with the visiting cost, 55 people look forward a better environment in the park, 35 people suggest that it is better to expand the park, because it is too crowded sometimes. In addition, more facilities, cafes, washrooms, grocery stores are also required. In particular, the first three facilities that are needed include: fitness facilities, amusement facilities, and trash bins.

4.8 Comparing Findings from “Visitors” with “Residents”

In next section, findings were further analyzed by comparing the percentage of Nanjing residents with perception of visitors to the city. Analysis here used independent sample t-test, because the mean of 2 samples are being compared.

Table 16. Comparing Motives Satisfaction Between Visitors and Residents of Nanjing (Q10)

Motivation	Mean Satisfaction		t-test	Sig. (2-tailed)
	Resident	Visitor		
get close to nature	4.32	4.39	0.256	0.798
relax and renew	4.07	3.99	-1.728	0.085
exercise	3.98	3.84	-0.961	0.337
rejuvenate people	3.41	3.64	-0.134	0.893
integrate friends	3.16	3.08	-0.621	0.535
reduce stress	4.11	4.24	1.017	0.310
gain joy	2.91	2.92	-0.737	0.462
cultural activities	2.84	2.99	1.937	0.053*
socializing	2.64	2.66	0.251	0.082
know more people	2.44	2.60	-0.520	0.604
contemplativeness	2.10	2.13	1.692	0.091
good place to read	1.98	1.89	-0.616	0.538

Only “cultural activities” is significant. For the other motives, there is no difference between residents of Nanjing and visitors.

Table 17. Comparing Benefits Satisfaction Between Visitors and Residents of Nanjing (Q11)

Benefit	Mean Satisfaction		t-test	Sig. (2-tailed)
	Resident	Visitor		
increase city's attractiveness	3.86	3.81	-0.286	0.775
wilderness protection	3.61	3.34	-0.648	0.518
boost tourism industry	3.48	3.53	-1.316	0.189
promote community cohesion	3.30	3.53	-0.262	0.794
improve local environment	3.13	3.14	0.913	0.362
education uses	2.08	2.09	-0.489	0.625

There is no benefit that is significant in the table.

Table 18. Comparing Facilities Satisfaction Between Visitors and Residents of Nanjing (Q12)

Facility	Mean Satisfaction		t-test	Sig. (2-tailed)
	Resident	Visitor		
trails	4.08	4.31	-2.263	0.024*
ornamental plant layout	4.01	4.02	-0.133	0.894
fingerboards	3.73	3.71	0.181	0.857
benches for rest	3.44	3.60	-1.309	0.191
washrooms	3.36	3.40	-0.367	0.714
garbage bins	3.08	3.14	-0.479	0.632
playgrounds	2.92	3.04	-0.928	0.354
recreation facilities	2.27	2.18	0.861	0.390
fitness appliances	2.08	2.25	-1.719	0.086
parking lots	2.11	2.27	-1.383	0.168

Only "trails" is significant.

Table 19. Comparing Services Satisfaction Between Visitors and Residents of Nanjing (Q14)

Service	Mean Satisfaction		t-test	Sig. (2-tailed)
	Resident	Visitor		
security guard	4.04	4.14	-1.097	0.273
tour guide	3.10	3.05	0.388	0.698
information centre	2.69	2.53	1.386	0.166
sightseeing bus	2.68	2.54	1.155	0.249
garbage recycling	2.54	2.67	-1.089	0.277
grocery selling	2.30	2.38	-0.637	0.525

No difference between residents and visitors on services satisfaction level.

Table 20. Comparing Management Satisfaction Between Visitors and Residents of Nanjing (Q15)

Service	Mean Satisfaction		t-test	Sig. (2-tailed)
	Resident	Visitor		
safety	4.21	4.14	0.681	0.496
water preservation	3.92	3.84	0.846	0.398
pet control	3.83	3.94	-1.052	0.293
plant preservation	3.60	3.68	-0.695	0.487
cleanliness	2.88	2.98	-0.725	0.469
rules and regulations	2.69	2.92	-1.754	0.080
visiting cost	2.27	2.28	-0.104	0.918

There is no difference between residents and visitors regarding management satisfaction level.

Table 21. Comparing Age (Q20) of Residents of Nanjing Compared to Visitors

Group	Age (%)				
	Below 20	21-30	31-40	41-50	Over 50
Nanjing	14.0	16.2	16.8	17.8	35.2
Other China	5.9	25.9	15.3	23.5	29.4

Chi-square=4.554; Significance=0.336

There is no difference between residents and visitors in year of age.

The sample was divided into two groups based on how people responded to question 1.

People were assigned to the “high satisfaction” group if they responded to question 1 as “like” or “somewhat like”. The “low satisfaction” group were people who responded as “not sure”, “somewhat dislike”, and “dislike”. Overall impression of the park (like or dislike) is driven by visitor’s satisfaction. Satisfaction includes how people feel about achieving motives, benefits, facilities, services, and management. People who are more satisfied with these may have better visitor experience.

Table 22. Comparing 'Low Satisfaction' with 'High Satisfaction' groups(Q1) By Satisfaction with Motives (Q10), Benefits for the city (Q11),Facilities (Q12), Services (Q13),and Management (Q14)

Outcomes	Mean		t-test	Sig.(2-tailed)
	Low Satisfaction Group	High Satisfaction Group		
<u>Motives:</u>				
relax and renew (10a)	4.0	4.1	1.740	0.053*
socializing (10g)	2.5	2.8	-2.905	0.004**
know more people (10i)	2.4	2.6	-2.716	0.007**
<u>Benefits:</u>				
increase city's attractiveness (11a)	3.9	3.8	1.750	0.041*
promote community cohesion (11e)	3.3	3.5	-1.83	0.048*
<u>Facilities:</u>				
ornamental plant layout (12b)	4.1	3.9	2.190	0.029*
washrooms (12d)	3.3	3.5	-1.948	0.052*
fingerboards (12e)	3.8	3.6	1.620	0.006**
recreation facilities (12h)	2.2	2.4	-2.210	0.028*
<u>Services:</u>				
tour guide (14a)	3.0	3.2	-2.097	0.037*
<u>Management:</u>				
cleaniness (15b)	2.8	3.0	-2.263	0.024*

Regarding results in Table 22, we would highlight that these people in the “high satisfaction group” would score higher mean in their motivation satisfaction, benefit satisfaction, facility satisfaction, service satisfaction, and management satisfaction. This prediction was true in eight of eleven factors illustrated in Table 22.

CHAPTER FIVE

CONCLUSIONS AND DISCUSSION

The purpose of this study is to investigate benefits and level of satisfaction associated with urban parks in Nanjing, in order to better understand the role of urban parks and seek insights for sustainable development. The importance of this study include: (1) Urban parks play an important role in city's sustainable development and social well-being due to economic, environmental and social benefits; (2) Nanjing has a large resource of city parks. If managed well, urban parks will make a great contribution to people's well-being and social development; (3) There are three gaps in the current studies about urban parks. They are summarized as follows: (a) very little research on urban parks is published; (b) very few academic articles written in English describe China's city parks; (c) little research examines the negative impacts of urban parks. This study tried to address these gaps.

The data was collected with a questionnaire survey. The survey was conducted in Xuanwu Lake Park in the city of Nanjing, China during June-August, 2013. The sample was 420 people and the response rate was about 90%. The respondents were visitors who were resting (sitting or standing in one area) in the park. Each respondent spent about 15 minutes to complete the questionnaire.

5.1 Summary of main findings

Research question 1: What are the characteristics of Visitors to Xuanwu Lake Park?

- People at age over 50 like the park most.

- Nearly half of the visitors have an income range of 350-650USD per month.
- Most visitors (96.7%) come to visit the park from China, 77.4% are local people. 46.2% people have bachelor degree and 93.3% visitors attended secondary school at least.
- 72.9% people visit the park alone, 54.3% visit with friends, and 49.8% visit with family.
- Most people (85.9%) visit the park 1-5 times per month. Highest use levels occurred before 6 AM or after 6 PM.
- There are 65.2% visitors who spend less than 20 minutes to travel to the park. And 83.9% visitors choose to go to park in a sustainable way (walk, bike and public transportation).
- Two activities in the park that visitors like most are chatting room (67.1%) and boating (60%). They do not like playing ball games in the park.

These characteristics are important, because they created a broad background of visitors, so it could help the researcher and audiences have better understanding about who are visiting Xuanwu Lake Park. Moreover, these results lay a foundation of deeper study of research questions. For example, comparing level of satisfaction with motives, benefits, facilities, services, and management between visitors and residents of Nanjing (as shown in Table 16-20), and comparing age of residents of Nanjing and visitors (as shown in Table 21) to explore the possible differences and similarities between visitors and local residents.

Research Question 2: What are motivations to visit the park?

- The four most important motives are to get close to nature, to relax and renew, to reduce stress, and to exercise. The four least important motives are to socialize, to know more people, to contemplate, and to read
- Motives that are most satisfied include: to get close to nature, to relax and renew, to exercise, and to rejuvenate. While people have low satisfaction with to socialize, to know more people, to contemplate, and to read.
- The importance-satisfaction findings allocated motivations into two areas, “Area of Satisfaction” and “Area of Concern”. “Area of Concern” include: to get close to nature, to relax and renew, to exercise, to integrate friends, to gain joy, to contemplate, and to read.
- “Area of Satisfaction” includes: to rejuvenate people, to reduce stress, cultural activities, to socialize, and to know more people.

Motives are the reasons why people visit the park. To get close to nature, to relax and renew, to reduce stress, and to exercise are four important motives. This finding is as same as previous studies’ results (Fu & Nie, 2004; Swanson & Horridge, 2006; Li, 2009; Koon, 2009; Phau, Lee, & Quintal, 2013). The motives of socializing, knowing more people, contemplating, and reading are not valued as important in this study. However, socialization and friendship building are also valued as important in some studies (Holden, 1999; Jang & Wu, 2006; Swanson & Horridge, 2006).

Research Question 3: To what extent do people consider the economic, environmental and social benefits of Xuanwu Lake Park?

- Economic benefits include increase city's attractiveness, and boost tourism industry.
- Environmental benefits are wilderness protection, and improve local environment.
- Social benefits include promote community cohesion, and education uses which is least important.
- The four most important benefits are: increase city's attractiveness, wilderness protection, boost tourism industry, and promote community cohesion. While educational uses is the least important.
- Visitors are most satisfied with increase city's attractiveness, many people are unsatisfied with educational uses.
- The importance-satisfaction analysis allocated attributes into two areas. "Area of Concern" include: increase city's attractiveness, boost tourism industry, improve local environment, and educational uses.
- "Area of Satisfaction" include: wilderness protection, and promote community cohesion.

The finding that urban parks play a significant role in increasing city's attractiveness, boosting tourism industry is same with numerous studies (Tagtow, 1990; Luttik, 2000; Chiesura, 2004; Shi, 2008). The environmental benefit of protecting wilderness is important (Jim & Chen, 2003; Li, Ouyang, & Meng, 2006; Mahan, Vanderhorst, & Young, 2009; Zhou & Edward, 2011; Wang, 2012). The social benefit of promoting community cohesion is important (Coley, Kuo, & Sullivan, 1997; Chiesura, 2004; Kong, 2010). The educational uses are not valued as an important social benefit in previous studies, and it is valued as the least important in this

study.

Research Question 4: How satisfied are visitors with facilities, services and management of Xuanwu Lake Park?

- Three facilities with high satisfaction are trails, ornamental plant layout, and fingerboards. Facilities with low satisfaction are garbage bins, playgrounds, recreation facilities, fitness appliance, and parking lots.
- In terms of services, highest satisfaction is with security guard. Satisfaction with sightseeing bus, garbage recycling, and grocery selling was low.
- There is high satisfaction with the following management are: safety, water preservation and pet control have high satisfaction. Cleanliness, rules and regulations, and visiting cost are very unsatisfied.
- There are 90.2% who like or somewhat like the park and no people dislike it, but 15.5% are not sure.

Some findings are similar with previous research. They are: (1) people are not satisfied with the quantity of garbage bins, garbage recycling, and cleanliness (Zheng, Tang, & Che, 2003; Luo, 2007; Dearden & Rollins, 2010; Liang & Ma, 2010); (2) people are unsatisfied with high visiting cost including grocery selling price (Dearden & Rollins, 2010); (3) people are unsatisfied with playgrounds, recreation facilities, fitness appliance, and parking lots (Dearden & Rollins, 2010; Liang & Ma, 2010). However, some findings are different from previous research. For instance, it is argued that there are challenges in crime rate control and water preservation in urban parks (Zheng, Tang, & Che, 2003; Chiesura, 2004; Luo, 2007). But in this study, people are most satisfied with safety and water preservation in the

park.

Research Question 5: What improvements are suggested for Xuanwu Lake Park?

- More facilities are required: the first four facilities needed are more fitness facilities, more amusement facilities, more trash bins, and more parking lots.
- 92 respondents suggested decreasing visit cost, such as the cost for meals and boating. People also desire higher environmental quality, such as better air quality and less garbage in the park. Other recommendations are provided: expand the park because it is too crowded; and need more fitness and amusement facilities, cafes, washrooms, grocery stores and activities.

The findings of needed improvements are quite similar with other research in China. For example, some urban parks in China still lack effective management and service, resulting in littering, water pollution, less facilities; confusing regulations; fingerboard and other problems (Zheng, Tang, & Che, 2003; Luo, 2007; Zheng, 2009; Xu, 2011). In particular, the findings in this study and in a previous study of urban parks in Nanjing conducted by Liang and Ma in 2010 have many in common. They both highlight the issues like inadequate amount of facilities in particular toilets, garbage bins, and parking lots, no clear and understandable signs and less information centre. But there are new suggestions in this study. For example, people desire more cafes, grocery stores and activities in the park, and there is a strong need to decrease visiting cost.

5.2 Relations to literature

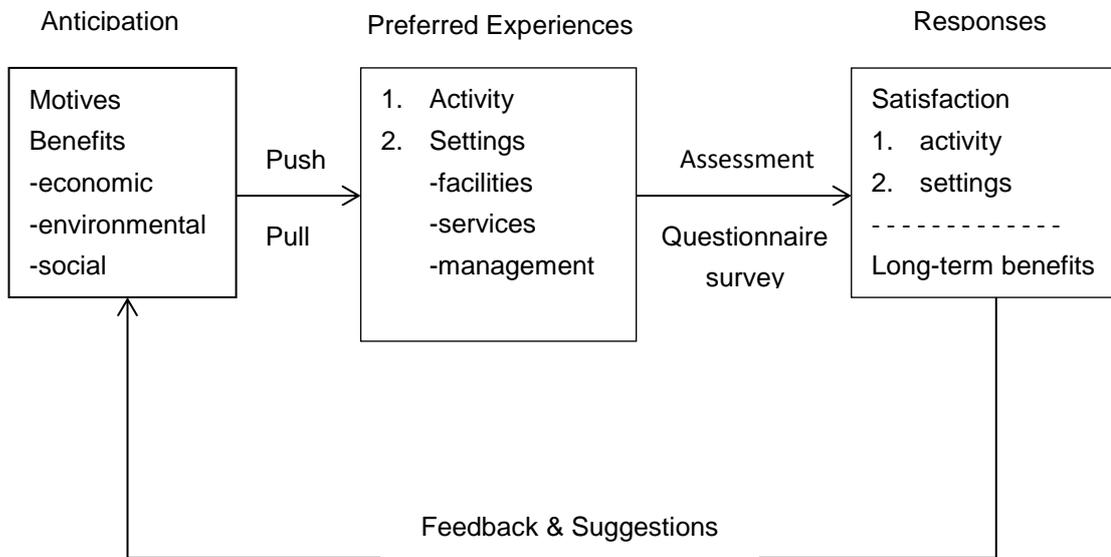


FIGURE 5. Concept map of "behavioral approach"

The concept map describes that individuals visit a park because of the anticipated motives and benefits. And people will select a preferred visitor experience, which include activities and settings (facilities, services, and management). People's assessment of their experience determines satisfaction with these settings. If people are satisfied with activities and settings, they are likely to be satisfied with the park experiences, and be motivated to return to the park, and to support the idea of urban parks. This contributes to sustainability of the park.

The overall impression of the park (like or dislike) is driven by visitor's satisfaction.

Satisfaction includes how people feel about achieving motives, benefits, facilities, services, and management. People who are more satisfied with these may have better visitor experience while visiting. So visitors who have higher satisfaction with motives, benefits, facilities, services, and management tend to be more satisfied with the experience. While people who do not like the park have low satisfaction with the activities and settings. This

suggests strong support for the “behavioral approach”.

5.3 Possible weaknesses in study

There may be some weaknesses in this study, they are summarized as follows:

- 1) In the questionnaire development process, some questions that are important may not have been asked, but some questions that are asked may not be essential. The length of questionnaire may be too short or too long, if it is short, some information would not be mentioned, but if it is long, respondents may refuse to complete the questionnaire or may not put effort into answering questions.
- 2) In the questionnaire implementation process, as the questionnaire survey was conducted in just one park in Nanjing, there is a concern that visitors in the other parks of Nanjing may have different feelings about satisfaction, which would result in different results. In addition, the survey was conducted in summer, when people’s feelings about the park may be affected by high temperature, so it is better if the survey could be conducted in other seasons.
- 3) Sample bias. Because the researcher interviewed people when convenient (when sitting or standing in one place), randomness was “approximated”. By walking around the lake, randomness was thought to be achieved. Thus, one possible weakness is some people would not be selected if they do not sit down or stand in one place.
- 4) Research method. There is only one research method used in this study. A qualitative method, such as a focus group, may provide different results.

5.4 Other research needed

Since there are very few academic articles that describe China's city parks in English, similar research that focuses on urban parks in other cities of China is needed. Studies about urban parks in China should use more diverse research methods. In particular, some qualitative methods, like focus group and semi-structured interviews may be useful. In addition, as Nanjing has 120 parks, other parks in Nanjing also need to be studied in order to provide more conclusive findings for urban parks in Nanjing.

5.5 Recommendations

The Xuanwu Lake Park is managed well in numerous aspects, such as trails and safety. 90.2% visitors are like or somewhat like the park in an overall impression. However, there are still some areas for improvement and development. The recommendations are summarized below:

- The park operator should focus more on important motives: let visitors get closer to nature, relax and renew, provide more places for exercising.
- It is better to expand the park, because sometimes it is too crowded, the park could be expanded by removing some nearby low rise apartments.
- It is not a good place to contemplate or to read books.
- The park needs to play more a important role in promoting local tourism and increasing city's attractiveness. In particular, the educational uses of the park are overlooked.
- More garbage bins, playgrounds, recreation facilities, fitness appliances, and parking lots are required.

- In order to provide better services and have better management, it is important to improve the efficiency of garbage recycling, increase the number of sightseeing buses, and focus more on cleanliness, enforcing rules, and visiting cost.
- Some prices in the park are very high. It is important to decrease the visiting cost, which includes the cost for meals, groceries, boating, and the cost for amusement games.
- More recreation and fitness facilities, washrooms, cafeterias, grocery stores, and information centre should be built in the park.
- Visitors desire better environmental quality in the park. It is recommended to protect the lake water, plant different trees, and clean the garbage.
- Fingerboards need to be more specific to make people clear about direction.
- Some visitors suggest adding small animals for watching, such as lovely birds.

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APPENDIX A. Knowledge Mobilization Product

Due to the limited literature on the urban parks, especially in Nanjing, China, it is significant to share this research with other academics and students of leisure studies, no matter where they are from, such as China and Canada. This article will be presented in the standard academic journal format and will include an abstract, introduction, literature review, method, results, conclusion and recommendations for future studies.

First of all, I will submit this article to the magazine *Landscape and urban planning* in February 2014. Should this study not be accepted for publication in the Landscape and Urban Planning or should the timeline prove to be too tight, other academic journals will be considered as well as publication on Vancouver Island University's World Leisure Center of Excellence website.

Since this article focuses on the parks in China, it will be translated into Chinese after completion. I will also submit this Chinese version to the journal named *Tourism Tribune* that is published in China in February 2014. It is one of the most influential academic tourism and leisure magazines in China.

Preliminary findings will also be uploaded to the national academic database in China, in order to share my research outcomes and inspire the undergraduates and graduate students in China to move forward to study in this realm.

In addition, I would like to present the key findings as a report to the participants in this study in November 2013 through some forms of presentation. They are the other five investigators who would help me complete questionnaire survey. At the same time, I would also like to share the key findings with colleagues and future students in SLM program in December, 2013.

Lastly, if I am approved by the government of Nanjing, the article will also be submitted to the tourism sector in Nanjing, China in 2014. So that some of the recommendations would be reviewed by the faculty.

Timeline

Report (Chinese version) sent to participants and co-investigators (November, 2013)

Present key findings to colleagues and future students in SLM (December, 2013)

Article submission to *Landscape and urban planning* magazine (February, 2014)

Article submission to *Tourism Tribune* magazine in Chinese version (February, 2014)

Recommendations submission to tourism sector in Nanjing (2014)

APPENDIX B. Reflective Chapter

Main findings

The main findings are summarized as follows: (a) visitors are concerned about these motivations: to get close to nature, to relax and renew, to exercise, to integrate friends, to gain joy, to contemplate, and to read; while motivations that are satisfied with include: to rejuvenate people, to reduce stress, cultural activities, to socialize, and to know more people; (b) visitors are concerned about these benefits: increasing city's attractiveness, boosting tourism industry, improving local environment, and educational uses; benefits that are satisfied with include: wilderness protection, and promote community cohesion; (c) facilities with high satisfaction are trails, ornamental plant layout, and fingerboards; highest satisfaction with services is security guard; highest satisfaction with management are safety, water preservation and pet control; (d) the first four facilities needed are more fitness facilities, more amusement facilities, more trash bins, and more parking lots; (e) it is suggested to decrease visit cost, improve environmental quality, expand the park, and more cafes, washrooms, grocery stores, and activities in the park.

Practical implication

The major practical implications include: (1) this study may address the gaps in the literature; (2) because this study aims to better understand the role of urban parks in Nanjing and seek insights for sustainable development, the results and recommendations may provide insights to the park operator; (3) this study may inspire other studies on urban parks in China.

Reflect on the research process

During the preparation of the thesis, I learned how to determine a topic in various research areas. Since there are numerous research directions in tourism and recreation, the best way to determine a topic is to find out which topic I was interested most, and which may benefit my future career or possible further studies.

When I concluded my research method, I started to learn different research methods, including their functions, features, strengths, and weaknesses. And I selected a questionnaire survey after comparing with other methods.

During the thesis proposal writing process, I learned to write a literature review and reviewed numerous academic articles about my topic. I revised the proposal several times, based on the feedback given by my supervisor. So I learned so much during this process, not only numerous concepts of urban parks, but also learned that we need to remain patient and put great efforts into making the proposal approaching perfect.

Regarding ethics issues, I got familiar with this process. I learned how to minimize the impact to the respondents when conducting one research, and I also learned the importance of keeping the research results confidential. I learned to create a consent form, which could make respondents willing to participate

In the results and conclusions chapter writing process, I learned how to analyse the results by

SPSS, how to describe the results, and how to use a figure or table as a tool to make the results and conclusions easier to understand.

If I could redo the selection of research method, I would add a focus group or an interview, because there is only one research method used in this study. A qualitative method, such as a focus group, may provide different results, or confirm the findings from the questionnaire.

A change in the research

I changed the results analysis approach. The planned approach was a “quadrant” importance-performance analysis. I changed it to an “iso-line” importance-satisfaction approach. The reason for this change is: the planned “quadrant” approach has been criticized because the variability among different benefits may not be displayed in the graph. Also, it could not show whether the difference between importance and satisfaction is significant or not. In data analysis process, an “iso-line” importance-satisfaction analyse was used instead. I felt this change helped me to analyse data more easily, and made the findings more rigorous and understandable to audiences.

Challenge and pride

There was only one challenge in this research. It was difficult weather conditions in Nanjing when I conducted the survey. It was extremely hot in July-August in Nanjing, which the highest temperature would be 39-40 centigrade. And sometimes it rained heavily during the summer. So it made my research more difficult, because it was conducted in the open air. I

rescheduled some dates in order to avoid the high temperature and heavy rain.

I was proud of that I completed this research all by myself with the help from my supervisor.

And it was great to have a study about urban parks in my hometown, which may be a contribution to park development in Nanjing. Besides, this study tried to fill the gaps in the literature.

Impact of the research

It is significant to share this research with other academics and students of leisure studies.

First of all, I will submit this article to an English magazine. Next, it will be translated into Chinese after completion. I will also submit this Chinese version to one journal in China. At last, if I am approved by the government of Nanjing, the article will also be submitted to the tourism sector in Nanjing, China.

APPENDIX C. Questionnaire



The purpose of this survey is to better understand visitor use and appreciation of Xuanwu Lake Park.

Your Experience Today in Xuanwu Lake Park

Q1. Do you like to visit this park?

1. like
2. somewhat like
3. not sure
4. somewhat dislike
5. dislike

Q2. How often would you come to this park in a month?

1. 1-2 times
2. 3-5 times
3. 6-8 times
4. 9-11 times
5. over 11 times
6. never

Q3. In which part of time you come to the park during a day?

1. before 9:00
2. 9-11:00
3. 11-13:00
4. 13-18:00
5. after 18:00

Q4. How to get to this park from your home or where you are staying?

1. by walk
2. by bike
3. by car
4. by bus or metro
5. by taxi

Q5. How long does it take?

1. below 10 minutes

2. 10-20 minutes
3. 20-30 minutes
4. 30-40minutes
5. over 40 minutes

Q6.What kind of activities held in the parks do you participate in? (circle all that apply)

1. chatting room
2. boating
3. ball games
4. picnic and camping
5. BBQ party
6. other(s)specify

Your Reason For Visiting Xuanwu Lake Park Today

Q7. Thinking about why you decided to visit this park. Please indicate the **importance level** of each of the following possible benefits.

Benefits of visiting this park	NO IMPORTANCE AT ALL	LOW IMPORTANCE	MEDIUM IMPORTANCE	HIGH IMPORTANCE	VERY HIGH IMPORTANCE
A. Relax and renew	1	2	3	4	5
B. Reduce stress	1	2	3	4	5
C. Rejuvenate yourself	1	2	3	4	5
D. Exercise	1	2	3	4	5
E. Get close to nature	1	2	3	4	5
F. Gain joy	1	2	3	4	5
G. Socializing	1	2	3	4	5
H. Join cultural activities	1	2	3	4	5
I. Know more people	1	2	3	4	5
J. Increase integration and among friends	1	2	3	4	5
K. Enhance contemplativeness	1	2	3	4	5
L. Provide a peaceful place to read	1	2	3	4	5
M. Other(s) please specify	1	2	3	4	5

Q8. From the above list please indicate the **THREEMOST IMPORTANT** benefits of visiting this park.

First Most Important Benefit: _____

Second Most Important Benefit: _____

Third Most Important Benefit: _____

Q9. Thinking now about the possible benefits of this park, please decide the importance of each of the followings.

Benefits of this park	NO IMPORTANCE AT ALL	LOW IMPORTANCE	MEDIUM IMPORTANCE	HIGH IMPORTANCE	VERY HIGH IMPORTANCE
A. Increase city's attractiveness	1	2	3	4	5
B. Wilderness protection	1	2	3	4	5
C. Improve local environment	1	2	3	4	5
D. Boost local tourism industry	1	2	3	4	5
E. Promote community cohesion	1	2	3	4	5
F. Education uses	1	2	3	4	5
G. Other(s) please specify	1	2	3	4	5

Q10. Now think about your satisfaction of the **benefits of visiting this park** listed below. Please indicate for each possible benefit your **level of satisfaction** with its achievement.

Level of satisfaction of the achievement of the following benefits	VERY UNSATISFIED	SOMEWHAT UNSATISFIED	NOT SURE	SOMEWHAT SATISFIED	VERY SATISFIED
A. Relax and renew	1	2	3	4	5
B. Reduce stress	1	2	3	4	5
C. Rejuvenate yourself	1	2	3	4	5
D. Exercise	1	2	3	4	5
E. Get close to nature	1	2	3	4	5
F. Gain joy	1	2	3	4	5
G. Socializing	1	2	3	4	5
H. Join cultural activities	1	2	3	4	5
I. Know more people	1	2	3	4	5
J. Increase integration and among friends	1	2	3	4	5
K. Enhance contemplativeness	1	2	3	4	5
L. Provide a peaceful place to read	1	2	3	4	5

Q11. Now think about your satisfaction of the **benefits of this park itself** listed below. Please indicate for each possible benefit your **level of satisfaction** with its achievement.

Level of satisfaction of the achievement of the following benefits	VERY UNSATISFIED	SOMEWHAT UNSATISFIED	NOT SURE	SOMEWHAT SATISFIED	VERY SATISFIED
A. Increase city's attractiveness	1	2	3	4	5
B. Wilderness protection	1	2	3	4	5
C. Improve local environment	1	2	3	4	5
D. Boost local tourism industry	1	2	3	4	5
E. Promote community cohesion	1	2	3	4	5
F. Education uses	1	2	3	4	5
G. Other(s) please specify	1	2	3	4	5

About Facilities, Services and Management in Xuanwu Lake Park

Q12. Now consider your satisfaction of the **facilities** while visiting this park? Please indicate your impression below.

Level of satisfaction of the facilities	VERY UNSATISFIED	SOMEWHAT UNSATISFIED	NOT SURE	SOMEWHAT SATISFIED	VERY SATISFIED
A. Trails	1	2	3	4	5
B. Ornamental plant layout	1	2	3	4	5
C. Benches for rest	1	2	3	4	5
D. Washrooms	1	2	3	4	5
E. Fingerboards	1	2	3	4	5
F. Playgrounds	1	2	3	4	5
G. Fitness appliances	1	2	3	4	5
H. Recreation facilities	1	2	3	4	5
I. Garbage bins	1	2	3	4	5
J. Parking lot(s)	1	2	3	4	5

Q13. Are there any other facilities you think are needed?

Q14. Now consider your satisfaction of the **services** while visiting this park? Please indicate your impression below.

Level of satisfaction of the services	VERY UNSATISFIED	SOMEWHAT UNSATISFIED	NOT SURE	SOMEWHAT SATISFIED	VERY SATISFIED
A. Tour guide	1	2	3	4	5
B. Information center	1	2	3	4	5
C. Grocery selling	1	2	3	4	5
D. Sightseeing bus	1	2	3	4	5
E. Security guard	1	2	3	4	5
F. Garbage recycling	1	2	3	4	5
G. Other(s) specify please	1	2	3	4	5

Q15. Please indicate your impression of the satisfaction of the **management** in this park.

Level of satisfaction of the management	VERY UNSATISFIED	SOMEWHAT UNSATISFIED	NOT SURE	SOMEWHAT SATISFIED	VERY SATISFIED
A. Safety	1	2	3	4	5
B. Cleanliness	1	2	3	4	5
C. Rules and regulations	1	2	3	4	5
D. Entrance fee	1	2	3	4	5
E. Plant preservation	1	2	3	4	5
F. Water preservation	1	2	3	4	5
G. Pet control	1	2	3	4	5
H. Other(s) specify please	1	2	3	4	5

About You

Q16.What's your age?

1. below 20
2. 20-30
3. 31-40
4. 41-50
5. over 50

Q17.What's your monthly income (CNY)?

1. under 2000
2. 2000-4000
3. 4000-6000
4. 6000-8000
5. over 8000

Q18.What's your education level?

1. elementary school
2. secondary school
3. bachelor
4. master
5. PHD

Q19. Do you visit yourself or with anyone others? (circle all that apply)

1. alone
2. with friends
3. with family
4. other (please state _____)

Q20. Are you a resident of Nanjing?

1. YES
2. NO (if so, where is your home _____)

Q21. Do you have any suggestions for the sustainable development for Xuanwu Lake Park?
(Open question, provide your opinions please)

Thank you very much for your patience and participation. Wish you have a good day in the park!

APPENDIX D. Ethics Form



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is an initiative of the World Leisure Centre of Excellence
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