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LEISURE LIFESTYLES IN URBAN CHINA:

A CASE STUDY IN HANGZHOU, CHENGDU, BEIJING, SHANGHAI, QINGDAO, AND SHENZHEN

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ABSTRACT

Chinese leisure has received little attention from either Chinese or international scholars. Because of the long history of Chinese leisure, and because China has the largest population in the world, understanding Chinese leisure may greatly assist us in understanding the evolution of leisure in general and in predicting its future.

In this study, I use a secondary dataset to identify and compare leisure lifestyles, types of Chinese leisure, and leisure constraints in a variety of contexts across six Chinese cities: Hangzhou, Beijing, Shanghai, Qingdao, Chengdu, and Shenzhen. The data were collected by the Asia Pacific Center for the Study of Leisure (APCL), located in Hangzhou, China, from March to November, 2005.

The data collection was accomplished in two steps in the six Chinese cities. In the first step, because there is relatively little research on urban Chinese leisure lifestyles, the APCL used a face-to-face free-listing technique for the initial data collection. Because previous research has not reported how leisure activities are spent or how leisure constraints are perceived by Chinese urban people in the six cities, the free-listing technique can be viewed as the best way to explore how urban people pursue their leisure and identify their leisure constraints. In this study, the free-listing technique particularly helps researchers to use appropriate domains (leisure activities and constraints) because it ensures that the domains are culturally related (Weller & Romney, 1988). Moreover, the advantage of free listing is that leisure activities and constraints listed by the technique can be used in developing a larger survey.

In the second step, a questionnaire was created on the basis of the results of the free listing by the APCL. The survey consisted of two sections. The first section

comprised leisure activity, leisure constraints, leisure satisfaction, and health items. The second section elicited socio-demographic information including location of residence, gender, income, educational level, family members, marital status, and sources of leisure information. Both the free-listing and the survey data were used for this study.

The findings of this study are similar to the results of previous leisure-activity studies of the U.S. population that found that media habits or mass media were major leisure activities pursued in the United States. Similarly, media habits (e.g., movies, reading, etc.) are considered the most important activities in terms of frequency of participation and importance of activities by urban Chinese. This study also found that social activities (visiting friends and relatives, dating, chatting, attending family gatherings) play important roles in Chinese urban daily life. Furthermore, the activities that were reported by the informants are more frequently and more importantly associated with passive leisure activities, which are identified by previous research. Passive leisure, as a form of leisure, continues to play a dominant role in the leisure activities of the Chinese urban population. Among the passive leisure activities pursued by the Chinese urban population, meditation is not only one form of leisure activity, it is also an alternative medicine that may contribute to enhance the Chinese urban population's health. Furthermore, Chinese traditional culture may still influence urban people's leisure preferences; modern urban Chinese people continue to seek mountains and water places for their leisure. At the same time, the findings of this study offer evidence that there are high consensuses on leisure activities by using an informants-by-informants matrix within the cities. Although all cities face very similar constraints on leisure, there is no consensus on constraints within cities.

The findings of the study indicate that for participation rates in primary leisure activities, the perceived importance of primary leisure activities is the same for some pairs of cities in subgroups. Urban Chinese in most pairs of cities face similar leisure constraints. The degrees of leisure satisfaction are the same between all pairs of cities in female, older, and younger groups.

In sum, this preliminary study, based on an analysis of existing data, is the first to apply the new systematic ethnographic approach to understanding intra-city and intercity variances on leisure activities and leisure constraints in a cross-cultural urban setting. This study also provides new insights that cognitive anthropology can make significant contributions to the comparative study in terms of inter-cultures and intra-culture for leisure research dominated by social psychology. Further findings will be discussed.

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Chapter One: Introduction

Preface

Chinese leisure has received little attention from either Chinese scholars or international scholars. Because of the long history of Chinese leisure and because China has the largest population in the world, understanding Chinese leisure may greatly assist us in understanding the evolution of leisure in general and in predicting its future. In fact, leisure has been discussed for many centuries in China. For instance, during the Tang dynasty (618-907), which was the golden age of Chinese culture, members of any class, including peasants, merchants, and artisans, were able to enjoy their leisure to different degrees. The emperor of the Tang dynasty granted fifty-eight days of holidays throughout the country. During the one day off every ten days (a Tang week), people were able to celebrate festivals, enjoy grand carnivals, participate in sports, and play games to spend their leisure time (Benn, 2002).

Since World War II, China has experienced several periods of political instability and political movements for many decades. However, China is changing and developing in every aspect, including leisure, since the economic reforms of the 1980s. Some Western style leisure activities such as outdoor activities, oversea travel are not new forms of leisure for Chinese people. Not surprisingly, China was selected to hosts the first World Leisure Expo in 2006. The EXPO 2006 is not a single event for China; it also provides a chance for China and other countries to know how leisure "can serve as a means for improving the quality of life for all … socially, culturally, and economically" and "to showcase the latest and best examples of innovative design, public policy, programming, facilities and equipment" ("Expo overview," n.d.).

Impacts of leisure and constraints on human beings

The concept of leisure has been defined by many scholars in many different ways. Leisure has been defined as time, activity, or as a state of existence or mind (Godbey, 1999). On the basis of previous definitions of leisure, Godbey proposed the following:

> Leisure is living in relative freedom from the external compulsive forces of one's culture and physical environment so as to be able to act from internally compelling love in ways which are personally pleasing, intuitively worthwhile, and provide a basis for faith. (p. 12)

More important, Godbey (1999) pointed out that leisure is pursued in different ways throughout the life cycle. During childhood, children learn and grow through play, which is a form of leisure. Young adulthood is a stage of relational leisure expression, in which activities are associated with children, spouse, parents, colleagues, and neighbors. At midlife, individuals begin to modify their leisure activities and to do what they want during their free time. Elderhood is a phase of gaining leisure in terms of time and tranquility for most people. Leisure experience is modified to meet an individual's health level. During the final phase of life, appreciation for life increases dramatically. While all periods of life are dependent on individual variation, leisure behaviors must be modified to accommodate new ways of living.

Although individuals may be aware of the leisure opportunities available to them, they may not be able to participate in them for a variety of reasons, such as lack of time, lack of skills, and so forth. Over the past two decades, the factors that influence leisure participation have come to be known as leisure constraints. However, research on leisure constraints has been heavily focused on North America (Dong & Chick, 2003).

According to numerous leisure constraints studies in the United States and Canada, a variety of leisure constraints on diverse populations have been identified. Gender has been identified as greatly influencing quantity and quality of leisure (Shaw & Henderson, 2005). Women's shortage of financial support and lack of leisure opportunities, which can be conceptualized as structural constraints, are main factors that constrain their participating in leisure activities. Apart from structural constraints, leisure researchers have examined ethic of care and a lack of sense of entitlement as intrapersonal constraints for women. Interpersonal constraints seem to be less pronounced among women because women tend to have stronger social relationships than men (Henderson & Ainsworth, 2000). On the other hand, constraints on men's leisure have received little attention from leisure researchers. That is, gender or masculinity are not often used as analytic concepts. Said differently, gender should be an enabler for men rather than a constraint because of men's higher levels of leisure participation and their stronger sense of entitlement to leisure compared with women (Shaw & Henderson, 2005).

From the perspective of aging, constraints may not inhibit successful aging but may in fact contribute to it (McGuire & Norman, 2005). For example, as one structural constraint for older people, poor health in later life may reduce efforts to engage in leisure activities. However, such a constraint also helps older people to conserve their energy by reducing their leisure participation (McGuire & Norman, 2005).

Previous research on adolescent leisure has shown that perceived leisure constraints of adolescence may be associated with the development of identity, autonomy, initiative, sexuality, intimacy, competence, the acquisition of life skills, interaction with

parents, structure issues of age, resource availability, and cultural issues, among other factors (Caldwell & Baldwin, 2005).

Over the past decade, the number of studies on racial and ethnic influences on leisure participation has increased significantly (Shinew & Floyd, 2005). The marginality and ethnicity (Washburne, 1978), assimilation (Gordon, 1964), discrimination (Stodolska & Jackson, 1998), and transnationalism (Portes, 1997) frameworks have made contributions to the understanding of racial and ethnic differences in leisure behavior. From the marginality perspective, ethnic minority groups constrained by socioeconomic discrimination were found not to participate in certain activities. For example, Washburne's (1978) findings indicated that unmet basic needs, poor transportation, and limited opportunities due to their urban ghetto residence affected African Americans' participation in leisure activities. In general, ethnic minority groups are still predominantly viewed as poorer, less educated, and of lower income than are Whites (Stodolska & Yi, 2005). From the ethnicity perspective, culture may play a significant role in leisure preferences. For example, African Americans may evaluate the natural environment differently from Whites because of the negative connotations of nature and open space. Hispanics are more likely than other ethnic groups to spend their leisure time in family-oriented activities with mixed-age family groups. American Muslim immigrants are constrained by lack of single-sex facilities where men and women can spend their leisure time separately (Stodolska & Livengood, 2003). In general, cultural characteristics create constraints on leisure among ethnic minority groups.

Assimilation is the process of eliminating difference of languages and values and behaviors between minorities and the mainstream population. Stodolska (2000) found

that immigrants with higher acculturation levels were able to seek new opportunities, expanding their leisure repertoires compared with the situation of their initial arrival. Historically, it is not only non-White ethnic groups that are discriminated by mainstream society; White ethnic groups such as Eastern Europeans, Jews, Italians, and Irish have also been discriminated against by members of the Anglo Saxon mainstream. Discrimination may force ethnic minorities to change their leisure behaviors. In recent years, transnational communities have received attention from researchers wishing to understand immigrants. The concept of transnationalism (Portes, 1997) emphasizes that "many immigrants today build social fields that cross geographic, cultural, and political borders…" (p. 813). While little is known about the transnational communities' leisure behaviors, the perceptions of the group are important to leisure researchers as a result of the group's unique pattern.

The logic of cross-cultural leisure research

Chick (1998) argued that not all cultural groups define free time and leisure in the same way. In other words, leisure can be defined and interpreted differently in different societies. Chick (1998) claimed that we should understand the concept of leisure in three different ways. First, leisure has been well-discussed in the ethnographic literature, which confirms that leisure is a universal human phenomenon. Second, while leisure cannot be directly translated from one language to another, non-native English speakers do not have difficulties understanding what is meant by English speakers. Third, leisure is possibly part of an adaptive cultural system that is used by different societies in various ways to meet demands in their environments. At the same time, Chick (1998) hypothesized that

the availability of the amount of free time at different levels of cultural complexity varies substantially; the evidence is not clear, however.

Therefore, to better understand leisure from a cross-cultural perspective, leisure research in non-Western societies provides appropriate opportunities to explore the concept of leisure. This study in six large Chinese cities offers such an opportunity.

Statement of purposes:

1. To identify the major leisure activities in the six Chinese cities in the sample.
2. To identify the primary leisure constraints in the six Chinese cities in the sample.
3. To measure levels of leisure satisfaction in the six Chinese cities in the sample.
4. To compare participation levels and the perceived importance of leisure activities both within and between the six cities in the sample.
5. To compare the importance of leisure constraints both within and between the six cities in the sample.
6. To compare levels of leisure satisfaction both within and between the six cities in the sample.

Delimitations:

The informants of this study were delimited to individuals age 18 or older permanently residing in urban areas in the six Chinese cities under study.

Limitations:

Since the samples used in this study were not obtained randomly, the results are not generalizable beyond the samples themselves. Additionally, since the data were obtained from samples in large cities, the results are unlikely to be relevant to small towns and rural areas in China.

Research Questions:

1. What are the primary leisure activities in each of the six cities?
    a. What are the participation rates for leisure activities in each of the six cities?
    b. How important are leisure activities in each of the six cities?
    c. Is there consensus for participation in leisure activities in each of the six cities?
        1. Is there consensus for participation in leisure activities in each of the six cities for males and for females?
        2. Is there consensus for participation in leisure activities in each of the six cities for younger and older informants?
    d. Is there consensus for the importance of leisure activities in the six cities?
        1. Is there consensus for the importance of leisure activities in each of the six cities for males and for females?
        2. Is there consensus for the importance of leisure activities in each of the six cities for younger and older informants?
2. Do the six cities differ in terms of participation rate in primary leisure activities?
    a. Do the six cities differ in terms of participation rate in primary leisure activities between males and females?
    b. Do the six cities differ in terms of participation rate in primary leisure activities between younger and older residents?
3. Do the six cities differ in terms of the perceived importance of primary leisure activities?

a. Do the six cities differ in terms of the perceived importance of primary leisure activities between males and females?

b. Do the six cities differ in terms of the perceived importance of primary leisure activities between younger and older residents?

4. What are the primary leisure constraints in each of the six cities?

   a. How important are the primary leisure constraints in each of the six cities?

   b. Is there consensus for the importance of leisure constraints in the six cities?

      1. Is there consensus for the importance of leisure constraints in the six cities for males and for females?

      2. Is there consensus for the importance of leisure constraints in the six cities for younger and older informants?

   c. Does the importance of the leisure constraints differ between the six cities?

      1. Does the importance of the leisure constraints differ between each of the six cities for males and females?

      2. Does the importance of the leisure constraints differ between each of the six cities for older and younger residents?

5. Do the six cities differ in terms of leisure satisfaction?

   a. What levels is leisure satisfaction in each of the six cities?

   b. Are there differences in leisure satisfaction for males and females between each of the six cities?

   c. Are there differences in leisure satisfaction for older and younger residents between each of the six cities?

Chapter Two: Literature Review

Leisure activity typologies

While human progress has been evaluated by measures of material well-being such as freedom from disease, longevity, income level, and so on, material well-being does not in itself reveal human life's purposes (Goodale & Godbey, 1995). Having leisure is one of human life's purposes—to spend time in pleasurable ways, free from work, free to enjoy what one wants (Godbey, 1999). Therefore, leisure can be thought of as a measurement of human progress, happiness, and meaning of life. Leisure is an integral part of our lives that can be found at home, in school, in the workplace, in clubs, in church, and in many other circumstances (Godbey, 1999).

As indicated above, one way in which leisure has traditionally been defined is in terms of certain kinds of activities. These activities have typically been regarded as unobligated, occurring in relatively free time, generally pleasurable, and psychologically absorbing. Leisure in terms of activities has been measured in different ways according to the particular interests of leisure researchers. Leisure begins with the informal interactions with variability from community to community associated with resources, climate, and cultural interests (Kelly, 1983). Therefore, leisure activities have been investigated in terms of: (a) outdoor recreation (Ferris,1962); (b) time use (Szalai, 1972); (c) psychological perspectives (McKechnie, 1974; Ragheb,1980); (d) social context (Kelly, 1983); (e) consumer behaviors (Mitchell, 1983; Harris Poll, 2005); (f) physical and mental health (Dressler, 1998); and (g) seriousness (Stebbins, 1992).

Early leisure activities studies can be identified in the Outdoor Recreation Resources Review Commission (ORRRC) study program conducted by the Bureau of the

Census in the United States in the 1960s. The ORRRC was created by the Act of June 28, 1958 (Public Law), aimed at investigating the recreation wants and needs of the American people. In this study, a total of 24 outdoor activities were primarily studied by the National Recreation Survey. As the ORRRC study report (Ferris, 1962) indicated,

> The outdoors lies deep in American tradition. It has had immeasurable impact on the Nation's character and on those who made its history…. When an American looks for the meaning of his past, he seeks it not in ancient ruins, but more likely in mountains and forests, by a river, or at the edge of the sea…. (Cover page)

In the ORRRC study, outdoor activities are categorized by factor analysis. resulting in five groups: the physically active recreation of youth, winter sports, water sports, backwoods recreation, and passive outdoor pursuits.

A time-budget approach is one way to measure the temporal distribution of leisure activities. This approach was first developed for use in social surveys investigating the daily lifestyle of the working class before World War II (Szalai, 1972). A typical time-budget study is a diary in which people record the many hours and minutes spent in human activities such as working, sleeping, eating, reading, traveling, and so forth. As a result, a total of 96 primary activities including leisure activities and non-leisure activities are listed in the diaries of respondents in Szalai's study. This study used a two-digit coding system in which the first digit divided the activities into ten main categories: work (0), housework (1), child care (2), shopping (3), personal needs (4), education (5), organizational activity (6), entertainment (7), active leisure (8), and passive leisure (9).

A "Leisure Activities Blank" (LAB) listing 121 leisure activities was generated by McKechnie and his colleagues at the University of California, Berkeley, in 1975. A

factor analysis of LAB for a stratified random sample of 288 California residents resulted in six groups: mechanics, crafts, intellectual, slow living, sports, and glamour sports. Mechanics activities refer to auto racing, auto repairing, billiards, boxing, camping, playing poker, and so on. Crafts activities refer to jewelry making, needlework, sculpture, sewing, and so on. Intellectual activities refer to chess, participation in civic organizations, reading, traveling, and so on. Slow living activities refer to dating, dining out, exercising, going to movies, and so on. Sports refer to badminton, basketball, bowling, football, and so on. Glamour sports refer to archery, boating canoeing, sailing, skiing, and so on.

Ragheb (1980) surveyed a stratified random sample of 383 subjects in a southern city in the United States. The respondents were asked to indicate the frequency with which they participated in 41 leisure activities by using a five-point Likert-type scale. The activities were grouped into six categories: mass media, social activities, outdoor activities, sports activities, cultural activities, and hobbies.

Kelly (1983) suggested that leisure activities may be categorized as solitary, intimate, group, and mass according to the scale of the social context in a social setting. Many leisure activities can be considered solitary because they can be done alone, excluding other people who may be present. If leisure is regularly associated with family and close friends, some leisure activities such as outdoor recreation can be categorized as intimate leisure. Group leisure such as a party or an institutional event is formed when people interact with those outside groups of intimates. Mass culture, especially TV, motion pictures, music and other media, can be thought of as mass leisure.

The value and life style (VALS) typology was originally derived from a major mail survey in 1980 conducted by SRI international (Mitchell, 1983). The survey sample includes more than 1600 respondents aged eighteen and over living in the contiguous forty-eight states of the United States. The survey asked over 800 questions on a great range of issues, including leisure activities. The following categories of leisure activities are included in the survey (Table 1).

Table 1. The categories of leisure activities of the value and life style typology (adapted from Mitchell 1983)

Media Habits	Activities
Movie viewing	Sports and outdoor recreation
Television viewing	Attendance at sporting and other events
Radio listening	Indoor recreation and hobbies
Reading newspapers and magazines	Shopping and related activities
Reading books	Eating, drinking and food preparation
	Business travel
	Vacation or pleasure travel

The Harris poll (2005), which is conducted by a market research firm, began collecting data on the favorite leisure activities of Americans in 1995. According to the results of a nationwide telephone survey among 1,014 U.S. residents in 2005, reading (35%), watching TV (21%), and spending time with their families and children (20%) ranked as the three favorite activities.

Similarly, in China, a research study of favorite leisure activities among 21 Chinese cities conducted by a Chinese firm indicated that visiting parks or zoos, reading books, and playing Mah Jong were the top three leisure activities (Trave1, 2005).

Leisure activities have been also associated with health. Dressler (1998) used 39 lifestyle items, including leisure activities (travel to other cities, travel to other countries,

reading magazines, reading newspapers, vacations, listening to radio news, watching TV, and reading books) and consumer goods to investigate the relationship between health and lifestyle. Sample subjects were asked to rate the items as "not at all," "somewhat," or "very important" in defining what it means to be a "success in life." He found that this measure of a successful lifestyle was inversely associated with arterial blood pressure, depressive symptoms, and global perceived stress.

In addition to social surveys, leisure activities have been examined through direct observation and interviews (Stebbins, 1983, 1992a, 1992b, 1992c). After investigating various types of leisure activities such as baseball, theater, magic, archaeology, and singing, Robert Stebbins, who is a Canadian sociologist, defined some forms of leisure activities as serious leisure:

> The systematic pursuit of an amateur, hobbyist, or volunteer activity that is sufficiently substantial and interesting for the participant to find a career there in the acquisition and expression of its special skills and knowledge. (Stebbins, 1992a, p. 3)

Data from the qualitative approaches can be transformed to numerical forms such as the frequency of participation in a leisure activity, or length of participation (Mannell, & Kleiber, 1997). However, the measurements of leisure activities have been discussed as a picture of how people spent their leisure time and as imprecise indicators of leisure style for many reasons (Mannell & Kleiber, 1997). The strengths and drawbacks are discussed as follows:

Strengths are: (a) leisure activities lists contribute to data collection from a large number of random samples of leisure behaviors; (b) the use of the time diary and the qualitative

approaches provide rich detail about all kinds of activities and a sense of how these activities are pursued in daily life; and (c) the time diary and Stebbins's approach also can be used to explore new issues and to develop new ideas for future research (Mannell & Kleiber, 1997).

Drawbacks are: (a) leisure researchers have not agreed on a standard list of activities because the inventories of specific activities are used for different purposes; (b) leisure researchers have not agreed on how to analyze data, which has resulted in the same activities being classified in different leisure categories. For example, team sports can be grouped as both physical activities and social activities; (c) the use of the time diary and Stebbins's approach can be extremely time-consuming for researchers (Mannell & Kleiber, 1997), and, finally, (d) activity lists have almost always been developed by the researchers themselves, not informants.

Leisure constraints

The origin of the concept of leisure constraints derived from barrier studies conducted by the Outdoor Recreation Resources Review Commission (ORRRC) four decades ago. The ORRRC studies were designed to examine outdoor recreation activities in terms of the socioeconomic characteristics of people who participated in or preferred the activities. While facilities, time, health, and skill were assumed to negatively affect outdoor recreation participation, the terms "barriers," "constraints," or "limitations" were not conceptualized in the studies.

In the 1970s, although specific barriers were not yet explored by leisure researchers, the terms "barriers" and "constraints" were being discussed by some researchers. In the meantime, studies on leisure activities expanded from outdoor

activities to include general leisure. For example, Washburne's (1978) study noted that perceived barriers and constraints are "preventive factors" in desired leisure activities.

In the early 1980s, leisure researchers began to focus on investigating specific barriers and constraints to participation. Leisure researchers changed from researching specific barriers to addressing the general question of constraints. Put differently, this change was to recognize that constraints were not only physical or external to the individual, but were also social or internal to the individual (Jackson, 1999). Romsa and Hoffman (1980) identified lack of interest, money, time, and facilities as the main barriers to leisure involvement. Perceived barriers are first grouped into internal barriers (personal, interest, capacity) and external barriers (time, money, circumstances) (Francken & van Raiij, 1981). Furthermore, a qualitative study conducted by Boothby, Tungatt, and Towansend (1981) identified personal and social reasons that may be associated with ceasing participation in leisure activities. Witt & Goodale (1981) examined the relationship between barriers to leisure enjoyment and family stages using a list of 18 barriers. Moreover, motivational constraints were considered part of the 18 barriers in this study. Later, in 1985, Michael Wade edited the book *Constraints on Leisure*, which can be thought of as the initial introduction of the concept of constraint to the field of leisure studies. As Wade noted,

> The Oxford American Dictionary defines constraints as "to compel or to oblige," and it further refers to constraint as "compulsion." Thus, a book entitled *Constraints on Leisure* reviews a perspective of those components which tend to truncate our ability to pursue the leisure experience.… (p. ix)

The contributors of the book discussed constraints on leisure from two aspects: (a) psychological constraints on leisure, including intrapersonal constraints (Kleiber & Dirkin, 1985), individual constraints (Barnett & Kane, 1985), mental retardation as a constraint (Wade & Hoover, 1985), and social and psychological constraints (Iso-Ahola & Mannell, 1985); and (b) socio-economic constraints, including work constraints (Manell & Iso-Ahola, 1985), environmental constraints (Barnett & Jo Kane, 1985), family constraints (Witt & Goodale, 1985), and economic constraints (Hunnicutt, 1985). As a theory and model, the specific conceptual development of leisure constraints occurred between 1987 and 1991 that challenged the naïve early constraints research (Jackson, 2005). Two papers published in *Leisure Sciences* in 1987 and 1991 greatly contributed to the theory and model of leisure constraints. In "Reconceptualizing Barriers to Family Leisure," Crawford and Godbey (1987) suggested that barriers should be categorized according to three types: (1) intrapersonal, (2) interpersonal, and (3) structural constraints. In addition, Crawford and Godbey pointed out that barriers affected not only leisure participation, but also leisure preferences. In "A Hierarchical Model of Leisure Constraints," the form of a hierarchical model is addressed by Crawford, Jackson, and Godbey (1991). They rephrased the term "barriers" as "constraints," which they further defined as intrapersonal constraints, interpersonal constraints, and structural constraints. Intrapersonal constraints are the psychological factors such as stress, depression, or mood that affect personal choices. Interpersonal constraints are the results of interaction with other individuals such as family members, friends, neighbors, and colleagues. Structural constraints are intervening variables between leisure preferences and involvement, such as lack of time, busy work, and cost of activities. Furthermore,

these three constraints are integrated as a single model in which leisure participation is viewed as "a sequential, hierarchical series of constraints levels" (Crawford, Jackson, & Godbey, 1991, p. 309).

Since the research of Crawford et al., tests of the hierarchical model of leisure constraints have been conducted frequently in North America. For example, Raymore et al. (1993) tested the model with a sample of adolescent students, with a result that supported the hierarchy of leisure constraints. Pennington-Gray and Kerstetter (2002) investigated the three types of leisure constraints to nature-based tourism and tested the constraint model in a nature-based tourism setting. They found that individuals' perceptions of constraints vary depending on socioeconomic status, family life cycle, and age. On the other hand, several studies disagree with the hierarchical model of leisure constraints.

For example, Hawkins et al. (1999) replicated and extended previous work on the leisure constraints construct development on the basis of a sample of mentally handicapped adults. However, they suggested that the hierarchical model of leisure constraints should be refined. Later, Godbey (1999) claimed that Hawkins et al. (1999) failed to consider a central fact for a sample of adults with mental retardation: they are lower in intelligence than other adults. Since the model had not been tested in other societies outside of North America for many decades, Dong and Chick (2003) conducted a preliminary qualitative study to examine the validity of the hierarchical model of leisure constraints in Japan and China. While further research may provide more information regarding the validity of the hierarchical model of leisure constraints cross-culturally, the results of the study confirmed that constraints in other societies may differ from those

identified in North America. Furthermore, Dong and Chick argued that intrapersonal constraints should not subsume culture and that the categories of leisure constraints need to be refined based on cross-cultural research to form new constraint categories. In the United States, the ORRRC studies also pointed out that culture may limit leisure participation through behavior norms rooted in religion, color, legal restrictions, gender role prescriptions, and other traditions or customs. For example, as the ORRRC studies mentioned below,

> Hunting participation may be affected by a religious or moral tenet respecting the talking of life, or the freedom to engage in an activity may be denied females but not males because of role definitions. Such cultural factors undoubtedly affect participation. (p. 5)

However, culture was not explicitly identified as a constraint in the ORRRC studies, and culture, as a constraint factor, has not received much attention from North American leisure researchers since then. In 2005, Jackson edited a book entitled *Constraints to Leisure* that provided an opportunity to elaborate on the concept of cultural constraints. As contributors to the book, Chick and Dong argued that culture is humanity's great enabler but that it also imposes constraints on human behavior. Chick and Dong reviewed the concepts of culture as defined since the1800s. Among a variety of concepts, Goodenough's definition in 1957 has been well-cited by modern anthropologists. Goodenough defined culture thus:

> A society's culture consists of whatever it is one has to know or believe in order to operate in a manner acceptable to its members. Culture is not a material phenomenon; it does not consist of things, behavior, or emotions. It is rather an

> organization of these things. It is the form of things that people have in mind, their models for perceiving, relating, and otherwise interpreting them. (p. 167)

Therefore, members of different cultural groups have more or less reached consensus on which behaviors are accepted and which are prohibited. In retrospect, previous leisure constraints research has not paid attention to culture. However, Chick and Dong's work provided a new approach to the study of leisure constraints and an alternative way to re-interpret previous leisure constraints studies. For example, in his paper "The Problematic Nature of Participation in Contract Bridge: A Qualitative Study of Group-Related Constraints," Scott (1991) listed bridge as an age-inappropriate leisure activity intrapersonally constrained for younger people because of their lack of skills. Scott also cited his previous study on playing bridge, which indicated that the game is not accepted by college students. Furthermore, Scott noted that individual constraints are significant among bridge players, resulting in individuals withdrawing from a group or dissolving established partnerships. While Scott explained that the differences may be due to group culture regarding differences in beliefs and values, it is unclear in his paper whether these individual differences should be grouped as interpersonal constraints.

However, in an anthropological sense, the concept of cultural constraints can be applied to explain the ambiguity of Scott's finding on bridge as an age-inappropriate leisure activities and idiosyncratic differences among the players. More precisely, with Goodenough's definition, the bridge players would have believed that only individuals of a certain age range appropriately play bridge; that is, individuals not in this appropriate age range would not be behaving in a culturally acceptable manner if they played bridge. On the other hand, an individual's attitudes, beliefs, and values toward an activity or club,

such as smoking during playing bridge or holding an unpopular opinion about abortion, may be culturally unacceptable by others in the same group and may be associated with ceasing the individual's participation (proscription). Chick and Dong (2005) provide detailed explanations of how all cultures both prescribe and proscribe behaviors:

> …individual cultures differ in the ways they can enable and in what they can enable. Cultures of more or less similar levels of elaboration may also prescribe and proscribe differently. That is, members of different cultural groups agree—though generally far from perfectly—on which behaviors are allowed and which are prohibited. Permission and prohibition typically extends to beliefs, values, and other ideological traits, as well. (p. 170)

Although culture is hard to operationalize as a variable, Chick and Dong suggested a new line of research in which culture can be used as an independent variable in cross-cultural leisure constraint research.

While leisure scholars developed the concept of leisure constraints and expanded the theory of leisure constraints in the 1980s, the relationships between constraints and participation were ambiguous for several decades. Some leisure researchers began to question whether constraints lead to reduced leisure participation. A leisure constraints study conducted by two British scholars (Kay & Jackson, 1991) found a positive relationship between constraints and participation, which contradicts the findings of previous leisure constraints research. Kay and Jackson (1991) suggested that these contradictions can be explained by two propositions. First, leisure constraints vary when they are applicable to different leisure activities. Second, leisure constraints may be perceived to—but may not actually—result in a substantial reduction in leisure

participation. Similarly, the findings of a Canadian study (Shaw, Bonen, & McCabe, 1991) challenged the assumption of a negative relationship between constraints and participation. The evidence suggests that " the more frequent reporting of at least some perceived constraints is associated with higher rather than lower participation" (Shaw, Bonen, & McCabe, 1991, p. 297). At the same time, Scott's study in 1991 showed that people not only are influenced by leisure constraints but also have abilities to negotiate those constraints. In his paper, Scott explored the problematic nature of participation in contract bridge and found that bridge players are able to develop strategies to overcome group-related constraints. Later, on the basis of Shaw et al. (1991), Kay et al. (1991), and Scott (1991), Jackson et al. (1993, 1999, 2005) summarized "the negotiation thesis," which is presented as follows.

1. Participation is dependent not on the absence of constraints (although this may be true for some people) but on negotiation through them. Such negotiation may modify rather than foreclose participation.
2. Variations in the reporting of constraints can be viewed not only as variations in experience of constraints, but also as variations in success in negotiating them.
3. Absence of the desire to change current leisure behavior may be partly explained by prior successful negotiation of structural constraints.
4. Anticipation of one or more insurmountable interpersonal or structural constraints may suppress the desire for participation.

5. Anticipation consists of not simply the anticipation of the presence or intensity of a constraint, but also the anticipation of the ability to negotiate it.

6. Both the initiation and the outcome of the negotiation process depend on the relative strength of, and interactions between, constraints on participating in an activities and motivations for such participations. (2005, p. 6)

At the same time, previous research has found some common constraints that have been identified by a variety of leisure constraint studies such as time, money, health, age, opportunity, and lack of interest (Shaw, Bonen, & McCabe, 1991; Kay & Jackson, 1991; Scott, 1991).

Chinese leisure and leisure in China

The concepts of leisure, recreation, and play in Chinese differ from their expression in other languages. Chick (1998) provides evidence that most languages lack a word that can be directly translated into English as "leisure." However, along with the rapid, changing development of China, the concepts of leisure, recreation, and play are changing as well. In contemporary Chinese society, all Chinese ways of leisure, recreation, and play are constrained by Chinese traditional culture and by political and commercial forces. Therefore, we can not define the concepts without considering all of these constraints.

In the Chinese language, two Chinese characters comprise the word "leisure": *Xiu Xian (休闲).* According to the Kangxi Dictionary (completed and published in 1716 and named in honor of the Emperor of Kangxi, the dictionary contained 47,000-plus entries),

Xiu refers to happiness and fortune, and *Xian* refers to scope or constraints. Therefore, we can understand leisure to mean happiness with limitations in ancient time.

In the Chinese language, there are also two Chinese characters comprising the word "recreation": *Yu Le*. Similarly, according to the Ciyuan dictionary (an Encyclopedia dictionary published in 1915 in Shanghai), both *Yu* and *Le* refer to happiness. The Shiji Chronicle (a historiography recording events from the Yellow Emperor to Emperor Han Wudi, written in 110 BC) defined *Yu Le* as the happiness resulting from playing a game.

In Chinese, the character *Wan* (玩) is used to describe "play." However, "Wan" is commonly combined with "Ju" (Ju means "instrument") to form a new word that means "toy." Therefore, since toys are tools for children to learn new things, Chinese people consider "play" to be the first textbook for everyone (Ma, 1999). The season of play is also important. The season of play in Chinese leisure refers to one form of passive leisure, which does not usually involved physical activity. For example, as every Chinese knows. Chinese people traditionally enjoy some passive leisure in different seasons, such as moon watching and cassia flower watching in the fall, peony blossom and plum flower watching in the spring, and so forth.

It is interesting that Goodale and Godbey (1995) argued that Eastern and Western religions and philosophies are different in major ways; however, the principle of living expressions such as social propriety and kindness in Confucianism or Taoism and Christianity or Judaism are quite similar. As Goodale and Godbey noted:

> The Noble Path of the Buddhists, stressing self-control, freedom from vanities, and conduct which is honest, kindly and peaceful is preached as much in

contemporary North America as it was in ancient India and is endorsed by those of every faith. (p. 16)

Furthermore, they also pointed out that leisure behavior and the meaning of leisure are influenced by socialism, capitalism, liberalism, conservatism, and hedonism, among other philosophies. For example, Aristotle's philosophy of leisure was partly shaped by the slavery system, whereas Calvin's philosophy was shaped by capitalism, anti-Catholicism, and the emerging middle class. Therefore, leisure, recreation, and play must also serve political agendas without exceptions. Since 1949, China has been controlled by the Chinese Communist Party, which is the administrative and policymaking center of the government. In China, the Communist Party also declared that leisure, recreation, and play should serve to construct socialism, material civilization, and mental (spiritual) civilization to improve the quality of people's lives (Ma, 1999).

The concepts of leisure, recreation, and play are constrained not only by political forces but also by commercial forces. The Chinese government emphasizes that China has the largest population and is the biggest developing country in the world. Developing its economy has become the most important task for contemporary China. Because China reportedly has 12 million unemployed people, and because unemployment has already become a severe social problem, the government tries to create job opportunities for unemployed people in order to maintain social stability ("Ren kou jiu ye he she hui bao zhang zhuan xiang gui hua," 2001). Leisure is strongly aligned with economy and industry and regarded as the "leisure economy and industry" ("Chang jia yu xiu xian xue ," n.d.). For example, on May Day, 1995, China began to implement a five-day work week. Four years later, the Chinese government purposively extended the length of

holidays, including the Spring Festival (usually from the middle of January to the beginning of February, but it is different every year because it follows the Chinese lunar calendar), May Day Golden week (the first week of May), and National Day week (the first week of October), aiming to stimulate people to consume more during the holidays. Therefore, leisure has served economic purposes, which has resulted in the concepts of leisure, recreation, and play being distorted by economic purposes. For example, a majority of Chinese think they should visit at least one famous tourism destination and one theme park during the May Day Golden week. Spending money is the only way to enjoy leisure during the holidays. Fewer people view staying at home or pleasure reading as a good form of leisure (Ma, 2006).

Chinese leisure research

In China, leisure and recreation are made available in part through a wide range of resources, such as services, facilities, and management (Xiao, 1996). However, Xiao pointed out that Chinese people pursue leisure less than their Western counterparts because workloads in China are lower than those in Western industrialized nations. Office work in most areas of China can be characterized by a "cup of tea" and "an issue of a magazine or newspaper." Chinese people seldom use money for leisure or recreational purposes because income has to be used to maintain basic living standards (Xiao, 1996). With the rapid growth of technology, the use of indoor leisure equipment such as TV sets, DVD players, and karaoke players has dramatically increased. However, public recreational facilities have not developed as quickly as indoor leisure opportunities have.

In 1998, Er Liu, a Chinese sociologist, conducted a study in Shanghai, Tianjin (a city 100 miles away from Beijing), and Haerbin (a metropolitan city in Northeast China close to Siberia) on free-time use in Chinese cities as well as a cross-cultural comparison with an American population time-use study conducted in the United States by U.S. researchers in 1985 (Wang, Liu & Xu, 2003). Liu found that the average daily working time of residents in three Chinese cities is 261 minutes, which is close to the 259 minutes per day worked by Americans in 1985. Moreover, the average leisure time of residents in the three Chinese cities is 337 minutes, which is close to the 339 minutes of leisure time Americans enjoyed in 1985. Liu found that Chinese men enjoy an amount of free time similar to that of American men but that Chinese women have less free time than American women have. Employed Chinese women have 7.1 fewer hours of free time per week than the same group of Chinese men has. Liu pointed out that Chinese women experience a situation similar to that of American women in the 1960s, when the labor market was just opening for women; that is, women must spend time in both housework and paid work. There are no significant free-time-use differences between different education levels for the American population, whereas the less education obtained in the Chinese population, the more free time one has. Except for those in the poorest income group, with increasing income, the Chinese people have not experienced a decrease in free time. Liu explained that the increasing of the unexpected unemployed rate may have caused this trend in 1998. The vast majority of middle-class people were losing their jobs in 1998, and their free time also was increasing. Because Chinese state-run companies were reformed by a new Chinese economic policy, which resulted in a dramatically increasing unemployment rate in 1998, Chinese urban people have an amount of leisure

time almost equal to that of Americans as a result of the transition of Chinese companies during the time in which the survey was conducted (Wang, Liu & Xu, 2003). That may explain why Chinese people were more likely to have free time in 1998.

Li and Chai surveyed 800 local people in Dalian in 1995 about their time use during weekends. Their findings indicated that the Dalian urban people mainly stay at home during their leisure time. While 65 percent of people chose to go out for leisure, the pattern of leisure preference was simple; that is, recreation-shopping-home (R-S-H) or shopping-recreation-home (S-R-H). At the same time, people passively stayed at home to choose watching TV and listening to music for their leisure on weekends (Table 2).

Table 2. Participation rate of leisure activities on weekend in Dalian (adapted from Li and Chai 1995)

Activities	Total (%)	Male (%)	Female (%)
Watching TV/listening music	71.9	74.5	69.3
Reading books/newspaper/self study	30.9	39.1	22.7
Conversation with guests at home	9.9	12.4	7.4
Walking	31.5	37.9	25.1
Go to parks	22.8	24.8	20.8
Visiting relatives and friends	20.4	19.2	21.5
Watching TV/attending music events	5.6	5.6	5.5
Sports	3.4	5.0	1.8
travel	1.8	2.5	1.2

Wang (2004) found that time spent watching TV in the Beijing urban population had increased approximately one hour compared with time spent watching TV in 1996. Wang also pointed out that time spent watching TV accounted for 46.2 percent of the total free time for Beijing urban residents and that reading, using a computer, and attending music events were still the main leisure activities for the population. Hsieh and his colleagues (2004) investigated types of leisure activities and leisure attitudes among

first-year nursing students at a college in Taiwan. They found that passive leisure activities such as surfing the Internet, watching TV, reading books/magazines, in conversation, and listening to music/radio were also the most popular activities for college students in Taiwan. On the other hand, older Chinese people reported that passive leisure activities played a major role in their daily life (Wang 2004). As we can see from the following table, time spent watching TV, reading, sitting, and in conversation with relatives and friends is significantly different from time spent in other forms of leisure activities (Table 3).

Table 3. Time use distribution after retirement in Chinese older people (minutes/week) (Adapted from Wang 2004)

Activities	Male			Female		
	60~64	65~69	70~	60~64	65~69	70~
Self study	9	7	10	12	5	3
Reading	34	39	41	21	22	26
Listening radio	23	33	27	19	24	25
watching TV	254	242	251	236	246	241
Watching exhibitions	1	1	0	1	1	0
Go to parks/walking	31	46	43	29	34	37
Physical exercise	24	35	39	38	28	26
Other recreational activities	42	43	48	39	46	41
sitting	28	46	41	34	44	73
Educating children	6	4	4	2	3	4
Relatives and friends communication	25	24	24	28	27	17
Volunteering in social work	3	5	7	5	4	1

However, Chinese traditional culture also leads to unique types of leisure activities, just as the outdoors is considered part of the American tradition. In 2002, Chih-ho Wu, a historian and sinologist at the Chinese Culture University in Taiwan, investigated in particular how Chinese people pursued leisure during the Ming dynasty (1368–1644). Wu found that shanshui（山水）leisure plays a dominant role in leisure

that consists of hill-dwelling, sightseeing, boating, and tranquility and comfort. Shanshui leisure incorporates a variety of activities such as tranquilly touring valleys, keeping a peaceful mind through meditation, participating in associations and literary activities, and chatting about Buddhism (Wu, 2002). on the other hand, Chinese are seeking Xijing (习静) leisure. Xijing (习静) leisure refers to learning to keep the mind in a continual quiet and clear condition (Wu, 2002). The life of "Xijing," which can also be called meditation, has been an integral part of Confucianism, Buddhism, and Taoism from their beginnings (Chen, 2004). The life of "Xijing" can be thought of as a kind of leisure in Chinese traditional culture in which a man can discipline himself in a tranquil condition, cultivating art and literature and enjoying free time. In the Western world, for example, the National Institutes of Health (NIH) of the United States recommended meditation has been strongly linked to health purpose. The NIH defines meditation thus:

> The term *meditation* refers to a group of techniques, most of which started in Eastern religious or spiritual traditions…. In meditation, a person learns to focus his attention and suspend the stream of thoughts that normally occupy the mind. This practice is believed to result in a state of greater physical relaxation, mental calmness, and psychological balance. Practicing meditation can change how a person relates to the flow of emotions and thoughts in the mind. ("Meditation for health purposes," 2006)

Meditation used as complementary and alternative medicine (CAM) is a type of mind–body medicine for various health problems, such as anxiety, pain, depression, mood, self-esteem problems, stress, insomnia, cardiovascular (heart) disease, HIV/AIDS,

and cancer (NIH,2006; Tacon, McComb, Caldera & Randolph, 2003; Kabat-Zinn, Wheeler, Light, Skillings, Scharf, Cropley, Hosmer, & Bernhard, 1998; Astin,1997).

While the concepts of structural constraints, intrapersonal constraints, and interpersonal constraints (Crowford & Godbey, 1987) have not been used in Chinese leisure research, several studies are related to leisure constraints. According to Lou and Yue's (2004) study conducted in Shanghai, Wuhan, and Chengdu on leisure preferences of the three cities, 29.4 percent of residents in Shanghai, 37.7 percent of residents in Wuhan, and 42.1 percent of residents in Chengdu chose to visit scenic spots, parks, squares, and green spaces during the holidays (Table 4). Therefore, overcrowding in these areas during the same holidays (Ma, 2006) may lead the urban Chinese to see shortages of space and transportation as their major constraints.

Table 4. Percentage of selection of leisure locations during holidays by residents of Shanghai, Wuhan, and Chengdu (Adopted from Liu and Yue, 2006)

Locations	Shanghai	Wuhan	Chengdu
Home (own home and other people's home)	25.4	18.1	24.9
Street, shopping areas	5.6	8.0	5.1
Restaurants	6.4	4.5	4.2
Scenic spots, parks, squares and green spaces	29.4	37.7	42.2
Community centers	2.4	4.0	2.1
Public recreation areas (theater, music hall)	4.8	8.0	6.8
Libraries	3.2	7.5	5.9
schools	0.8	2.0	0.8
Religious facilities	1.6	1.0	0.4
Museums and other educational facilities	6.4	2.5	3.8
Internet bars, pubs and other style of bars	0.0	2.5	1.3
other	14.3	4.0	2.5

Intrapersonal constraints such as lack of interest, mood, and lack of energy also constrain the leisure participation of urban Chinese. Lou and Yue also found that more than 60 percent of their subjects chose home as their main leisure location during weekdays (Table 5).

Table 5. Percentage of selection of leisure locations during weekday by residents of Shanghai, Wuhan, and Chengdu (Adopted from Liu and Yue, 2006)

Locations	Shanghai	Wuhan	Chengdu
Home (own home and other people's home)	69.8	60.3	65.0
Street, shopping areas	7.9	7.5	5.1
Restaurants	5.6	4.0	5.5
Scenic spots, parks, squares and green spaces	4.8	5.5	4.6
Community centers	3.2	7.5	3.0
Public recreation areas (theater, music hall)	1.6	6.5	4.6
Libraries	1.6	3.5	5.1
schools	0.8	3.0	3.0
Religious facilities	0.0	0.0	0.0
Museums and other educational facilities	0.0	0.0	0.4
Internet bars, pubs and other style of bars	0.0	2.0	3.8
other	4.8	0.0	0.0

Table 6. Percentage of selection of leisure locations during weekend by residents of Shanghai, Wuhan and Chengdu (Adopted from Liu and Yue, 2006)

Locations	Shanghai	Wuhan	Chengdu
Home (own home and other people's home)	31.0	17.6	35.0
Street, shopping areas	14.3	14.6	6.3
Restaurants	14.3	8.5	4.2
Scenic spots, parks, squares and green spaces	15.9	17.6	21.5
Community centers	3.2	6.0	2.1
Public recreation areas (theater, music hall)	4.8	17.1	8.0
Libraries	2.4	3.5	9.3
schools	2.4	5.0	0.0
Religious facilities	0.0	1.0	1.3
Museums and other educational facilities	1.6	1.5	1.3
Internet bars, pubs and other style of bars	1.6	6.5	10.1
other	8.7	1.0	0.8

On the other hand, home is still the favorite place for city residents to spend their leisure time during the weekend (Table 6). Lou and Yue's finding may imply that urban Chinese may report a lack of interest, mood, and lack of energy because they prefer to stay at home during their leisure time.

Table 7. Preference of choosing leisure partners by residents in Shanghai, Wuhan, and Chengdu. (Adapted from Lou and Yue, 2004)

Partners	Family members	Friends	Colleagues	Alone	Other
Shanghai	60.3	25.4	9.5	4.0	0.8
Wuhan	29.0	51.5	11.0	5.0	3.5
Chengdu	42.6	41.8	7.2	6.3	2.1

As Lou and Yue (2004) indicated in their study, more than 80 percent of residents in Shanghai, Wuhan, and Chengdu prefer to spend their leisure time with their family members and friends (Table 7).

Another study conducted by Ngai (2005) in Macau, which is one of the Special Administrative Regions, revealed that sport-oriented leisure activities may contribute to local leisure as a result of the hosting of the Fourth East Asian Games in Macao in 2005, which led to an unprecedented expansion of sport facilities. In the meantime, amusement parks and shopping malls can be thought of as attractive alternatives that contribute to the leisure of residents.

Cultural consensus theory and analysis

Since the purpose of the study was to determine the degrees to which informants at the same study sites agree with each other in terms of the two domains (leisure activities and constraints) as well as to make comparisons across study sites, culture consensus analysis (Romney, Weller, & Batchelder, 1986) was applied to each of the domains in order to determine the degree to which consensus exists within cities as well as among demographic groups. Romney et al. (1986) tested a formal mathematical model for cultural domains based on the concept of culture asserted by Goodenough (1964):

> Culture, being what people have to learn as distinct from their biological heritage, must consist of the end product of learning: knowledge, in a most general, if relative, sense of the term. (p. 36)

Culture consensus analysis involves factor analysis that measures the cultural knowledge among a group of informants by analyzing an informant-by-informant correlation rather than a variable-by-variable correlation.

At the same time, Romney and his colleagues (1986) indicated that consensus analysis can be thought of as both a theory and a method:

> As a theory, it specifies the conditions under which more agreement among individuals on the right answers to a "test" indicates more knowledge on their part. As a method, it provides a way to uncover the culturally correct answers to a set of questions in the face of certain kinds of intra-cultural variability. At the same time, it enables the researcher to assess the extent of knowledge possessed by an informant about a given cultural domain. (p. 40)

Since 1986, Romney et al.'s theory has been applied to test intracultural variances in more than 200 published studies. The previous research can be generally grouped as studying (a) health beliefs and knowledge (e.g., Garro, 1986, 1987; Dressler, 1996, 1997; Dressler, dos Santos, & Campos Balierio, 1996; Dressler, Balieiro, & dos Santos,1998; Weller, Ruebush, & Klein, 1997; Harvey & Bird, 2004; Ratanasuwan, Indharapakdi, Promrerk, Komolviphat & Thanamai, 2005); (b) meanings of words (e.g., Boster, 1985, 1986; Parr, M. & Lashua, 2004, 2005); (c) cultural identity and behavior (Chick, 2002; Caulkins, Offer-Westort, & Trosset, 2005); and (d) natural resource management

(Kempton, Boster, & Hartley, 1995; Toupal, 2003; Grant & Miller, 2004; McDaniel & Alley, 2005).

Parr (1996) argued that previous leisure research methods may have neglected differences between rankings of importance and relevance of leisure among different groups of practitioners and researchers. Therefore, Parr and Lashua (2004) used culture consensus analysis to investigate how the meaning of leisure is construed differently among leisure-service practitioners and non-leisure professionals. They found that each group supported traditional and multidimensional definitions of leisure. In addition, the findings indicated that leisure-service practitioners need to know both activities and management. Culture consensus analysis is also used to conduct culture and health studies. As Dressler and Bindon (2000) addressed in their culture and health study,

> cultural dimensions of health and behavior have been difficult to study because of limited theoretical and methodological models linking the cultural, the individual, and the biological. (p. 244)

They used cultural consensus analysis to understand culture and health in an African American community in the southern United States. They used cultural consensus analysis to test the degree to which an informant shares knowledge with other individuals as "an appropriate and important step" (p. 258) in studying cultural dimensions of health and behavior. Caulkins and his colleagues (2005) conducted a comparative study of Welsh American identity in Wales and in New York and Iowa, two American locations of the Welsh Diaspora. The informants with Welsh heritage in two American locations and the Welsh in Wales were asked to rate the Welshness, Americanness, and desirability of behaviors on the basis of 21 questions regarding Welsh

concepts of egalitarianism, emotionalism, martyrdom, nostalgia, and performance. By using consensus analysis, the authors found the perceived differences between Welsh and American personhood varied from low to high social visibility in two American sites and between the Welsh American populations and those in the homeland of Wales. Finally, McDaniel and Alley (2005) used cultural consensus approaches to examine variation in environmental knowledge among resident groups in rural, urban, and developing watersheds in western Georgia. The findings of the study provide evidence that environmental knowledge is affected by urbanization.

Handwerker (2002), however, claimed that cultural consensus theory has two major limitations. First, the concept of boundaries between a single culture and another is ambiguous. Moreover, it is not clear who agrees with whom about what or to what degree. Therefore, he developed the concept of construct validity of cultures, which, he claimed, can solve the problems of cultural consensus theory. Handwerker noted that culture can be easily measured by examining the relationship between a set of observations and the definitions of specific mental constructions because "our individual culture provides the material by which our minds rationalize (interpret) sensory input from the world of experience, and a variety of mental processes alter both culture and behavior in ways that reflect variation in sensory input" (p. 111). Handwerker pointed out that cluster analysis, multidimensional scaling, correspondence analysis, and other numerical reasoning approaches are good tools to explore relationships among the variables. However, none of these approaches "directly tests the hypothesis that a specific set of scale items constitutes an independent set of imperfect measurements of one and only one otherwise unseen, underlying variable" (Handwerker, p. 111). Principal components analysis

(PCA), however, permits the discovery of otherwise unseen variables by constructing a group of variables (factors) from existing similarities among those variables. In general, evidence of a single, indicating construct validity, are as follows:

1. A first factor should account for at least 50 percent of the total variance.
2. The first eigenvalue must be at least 3 times larger than the second factor.
3. There should be no negative loadings on factor one.
4. There should not be high (+/– .50) loadings on factor two.
5. The eigenvalue of the second factor should lie at the top of the scree plot.

Handwerker (2002) indicated, "A factor's eigenvalue divided by the sum of eigenvalues for all factors tells us the overall size of the shared intersection identified by the factor. The first factor or principal component identifies the largest shared intersection among a set of variables. The second factor accounts for the largest shared intersection that remains. Subsequent factors account for the largest shared intersections among the variance unaccounted for by previously extracted factors" (Handwerker, 2002, p. 112). Therefore, Handwerker's approach is used to determine whether informants from the six cities agree among themselves with respect to leisure activities and leisure constraints.

Chapter Three: Research Methods

Study sites

Located in eastern Asia, China is the world's third largest country, with the largest population (1.3 billion) in the world (Figure 1). Among 56 ethnic groups, the Han people account for 93.3 percent of the population, whereas the other ethnic groups comprise 6.7 percent of the population. China's population is distributed across 23 provinces, 5 autonomous regions, 4 centrally administrative cities, and 2 special administrative cities. The main religions in China are Buddhism, Islam, Catholicism-Christianity, and the Naxi Dongba religion ("Religious Belief," n.d.).

Figure 1. Map of China
(adapted from Warrior Tours, 2006).

China has a total of 660 cities, which are categorized as giant cities (population over 10 million), super big cities (population between 5 and 10 million), super cities (population between 2 and 5 million), big cities (population between 1 and 2 million), middle cities (population between 0.5 and 1 million) and small cities (population below 0.5 million) (China City Statistical Yearbook, 2004). According to China's urban administrative system, Chinese cities can be classified as centrally administrative cities, special economic zones, special administrative regions, coastal open cities, capital cities, separately planned cities, prefecture-level cities, and county-level cities (Table 8).

Table 8. China city system

Administrative unit	No.	Name of City
Centrally[1] administrative cities	4	***Beijing, Shanghai,*** Tianjin and Chongqing
Special economic zones[2]	*5*	***Shenzhen,*** Zhuhai, Shantou and Xiamen
Special administrative region[3]	2	Hong Kong and Macau
Coastal open cities[4]	16	Dalian, Qinhuangdao, Tianjin, Yantai, Weihai, ***Qingdao,*** Lianyungang, Nantong, ***Shanghai,*** Ningbo, Wenzhou, Fuzhou, Guangzhou, Zhanjiang, Beihai and Fangchenggang
Capital cities[5]	28	Capitals of 23 provinces and 5 autonomous regions
Separately planned cities[6]	15	Shenyang, Dalian, Changchun, Haerbin, Nanjing, ***Hangzhou,*** Ningbo, Xiamen, Jinan, ***Qingdao,*** Wuhan, Guangzhou, ***Shenzhen, Chengdu*** and Xian.
Prefecture-level cities	267	Including capital cities, separately planned cities and cities with administrative districts.
County-level cities	374	Cities without administrative districts.

[1]Centrally administrative cities refer to cities are directly controlled by the Central Government with equal level to a province.
[2]Special Administrative Regions (SAR) were established for Hong Kong and Macao on the based of the Deng Xiaoping's policy of "one country, two systems (socialist system and capitalist system).
[3]Special economic zones refer to some areas are granted by the central government to possess special economic policies and flexible economic management system.
[4]Coastal open cities refer to cities located in the coastline are opened for direct overseas investment.
[5] Hangzhou is the capital of Zhejiang province and Chengdu is the capital of Sichuan province.
[6]Separately planned cities refer to prefecture-level cities that belong to provinces, but have independent economy and law power. Separately planned cities is also translated as "central economic cities."
*Bold and italic letters are study sites.

Since Chinese cities are historically richer than rural areas and coastal cities geographically receive more investments than inner cities, the functions of cities, especially centrally administrative cities, special economic zones, and coastal open cities, have been emphasized by the government as "door" (*menhu*), "window" (*chuangkou*), "bridge" (*qiaoliang*), or "dragon head" (*longtou*) in connecting foreign capitals, technology, information, human resources, and Western culture with inner cities and other geographically isolated regions (Ning et al., 1994). As Schein addresses in his article, "Cities, especially megalopolises such as Beijing, Shanghai, and Guangzhou/Shenzhen, are widely viewed as glittering markets for a world of goods imported from the catalogs and store shelves of global modernity" (2001, p. 227). Furthermore, Chinese scholars have also pointed out that urbanization for China can be strongly linked to social civilization, lifestyle, and quality of life. Understanding urban lifestyles may greatly contribute to improving the quality of life for the rural population (Wang & Sun, 1997).

Among the 660 cities in China, Beijing, Hangzhou, Chengdu, Shanghai, Qingdao, and Shenzhen were selected by the Asia Pacific Centre for the Study and Training of Leisure (APCL), as study sites primarily based on the importance of their administrative units, their comprehensive competitiveness, and their popularity as tourism destinations. Beijing and Shanghai are centrally administrative cities. Hangzhou and Chengdu are capitals of provinces and separately planned cities. Shenzhen is a special economic zone (city) and a separately planned city. Qingdao is a costal open city and a separately planned city (Table 8).

Table 9 indicates the comprehensive competitiveness of the study cities from an analysis of 200 major China cities released annually by the Social Science Academic Press of China (Ni, 2005). Comprehensive competitiveness is determined by total city population, labor force, economic level, socio-demographic level, infrastructure, and environmental level. On the basis of the survey, Shanghai, Shenzhen, Beijing, Hangzhou, and Qingdao are among the top 20 comprehensive-competitive and income-level cities. While Chengdu is not ranked as high as the other study sites in terms of comprehensive competitiveness, it is the most competitive city in Western China.

Table 9. Study sites' comprehensive competitiveness in major China 200 cities*

Comprehensive Competitiveness	Hangzhou	Chengdu	Beijing	Shanghai	Qingdao	Shenzhen
Market share rate	6	24	4	1	16	3
GDP Growth rate	7	21	19	5	14	1
Employment Rate	3	93	1	2	24	5
Environmental sources cost savings	10	3	13	49	25	69
Productivity Rate	8	49	21	1	11	2
Income level	7	42	4	2	17	1
Ranking	5	28	4	1	12	2

* Not including Hong Kong and Macau

The study sites are also famous tourism destinations. Table 10 indicates numbers of international tourists received by the six cities in 2006.

Table 10. International tourists received by the six cities (China Tourism Bureau, 2006)

	Hangzhou	Chengdu	Beijing	Shanghai	Qingdao	Shenzhen
Arrivals (people)	1,514,582	500,156	3,629,177	4,445,428	684,407	6,164,399
Growth (%)	22.74	22.34	15.03	15.33	30.99	10.13
Foreigners	1,021,570	342,326	3,116,155	3,799,292	596,177	1,202,226
Hong Kong*	215,291	58,194	313,879	322,427	44,959	4,410,539
Macau*	9,225	5,917	13,072	17,309	594	42,620
Taiwan*	268,496	93,719	186,071	306,400	42,677	509,014
Ranking	6	18	4	3	13	1

*Tourists who are from Hong Kong, Macau, and Taiwan are considered international tourists by the China Tourism Bureau.

In 1995, the six cities were rated as first-round "Excellent Tourism cities" (54 cities) based on evaluations by the China Tourism Bureau and tourists. Furthermore, according to China Tourism Bureau statistics ("Wen xian zi liao," n.d), Shenzhen received more than 6 million international tourists, which is first place in terms of tourist arrivals in the 28 major tourism cities. Shanghai, Beijing, Hangzhou, Qingdao, and Chengdu are the third, fourth, sixth, thirteenth, and eighteenth placed cities, respectively, of the 28 major tourism cities (Table 10).

Basic information of cities in the sample

Table 11 shows some basic information about the study sites, which differ in terms of geographical location, population, size, economic level, infrastructures and so on.

Table 11. Six cities information
(Adapted from 2004 China City Statistical Yearbook)

	Hangzhou	Chengdu	Beijing	Shanghai	Qingdao	Shenzhen
Geographical location	Southeast	Southwest	North	Southeast	North	South
Total population (million) Population in urban districts Population in urban districts %)	6.4 3.9 (61%)	10.4 4.5 (43%)	11.5 10.8 (94%)	13.4* 12.8 (96%)	7.2 2.5 (35%)	1.5 1.5 (100%)
Scale of city	Super	Super	Giant	Giant	Super	big
Population growth rate (%)	2.0	1.0	-1.2	-3.2	-0.2	9.4*
Registered unemployment	53171	49087	67286	289817*	66569	21914
Size (km^2)	16596	12163	16800*	6341	10922	1953
Population density (person/ km^2)	1281	2079	864	2412*	1829	773
GDP (Yuan/person)	41471	25646	31892	48506	34633	54545*
Average salary (Yuan/person)	25532	16447	25680	27393	18178	31053*
Numbers of universities	35	29	73	57	25	9
Number of theaters and cinemas	40	13	242*	166	11	69
Number of library books (/100 people)	166	153	309	458*	76	229
Number of internet users (million)	0.7	0.8	4	4.3*	0.4	2.3
Number of cell phone users (million)	4.1	4.4	11.1*	11	2.9	8.7
Number of hospitals	395	653*	646	452	213	85
Number of doctors	16614	25000	47887*	36865	13452	8909
Number of buses (/10 thousand people)	9	9	17	15	15	115*
Numbers of taxies	7404	8803	65984*	48672	8109	12459
Green space (m^2/person)	23	26	45	19	36	656*

* The largest number in each row

Hangzhou

The history of Hangzhou can be traced back to the Liangzhu culture, a late Neolithic culture that appeared about seven thousand years ago when rice was first cultivated in the area. Hangzhou was first established during the Qin Dynasty in 222BC as a county-level city called Qiantang. In 589, the Sui Emperor renamed the city Hangzhou. At the same time, the Sui Dynasty (589–618) built Dayunhe (The Grand Canal), which greatly increased the economic development of and cultural exchange between the north and south of China. Two hundred years later, Hangzhou's governor constructed XiHu (West Lake), which became the symbol of the city. Because Hangzhou

was the capital of the Southern Song Dynasty for 140 years, it has been a political and commercial center since 1138. The population rose from half a million to nearly 2 million by 1275 ("Beijing Background Info," n.d.). Marco Polo described the city as the finest and most splendid in the world after he visited Hangzhou in the 13th century. It was renamed Linan during the Southern Song Dynasty and is ranked as one of the Seven Ancient Capitals of China. After the Southern Song Dynasty was overthrown by the Mongols, Hangzhou was no longer the capital of China, but it remains a prosperous commercial city ("Hangzhou Dangan," n.d.).

Located in the Yangtze River Delta and in the midst of the West Lake, rivers, and mountains, Hangzhou is only 100 miles away from Shanghai. Because of its natural beauty, the Chinese people like to use a famous Chinese saying to describe Hangzhou: "Above is heaven, below is Suzhou and Hangzhou." Since the ancient time of China, Hangzhou has been viewed as a leisure and cultural venue; its main tourism and leisure attractions, such as temples, bridges, springs, parks, museums, and gardens, can be found around the West Lake ("Hangzhou Dang an," n.d. & "An introduction to Hangzhou," n.d.).

Hangzhou's population has not increased significantly since the Southern Song Dynasty. According to the China City Statistical Yearbook (2004), Hangzhou has 6.4 million people, of which 0.7 percent are ethnic minorities. Furthermore, the non-agricultural population accounts for only 41 percent of Hangzhou's population. The scale of the city is ranked as "super big" because Hangzhou's population is between 5 and 10 million. Hangzhou is famous as a place of origin for green tea. Teahouses and other forms of pubs are popular with Hangzhou residents. At the same time, a total of 35

universities in the cities provide many opportunities for residents to pursue higher education. Geographically, Hangzhou can be easily accessed by air, train, ferry, or bus. The Hangzhou airport is one of the top 10 Chinese airports, providing domestic flights connecting with major Chinese cities and several international flights connecting with Hong Kong, Macau, Singapore, Japan, Korea, and Thailand. The railway station also connects with cities all around China. From Hangzhou to the surrounding areas, ferries are available for water travel. While Hangzhou's inter-provincial highway network has not been extended to Chengdu, it has already reached Shanghai to the east, Shenzhen to the south, Hubei Province to the west, and Qingdao and Beijing to the north. The weather in Hangzhou is comfortable. While the temperature can reach as high as 92 degrees Fahrenheit in the summer, in the winter temperatures usually do not fall below 33 degrees.

Chengdu

Although Chengdu has been a capital of states and kingdoms in Chinese history seven times, the city has never been the capital of any dynasty in Chinese history since its founding in the 4th century. It is interesting to note also that the name of Chengdu has never changed since the city was built (Overview, 2006).

During the East Han Dynasty, Gongsun Shu, who was the governor of Chengdu, declared independence from the East Han Dynasty in the year 25. However, Gongsun's dynasty was overthrown by the East Han Dynasty in 36. Chengdu became the capital again when Liu Bei found the Kingdom of Shu (221–263), which is one of the Three Kingdoms. His kingdom eventually surrendered to the Kingdom of Wei in 263. Li Xiong invaded Chengdu and declared his Chenghan Kingdom in 304 during the Jin Dynasty. In 347, the Chenghan Kingdom was defeated by the Jin Dynasty. Between the Tang

Dynasty and the Song Dynasty, there was a period of political instability in Chinese history called the Five Dynasties and Ten Kingdoms. Former Shu (907–925) and Later Shu (934–965), two of the Ten Kingdoms, established their capital in Chengdu. Later, a local peasant, Li Shu, established the Dashu Kingdom (993) in the beginning of the Song Dynasty. However, the kingdom lasted only half a year. During the Qing Dynasty, another peasant, Zhang Xianzhong, established his state in Chengdu in 1644. However, his kingdom was conquered by the Qing Dynasty two years later, and Chengdu remains the capital of Sichuan province today ("Chengdu li Shi," n.d.).

Chengdu is the largest city in western China, adjacent to the Tibet Autonomous Region. Among ten million residents, fifty-three ethnic minorities reside in the region, and the populations of both Hui (Muslim) and Tibetan number more than 10,000. Chengdu has the lowest percentage of non-agricultural residents, which account for 38 percent of the population. Chengdu has the lowest annual income of the six cities, at 16,447 Yuan per person. Built in 316 BC during the late Warring State Period, Chengdu has rich historic and cultural resources with a 2,300-year history ("Chengdu shi tong ji ju guan yu 2000 nian di wu ci quan guo ren kou pu cha zhu yao shu ju gong bao," 2001). Qingcheng Mountain and the Dujiangyan Irrigation System, both located in Chengdu, were ranked as World Cultural Heritage sites by the United Nations Educational, Scientific and Cultural Organization (UNESCO). Approximately 2,000 years ago, the Dujiangyan Irrigation System was constructed to protect the Chengdu plain against droughts and floods. Since then, Chengdu has been called "the Heavenly country." During the Han Dynasty, Chengdu's brocade production received great acclaim in China. Chengdu became one of the five biggest cities in China and was called the City of

Brocade. Like Hangzhou, Chengdu is also an important center for tea production and tea trade. Sichuan is the birthplace of tea culture, and numerous teahouses can be found in Chengdu today. During the Han Dynasty, Chengdu's governor built the first public school in Chinese history. As a result, education in Chengdu was well-developed, resulting in the establishment of 29 universities. Chengdu's climate tends to be foggy and humid; therefore, Chengdu's summer is hot and humid, whereas its winter is cold ("Chengdu gai kuang," n.d.).

Beijing

Approximately 700,000 years ago, *Peking Man* lived in caves in what is now the suburban area of Beijing. Archeologists have found that the fossil remains of *Peking Man* are the earliest cultural relics on record in China today. In 1045 BC, the city of Beijing was established as the capital of the state of Yan. During the Tang Dynasty (618–907), Beijing became an important military base and trade center for ancient China. After the Tang Dynasty, the Qidan Liao Dynasty ruled over a large part of northern China, including Beijing. In 938 the Liao Emperor established his secondary capital in Beijing. However, in 1153 the Nuzhen Jin emperor, who ruled over northern China, set up his capital in Beijing, calling it Zhongdu (central capital). In 1215, Genghis Khan (spelled "Chengjisihan" in Chinese), the founder of the Mongol Empire, burned Zhongdu and changed its name to Yanjing. Later, Genghis Khan's grandson, Kublai (spelled "Hubilie" in Chinese), the first Emperor of the Yuan Dynasty (1271–1368), built his capital in Beijing and changed the name to Dadu (grand capital) in 1272. It was the first time Beijing served as a country's capital. After the collapse of the Yuan Dynasty, the city was renamed Beiping by the first Ming Emperor, and the name was changed to Beijing again

by the third Ming emperor in 1403. Approximately 300 years later, Ming was overthrown by the Manchus, an ethnic group in China. In the meantime, Beijing remained China's capital throughout the Qing Empire. Following the creation of the Republic of China in the beginning of the 20th century, Nanjing, which is located in southern China, was made the official capital of the country in 1928. When the People's Republic of China was established by Mao on October 1st, 1949, the capital of the country was changed back to Beijing ("Tu Shuo Beijing," n.d.).

Currently, Beijing has a population of 12 million and includes members of all of China's 56 ethnic groups. The Han nationality accounts for 95.7 percent of the total. The other 55 ethnic minorities have a population of more than 300,000. Most are of Hui, Manchu, and Mongolian nationalities. However, Beijing's population is decreasing by 1.2 percent each year. Because Beijing has been the capital of China for many centuries, the city has become the political, cultural, scientific, and information center of the country. Beijing also is home to the highest number of universities in China, and the highest number of theaters, cinemas, and cell phone users in the six cities. Many historical sites such as the Great Wall, the Forbidden City, the Temple of Heaven, and The Summer Palace attract large numbers of domestic as well as international tourists each year. Beijing is also one of the most important transportation centers in China. Beijing International Airport has direct domestic and international flights connections to major Chinese cities and foreign cities. Beijing Train Station and Beijing West Train Station are international train stations, both of which have domestic and international services that connect to Chinese cities, to most rural regions, and to Russia, North Korea, Mongolia, and Vietnam. By taking advantage of hosting the 2008 Summer Olympic

Games, Beijing has been receiving substantial investments from the Chinese government, domestic companies, and overseas organizations to improve the infrastructure of its medical, education, transportation, and recreation services ("About Beijing," n.d.). Therefore, citizens of Beijing are able to receive the highest level of medical service and education, and have more opportunities to attend cultural and sports events than do residents of other cities (Ni, 2005).

Beijing's climate is not favored by most people. While Beijing's autumn is lovely, the city's climate is unpleasant, characterized by very harsh, dust-storm springs, (yellow sand sweeping from Inner Mongolia), hot summers (reaching over 104 degrees Fahrenheit) and cold, dry, windy winters (dipping as low as -4 degrees Fahrenheit) (Lonelyplanet, 2005).

Shanghai

Situated in the central eastern coast of mainland China, with a population of 13 million, the city of Shanghai is the biggest city in China in terms of population and economy. The permanent residents of Shanghai come from China's 44 ethnic groups. The Han account for 99.53 percent of the total. The rest of the population are from the Hui, Man, Mongolian, and other nationalities (Basic facts, n.d).

Shanghai was a fishing village before the 11th century. During the Southern Song Dynasty, it officially became a town. After the establishment of Shanghai County during the Yuan Dynasty, Shanghai became important for its cotton industry. However, Shanghai did not receive attention until 1840. As a result of the Opium Wars, Shanghai was forced to open to Europe, the United States, and Japan. Consequently, foreigners began to come into Shanghai for trade and to live there. During the 1900s, Shanghai was

greatly influenced by Western culture, resulting in the popularity of Shanghai movies, fashion, opium sales, gambling, and prostitution. At the same time, Shanghai became a trade, finance, and transportation center in Asia. Although Shanghai was transformed by the Chinese government after the establishment of China in 1949, Shanghai returned to its status as an international business, finance, and transportation city as a result of Deng Xiaopeng's open door policy, enacted in 1978. When China's four special economic zones—Shenzhen, Zhuhai, Shantou, and Xiamen—were growing rapidly in the 1980s, Deng realized he made "a big mistake" in not allowing Shanghai to be designated a special economic zone ("Deng Xiaoping nan xun jiang hua," 1992). In 1990, Deng decided to develop the Pudong District of Shanghai to promote the reform and opening policy. As a result, the Pudong District contributes 25 percent of Shanghai's GDP and more than half of its foreign trade each year. Furthermore, with the opening of Pudong International Airport in 1999, Shanghai became the only city in China with two international airports (Basic facts, n.d).

Although Shanghai has the largest numbers of registered unemployed, it also has the most abundant human resources in China. Shanghai has the highest number of library books per 100 people and the highest number of Internet users, as well as the lowest amount of green space in the six cities.

Shanghai's autumn and spring are comfortable, but Shanghai's summer can be very hot and humid, whereas its winters tend to be very cold.

Qingdao

The city of Qingdao is located on the eastern coast bordering the Yellow Sea of China, with a population of seven million, including nearly 10000 ethnic minorities of Hui, Korean, Zhuang, and Russian background ("Geography and history," n.d.).

Human settlement in the area can be dated back 6,000 years. During the State of Qi (689BC—221BC), fishing and salt production boomed in the Qingdao area. After the Tang Dynasty, Qingdao became an important seaport in northern China. In 1891, after the Qing government found that Qingdao could serve as an important military base geographically, the city of Qingdao was officially established for military purposes. Qingdao was a German colony from 1897 to 1914 and a Japanese colony from 1914 to 1922. In July 1929, the Kuomindang government took over the city and granted it "special city" status. After the Cultural Revolution, Qingdao returned to its function as an important trade harbor in China ("Geography and history," n.d.).

Qingdao can be viewed as a cultural combination of the East and West as a result of colonial occupation. Chinese traditional gardens, royal German-style villas, Roman- and Gothic-style mansions, and Japanese-style buildings are distributed throughout the city.

The Qingdao airport is a major airport served by domestic and international flights. A ferry connects Qingdao with Japan and Korea. Like Chengdu, Qingdao is also a low-income city, with an average annual salary of 18,178 Yuan. Furthermore, Qingdao has the lowest number of library books per 100 people and the lowest number of theaters and cinemas of the six cities. Compared with inland areas, Qingdao's weather becomes

warmer more slowly in spring, but its summer is humid and rainy, and its fall is cool and dry. Winter is usually is long, windy, and frigid ("Geography and history," n.d.).

Shenzhen

Shenzhen is located in the southern Guangdong province and is 20 miles away from Hong Kong. Although Shenzhen was a place of salt production and a fishing area during the ancient time of China, it was not a city until 1979. Therefore, Shenzhen can be thought of as the youngest big city in China ("Shenzhen Government Online," n.d.).

However, Shenzhen was built as a special economic zone in 1978 as an experimental field of Deng Xiaoping's reform policy. Compared with other study sites, Shenzhen is a small city, with a total population of 1.5 million. Since 1978 most of its residents have migrated from other regions, resulting in a high population growth rate, with 210,000 ethnic minorities accounting for 3 percent of the population ("Shenzhen shi di wu ci quan guo ren kou pu cha zhu yao shu ju gong bao," 2001). As a result of the establishment of the special economic zone, Shenzhen became a major manufacturing and high-tech center in China. Shenzhen is the highest average annual-income city, at 31,053 Yuan per person. Shenzhen has a good public transportation system, with the highest number of buses per 10,000 people. The area of green space per person in Shenzhen is 10 times greater than that of the other cities.

While Shenzhen is a good place for shopping, it lacks natural scenic spots. Theme parks such as China Folk Culture Village, Window of the World, and Splendid China are the main attractions. Except for frequent typhoons in late spring and early summer, Shenzhen has comfortable weather, with an average temperature of 72 degrees Fahrenheit year-round.

In summary, the study sites are important cities in terms of economy, politics, culture, and transportation. Therefore, they can be generalizeable only to other major big cities, including centrally administrative cities, special economic zones, special administrative region, coastal open cities, capital cities, and separately planned cities ("Shenzhen Government Online," n.d.).

Data collection

An existing database was used for this study. The data were collected by the Asia Pacific Centre for the Study and Training of Leisure (APCL), located in Hangzhou, China, from March to November 2005 under the direction of Dr. Ling Ping. The APCL is a public organization established in Hangzhou, China, in 2004 with support from Zhejiang University and the World Leisure Organization. The purpose of the center is to provide leisure education and consultation for leisure practitioners, researchers, and students from Asian Pacific region as well as the rest of world. At the same time, the APCL is particularly interested in promoting leisure as a means for improving the quality of life for all in the regions and to conduct leisure research in China. The data for this study were derived from a leisure lifestyle and constraints research project conducted by the APCL that was the first major cross-regional comparative study of leisure activities and leisure constraints in China. The project was completed in six Chinese cities including Hangzhou, Beijing, Shanghai, Qingdao, Chengdu, and Shenzhen.

The data collection was accomplished in two steps in the six Chinese cities. In the first step, since there was relatively little research on urban Chinese leisure lifestyles, the APCL used a face-to-face free-listing technique for the initial data collection. Because previous research had not reported on how leisure time is spent or how leisure constraints

are perceived by Chinese urban people in the six cities, the free-listing technique can be viewed as the best way to explore how urban residents pursue their leisure and identify their leisure constraints. Moreover, the advantage of free listing is that leisure activities and constraints listed by the technique can be used in developing a larger survey.

In the second step, a questionnaire was created on the basis of results of the free listing by APCL. The survey consisted of two sections. The first section comprised information about leisure activity, leisure constraints, leisure satisfaction, and health items. The second section elicited socio-demographic information including location of residence, gender, income, education level, family members, marital status, and sources of leisure information. Both the free listing and the survey data were used for this study.

a. The first-round data collection

1) Free-listing technique

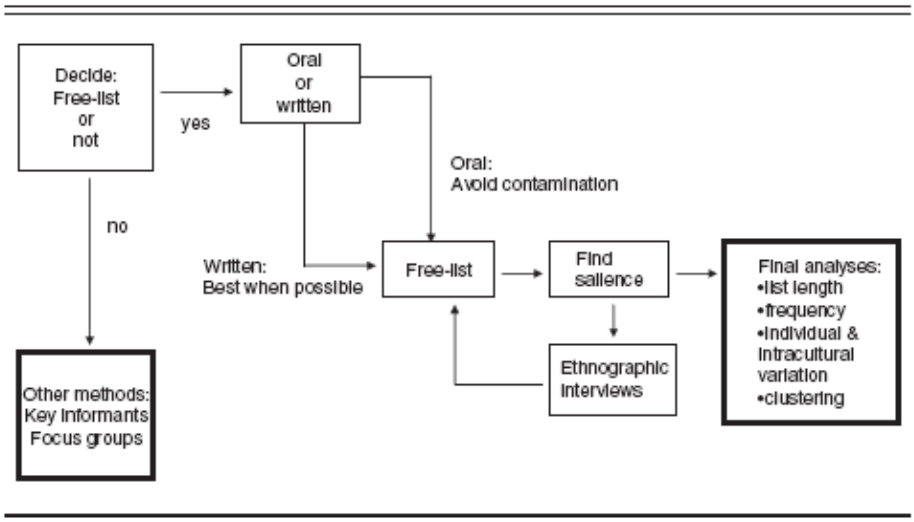
Humans carve up much of the world into distinct linguistic categories, such as the names of diseases, animals, and furniture. These domains are also called *natural categories*, which we learn primarily from common categories in our daily life (Barsalou, 1983). However, some domains are different, such as "things to do during free time," and "places to sing songs." Barsalou defined these as *ad hoc categories*, which are highly specialized items in our everyday living. Other examples of ad hoc categories given by Barsalou are "things to take on a camping trip" and "places to look for antique desk." Ad hoc categories are less established in human memory than are natural categories. Another important aspect of ad hoc categories is that some people will know much more about a particular category than will others. For example, women usually will be much more

knowledgeable than men about "breastfeeding a baby," whereas men will generally be much more knowledgeable about "hunting a deer."

In this study, the two domains that I was particularly interested in belong to two ad hoc categories. The first domain (ad hoc category) is "leisure activities" or "the things that you do during your free time." The second domain (ad hoc category) is "leisure constraints" or "the reasons that constrain your participation in leisure activities." Since these domains cannot be naturally or commonly defined, cognitive anthropologists often recommended free listing as the first step in all kinds of research that defines new linguistic or cognitive domains (Weller & Romney, 1988).

The free-listing technique is similar to open-ended surveying, which can identify domains and amass data quickly (Quinlan, 2005). The free-listing technique can be administered to informants through written and oral interviews (Sutrop, 2000; Quinlan, 2005). When free listing is conducted orally, informants can directly tell researchers the domains that they have defined. However, interviewers should avoid bystander contamination because "the freelists should contain the items that one individual knows in the order that they come to mind for that individual" (Qunlan, 2005, p. 4). As an alternative, informants can also write the definition of domains for the investigators if the informants are unable to speak. Responses from informants should be checked by informal interviews such as key informants and focus groups to increase accuracy (Figure 2).

Figure 2. The Ideal Process of Free Listing
(Adapted from Quinlan, 2005)



As previously mentioned, Weller and Romney (1988) recommend the free-listing technique as the first step in defining new cultural domains and as the best way to ensure that the concepts in domains are culturally relevant. As Weller and Romney advised:

> It (Free listing) provides a strong source of cognitive data in terms of frequencies and the order properties of the individual lists. Informants can usually do the task in an easy and natural way. Free listing helps prevent researchers from using inappropriate items. (p. 16)

Free-list data is used to determine the contents of the domain as well as the relative salience of terms within the domain (Thompson & Zhang, 2006, in press). Smith (1993, 1995) developed a free-list salience index to measure what is more salient (important) to one group. Smith's salience index ranges from 0 to 1, with a higher value representing higher salience. Smith's salience index score = (list-length item rank) × (1/ (list length – 1)). Thus, an item's free-list salience index is its mean score across all lists.

ANTHROPAC 4 (Borgatti, 1992) can generate frequencies of listing and Smith's salience index.

On the other hand, Weller and Romney (1988) also pointed out that free listing is not a perfect method. First, sometimes the lists are too sparse to provide correct cultural information on domains. Second, there are no widely accepted methods for establishing the reliability of free lists. The following paragraphs indicate how the APCL administered the free-listing technique.

Interviewers gave informants the following instructions in Chinese:

"I would like to invite you to participate in a research project regarding your leisure. I will ask you to list some activities during your leisure time or free time. This research method is called 'free listing.' Because this is not a test, there are no right or wrong answers for this question. Also, please do not worry about the length of your answer (list). Before I ask you to list your leisure activities, I will ask you to do an exercise to name as many fruits as come to your mind. The purpose of the exercise is to help you to better understand the free-listing technique and better list leisure activities that come to your minds most often. I will give you two minutes to do each task."

(The choice of one, two, or five minutes or any time limit is arbitrary. The basic idea, however, is that it is best not to allow informants to become frustrated. So, if you give them five minutes, but they list all of their thoughts in only two minutes, then they have to sit around and do nothing for three minutes. Most people exhaust their memories in two or three minutes in free listing with most domains. Animals might be an exception, as most people know very large numbers of animals and could probably list for an hour. After two minutes or so, however, people would start naming animals that are very

uncommon, so there would be many that would occur only once or so, meaning that they would probably be removed from the final list) (G. Chick, personal communication, July 15th, 2006).

Step 1. Please list the names of all the fruits that come to your mind.

Informants can list many kinds of fruit (e.g., apple, banana, strawberry, orange, pear, etc.). After the free listing of fruits exercise, informants were asked the following questions for listing leisure activities and leisure constraints:

Step 2. Now, in the same way you listed fruits, please list any activities in which you currently participate during your leisure time or free time.

Informants list activities (e.g., watching TV, playing basketball, traveling, reading, walking, etc.).

Step 3. Next, please list any reasons that constrain your leisure participation.

Informants usually list constraints (e.g., time, money, working, busy, lack of skill, etc.).

2) Sampling in free listing

While a large random sample is not generally used in free listing, it is best to use a random sample if possible in order to insure representativeness (G. Chick, personal communication, July 15th, 2006). A total of 20 to 30 informants is optimal (Weller & Romney, 1988). In order to balance gender, APCL's sampling in free listing has a total of 176 informants: Beijing (41: 20 male, 21 female), Hangzhou (23:11 male, 12 female), Shanghai (26: 11 male, 15 female), Qingdao (45: 13 male, 32 female), and Chengdu (41: 20 male, 21 female). Except for the Qingdao sample, the remaining five cities are approximately half male and half female, with no bias on gender distribution. While

Shenzhen was not included in the study when the free-listing data were collected, it was added by the APCL when the survey data were collected.

3) Leisure activities and constraints listed by free listing.

A total of 95 activities and 55 constraints were listed by informants in the five cities.

b. The second round of data collection

1) The survey

The APCL conducted a second round of data collection using surveys in each city after the results of the free listing were tabulated. The APCL eliminated 21 activities including shopping, window shopping, basketball, playing balls (this activity is not clearly described because playing balls can be playing basketball, or playing soccer in the Chinese language), bodybuilding, playing games, drinking coffee, knitting, outing, planting flowers, drinking, watching drama, adventure, attending English corner, computer, doing challenging game, drinking wine, housework, keeping fit, kicking shuttle cock, and tasting delicious food. Hairdressing and beauty salon are re-arranged to as one item. Friend gatherings and party are re-organized as family gathering. Playing piano is changed to playing instrument. Stamp collection is changed to collecting (stamps, coins, etc.). Foot massage is changed to massage (foot, face and body). Some Chinese traditional leisure activities including Taichi, Martial art, calligraphy are added in the survey. Chinese poker and poker are categorized as one item (Chinese poker). Radio, nightclubs, home decorating, electronic pets, writing, inventing, hiking in natural areas, going to zoos, going to natural parks, bicycling for pleasure, social/ballroom dancing, volunteering in social work or civic activities, visit museum/art gallery, attending theatre,

attending music event and religious activity are added into the survey. Travel activities including traveling by the seaside and sightseeing are reorganized as visiting historic or cultural site, travel to another country, visiting mountains or water areas. As a result, a total of 89 activities were included in the activity list while 37 constraints were included in the constraints list. In the survey, informants were asked to rate each activity in the final list of leisure activities in terms of whether or not they participated in it (measured as a Yes or No), the frequency that they participated (measured as "occasionally" or "frequently"), and their importance on a 1–5 Likert-type scale and their final list of leisure constraints in terms of their importance on 1–5 Likert-type scale from 1 (extremely unimportant) to 5 (extremely important). For example, if "watching TV" was on the list of leisure activities, informants were asked to check whether or not they participated in it. If they participated, they were asked whether they participated occasionally or frequently, and to indicate the importance of the activity to them. Similarly, if "lack of time" was on the list of leisure constraints, the informants were asked to rate the importance of a "lack of time" from 1 (extremely unimportant) to 5 (extremely important). Furthermore, the APCL included leisure satisfaction and health items in the survey. Leisure satisfaction was measured using a 1–7 Likert-type scale from 1 (extremely dissatisfied) to 7 (extremely satisfied). Informants were asked to rate their health as excellent, good, fair, or poor.

In addition, the APCL consulted with three leisure researchers from an American university before it developed the final survey form and collected the data. The leisure researchers provided information on the construction of the questionnaire and also suggested that the APCL add socio-demographic information to the survey. The survey

form was initially constructed in English, but its final English version was translated to Chinese by a bilingual leisure researcher in the United States and a panel of leisure professionals in the APCL. The accuracy of the translation was verified by the bilingual leisure researcher who resided in the United States and by the experts in the APCL. As a result, the survey form was constructed by the APCL to include two sections: leisure lifestyle information (leisure activities, leisure constraints, leisure satisfaction, and health items) and socio-demographic information (location of residence, gender, income, educational level, family members, marital status, and sources of leisure). The English and Chinese versions of the questionnaire are included in Appendices A and B.

2) Sampling for the survey

Small samples in consensus analysis can generate very reliable data because the "reliability of aggregated responses is not just a function of sample size, but is also a function of the agreement among informants" (Weller & Romney, 1988, p.77). Typically, agreement among informants in consensus analysis tends to be very high if there is, in fact, cultural consensus among them.

In the second data collection procedure, a survey based on the free-listing data was distributed to informants by ten graduate assistants of Zhejiang University in the six cities. A total of 772 informants, approximately 50 percent male and 50 percent female, were surveyed within the six cities (Table 12).

Table 12. Sample size of each city

	Beijing	Hangzhou	Qingdao	Chengdu	Shanghai	Shenzhen	Missing*	Total
Female	68	61	61	51	72	58		371
Male	58	58	57	62	64	70		369
Total	126	119	118	113	136	128	32	740

* Missing in Gender variable

Informants were selected in public parks, on school campuses, on the train, in railway stations, in restaurants, and at some companies. Hence, informants were not randomly selected but, rather, comprise a convenience sample.

3) Data sets for data analysis

Four data sets were selected for the day analysis. Nonparticipation/participation in leisure activities (for convenience, these data are called No/Yes [N/Y], consisting of frequencies of how many informants indicate nonparticipation or participation in activities); (2) unimportance/importance of leisure activities (for convenience, called U/I data, consisting of a rated scale for each activity); (3) leisure constraints (called Cons data, consisting of a rated scale for each constraint); and (4) leisure satisfaction (for convenience, called LS data consisting of a rated scale for leisure satisfaction). The U/I data was revised in size by (1) repairing missing values by using 1 to rate activities or/and (2) eliminating a respondent if there was no variance (an informant rating all items on the same scale) in the items because culture consensus analyses can not compute non-variance cases. In this data, there are some cases where the informant indicated that he or she does not participate in an activity but still gave a response for importance. Other informants who indicated that they did not participate then did not respond to the importance question. However, this response would be possible. For example, I have not played tennis for a couple of years, but the activity remains important for me. So it is reasonable that some people indicated that they do not participate but the activity is important. On the other hand, it is reasonable for people not to answer the importance question when they do not participate. In that case, the correct value for importance would be 1 (extremely unimportant or whatever the lowest value is). So, the replacing

missing values by the mean is probably not a good solution since it artificially raises the overall mean in the cases where informants indicate that they do not participate. Therefore, the best solution is to replace missing values by the lowest value for importance when the informant indicated that he or she does not participate (G. Chick, personal communication, September 17th, 2006). At the same time, the Cons data was revised in size by (1) repairing missing data by the variable mean; or/and (2) eliminating a respondent if there was no variance (an informant rating all items on the same scale) in the items because culture consensus analyses can not compute non-variance cases.. Since Cons data has substantial missing data, each missing value in a variable was repaired by the mean of responses for the variable. While listwise deletion defaulted by SPSS is the simplest approach to deal with the missing values, it was inappropriate for the Cons data because leisure constraints have 37 variables. Substantial loss of variables would occur if listwise deletion were to be used. Burton (1996) indicated that missing data repaired by the variable mean have a similar result to the sample mean without missing data. Therefore, repairing the missing values by mean was an effective way to deal with the missing data in this dataset. Since LS data only has one variable to measure leisure satisfaction, the missing values were repaired by the variable mean.

After the data were revised, the data for nonparticipation/participation of leisure activities and unimportance/importance of leisure activities represented a total of 772 respondents, the leisure constraints data contained 763 respondents and the leisure satisfaction data has 773 respondents (Table 13). In addition, a total of 89 leisure activities and 37 constraints were identified in the second round of data collection.

Table 13. Sample sizes for leisure activity participation, importance, constraints and satisfaction

Sites	Hangzhou	Chengdu	Beijing	Shanghai	Qingdao	Shenzhen	Total
No/Yes[1]	120	131	126	136	127	132	772
U/I[2]	120	130	126	137	127	132	772
Cons[3]	120	129	124	132	127	131	763
LS[4]	120	131	126	137	127	132	773

[1]No/Yes: the data of nonparticipation/participation of leisure activities (nominal data)
[2]U/I: the data of unimportance/importance of leisure activities (Likert scale data)
[3]Cons: the data of leisure constraints (Likert scale data)
[4]LS: the data of leisure satisfaction (Likert scale data)

Data analysis

In this study, the data were primarily analyzed using SPSS 13.0. However, ANTHROPAC 4.0 software (Borgatti, 1992) was used to analyze the free listing data. The following steps, including descriptive analysis of the free-listing data, salience analysis, descriptive analysis of the survey data, consensus analysis, and one-way ANOVA were conducted for data analyses.

a. Descriptive analysis of the free-listing data

The free-listing task is the most useful technique for defining a domain (Weller & Romney, 1988). Frequently mentioned items among informants indicate cultural relevance or consensus, and intracultural variation can be measured by differences in list length and content (Quinlan, 2005). ANTHROPAC 4.0 software (Borgatti, 1992) can be used to calculate item frequency in the two domains (leisure activities and constraints) and Smith's Salience index. Therefore, the calculation shows salience scores for each item (leisure activities or constraints) and indicates the frequencies of informants who listed the items.

b. Descriptive analysis of survey data

The purpose of descriptive analysis is to explore the major leisure activities urban Chinese pursue and the major constraints they face with respect to their leisure lifestyles. Furthermore, a descriptive analysis can also tell us what leisure activities and leisure constraints are most important in Chinese cities. First, for each domain (leisure activities, leisure constraints), number of responses, item means, and standard deviations were calculated. The domains for each city were ranked from highest mean to lowest item mean, respectively, in terms of importance. Descriptive analysis allows us to evaluate and compare the average rating scores. The higher the average score (1–5 scales), the more important leisure activities or constraints were considered by informants. Therefore, N/Y data, U/I data and Cons data were used for the analysis. Second, descriptive analysis on social demographic information were conducted based on gender, age, income, education, family members, and marital status.

c. Culture consensus analysis (one-culture test)

Since the purpose of culture consensus analysis is to explore whether or not there is consensus for participation in leisure activities, the importance of leisure activities and the importance of leisure constraints in the six cities, three data sets including N/Y data, U/I data and Cons data were selected for cultural consensus analysis.

d. One-way ANOVA analysis of leisure activities, constraints, and leisure satisfaction among the cities

One-way ANOVAs are conducted to compare the mean differences of leisure activities, constraints and leisure satisfaction among groups between male and female,

and older and younger. In additional, on statistical significance of each ANOVA, post hoc tests are conducted to access exactly which pairs of cities are significantly different in terms of leisure activities ,constraints and leisure satisfaction. In order to reduce type II errors, a strict Bonferroni procedure for ANOVAs with .001 or better significance levels are used for the post hoc test. Therefore, N/Y data, U/I data Cons data and LS data were used for the analysis.

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Chapter Four: Results

Results of round one: Free listing

As previously mentioned, the APCL's data consist of two rounds of data. The first round of data was collected using the free-listing technique. The following table gives socio-demographic information from free listing for five cities (Table 14).

Table 14. Socio-demographic Information for the Free-Listing Samples

Socio-demographic information		Hangzhou	Chengdu	Beijing	Shanghai	Qingdao	Total
Gender	Male	11	20	20	11	13	75
	Female	12	21	21	15	32	101
Age	≤30	7	23	18	14	35	97
	>31	16	18	23	12	10	79
Income	≤3000 Yuan	11	32	12	10	32	97
	>3000Yuan	12	11	29	16	13	79
Education	High school or less	3	17	5	13	7	45
	College or more	20	24	36	13	38	131
Family members	≤2	13	15	33	14	33	108
	>2	10	26	8	12	12	68
Marital Status	Single	8	23	12	11	24	78
	married	15	18	29	15	21	98

Female informants accounted for 49.6 percent of the total sample. According to the 2000 population census of China, China has an urban population of nearly 300 million, with 46 percent of the population younger than 30. Since 55 percent of the informants are younger than 30, I chose 30 years old as a cut-off age, which is close to actual census statistics. Because the average monthly salary of the six cities was 2,004 Yuan in the year 2004 (Guo jian tong ji ju cheng shi she hui jing ji diao cha zong dui, 2004), a monthly salary of 3,000 Yuan is a reasonable line along which to divide the informants into two groups; 40.8 percent of informants earn less than or equal to 3,000 Yuan, whereas nearly 60 percent of informants earn more than 3,000 Yuan. Therefore,

this sample earn more money than average. As indicated, the free-listing sample of 186 informants was 42.6 percent male and 57.4 percent female. More than 55 percent of the informants were younger than 30 years old and had an income lower than 3,000 Yuan. Nearly 75 percent of the informants had obtained a college education or higher, whereas only 25 percent of informants had a high school diploma or less (Table 14). According to the 2000 population census of China, only 12 percent of urban Chinese had a college degree; therefore, the sample may not be representative. A total of 61.4 percent of informants had fewer than 2 family members, whereas 44.3 percent of informants were unmarried. The informants from Hangzhou, Chengdu, Beijing, Shanghai, and Qingdao were provided with questions regarding their leisure activities and leisure constraints. The informants were asked to free-list their leisure activities and constraints using words, phrases, or sentences that came to their mind when they answered each question. As results, a total of 95 activities and 55 constraints were listed by informants from five cities. Table 15 lists leisure activities and constraints, respectively, and their frequencies.

Since the free listing was not conducted in Shenzhen, Table 5 indicates an activity list for only five cities. As the table indicates, watching TV was most frequently listed by all informants at 99 times, and shopping, surfing the Internet, window shopping, reading a newspaper, reading, traveling, playing basketball, watching movies, mountain climbing, chatting, poker, music, going to a teahouse, swimming, badminton, walking, karaoke, singing, and going to a park were the top 20 activities listed by informants. While playing balls is ranked as the 20th activity, it is only listed 10 times for Qingdao, whereas it is not listed for the rest of the cities. From the 22nd activity (table tennis) to the 95th activity

(Yoga), the frequency is below 10 for all informants. In particular, the 54th activity (shadow boxing) is listed either once or 0 times by a city.

Table 15. Leisure activities listed by free-listing technique

Activity	Hangzhou	Chengdu	Beijing	Shanghai	Qingdao	Total	Ranking
TV	16	25	28	13	16	98	1
Shopping	14	9	21	9	2	55	2
Internet	14	7	13	8	11	53	3
window shopping		13	3		29	45	4
Reading Newspaper	12	11	4	8	8	43	5
Reading	2	9	10	5	14	40	6
Traveling	5	7	9	7	10	38	7
Basketball	4	9	14	6	1	34	8
Movies	4	4	4	3	13	28	9
Mountain climbing	7	2	4	1	13	27	10
Chatting	7	7	6	3	3	26	11
Poker	7	6	4	2	5	24	12
music	2	4	4	8	5	23	13
Go to teahouse	4	4	8		3	19	14
Swimming	2	1	6	3	4	16	15
Badminton	2	4	3	3	2	14	16
fast walking or Walking	5	2	2	1	3	13	17
Karaoke	3	6	3	1		13	17
singing	1		2	4	4	11	19
go to park		7	1	1	1	10	20
play balls					10	10	20
table tennis	1	1	2	1	4	9	22
dancing		2		3	3	8	23
Eat Out	4	4				8	23
Hairdressing	3	0	4	1		8	23
mahjong	2	3	2		1	8	23
sleeping		1	1	2	4	8	23
bodybuilding			5	2		7	28
chess		3	2		2	7	28
physical exercises		2	2	2	1	7	28
visiting relatives and/or friends		2	5			7	28
beauty salon		3			2	5	32
cooking			1	2	2	5	32
fishing	2	1		1	1	5	32
Go to pub	4	1				5	32
play games		2		1	2	5	32
running/jogging		1	2	1	1	5	32
drinking coffee	2	1	1			4	38
friend gatherings	4					4	38
party		1			3	4	38
Tennis	2	1	1			4	38
reading magazines	1		2			3	42

boating		2	1			3	42
knitting	3					3	42
outing			2	1		3	42
planting flowers		2	1			3	42
drinking	1	1				2	47
internet game		1	1			2	47
painting	1	1				2	47
pet		2				2	47
piano				1	1	2	47
reading books and newspaper			2			2	47
reading novels		2				2	47
shadow boxing	1				1	2	47
watching drama			1	1		2	47
watching sports		1	1			2	47
adventure		1				1	57
amusement park		1				1	57
attending English corner		1				1	57
bathing		1				1	57
bicycling		1				1	57
billiards	1					1	57
bow		1				1	57
camping	1					1	57
Chinese poker		1				1	57
computer					1	1	57
dating			1			1	57
doing challenging game		1				1	57
drinking wine				1		1	57
driving					1	1	57
equipment exercise		1				1	57
eye-closing relaxing		1				1	57
foot massage		1				1	57
football	1					1	57
go to coffee shop		1				1	57
go to gym		1				1	57
golf			1			1	57
hot spring			1			1	57
housework			1			1	57
keeping fit					1	1	57
kicking shuttle cock			1			1	57
on vocation			1			1	57
participating in exhibitions	1					1	57
photographing			1			1	57
picnic		1				1	57
play electronic game				1		1	57
play with children				1		1	57
rope skipping	1					1	57
sightseeing					1	1	57
skating					1	1	57
stamp collection			1			1	57

tasting delicious food					1	1	57
Traveling by the seaside			1			1	57
volleyball				1		1	57
yoga					1	1	57

*Chatting includes chatting by phone, chatting with family member, online chatting, etc.

Table 16 indicates comparison of cultural salience for activities across the cities**.** This comparison helps us to identify whether the content of this cultural knowledge differs from group to group. As a result, all cities show a high awareness of watching TV as an important leisure activity. At the same time, all cities display great recognition of the Internet, shopping, window shopping, movies, reading, reading a newspaper, and playing basketball as their primary leisure activities. While leisure activities with a value lower than .100 are not listed in Table 16, the activities are very low in salience.

Table 16. Rank of leisure activities by free listing at five Chinese cities by Smith's S*

Hangzhou	Smith's S	Chengdu	Smith's S	Beijing	Smith's S	Shanghai	Smith's S	Qingdao	Smith's S
TV	0.65	**TV**	0.55	**TV**	0.63	**TV**	0.41	Window shopping	0.45
Internet	0.42	Window shopping	0.22	Shopping	0.41	Shopping	0.26	TV	0.32
Shopping	0.40	Shopping	0.17	Basketball	0.24	Internet	0.25	Movies	0.20
Reading newspaper	0.28	Reading newspaper	0.16	Internet	0.24	Reading newspaper	0.17	Internet	0.18
Basketball	0.16	Reading	0.13	Reading	0.13	Basketball	0.15	Reading	0.18
Chatting	0.13	Go to park	0.12	Go to teahouse	0.12	Traveling	0.14	Reading newspaper	0.15
Poker	0.13	Traveling	0.12	Traveling	0.10	Music	0.12	Playing balls	0.13
Mountain climbing	0.13	Basketball	0.11			Reading	0.12	Climbing	0.12
Walking	0.11	Karaoke	0.10					Traveling	0.11
Go to pub	0.10								
Eat out	0.10								
movies	0.10								

***Value of Smith's S greater than 0.100 are listed in the table.**

While Quinlan (2000) indicated that "determining which items are salient is not standardized" (p. 8), some visible breaks in the data are clearly indicated. Figures 3, 4, 5, 6, and 7 display salience of leisure activities with bar charts.

Watching TV, surfing the Internet, shopping, and reading a newspaper listed by Hangzhou, watching TV, window shopping, shopping, and reading a newspaper listed by Chengdu, watching TV, shopping, playing basketball, and surfing the Internet listed by Beijing, watching TV, shopping, and surfing the Internet listed by Shanghai, and watching TV and window shopping listed by Qingdao are highly salient. As previously stated, the APCL eliminated six activities including shadow boxing, kicking shuttle cock, attending English corner, and playing balls as a result of their nature as uncommon and/or ambiguous activities.

Figure 3. Salience of leisure activities (Hangzhou, N=23)

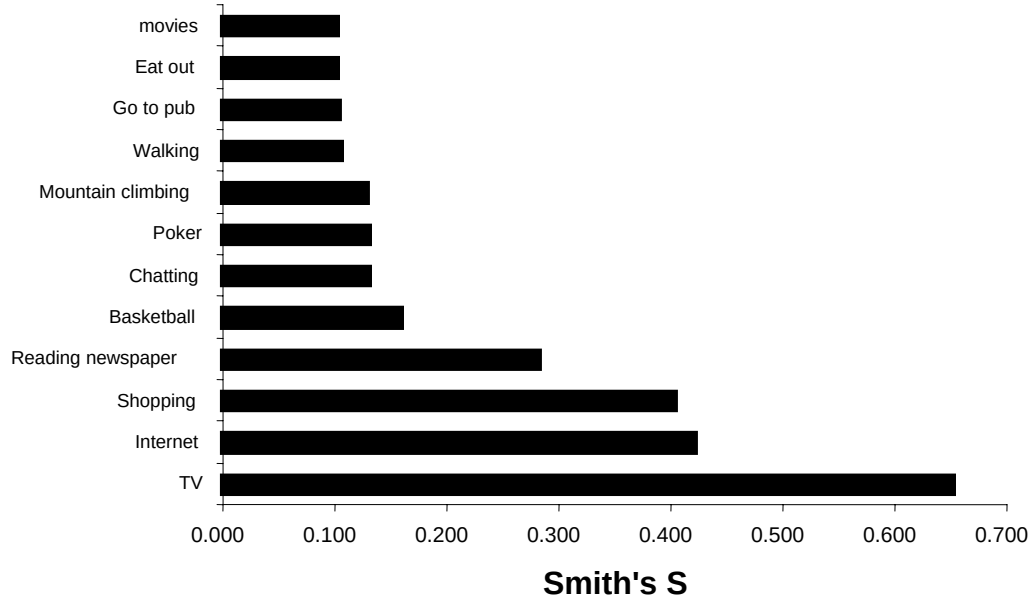


Figure 4. Salience of leisure activities (Chengdu, N=41)

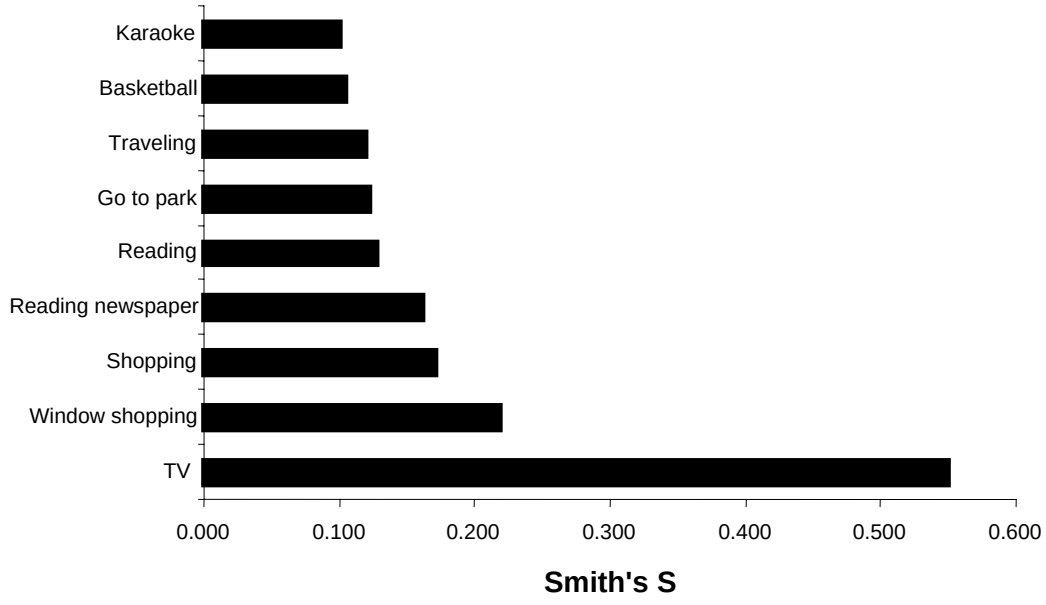


Figure 5. Salience of leisure activities (Beijing, N=41)

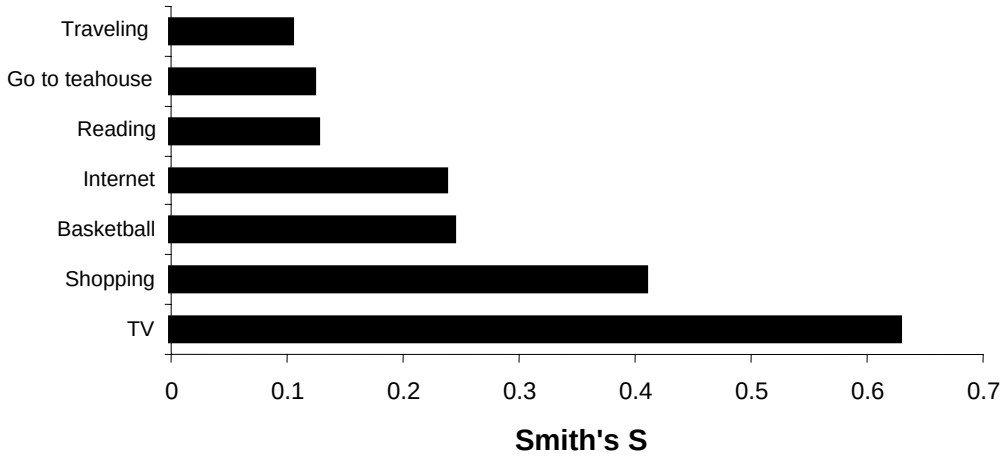


Figure 6. Salience of leisure activities (Shanghai, N=26)

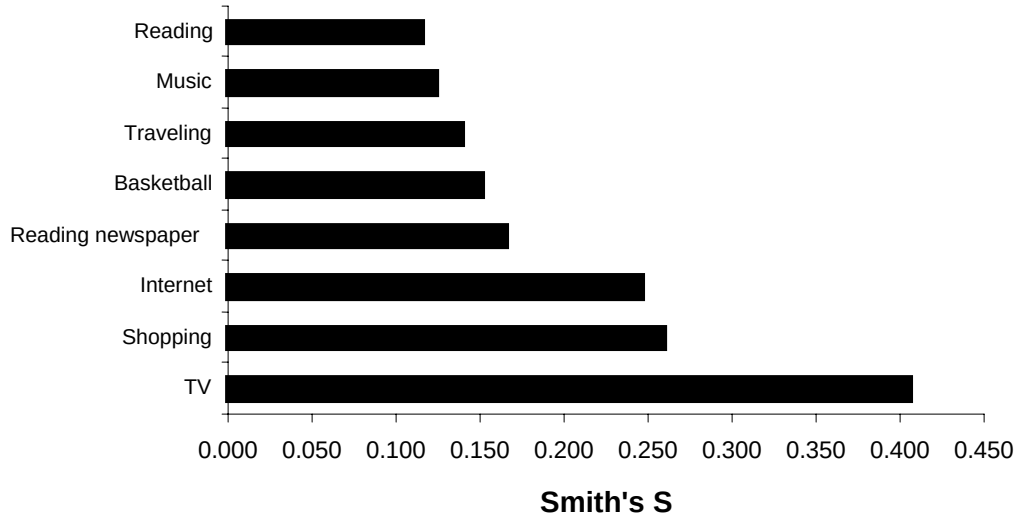


Figure 7.Salience of leisure activities (Qingdao, N=45)

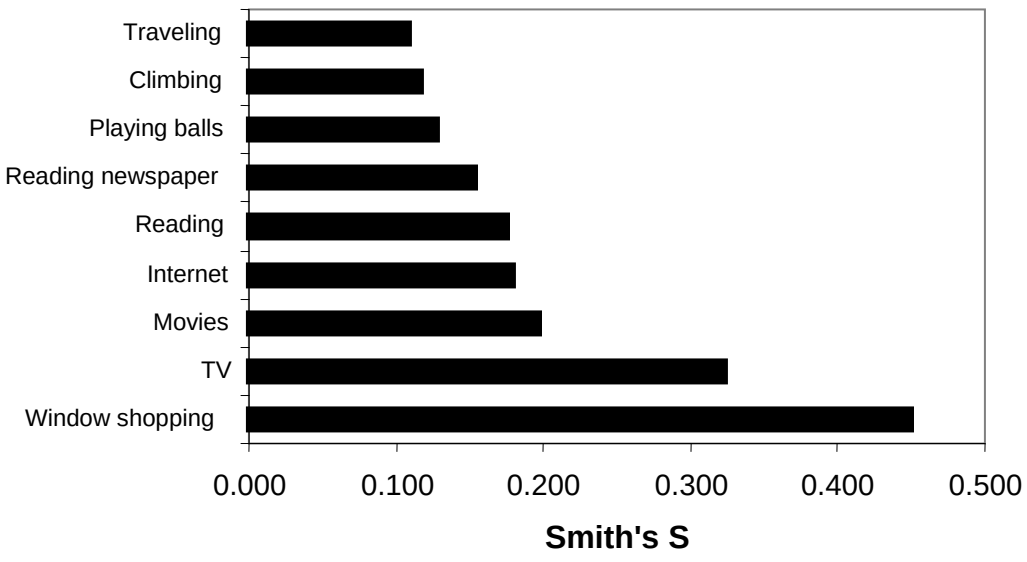


Table 17 indicates the frequencies for leisure constraints listed in the five cities.

Table 17. Leisure constraints listed by free-listing technique

Constraints	Hangzhou	Chengdu	Beijing	Shanghai	Qingdao	Total	**Ranking**
time	15	21	22	7	26	91	1
money	10	11	17	16	29	83	2
too busy work	6	11	6	4	3	30	3
no partners	3	2	6		10	21	4
lack of facilities	2	2	1		11	16	5
no space	3	1	4	2		10	6
lack of family support		3	5	1		9	7
too high fees		2	4		2	8	8
housework		1		4	2	7	9
lack of skill	1	2			3	6	10
children (take care of children)	2	1		2		5	11
constrained by family affairs	1	2			2	5	11
distance/too far	3	1		1		5	11
too low income	4		1			5	11
economical pressure			2		1	3	15
lack of energy		3				3	15
no vehicle			3			3	15
poorer physical condition	1		1	1		3	15
service quality	1	2				3	15
too crowded			3			3	15
traffic condition			2		1	3	15
lack of good environment		1			1	2	22
lack of leisure consciousness	2					2	22
no organization			1		1	2	22
pressure from the children			1	1		2	22
pressure from work			2			2	22
social cultural environment		1	1			2	22
study			1		1	2	22
take care of elders and children				2		2	22
transportation		2				2	22
bankruptcy		1				1	31
chance	1					1	31
conception	1					1	31
driving experience					1	1	31
inconvenient		1				1	31
initiative shortage					1	1	31
lack of group activities					1	1	31
lack of info			1			1	31
lack of interest		1				1	31
life habit					1	1	31
life pressure		1				1	31
limitation from age			1			1	31
no mood				1		1	31

no steady job			1			1	31
no vacation			1			1	31
personnel	1					1	31
restricted by family		1				1	31
safety issue			1			1	31
self-factors					1	1	31
sports items					1	1	31
the different life style	1					1	31
the factor of circumstance	1					1	31
too concentrated holiday		1				1	31
weather					1	1	31
work pressure		1				1	31
Total numbers of listed constraints	19	25	24	12	21		
Total frequencies of listed constraints	59	76	88	42	100	365	

As the table indicates, from the 31st constraint, the constraint items are listed only once by all informants. However, some constraint items are not clearly listed or are repeated by informants. For example, sports items and the factor of circumstance were not clearly described by the APCL. On the other hand, work pressure, and pressure from children were categorized as life pressures by the APCL in the second round of data collection. As a result, a total of 37 constraints items were selected by the APCL for the survey conducted in the second round of data collection.

Results of round two: Survey data

a. Result of descriptive analysis

1). Socio-demographic information of six cities

Table 18 shows socio-demographic information for the six cities in terms of gender, age, income, education, family members, and marital status.

Table 18. Socio-demographic information of six cities in the second-round data collection

Socio-demographic information		Hangzhou	Chengdu	Beijing	Shanghai	Qingdao	Shenzhen	Total	Percentage
Gender	Male	58	62	58	64	57	57	369	49.9
	Female	61	51	68	72	61	61	371	50.1
Age	≤30	68	73	76	59	67	67	405	52.5
	>31	52	57	50	78	60	60	366	47.5
Income	≤3000 Yuan	47	73	41	46	77	77	311	40.8
	>3000Yuan	73	55	85	85	49	49	451	59.2
Education	High school or less	17	24	16	46	54	54	176	23.1
	College or more	101	105	109	90	70	70	587	76.9
Family members	≤2	72	44	80	81	58	58	399	51.2
	>2	48	86	56	56	67	67	381	48.8
Marital Status	Single	59	64	65	44	60	60	351	45.7
	married	61	65	61	91	66	66	417	54.3

Compared with the first round of data collection, education levels of informants remained the same: more than 75 percent of the informants had obtained a college education, whereas only 25 percent of informants had a high school diploma or less. Since the "only one child" policy is enacted in China in 1979, anyone who was born after 1979 can be considered as "only one child". However, there is more than 1 child or that grandparents are living in the household. Therefore, I divided the family members into two groups (less than 2 or more than 2); As a result, 45.7 percent of family members were fewer than or equal to 2, whereas 54.3 percent of family members were more than 2.

Table 19 shows the percentage of each age group of the sample. The group ranging from 20 to 30 years of age accounts for 52.7 percent of the total sample, whereas only 0.5 percent of the sample were over 60 years of age. In this light, the sample may not be generalizeable to the whole population because 10 percent of China's urban population is aged 60 or over.

Table 19. Age range of the sample

Age range	N=769	percent
20~25	193	25.1%
26~30	212	27.6%
31~35	145	18.9%
36~40	93	12.1%
41~45	64	8.3%
46~50	30	3.9%
51~55	20	2.6%
56~60	8	1.0%
61~	4	0.5%

Table 20 shows occupations of informants in six cities, including 17 occupations.

Table 20. Occupations of informants in six cities in the second round

	Hangzhou		Chengdu		Beijing		Shanghai		Qingdao		Shenzhen		Total	
Occupations	N	%	N	%	N	%	N	%	N	%	N	%	N	%
governmental employees	7	5.8	16	12.3	9	7.0	5	3.6	3	2.4	17	12.9	57	7.6%
students	3	2.5	25	19.2	7	5.4	4	2.9	10	7.9	6	4.5	55	7.3%
postal and telecommunications	8	6.7	1	0.8	4	3.1	1	0.7	2	1.6	0	0	16	2.1%
computer/internet network service	8	6.7	19	14.6	10	7.8	4	2.9	2	1.6	14	10.6	57	7.6%
business/trade	5	4.2	6	4.6	12	9.3	29	21.2	23	18.1	19	14.4	94	12.5%
bank/finance	2	1.7	4	3.1	9	7.0	5	3.6	11	8.7	6	4.5	37	4.9%
tourism/hospitality	1	0.8	3	2.3	4	3.1	2	1.5	7	5.5	2	1.5	19	2.5%
Health/medical service	9	7.5	3	2.3	4	3.1	0	0	2	1.6	5	3.8	23	3.1%
real estate	12	10.0 (0.2)	11	8.5 (0.2)	21	16.3 (1.7)	17	12.4 (0.6)	7	5.5 (0.2)	2	1.5 (3.6)	70	9.3%
transportation	0	0	1	0.8	13	10.1	9	6.6	9	7.1	5	3.8	37	4.9%
law/ jurisdiction/tax	0	0	1	0.8	3	2.3	3	2.2	0	0	1	0.8	8	1.1%
culture/entertainment/sports	4	3.3	5	3.8	3	2.3	1	0.7	0	0	4	3.0	17	2.3%
media /advertisement	4	3.3	4	3.1	5	3.9	0	0	5	3.9	3	2.3	21	2.8%
research institutes /education	31	25.8	11	8.5	4	3.1	22	16.1	9	7.1	22	16.7	99	13.1%
agriculture/fishery	0	0	0	0	2	1.6	1	0.7	1	0.8	1	0.8	5	0.7%
Mining / manufacture	13	10.8	0	0	7	5.4	16	11.7	14	11.0	6	4.5	56	7.4%
independent contractor	12	10.0	15	11.5	9	7.0	14	10.2	18	14.2	16	12.1	84	11.1%

( ): percentage of occupation in all occupations listed in the China city statistical yearbook.

Those working in research institutes/education, business/trade, as independent contractors, or in real estate or computer/Internet network services account for more than 50 percent of informants. These occupations are considered high-income jobs in Chinese urban areas. According to the 2004 China City Statistical Yearbook, occupations are divided into 19 groups: (1) agriculture/fishery; (2) mining; (3) manufacture, (4) electricity, gas, and water supply; (5) construction; (6) transportation and postal and telecommunications; (7) media/advertisement and computer/Internet network service; (8) wholesome; (9) hospitality; (10) bank/finance; (11) real estate; (12) business/trade; (13) research/technology; (14) environmental/public facility management; (15) public service; (16) education; (17) health/medical service; (18) culture/entertainment/sports; (19) public management and social organization.

However, students, governmental employees, and those in the fields of law/jurisdiction/tax are not included in the occupations listed in the China City Statistical Yearbook. On the other hand, construction is not listed in the APCL's occupations list. While I admit there are differences in occupation categories between the statistics bureau of China and the APCL, some categories should be considered the same items. For example, real estate is included both in the China City Statistical Yearbook and by the APCL. Compared with the percentage of real estate workers in the study sample, actual percentages of the occupation are very different. The real estate population in Hangzhou, Chengdu, and Qingdao account for only 0.2 percent, but the percentage of real estate informants was much higher than actual percentages of the occupation except for Shenzhen. Therefore, the sample may be very unrepresentative of the actual occupations in the cities and may represent a white-collar sample.

2). Leisure activities

In the next section, I will address research questions 1a and b.

1. What are the primary leisure activities in each of the six cities?

a. What are the participation rates for leisure activities in each of the six cities?

b. How important are leisure activities in each of the six cities?

Tables 21 through 26 show the number of people who indicated that they participated in an activity (N), the participation rate for each leisure activity (PR) reported by residents of each city, the mean of how important that activity is (Mean), PR rank, Mean rank and absolute differences of PR and Mean ranks. With regard to the participation rate (PR) for leisure activities, reading, including reading a newspaper and other pleasure reading, was rated highest for all cities (Hangzhou: PR=98%; Chengdu: PR=98%; Beijing; PR=99%; Qingdao: PR=92%; Shanghai; PR=93%; Shenzhen: PR=92%) on the basis of frequencies of participation. A total of 9 activities were listed in the top 10, including watching movies, reading books, reading a newspaper, chatting, using the Internet, taking naps, attending family gatherings, playing with kids, and visiting friends and relatives, with a range of participation rate from 99 percent to 72 percent. On the other hand, among the top 30 activities, a total of 23 activities, including reading a newspaper, other pleasure reading, using the Internet, dining out at a restaurant, chatting, reading books, visiting friends and relatives, watching movies, reading magazines, going to local parks, attending family gatherings, walking, listening to music, karaoke, watching TV, meditation, taking naps, play with children and grandchild, singing, visiting mountains or water areas, playing Chinese poker, running, and taking a vacation were listed in all cities.

Table 21. Mean of importance and participation rate of leisure activities rated by Residents of Hangzhou

Activities	N	PR[1]	Mean[2]	SD[3]	PRR[4]	MR[5]	AD[6]
Reading newspapers	117	98%	4.13	0.95	1	3	2
Other pleasure reading	113	94%	3.50	1.17	2	18	16
Using internet	111	93%	3.91	1.05	3	5	2
Dining out	111	93%	3.29	0.99	3	26	23
Chatting	109	91%	4.06	1.03	5	4	1
Reading books	108	90%	4.19	0.96	6	2	4
Visiting friends and relatives	107	89%	3.77	1.10	7	9	2
Reading magazines	106	88%	4.24	1.11	8	1	7
Watching movies	106	88%	3.41	1.13	8	20	12
Visiting teahouse	100	83%	2.76	1.00	10	56	46
Mountain climbing	99	83%	3.21	1.14	11	32	21
Go to local parks	97	81%	3.16	1.05	12	33	21
Family gatherings	91	76%	3.88	1.10	13	7	6
Listening to music	88	73%	3.75	1.21	14	10	4
walking	88	73%	3.23	1.20	14	30	16
Watching TV	87	73%	2.76	1.09	16	56	40
Karaoke	87	73%	2.72	1.15	16	62	46
Meditation	85	71%	3.72	1.05	18	12	6
Taking naps	83	69%	3.90	1.04	19	6	13
Singing	82	68%	3.79	1.24	20	8	12
Play with kids	82	68%	2.89	1.12	20	50	30
Visiting mountains/ water Area	79	66%	3.39	0.99	22	21	1
Chinese poker	78	65%	2.22	0.91	23	87	64
Badminton	76	63%	3.51	1.11	24	17	7
Running	76	63%	3.24	1.19	24	29	5
Take vacation	76	63%	2.87	1.12	24	51	27
Cooking	72	60%	3.43	1.15	27	19	8
Attending sports event	72	60%	3.32	1.09	27	24	3
Table tennis	71	59%	2.87	1.22	29	51	22
Dating	69	58%	3.62	1.10	30	14	16
Visiting coffeeshop	66	55%	3.36	1.13	31	22	9
Visiting historic or cultural Site	66	55%	2.41	0.93	31	77	46
Hiking in natural areas	65	54%	3.23	1.11	33	30	3
Social/ballroom dancing	65	54%	2.37	0.91	33	80	47
Internet games	64	53%	2.50	1.36	35	74	39
Hair dressing/beauty salon	63	53%	3.32	1.09	36	24	12
Visit exhibitions	60	50%	3.12	1.17	37	37	0
Swimming	59	49%	2.83	1.28	38	54	16
Bathing	58	48%	2.95	0.93	39	49	10
Attending music event	58	48%	2.72	1.20	39	62	23
Home decorating	56	47%	3.54	1.13	41	16	25
Picnic	53	44%	2.74	1.06	42	61	19
Visiting bar or pub	51	43%	2.27	0.98	43	85	42
Visiting museum/art gallery	50	42%	3.00	1.21	44	45	1
Photography	48	40%	3.10	1.08	45	38	7
Bicycling for pleasure	47	39%	3.02	1.03	46	44	2
Listening to radio	46	38%	3.09	1.26	47	39	8
Nightclubs	46	38%	3.09	1.13	47	49	2
Massage	46	38%	2.54	1.22	47	72	25

Electronic games	45	38%	2.64	1.43	50	66	16
Mahjong	44	37%	3.61	1.24	51	15	36
Writing	44	37%	3.00	1.03	51	45	6
Visiting theme park	44	37%	2.32	1.05	51	84	33
Volunteering in social work	43	36%	3.63	1.13	54	13	41
Go to zoos	42	35%	2.52	0.80	55	73	18
Boating	42	35%	2.24	1.05	55	86	31
Fishing	41	34%	2.76	1.22	57	56	1
Collecting (stamps, coins, etc.)	33	28%	3.15	0.97	58	34	24
Go to gym	32	27%	2.34	0.97	59	81	22
Rope skipping	31	26%	3.03	1.20	60	43	17
Calligraphy	29	24%	2.97	1.05	61	47	14
Dancing	28	23%	2.75	1.21	62	59	3
Attending theatre	28	23%	2.50	1.29	62	74	12
Driving for pleasure	27	23%	2.85	1.03	64	53	11
Chess	26	22%	2.81	0.90	65	55	10
Painting	26	22%	2.62	0.94	65	68	3
Hot springs	26	22%	2.58	1.06	65	70	5
Tennis	25	21%	2.48	1.26	68	76	8
Exercising with equipment	24	20%	3.08	1.02	69	41	28
Billiards	24	20%	2.96	1.30	69	48	21
Go to natural parks	24	20%	2.33	1.01	69	82	13
Camping	23	19%	3.26	1.21	72	28	44
Physical exercises	22	18%	3.36	1.09	73	22	51
Soccer	19	16%	3.05	1.43	74	42	32
Volleyball	18	15%	2.39	1.20	75	78	3
Skating	16	13%	2.75	1.18	76	69	7
Pets	16	13%	2.38	1.36	76	79	3
Yoga	15	13%	3.73	1.03	78	11	67
Religious activity	15	13%	2.67	1.35	78	65	13
Playing instruments	11	9%	3.27	1.19	80	27	53
Inventing	10	8%	2.70	1.49	81	64	17
Oversea travel	9	8%	2.33	1.58	82	82	0
Taichi	8	7%	2.63	1.06	83	67	16
Shadow boxing	7	6%	3.14	0.90	84	35	49
Martial art	7	6%	3.14	1.35	84	35	49
Mountain biking	7	6%	2.57	1.13	84	71	13
Electronic pets	6	5%	1.83	0.75	87	89	2
Archery	5	4%	2.60	1.14	88	69	19
Golf	2	2%	2.00	1.41	89	88	1

[1] Participant Rate
[2] Importance Mean
[3] Importance SD
[4] PR Rank
[5] Mean Rank
[6] Absolute differences of PR and Mean ranks

*Chatting refers to chatting by phone, with family and friends, online.

Table 22. Mean of importance and participation rate (PR) of leisure activities rated by Residents of Chengdu

Activities	N	PR[1]	Mean[2]	SD[3]	PRR[4]	MR[5]	AD[6]
Reading newspapers	127	98%	4.19	1.13	1	1	0
Other pleasure reading	123	95%	3.73	1.29	2	6	4
Watching movies	123	95%	3.76	1.43	2	5	3
Using internet	121	93%	3.47	1.27	4	13	9
Reading books	119	92%	4.04	1.15	5	2	3
Dining out	119	92%	3.25	1.22	5	19	14
Chatting	118	91%	4.00	1.15	7	3	4
Reading magazines	116	89%	3.61	1.12	8	10	2
Visiting friends and relatives	113	87%	3.73	1.17	9	6	3
Watching TV	110	85%	2.77	1.32	10	48	38
Go to local parks	109	84%	2.98	1.10	11	32	21
walking	106	82%	3.71	1.27	12	9	3
Taking naps	103	79%	3.52	1.29	13	12	1
Visiting teahouse	100	77%	3.09	1.35	14	28	14
Family gatherings	98	75%	3.81	1.24	15	4	11
Running	96	74%	3.47	1.21	16	13	3
Internet games	96	74%	2.63	1.35	16	61	45
Singing	92	71%	2.87	1.16	18	41	23
Chinese poker	91	70%	2.75	1.15	19	50	31
Dating	91	70%	3.37	1.26	19	16	3
Mountain climbing	90	69%	3.06	1.14	21	29	8
Visiting mountains/water Area	89	68%	3.30	1.16	22	18	4
Mahjong	88	68%	2.72	1.37	23	51	28
Meditation	88	68%	3.56	1.11	23	11	12
Karaoke	88	68%	2.78	1.22	23	47	24
Listening to music	87	67%	2.52	1.26	26	69	43
Take vacation	87	67%	3.22	1.29	26	21	5
Social/ballroom dancing	87	67%	2.89	1.16	26	36	10
Hair dressing/beauty salon	86	66%	3.16	1.25	29	23	6
Play with kids	86	66%	3.73	1.32	29	6	23
Visiting bar or pub	85	65%	2.71	1.36	31	52	21
Bathing	85	65%	3.11	1.26	31	25	6
Attending sports event	82	63%	3.39	1.20	33	15	18
Badminton	81	62%	2.96	1.17	34	33	1
Cooking	80	62%	3.35	1.21	35	17	18
Attending music event	80	62%	2.60	1.15	35	64	29
Table tennis	78	60%	2.64	1.27	37	59	22
Visiting coffeeshop	78	60%	2.62	1.38	37	63	26
Go to zoos	78	60%	2.64	1.10	37	59	22
Massage	77	59%	3.06	1.23	40	29	11
Visiting historic or cultural Site	77	59%	3.18	1.16	40	22	18
Visit exhibitions	77	59%	3.10	1.25	40	27	13
Hiking in natural areas	76	58%	3.24	1.21	43	20	23
Nightclubs	72	55%	2.46	1.33	44	74	30
Home decorating	70	54%	3.11	1.31	45	25	20
Bicycling for pleasure	70	54%	2.66	1.18	45	57	12
Electronic games	66	51%	2.39	1.26	47	79	32
Dancing	66	51%	2.71	1.34	47	52	5
Visiting theme park	66	51%	2.85	1.17	47	44	3

Swimming	65	50%	2.45	1.15	50	75	25
Photography	64	49%	2.63	1.29	51	61	10
Collecting (stamps, coins, etc.)	64	49%	2.77	1.29	51	48	3
Listening to radio	62	48%	2.69	1.47	53	55	2
Writing	62	48%	3.00	1.45	53	31	22
Physical exercises	60	46%	2.95	1.38	55	34	21
Rope skipping	59	45%	2.58	1.37	56	65	9
Chess	59	45%	2.54	1.34	56	68	12
Visiting museum/art gallery	59	45%	2.83	1.34	56	45	11
Driving for pleasure	58	45%	2.47	1.37	59	73	16
Volunteering in social work	56	43%	3.13	1.39	60	24	36
Hot springs	55	42%	2.89	1.20	61	36	25
Fishing	54	42%	2.89	1.34	61	36	25
Go to gym	53	41%	2.21	1.12	63	82	19
Billiards	53	41%	1.96	1.04	63	86	23
Exercising with equipment	52	40%	2.88	1.31	65	40	25
Yoga	51	39%	2.65	1.40	66	58	8
Painting	50	38%	2.70	1.30	67	54	13
Calligraphy	50	38%	2.90	1.36	67	35	32
Picnic	50	38%	2.50	1.13	67	71	4
Boating	49	38%	2.51	1.29	67	70	3
Tennis	48	37%	2.29	1.40	71	81	10
Pets	48	37%	2.42	1.40	71	78	7
Volleyball	46	35%	2.57	1.24	73	66	7
Go to natural parks	45	35%	2.56	1.25	73	67	6
Soccer	44	34%	2.48	1.27	75	72	3
Oversea travel	44	34%	2.89	1.32	75	36	39
Camping	43	33%	2.81	1.38	77	46	31
Skating	41	32%	1.78	0.99	78	89	11
Martial art	39	30%	2.87	1.59	79	41	38
Taichi	37	28%	2.86	1.55	80	43	37
Attending theatre	37	28%	2.00	1.03	80	85	5
Playing instruments	36	28%	2.69	1.47	80	55	25
Electronic pets	33	25%	1.88	1.29	83	87	4
Mountain biking	33	25%	2.33	1.31	83	80	3
Shadow boxing	32	25%	2.44	1.56	85	77	8
Religious activity	31	24%	2.06	1.36	86	84	2
Golf	29	22%	1.79	1.26	87	88	1
Archery	29	22%	2.17	1.36	87	83	4
Inventing	29	22%	2.45	1.50	87	75	12

[1] Participant Rate
[2] Importance Mean
[3] Importance SD
[4] PR Rank
[5] Mean Rank
[6] Absolute differences of PR and Mean ranks
*Chatting refers to chatting by phone, with family and friends, online.

Table 23. Mean of importance and participation (PR) rate of leisure activities rated by Residents of Beijing

Activities	N	PR[1]	Mean[2]	SD[3]	PRR[4]	MR[5]	AD[6]
Newspaper	125	99%	3.85	1.09	1	7	6
Other reading	122	97%	3.35	1.26	2	24	22
Movies	120	95%	4.33	1.04	3	1	2
books	118	94%	4.01	1.06	4	3	1
Chatting	111	88%	3.93	0.96	5	5	0
Internet	110	87%	3.48	1.22	6	15	9
Magazines	110	87%	3.43	1.15	6	19	13
Dining Out in Restaurant	102	81%	3.19	1.16	8	33	25
Visiting Friends and Relatives	96	76%	3.71	0.86	9	9	0
Mountain Climbing	89	71%	3.17	0.99	10	35	25
TV	85	67%	2.60	1.28	11	63	52
Karaoke	84	67%	2.56	1.32	11	66	55
Take Naps	79	63%	3.48	1.16	13	15	2
Music	78	62%	3.01	1.16	14	40	26
Family Gatherings	77	61%	3.66	1.11	15	11	4
Going to local Parks	77	61%	3.05	1.12	15	39	24
Singing	73	58%	2.75	1.28	17	56	39
Badminton	71	56%	2.77	1.20	18	14	4
Chinese poker	71	56%	2.59	1.09	18	55	37
Meditation	70	56%	3.51	1.14	18	65	47
Dating	69	55%	3.81	0.97	21	8	13
walking	69	55%	3.43	1.29	21	19	2
Take Vacation	69	55%	3.33	1.15	21	25	4
Visit Mountains or Water Area	69	55%	3.23	1.15	21	30	9
Running	62	49%	3.18	1.05	25	34	9
Hair Dressing/Beauty Salon	59	47%	3.36	1.20	26	23	3
Cooking	58	46%	3.57	1.29	27	12	15
Visit Historic or Cultural Site	54	43%	3.15	1.09	28	36	8
Swimming	54	43%	2.74	1.35	28	57	29
Play with kids	53	42%	4.04	1.29	30	2	28
Bathing	53	42%	3.09	1.10	30	37	7
Visit Teahouse	53	42%	2.66	0.81	30	61	31
Internet games	51	40%	2.92	1.29	33	47	14
Table Tennis	51	40%	2.61	1.00	33	62	29
Visit Coffeehouse	49	39%	2.43	0.91	35	75	40
Electronic games	47	37%	2.91	1.44	36	48	12
Attend Sports Event	47	37%	2.55	0.93	36	67	31
Attend Music Event	47	37%	2.55	1.16	36	67	31
Nightclubs	46	37%	2.46	1.07	39	71	32
Social/ballroom dancing	42	33%	2.86	1.32	40	32	8
Home Decorating	41	33%	3.22	1.21	40	49	9
Radio	41	33%	2.90	1.26	40	51	11
Visit Bar or Pub	39	31%	2.38	1.07	43	78	35
Hiking in Natural Areas	38	30%	3.29	1.09	44	26	18
Going to zoos	38	30%	2.45	1.08	44	73	29
Visit Theme Park	37	29%	2.84	1.24	46	52	6
Mahjong	36	29%	2.06	0.98	46	85	39
Massage	35	28%	3.23	1.35	48	30	18

Visit Museum/Art Gallery	35	28%	2.97	1.10	48	45	3
Boating	34	27%	2.15	1.08	50	83	33
Hot Springs	33	26%	2.67	1.34	51	59	8
Picnic	33	26%	2.42	0.83	51	76	25
Driving for Pleasure	30	24%	3.27	0.94	53	29	24
Bicycling for pleasure	30	24%	2.67	1.06	53	59	6
Visit Exhibitions	29	23%	3.28	1.28	55	28	27
Going to natural parks	29	23%	3.00	1.13	55	41	14
Photography	29	23%	2.69	1.20	55	58	3
Writing	28	22%	3.39	1.13	58	22	36
Pets	27	21%	3.93	1.04	59	5	54
Dancing	27	21%	2.44	0.97	59	71	12
Go to Gym	26	21%	2.46	1.14	59	74	15
Tennis	25	20%	2.60	1.15	62	63	1
Rope Skipping	23	18%	2.78	1.24	63	54	9
Skating	23	18%	2.09	1.08	63	84	21
Physical Exercises	22	17%	3.45	1.18	65	9	56
Travel to Another Country	22	17%	2.82	1.22	65	17	48
Fishing	22	17%	2.50	1.01	65	26	39
Yoga	21	17%	3.71	1.19	65	53	12
Collecting (stamps, coins, etc.)	21	17%	3.29	1.19	65	70	5
Billiards and Pool	21	17%	1.90	0.94	65	86	21
Chess	20	16%	1.65	0.93	71	88	17
Camping	17	13%	2.94	1.25	72	18	54
Attend Theatre	17	13%	2.53	1.23	72	46	26
Exercising with Equipment	16	13%	3.44	1.21	72	50	22
Volunteering in social work	16	13%	2.88	1.54	72	69	3
Volleyball	16	13%	2.19	0.83	72	81	9
Soccer	15	12%	3.07	1.28	77	38	39
Calligraphy	10	8%	2.40	1.07	78	77	1
Religious activity	9	7%	3.56	1.13	79	13	66
Playing instruments	9	7%	3.00	1.58	79	41	38
Archery	9	7%	2.33	1.00	79	79	0
Painting	9	7%	2.22	1.64	79	80	1
Taichi	6	5%	2.17	0.98	83	82	1
Golf	6	5%	1.67	0.82	83	87	4
Mountain biking	5	4%	3.40	1.52	85	21	64
Martial art	4	3%	3.00	1.83	86	41	45
Inventing	2	2%	3.00	0.00	87	41	46
Electronic pets	1	1%	4.00	N/A	88	4	84
Shadow Boxing	1	1%	1.00	N/A	88	89	1

[1] Participant Rate
[2] Importance Mean
[3] Importance SD
[4] PR Rank
[5] Mean Rank
[6] Absolute differences of PR and Mean ranks

*Chatting refers to chatting by phone, with family and friends, online.

Table 24. Mean of importance and participation rate (PR) of leisure activities rated by Residents of Shanghai

Activities	N	PR[1]	Mean[2]	SD[3]	PRR[4]	MR[5]	AD[6]
Other reading	128	94%	4.05	1.12	1	1	0
Newspaper	128	94%	4.05	1.04	1	1	0
Magazines	123	90%	3.57	1.11	3	12	9
Chatting	118	87%	3.86	1.12	4	5	1
Internet	116	85%	3.61	1.16	5	7	2
Visiting Friends and Relatives	115	85%	3.71	1.04	5	11	6
Dining Out in Restaurant	115	85%	3.20	1.17	5	21	16
books	113	83%	3.89	1.28	8	4	4
Movies	112	82%	3.98	1.26	9	3	6
Take Naps	111	82%	3.66	1.11	9	10	1
Meditation	104	76%	3.42	1.20	11	13	2
Family Gatherings	102	75%	3.79	1.00	12	6	6
Music	99	73%	3.05	1.26	13	24	11
Badminton	96	71%	2.77	1.24	14	39	25
TV	95	70%	2.62	1.22	15	50	35
Running	92	68%	3.22	1.29	16	18	2
Visit Mountains or Water Area	88	65%	3.19	1.17	17	22	5
Chinese poker	88	65%	2.57	1.24	17	55	38
Karaoke	87	64%	2.77	1.19	19	39	20
Play with kids	86	63%	3.69	1.16	20	8	12
Hair Dressing/Beauty Salon	86	63%	3.30	1.26	20	16	4
walking	85	63%	3.22	1.32	20	18	2
Going to local Parks	85	63%	2.74	1.18	20	43	23
Singing	83	61%	2.89	1.30	24	29	5
Cooking	81	60%	3.69	1.31	25	8	17
Internet games	81	60%	2.72	1.42	25	44	19
Dating	80	59%	3.39	1.28	27	14	13
Take Vacation	80	59%	3.21	1.23	27	20	7
Table Tennis	80	59%	2.54	1.21	27	57	30
Swimming	79	58%	2.54	1.27	30	57	27
Visit Teahouse	78	57%	2.82	1.15	31	15	16
Visit Coffeehouse	78	57%	2.69	1.26	31	17	14
Massage	77	57%	3.35	1.13	31	34	3
Bathing	77	57%	3.25	1.29	31	46	15
Visit Historic or Cultural Site	75	55%	2.91	1.33	35	27	8
Mountain Climbing	75	55%	2.72	1.25	35	44	9
Mahjong	74	54%	2.78	1.51	37	38	1
Attend Sports Event	72	53%	3.10	1.24	38	23	15
Hot Springs	72	53%	2.79	1.13	38	37	1
Social/ballroom dancing	69	51%	2.84	1.07	40	31	9
Visit Exhibitions	68	50%	2.75	1.23	41	42	1
Radio	68	50%	2.56	1.34	41	56	15
Attend Music Event	66	49%	2.80	1.21	43	36	7
Visit Museum/Art Gallery	66	49%	2.76	1.18	43	41	2
Visit Theme Park	65	48%	2.51	1.24	45	59	14
Tennis	64	47%	2.27	1.26	46	74	28
Nightclubs	63	46%	2.40	1.24	47	65	18
Electronic games	63	46%	2.40	1.42	47	65	18

Photography	61	45%	2.82	1.26	49	34	15
Going to zoos	61	45%	2.39	1.17	49	68	19
Go to Gym	61	45%	2.18	1.18	49	78	29
Home Decorating	60	44%	2.83	1.25	52	33	19
Visit Bar or Pub	60	44%	2.62	1.30	52	50	2
Rope Skipping	59	43%	2.44	1.15	54	63	9
Collecting (stamps, coins, etc.)	59	43%	2.37	1.26	54	70	16
Boating	59	43%	2.22	1.12	56	71	15
Soccer	58	43%	2.34	1.49	57	76	19
Driving for Pleasure	56	41%	2.98	1.24	58	25	33
Hiking in Natural Areas	56	41%	2.88	1.19	58	30	28
Picnic	56	41%	2.39	1.15	58	68	10
Exercising with Equipment	55	40%	2.58	1.34	61	26	35
Billiards and Pool	55	40%	2.40	1.27	61	54	7
Chess	55	40%	2.18	1.17	61	65	4
Volleyball	55	40%	2.13	1.09	61	78	17
Travel to Another Country	54	40%	2.96	1.44	65	81	16
Skating	54	40%	2.06	1.19	66	85	19
Volunteering in social work	52	38%	2.90	1.40	67	28	39
Bicycling for pleasure	52	38%	2.69	1.37	67	46	21
Physical Exercises	52	38%	2.62	1.30	67	50	17
Going to natural parks	51	38%	2.61	1.25	67	53	14
Dancing	50	37%	2.66	1.33	71	49	22
Pets	50	37%	2.48	1.53	71	60	11
Writing	49	36%	2.84	1.46	73	31	42
Taichi	49	36%	2.43	1.46	73	64	9
Camping	49	36%	2.33	1.13	73	72	1
Painting	48	35%	2.08	1.16	76	73	3
Martial art	47	35%	2.32	1.45	76	77	1
Yoga	47	35%	2.19	1.28	76	81	5
Fishing	47	35%	2.13	1.23	76	84	8
Religious activity	46	34%	2.67	1.52	80	48	32
Attend Theatre	46	34%	2.46	0.98	80	61	19
Inventing	46	34%	2.11	1.14	80	83	3
Playing instruments	44	32%	2.27	1.35	83	74	9
Golf	43	32%	1.67	1.17	83	88	5
Calligraphy	42	31%	2.45	1.40	85	62	23
Archery	41	30%	1.71	1.03	86	87	1
Shadow Boxing	39	29%	1.87	1.20	87	86	1
Mountain biking	38	28%	2.18	1.29	88	78	10
Electronic pets	38	28%	1.61	1.00	88	89	1

[1] Participant Rate
[2] Importance Mean
[3] Importance SD
[4] PR Rank
[5] Mean Rank
[6] Absolute differences of PR and Mean ranks
*Chatting refers to chatting by phone, with family and friends, online

Table 25. Mean of importance and participation rate (PR) of leisure activities rated by Residents of Qingdao

Activities	N	PR[1]	Mean[2]	SD[3]	PRR[4]	MR[5]	AD[6]
Reading newspapers	117	92%	4.19	1.14	1	1	0
Other pleasure reading	108	85%	3.73	1.34	2	4	2
Reading books	102	80%	3.73	1.42	3	4	1
Reading magazines	98	77%	3.30	1.36	4	15	11
Using internet	95	75%	3.65	1.36	5	7	2
Dining out	93	73%	3.20	1.39	6	20	14
walking	91	72%	3.55	1.31	7	3	4
Visiting friends and relatives	91	72%	3.82	1.19	7	10	3
Watching movies	87	69%	3.54	1.45	9	2	7
Chatting	87	69%	3.85	1.08	9	11	2
Religious activity	84	66%	0.18	0.39	11	8	3
Family gatherings	83	65%	3.63	1.35	11	89	78
Running	79	62%	3.43	1.42	13	9	4
Taking naps	79	62%	3.61	1.29	13	12	1
Play with kids	77	61%	3.68	1.35	15	6	9
Social/ballroom dancing	76	60%	2.93	1.24	16	32	16
Karaoke	75	59%	3.04	1.37	17	27	10
Singing	73	57%	3.38	1.28	18	13	5
Go to local parks	71	56%	2.76	1.20	19	42	23
Mountain climbing	70	55%	3.10	1.37	20	23	3
Visiting mountains/water Area	70	55%	3.11	1.38	20	25	5
Listening to music	69	54%	2.78	1.28	22	25	3
Chinese poker	69	54%	2.54	1.33	22	40	18
Go to natural parks	69	54%	3.10	1.38	22	59	37
Cooking	68	54%	3.24	1.46	25	14	11
Meditation	68	54%	3.34	1.36	25	17	8
Take vacation	68	54%	3.26	1.51	27	18	9
Badminton	66	52%	2.68	1.24	28	31	3
Hair dressing/beauty salon	66	52%	2.94	1.38	28	45	17
Watching TV	65	51%	2.65	1.36	30	51	21
Dating	64	50%	3.30	1.33	31	15	16
Nightclubs	61	48%	2.43	1.38	32	35	3
Hot springs	61	48%	2.87	1.30	32	65	33
Visiting teahouse	60	47%	2.45	1.43	32	67	35
Swimming	59	46%	2.90	1.45	35	33	2
Visiting coffeeshop	58	46%	2.57	1.40	36	29	7
Home decorating	58	46%	2.98	1.38	36	57	21
Internet games	57	45%	2.68	1.39	38	43	5
Go to zoos	57	45%	2.74	1.33	38	45	7
Attending sports event	57	45%	2.65	1.38	38	51	13
Bathing	56	44%	3.13	1.35	41	22	19
Hiking in natural areas	55	43%	3.24	1.50	42	18	24
Rope skipping	54	43%	3.02	1.27	42	28	14
Visiting bar or pub	54	43%	2.31	1.37	42	72	30
Visiting historic or cultural Site	53	42%	3.11	1.48	45	23	22
Picnic	51	40%	2.59	1.37	46	51	5
Attending music event	51	40%	2.65	1.37	46	56	10
Driving for pleasure	50	39%	2.82	1.51	48	37	11
Electronic games	49	39%	2.55	1.34	49	21	28

Dancing	49	39%	2.67	1.41	49	4	45
Fishing	49	39%	2.78	1.42	49	49	0
Massage	49	39%	3.14	1.50	49	58	9
Mahjong	48	38%	2.44	1.25	49	66	17
Chess	44	35%	2.09	1.18	54	43	11
Collecting (stamps, coins, etc.)	44	35%	2.43	1.23	54	55	1
Table tennis	43	34%	2.60	1.35	54	67	13
Pets	43	34%	2.74	1.59	54	79	25
Physical exercises	42	33%	2.81	1.45	58	33	25
Calligraphy	42	33%	2.90	1.54	58	38	20
Writing	42	33%	2.79	1.62	58	39	19
Visiting museum/art gallery	42	33%	2.52	1.38	58	60	2
Listening to radio	41	32%	2.68	1.42	62	45	17
Photography	41	32%	2.32	1.25	62	45	17
Camping	41	32%	2.68	1.44	62	71	9
Boating	40	31%	2.10	1.10	65	54	11
Visit exhibitions	40	31%	2.63	1.19	65	77	12
Painting	39	31%	2.67	1.32	67	35	32
Bicycling for pleasure	39	31%	2.87	1.59	67	49	18
Yoga	37	29%	2.05	1.10	69	30	39
Oversea travel	37	29%	2.51	1.46	69	61	8
Volunteering in social work	37	29%	2.97	1.42	69	81	12
Soccer	36	28%	2.50	1.44	72	62	10
Billiards	36	28%	2.28	1.16	72	73	1
Volleyball	35	28%	2.06	1.26	74	63	11
Visiting theme park	35	28%	2.49	1.29	74	80	6
Exercising with equipment	34	27%	2.32	1.34	76	70	6
Playing instruments	33	26%	2.36	1.25	77	64	13
Inventing	33	26%	2.48	1.42	77	69	8
Taichi	31	24%	2.00	1.29	79	84	5
Tennis	30	24%	1.97	1.16	80	74	6
Go to gym	30	24%	2.23	1.19	80	77	3
Martial art	30	24%	2.03	1.19	80	83	3
Mountain biking	30	24%	1.93	1.20	80	85	5
Attending theatre	30	24%	2.10	1.12	80	86	6
Skating	29	23%	2.14	1.36	85	76	9
Golf	28	22%	1.89	1.17	86	87	1
Shadow boxing	28	22%	1.82	1.16	86	88	2
Archery	26	20%	2.15	1.26	88	75	13
Electronic pets	24	19%	2.04	1.46	89	82	7

[1] Participant Rate
[2] Importance Mean
[3] Importance SD
[4] PR Rank
[5] Mean Rank
[6] Absolute differences of PR and Mean ranks
*Chatting refers to chatting by phone, with family and friends, online

Table 26. Mean of importance and participation rate (PR) of leisure activities rated by Residents of Shenzhen

Activities	N	PR[1]	Mean[2]	SD[3]	PRR[4]	MR[5]	AD[6]
Other reading	121	95%	3.60	1.15	1	9	8
Newspaper	120	94%	3.96	1.11	2	4	2
Internet	119	93%	3.73	1.21	3	8	5
Movies	118	92%	4.09	1.17	4	1	3
books	116	91%	4.06	1.12	5	2	3
Magazines	110	86%	3.27	1.22	6	21	15
Dining Out in Restaurant	109	85%	3.40	1.09	7	14	7
Take Naps	106	83%	3.79	1.11	8	6	2
Chatting	105	82%	3.78	1.12	9	7	2
Visiting Friends and Relatives	102	80%	3.53	0.98	10	11	1
TV	93	73%	2.63	1.20	11	58	47
walking	91	71%	3.55	1.23	12	10	2
Going to local Parks	91	71%	3.16	1.06	12	26	14
Mountain Climbing	91	71%	3.14	1.21	12	27	15
Badminton	90	70%	3.23	1.20	15	23	8
Dating	88	69%	3.07	1.13	16	29	13
Running	86	67%	3.53	1.20	17	11	6
Visit Mountains or Water Area	85	66%	3.26	1.16	18	22	4
Bathing	85	66%	3.00	1.30	18	33	15
Family Gatherings	83	65%	3.82	1.08	20	5	15
Take Vacation	82	64%	3.49	1.11	21	13	8
Meditation	82	64%	3.40	1.17	21	14	7
Karaoke	81	63%	3.02	1.11	23	31	8
Chinese poker	78	61%	2.56	1.12	24	60	36
Singing	77	60%	3.32	1.11	25	18	7
Hair Dressing/Beauty Salon	77	60%	3.23	1.26	25	23	2
Visit Teahouse	77	60%	2.81	1.03	25	44	19
Music	77	60%	2.74	1.12	25	51	26
Visit Coffeehouse	77	60%	2.70	1.08	25	53	28
Play with kids	76	59%	3.99	1.23	30	3	27
Cooking	74	58%	3.34	1.24	31	17	14
Visit Historic or Cultural Site	74	58%	2.96	1.23	31	37	6
Swimming	73	57%	3.04	1.33	33	30	3
Visit Bar or Pub	72	56%	2.51	0.99	34	62	28
Home Decorating	71	55%	3.32	1.19	35	18	17
Massage	71	55%	2.97	1.19	35	36	1
Going to natural parks	71	55%	2.87	1.17	35	41	6
Table Tennis	71	55%	2.68	1.28	35	57	22
Visit Theme Park	70	55%	2.70	1.00	36	53	17
Internet games	70	55%	2.57	1.17	36	59	23
Hiking in Natural Areas	68	53%	2.99	1.17	41	35	6
Attend Sports Event	66	52%	3.00	1.14	42	33	9
Photography	66	52%	2.91	1.13	42	39	3
Social/ballroom dancing	66	52%	2.73	1.18	42	52	10
Visit Museum/Art Gallery	65	51%	3.02	1.24	45	31	14
Mahjong	64	50%	2.38	1.11	46	72	26
Hot Springs	63	49%	2.49	1.00	47	64	17
Attend Music Event	60	47%	2.70	1.09	48	53	5
Nightclubs	60	47%	2.42	1.03	48	67	19

Chess	59	46%	2.19	1.06	50	80	30
Going to zoos	58	45%	2.43	1.17	51	16	35
Visit Exhibitions	57	45%	3.35	1.16	51	65	14
Driving for Pleasure	56	44%	3.09	1.25	53	28	25
Electronic games	56	44%	2.27	1.09	53	78	25
Writing	55	43%	3.20	1.18	55	25	30
Travel to Another Country	55	43%	2.93	1.35	55	38	17
Dancing	55	43%	2.53	1.27	55	61	6
Radio	54	42%	2.78	1.36	58	48	10
Go to Gym	52	41%	2.38	1.09	59	72	13
Picnic	51	40%	2.43	1.12	60	65	5
Boating	49	38%	2.37	1.20	61	42	19
Camping	48	38%	2.83	1.39	61	50	11
Physical Exercises	48	38%	2.77	1.32	61	75	14
Collecting (stamps, coins, etc.)	47	37%	2.81	1.28	64	44	20
Bicycling for pleasure	47	37%	2.79	1.41	64	47	17
Rope Skipping	47	37%	2.40	1.30	64	70	6
Soccer	46	36%	2.50	1.33	67	63	4
Fishing	45	35%	2.42	1.34	68	67	1
Skating	45	35%	2.07	1.03	68	83	15
Volunteering in social work	44	34%	3.32	1.49	70	20	50
Billiards and Pool	44	34%	1.82	0.97	70	88	18
Exercising with Equipment	43	34%	2.81	1.45	72	44	28
Calligraphy	42	33%	2.88	1.23	73	40	33
Tennis	41	32%	2.20	1.27	73	79	6
Painting	40	31%	2.70	1.32	75	53	22
Volleyball	40	31%	2.33	1.16	75	77	2
Attend Theatre	40	31%	2.15	1.19	75	82	7
Golf	39	30%	2.41	1.25	78	69	9
Pets	38	30%	2.39	1.26	79	71	8
Yoga	37	29%	2.35	1.34	80	76	4
Inventing	36	28%	2.78	1.29	81	48	33
Playing instruments	35	27%	2.83	1.40	82	42	40
Religious activity	35	27%	2.17	1.40	82	81	1
Mountain biking	33	26%	1.97	1.24	84	85	1
Martial art	32	25%	2.38	1.52	85	72	13
Archery	31	24%	1.71	1.04	86	89	3
Taichi	29	23%	2.07	1.39	87	83	4
Shadow Boxing	29	23%	1.86	1.03	87	86	1
Electronic pets	29	23%	1.83	0.93	87	87	0

[1] Participant Rate
[2] Importance Mean
[3] Importance SD
[4] PR Rank
[5] Mean Rank
[6] Absolute differences of PR and Mean ranks

***Chatting refers to chatting by phone, with family and friends, online.**

Table 27 indicates numbers of leisure activities of participation split by percentage of informants in the six cities. In general, a total of 12 activities were "participated" in by over 80 percent of informants in Hangzhou and Chengdu, whereas only 3 activities were indicated by informants in Qingdao. Half of the informants in each city indicated that they participate in at least 24 activities among the 89 activities ranged from Beijing (n=24) to Shenzhen (n=44). More than 30 percent of informants in Shanghai indicated that they have participated in 86 activities (97 percent of activities), whereas informants in Beijing indicated that they had attended 45 activities (50.5 percent of activities).

Table 27. Numbers of leisure activities of participation split by percentage of informants in six cities (activities=89)

	Numbers of activities					
Participation rate	Hangzhou (120)	Chengdu (129)	Beijing (126)	Shanghai (136)	Qingdao (121)	Shenzhen (128)
Over 80%	12	12	8	10	3	9
Over 70%	18	20	10	14	8	11
Over 60%	28	39	16	24	16	23
Over 50%	37	50	24	42	31	44
Over 40%	45	65	34	64	47	58
Over 30%	57	79	45	86	68	78
below 30%	32	10	44	3	21	11

( ): sample size

Among six cities on mean importance of leisure activities, watching movies is rated by Hangzhou (M=4.24), Beijing (M=4.33), and Shenzhen (M=4.09) as the most important activity, whereas reading a newspaper is most highly rated by Chengdu (M=4.19). Among the top 10 means of importance of leisure activities for each city, a total of 7 activities are found in the top 10 means of all cities, including reading a

newspaper, reading books, chatting, attending family gatherings, watching movies, visiting friends and relatives, and playing with kids. Among the top 30 means of importance of leisure activities for each city—except for reading a newspaper—reading books, chatting, attending family gatherings, watching movies, visiting friends and relatives, and playing with kids appear in the top 10 activity lists for all cities, using the Internet, taking naps, walking, meditation, dating, other pleasure reading, cooking, reading magazines, visiting mountains and water areas, dining out, and taking vacation are rated by all cities, resulting in a total of 19 activities being rated by all cities in the top 30 activities.

Absolute differences of PR and Mean rank are displayed in the column of AD from table 21-26. As the tables indicated that the Absolute differences range from 0 to 84. The Absolute differences show how different PR and Mean rank are. If one activity has both the same PR and Mean rank, the absolute difference is 0. In Hangzhou data, the absolute difference of visiting exhibitions is 0. Visiting mountains/ water Area, Visiting museum/art gallery, fishing and golf is only 1. However, Since Yoga has a low (13 %) participation rate and high mean (3.73) of importance, the absolute difference of the activity is 67 which is the biggest difference in the activity list in Hangzhou. On the contrary, playing Chinese poker has a high (65 %) participation rate and low mean (2.22) of importance, the absolute difference of the activity is 64 which is the second biggest difference in the activity list in Hangzhou. In Chengdu data, the absolute difference of reading newspaper is 0 and the absolute difference of taking naps, playing badminton and golf is only 1. However, since Yoga has a high (74 %) participation rate and low mean (2.63) of importance, the absolute difference of the activity is 45 which is the biggest

difference in the activity list in Chengdu. In Beijing data, the absolute difference of chatting, visiting friends/relatives and playing archery is 0 and the absolute difference of Reading books, playing tennis, calligraphy, painting, Taichi and shadow boxing is only 1. Absolute difference of playing electronic pets is 84 which is the biggest difference and absolute difference of religious activity is 66 which is the second biggest difference and absolute difference of mountain biking is 64 which the third biggest difference in the activity list in Beijing, While numbers of participation rate of three activities are low than 10 %, the mean of importance of these activities are higher than 3.4. in Qingdao data, the absolute difference of reading newspaper and fishing chatting is 0 and the absolute difference of Reading books, taking naps, collecting, billiards, Golf is only 1. Absolute difference of family gatherings is 78, which is the biggest difference in the activity list in Qingdao. In Shanghai data, the absolute difference of other pleasure reading and reading newspaper is 0. Chatting, taking naps, playing mahjong, hot springs, visiting exhibitions, camping, martial art, playing archery, shadow boxing and electronic pets is 1. Absolute difference of writing is 42 which is the biggest difference in the activity list in Shanghai. In Shenzhen data, the absolute difference of playing electronic pets is 0 and the absolute difference of visiting friends/relatives, massage, fishing, religious activity, mountain biking, shadow boxing is only 1. Absolute difference of family gatherings is 78, which is the biggest difference in the activity list in Qingdao. In Shanghai data, the absolute difference of other pleasure reading and reading newspaper is 0. Chatting, taking naps, playing mahjong, hot springs, visiting exhibitions, camping, martial art, playing archery, shadow boxing and electronic pets is 1. Absolute difference of writing is 42 which is the biggest difference in the activity list in Shanghai. The

absolute difference of Volunteering in social work is 50 which is the biggest difference in the activity list in Shenzhen. Volunteering in social work has a low participation rate (34%) and a high mean of importance in the activity list in Shenzhen. on the contrary, absolute difference of watching TV is 47 which is the second biggest difference in the activity list in Shenzhen. watching TV also has a high participation rate (73%) and a low mean of importance (2.63) in the activity list in Shenzhen.

3). Leisure constraints

In this section, I will address research questions 4a:

4. What are the primary leisure constraints in each of the six cities?

a. How important are the primary leisure constraints in each of the six cities?

Tables 28 and 29 indicate means of leisure constraints for each city. Among constraint items, no time, busy with job, money, fee, and no vacation are the top 5 mean constraints for all cities. Hangzhou, Shanghai, and Qingdao rated a "lack of time" as the most important constraint, whereas Shenzhen and Chengdu rated being "too busy with paid work" as the most important constraint. However, Beijing rated "fee too high" as the greatest constraint factor. Among the top 20 means of constraints, a total of 14 constraints including no time, busy with job, money, fee, no vacation, low income, lack of energy, economic pressure, crowding, life pressure, transportation, busy with study, space, and services quality are included for all cities. On the other hand, except for Qingdao, personal stress was rated in the top mean of 20 constraints by all cities, whereas housework is rated in the top mean of 20 constraints by all cities except Shenzhen. Traffic was rated by Hangzhou, Beijing, Shanghai, and Qingdao and a lack of partners

was rated by Hangzhou, Beijing, Chengdu, and Shenzhen as being in the 20 top mean of constraints in four cities.

Table 28. Mean of leisure constraints in Hangzhou, Chengdu, and Beijing

	Hangzhou	M	SD	Chengdu	M	SD	Beijing	M	SD
1	Lack of time	3.69	1.33	Too busy with paid work	3.42	1.39	Fees too high	3.43	1.27
2	Too busy with paid work	3.56	1.24	Money	3.42	1.46	Lack of time	3.42	1.39
3	Money	3.43	1.40	Fees too high	3.40	1.38	Too busy with paid work	3.33	1.33
4	Fees too high	3.38	1.24	Lack of time	3.40	1.47	Money	3.29	1.43
5	No vacation	3.36	1.40	No vacation	3.36	1.48	No vacation	3.17	1.46
6	Income too low	3.33	1.30	Income too low	3.20	1.48	Income too low	3.10	1.34
7	Lack of energy	3.13	1.26	Economic pressure	2.92	1.46	Economic pressure	3.05	1.37
8	Economic pressure	2.92	1.27	Life pressure	2.87	1.48	Traffic Conditions	2.90	1.28
9	Crowding issues	2.91	1.31	Lack of energy	2.87	1.42	Life pressure	2.87	1.33
10	Life pressure	2.89	1.31	Poor service quality	2.85	1.51	Crowding issues	2.86	1.34
11	Lack of transportation	2.80	1.36	Crowding issues	2.82	1.48	Too busy studying	2.80	1.30
12	Too busy studying	2.74	1.26	Too busy studying	2.75	1.47	No Vehicle	2.67	1.36
13	Traffic conditions	2.73	1.36	Personal stress	2.75	1.42	Lack of driving experience	2.61	1.53
14	Poor Service Quality	2.63	1.29	Lack of group activities	2.72	1.34	Poor service quality	2.60	1.23
15	No partners	2.62	1.17	Lack of facilities	2.70	1.44	Lack of energy	2.57	1.30
16	Lack of group activities	2.61	1.18	No steady job	2.58	1.59	Lack of transportation	2.57	1.34
17	Personal stress	2.58	1.29	No partners	2.57	1.39	No partners	2.56	1.11
18	Lack of Facilities	2.58	1.19	Too busy with paid work	2.55	1.49	Personal stress	2.51	1.40
19	Too busy with housework	2.55	1.26	Lack of transportation	2.47	1.38	Too busy with housework	2.51	1.30
20	Lack of Interest	2.53	1.26	Different life style	2.46	1.30	Lack of facilities	2.48	1.24
21	Lack of information	2.43	1.20	Safety issues in leisure sites	2.41	1.42	Lack of skill	2.44	1.20
22	Lack of Initiative	2.42	1.21	Bureaucracy/corruption	2.40	1.54	Lack of group activities	2.40	1.24
23	Not in mood to Participate	2.38	1.17	Traffic conditions	2.40	1.33	Different life style	2.40	1.25
24	Lack of skill	2.37	1.20	Lack of information	2.40	1.28	No Steady Job	2.29	1.38
25	Bureaucracy/corruption	2.36	1.38	Lack of driving experience	2.39	1.60	Lack of information	2.28	1.20
26	No vehicle	2.31	1.28	No Vehicle	2.38	1.42	Social cultural Environment	2.28	1.16
27	Social cultural environment	2.28	1.17	Social Cultural Environment	2.36	1.39	Safety issues in leisure sites	2.17	1.15
28	No steady job	2.27	1.39	Not in mood to Participate	2.36	1.25	Bureaucracy/corruption	2.17	1.44
29	Lack of consciousness of "leisure"	2.23	1.22	Lack of consciousness of "leisure"	2.35	1.32	Restricted by family	2.15	1.23
30	Lack of family support	2.23	1.25	Lack of initiative	2.32	1.20	Not in mood to Participate	2.14	1.26
31	Different Life Style	2.16	1.12	Too busy taking care of elders	2.32	1.52	Lack of initiative	2.10	1.17
32	Restricted by family	2.10	1.23	Lack of skill	2.31	1.33	Lack of consciousness of "leisure"	2.05	1.14
33	Safety issues in leisure sites	2.09	1.17	Too busy taking care of kids	2.25	1.55	Lack of interest	2.05	1.18
34	Too busy taking care of kids	2.09	1.32	Lack of interest	2.25	1.31	Self-factors	1.98	1.24
35	Lack of driving Experience	1.98	1.32	Restricted by family	2.25	1.27	Too busy taking care of kids	1.97	1.28
36	Too busy taking care of elders	1.88	1.07	Lack of family support	2.12	1.26	Too busy taking care of elders	1.93	1.17
37	Self-factors	1.84	1.05	Self-factors	1.98	1.22	Lack of family support	1.89	1.07

Group activities rated by Hangzhou, Chengdu, and Shenzhen and a lack of interest rated by Hangzhou, Shanghai, and Shenzhen are found in the top 20 mean of activities in three cities.

Table 29. Mean of leisure constraints in Shanghai, Qingdao, and Shenzhen

	Shanghai	M	SD	Qingdao	M	SD	Shenzhen	M	SD
1	Lack of time	3.69	1.37	Lack of time	3.99	1.27	Too busy with paid work	3.81	1.25
2	No vacation	3.55	1.34	Too busy with paid work	3.93	1.26	Lack of time	3.68	1.42
3	Too busy with paid work	3.55	1.39	No vacation	3.62	1.47	No vacation	3.33	1.53
4	Fees too high	3.25	1.38	Fees too high	3.55	1.38	Fees too high	3.20	1.46
5	Money	3.15	1.40	Money	3.47	1.44	Money	3.08	1.50
6	Income too low	3.07	1.40	Lack of transportation	3.43	1.48	Life pressure	3.00	1.48
7	Economic pressure	3.07	1.37	Income too low	3.42	1.52	Lack of energy for leisure	2.98	1.42
8	Life pressure	2.88	1.29	Life pressure	3.38	1.40	Economic pressure	2.95	1.38
9	Lack of energy for leisure	2.87	1.30	Too busy studying	3.32	1.36	Income too low	2.90	1.38
10	Crowding issues	2.86	1.37	Lack of energy for leisure	3.28	1.35	No partners	2.89	1.26
11	Too busy studying	2.77	1.36	Poor service quality	3.25	1.33	Too busy studying	2.86	1.42
12	Personal stress	2.75	1.22	Lack of facilities	3.13	1.28	Crowding issues	2.84	1.40
13	Too busy with housework	2.75	1.44	No vehicle	3.11	1.47	Poor service quality	2.83	1.35
14	Poor service quality	2.74	1.30	Economic pressure	3.11	1.45	Lack of interest	2.80	1.43
15	Lack of facilities	2.59	1.22	Crowding issues	3.07	1.40	Personal stress	2.72	1.38
16	Lack of transportation	2.58	1.39	Traffic conditions	3.03	1.43	Lack of facilities	2.64	1.32
17	Not in mood to participate	2.58	1.25	Too busy with housework	3.00	1.50	Lack of skill	2.60	1.32
18	Traffic conditions	2.45	1.33	Lack of information	3.00	1.32	Lack of group activities	2.58	1.29
19	Lack of interest	2.44	1.25	Lack of driving experience	2.98	1.59	Lack of transportation	2.57	1.44
20	Bureaucracy/corruption	2.42	1.45	Lack of skill	2.96	1.42	Not in mood to participate	2.56	1.35
21	No steady job	2.38	1.48	Personal stress	2.94	1.41	Lack of initiative	2.55	1.28
22	Lack of skill	2.31	1.19	Too busy taking care of elders	2.91	1.54	Lack of consciousness of "leisure"	2.54	1.26
23	Lack of initiative	2.30	1.17	Safety issues in leisure sites	2.87	1.39	Too busy with housework	2.54	1.37
24	No vehicle	2.30	1.23	No steady job	2.81	1.57	Safety issues in leisure sites	2.45	1.34
25	Lack of information	2.28	1.18	No partners	2.77	1.38	Traffic conditions	2.44	1.43
26	Lack of group activities	2.28	1.20	Lack of group activities	2.75	1.51	Different life style	2.41	1.24
27	Restricted by family	2.23	1.24	Different life style	2.75	1.26	No steady job	2.37	1.45
28	Lack of consciousness of "leisure"	2.23	1.24	Bureaucracy/corruption	2.72	1.45	Bureaucracy/corruption	2.36	1.44
29	Different life style	2.22	1.19	Lack of family support	2.71	1.33	Social cultural environment	2.33	1.16
30	Safety issues in leisure sites	2.22	1.09	Too busy taking care of kids	2.62	1.58	Lack of information	2.31	1.32
31	Lack of driving experience	2.21	1.38	Lack of interest	2.62	1.30	Lack of family support	2.30	1.20
32	Too busy taking care of kids	2.20	1.36	Lack of initiative	2.61	1.27	No vehicle	2.27	1.28
33	No partners	2.19	1.07	Not in mood to participate	2.57	1.28	Self-factors	2.20	1.29
34	Lack of family support	2.14	1.12	Restricted by family	2.57	1.39	Restricted by family	2.18	1.27
35	Social cultural environment	2.09	1.05	Social cultural environment	2.56	1.27	Lack of driving experience	2.12	1.27
36	Self-factors	2.06	1.14	Lack of consciousness of "leisure"	2.55	1.29	Too busy taking care of kids	2.11	1.32
37	Too busy taking care of elders	1.97	1.16	Self-factors	2.24	1.25	Too busy taking care of elders	2.02	1.24

No cars and driving experience are identified in the top 20 mean of activities in both Beijing and Qingdao. Mood, rated by Shanghai and Shenzhen, and lack of skill, rated by Qingdao and Shenzhen, are found in the top 20 mean of activities in two cities. Corruption, rated by Shanghai, lack of information, rated by Qingdao, and unemployment and different lifestyle, rated by Chengdu, are only found in the top 20 mean of activities in a single city.

Between the top 20 and top 30 mean constraints, only no steady job, lack of information, and lack of group activities are rated by all cities. Therefore, only 17 constraints in the top 30 mean of constraints are rated by all cities. Table 30 shows how many mean constraints are rated higher than 3.0, over 2.5, and lower than 2.5.

Table 30. Numbers of mean of constraints over 3.0, over 2.5, and below 2.5

Cities	Numbers of mean of constraints are over 3.0	Numbers of mean of constraints are over 2.5	Numbers of mean of constraints are below 2.5
Hangzhou	7	20	17
Chengdu	6	18	19
Beijing	7	19	18
Shanghai	7	17	20
Qingdao	18	36	1
Shenzhen	7	23	14

It is interesting to note that Hangzhou, Beijing, and Shenzhen rated 7 constraints over 3.0, whereas Chengdu rated 6 constraints over 3.0. However, Qingdao rated 18 items over 3.0. Furthermore, Hangzhou, Chengdu, Shanghai, and Shenzhen rated approximately 20 constraints over 2.5, whereas Qingdao rated 36 items over 2.5.

4) Leisure satisfaction

In this section, I will address research question 5a:

5. *Do the six cities differ in terms of leisure satisfaction?*

   a. *What levels is leisure satisfaction in each of the six cities?*

Table 31 shows the mean of leisure satisfaction for each city. Hangzhou has the highest mean of leisure satisfaction at 4.61, whereas Shenzhen has the lowest mean of leisure satisfaction at 3.58. Furthermore, Hangzhou, Chengdu, Beijing, and Qingdao have means higher than the population mean of 4.22, whereas Shanghai and Shenzhen have means lower than the population mean of 4.22.

Table 31. Mean of leisure satisfaction in each city and all cities

Hangzhou	Chengdu	Beijing	Shanghai	Qingdao	Shenzhen	All cities
Mean=4.61	Mean=4.31	Mean=4.40	Mean=4.07	Mean=4.45	Mean=3.58	Mean=4.22
SD=1.59	SD = 1.64	SD=1.45	SD=1.65	SD=1.64	SD=2.03	SD=1.70
N=104	N=127	N=126	N=117	N=94	N=122	N=690

b. Culture consensus analysis (one-culture test)

On the basis of culture consensus analysis, Handwerker (2002) developed the concept of the construct validity of culture by using a principal components analysis (PCA) of informants (rather than variables) with no rotation to determine whether the pattern of inter-informant agreement reflects a single culture. In order to compare Handwerker's approach (principal components analysis) with Romney et al.'s (1986) approach (the minimal residual method), I examined consensus for several of the analyses by using both Romney et al.'s method as implemented in ANTHROPAC and Handwerker's method in SPSS. The results of both approaches were essentially identical to each other. Moreover, Romney et al. accept consensus when the 3-1 eigenvalue ratio is

achieved without requiring that all loadings be above .5 or that none on factor 2 should be above .5. They also suggest that all factor loadings should be positive.

In this section, I will address the research question 1c (1) and (2):

1. What are the primary leisure activities in each of the six cities?

c. Is there consensus for participation in leisure activities in each of the six cities?

1. Is there consensus for participation in leisure activities in each of the six cities for males and for females?

2. Is there consensus for participation in leisure activities in each of the six cities for younger and older informants?

Table 32 indicates the ratio of the eigenvalues for factor 1 and factor 2, the variance explained by factor 1, and the numbers of negative loadings on factor 1 and numbers of high (±0.50) loadings on factors for informants of leisure activities in the six cities.

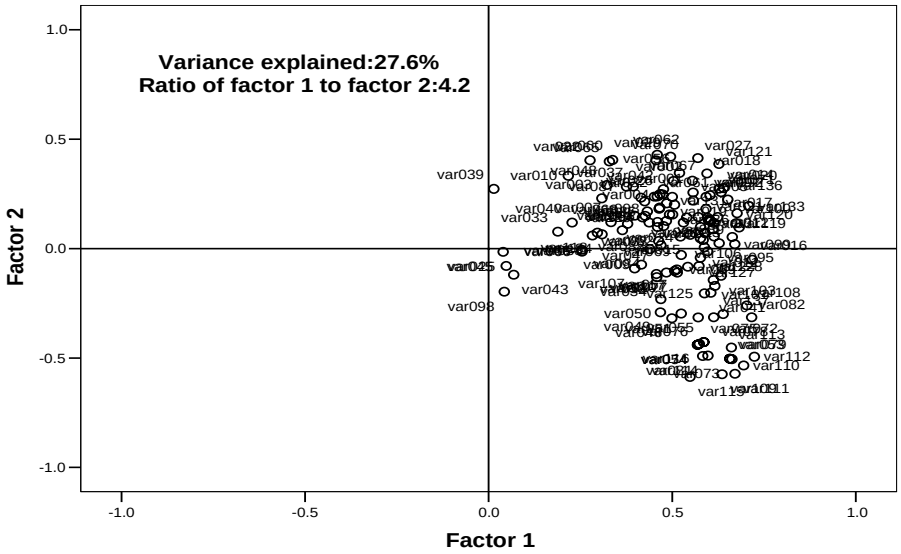
Table 32. Culture consensus analysis of six cities of participation in leisure activities

Cities (6)	Ratio of Eigenvalue factor 1/factor 2	Variance explained by factor 1	Numbers of negative loadings on factor 1	Numbers of high (+/–.50) loadings on factor 2
Hangzhou	**8.6**	33.0%	0	1
Chengdu	**6.4**	29.8%	0	1
Beijing	**5.9**	31.1%	0	0
Shanghai	**4.2**	27.6%	0	8
Qingdao	**5.5**	26.4%	1	4
Shenzhen	**6.0**	28.6 %	1	3

The results of the six cities by nonparticipation and participation in leisure activities indicated that the ratios of the first factor eigenvalue divided by the second factor eigenvalue are greater than 3.0 for all cities. However, variances explained by factor 1 are less than 50% in all cities, and Beijing, Hangzhou, Chengdu, and Shanghai

have no negative loadings on factor 1, whereas Qingdao and Shenzhen have only one negative loading each. While Shanghai has 8 high (+/– .50) loadings on factor two, the rest of the cities only have less than 5 high (+/– .50) loadings on factor two.

Figure 8. Scatter plot of Loadings on factor 2 by Loadings on Factor 1; Culture consensus analysis of Shanghai by nonparticipation and participation of leisure activities



For example, while Shanghai has 8 high (+/– .50) loadings on factor two, the scatter plot of loadings on factor 2 by loadings on factor 1 for Shanghai shows no loose clustering of informants located at the positive end of the first principle component (Figure 8).

Therefore, while not all of Handwerker's criteria for consensus are attained, the data seem to indicate that a one-culture solution can be accepted for nonparticipation and participation in leisure activities for all cities. Since the results obtained using PCA in SPSS and culture consensus analysis in ANTHROPAC were identical, I use Romney, Weller and Batchelder's criteria rather than Handwerkers. The RWB's criteria are the 3-1

eigenvalue ratio and no negative loadings on factor 1. While we have a couple of negative loadings in the plot, that can be acceptable because of the relatively large sample size.

Subgroups by gender (male and female) and age (people who are younger than 30 and older than 30) are compared for each city by using culture consensus analysis. As a result, the cultural consensus analyses showed that all the ratios of the first factor eigenvalue divided by the second factor eigenvalue were greater than 3.0 for participation in and importance of leisure activities. All the subgroups' variances explained by factor one were less than 50 percent, with several negative loadings on factor 1 and small numbers of high (+/–.50) loadings on factor 2 (Tables 33 and 34).

Table 33. Culture consensus analysis of six cities by nonparticipation and participation of leisure activities between genders

Cities (6)		Ratio of Eigenvalue factor 1/factor 2	Variance explained by factor 1	Numbers of negative loadings on factor 1	Numbers of high (+/–.50) loadings on factor 2
Hangzhou	male	**7.4**	32.7%	0	0
	female	**7.9**	36.2%	0	0
Chengdu	male	**4.5**	29.8%	0	1
	female	**6.8**	33.9%	0	0
Beijing	male	**5.3**	31.6%	0	3
	female	**5.5**	33.7%	0	2
Shanghai	male	**3.8**	26.4%	0	5
	female	**3.9**	31.7%	0	6
Qingdao	male	**5.2**	26.1%	1	1
	female	**4.4**	28.6%	0	2
Shenzhen	male	**4.5**	27.1%	1	2
	female	**6.6**	34.7%	1	2

Scatter plots of loadings on factor 2 by loadings on factor 1 for leisure activities of Shanghai by gender were also generated to investigate whether Shanghai has consensus on leisure activities by gender, because Shanghai has more than 5 high (+/–.50)

loadings on factor 2, whereas other cities have less than 3 high (+/–.50) loadings on factor 2. As a result, the scatter plots show no loose clustering of informants at the positive end of the first principle component. Hence, there is a one-culture solution of leisure activities by gender in the six cities. (Figures 9 and 10).

Table 34. Culture consensus analysis of six cities by nonparticipation/participation of leisure activities between younger and older

Cities (6)		Ratio of Eigenvalue factor 1/factor 2	Variance explained by factor 1	Numbers of negative loadings on factor 1	Numbers of high (+/–.50) loadings on factor 2
Beijing	≤30	**5.7**	32.6%	0	3
	>31	**4.8**	31.6%	0	2
Chengdu	≤30	**5.9**	30.8%	0	1
	>31	**6.6**	31.1%	0	0
Hangzhou	≤30	**7.6**	33.4%	0	0
	>31	**7.2**	35.3%	0	1
Shanghai	≤30	**5.3**	30.3%	0	0
	>31	**3.9**	30.2%	0	3
Qingdao	≤30	**5.1**	27.2%	1	1
	>31	**5.4**	29.4%	0	1
Shenzhen	≤30	**5.2**	30.0%	0	2
	>31	**5.4**	29.6%	1	2

Figure 9. Scatter plot of Loadings on Factor 2 by Loadings on Factor 1; Culture consensus analysis of Shanghai by non participation and participation of leisure activities by gender (male)

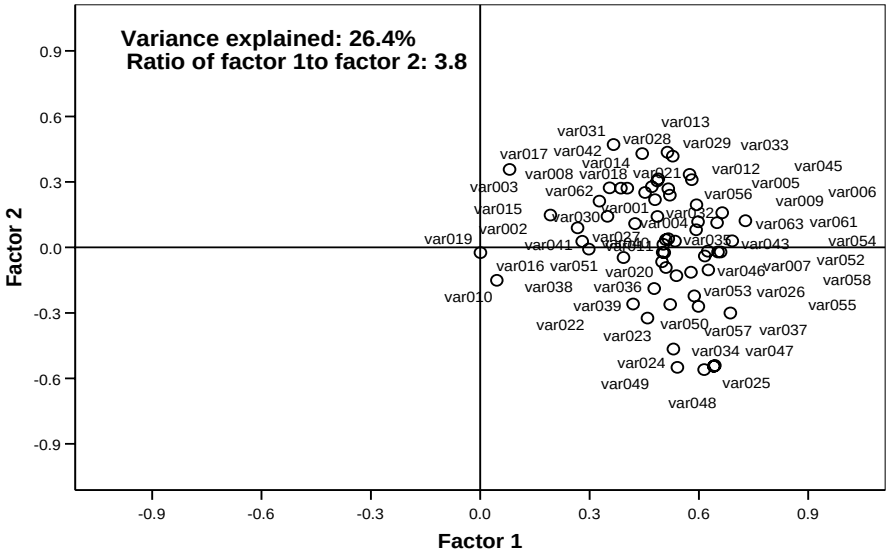
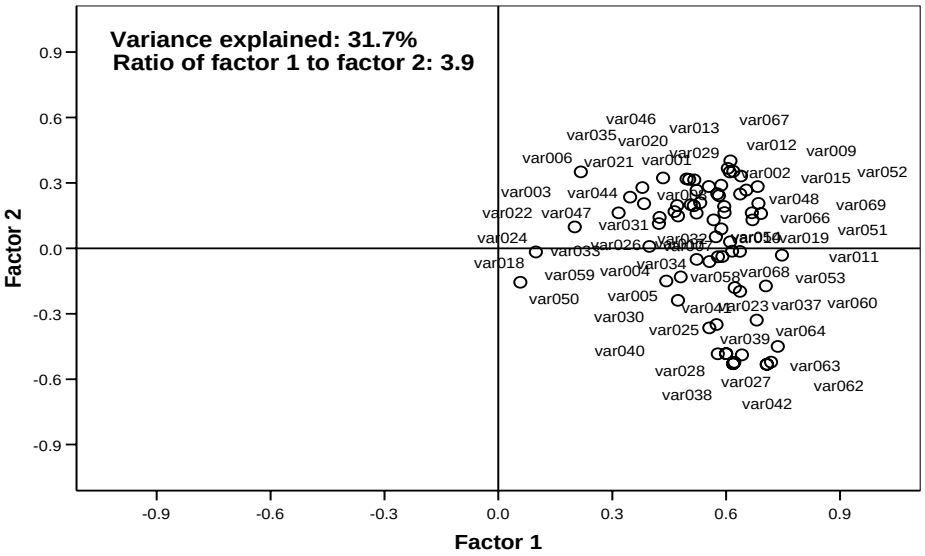


Figure 10. Scatter plot of Loadings on Factor 2 by Loadings on Factor 1; Culture consensus analysis of Shanghai by non participation and participation of leisure activities by gender (female)



In this section, I will address research question 1d (1) and (2):

1. What are the primary leisure activities in each of the six cities?

d. Is there consensus for the importance of leisure activities in the six cities?

1. *Is there consensus for the importance of leisure activities in each of the six cities for males and for females?*
2. *Is there consensus for the importance of leisure activities in each of the six cities for younger and older informants?*

Similarly, the results of cultural consensus analyses for all six cities by importance of participation in leisure activities indicated that the ratios of the first factor eigenvalue divided by the second factor eigenvalue are greater than 3.0 for all cities. Beijing, Hangzhou, and Shenzhen have no negative loadings on factor 1, whereas Chengdu, Shanghai, and Qingdao each have only two negative loadings on factor 1. Except for 7 high (+/– .50) loadings on factor two in Shanghai, the cities have only less than 5 high (+/– .50) loadings on factor two (Table 35).

Table 35. Culture consensus analysis of six cities by unimportance/importance of participation of leisure activities

Cities (6)	Ratio of Eigenvalue factor 1/factor 2	Variance explained by factor 1	Numbers of negative loadings on factor 1	Numbers of high (+/–.50) loadings on factor 2
Hangzhou	**8.0**	36.2%	0	1
Chengdu	**6.1**	32.1%	2	3
Beijing	**7.0**	35.2%	0	2
Shanghai	**4.0**	30.0%	2	7
Qingdao	**5.7**	30.0%	2	4
Shenzhen	**7.6**	36.1%	0	3

Unimportance/importance of participation of subgroups by gender and age are compared for each city by using culture consensus analysis.

Table 36. Culture consensus analysis of six cities by unimportance/importance of participation of leisure activities between genders

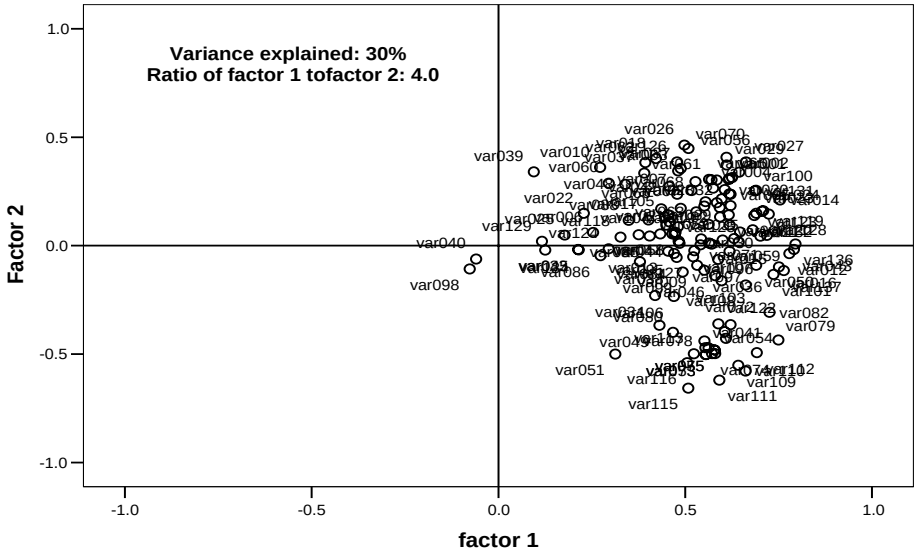
Cities (6)		Ratio of Eigenvalue factor 1/factor 2	Variance explained by factor 1	Numbers of negative loadings on factor 1	Numbers of high (+/–.50) loadings on factor 2
Hangzhou	male	**6.9**	34.8%	0	1
	female	**7.6**	40.0%	0	0
Chengdu	male	**4.6**	30.6%	0	2
	female	**5.6**	35.1%	2	2
Beijing	male	**6.0**	34.5%	0	1
	female	**6.5**	38.3%	0	3
Shanghai	male	**3.7**	27.8%	0	6
	female	**3.7**	34.1%	2	8
Qingdao	male	**5.0**	27.1%	0	2
	female	**5.3**	34.1%	1	3
Shenzhen	male	**6.3**	34.1%	0	0
	female	**8.6**	41.9%	0	2

As a result, the cultural consensus analyses showed that all the ratios of the first factor eigenvalue divided by the second factor eigenvalue were greater than 3.0 for participation in and importance of leisure activities. All the subgroups' variances explained by factor one were less than 50 percent, with several negative loadings on factor 1 and small numbers of high (+/–.50) loadings on factor 2 (Tables 36 and 37).

Table 37. Culture consensus analysis of six cities by unimportance/importance of participation of leisure activities between younger and older

Cities (6)		Ratio of Eigenvalue factor 1/factor 2	Variance explained by factor 1	Numbers of negative loadings on factor 1	Numbers of high (+/–.50) loadings on factor 2
Hangzhou	≤30	**7.6**	37.2%	0	2
	>31	**6.4**	37.8%	0	1
Chengdu	≤30	**5.3**	33.2%	1	3
	>31	**6.3**	33.1%	1	2
Beijing	≤30	**6.6**	37.0%	0	4
	>31	**5.8**	35.3%	0	0
Shanghai	≤30	**6.2**	31.7%	0	1
	>31	**3.6**	33.2%	2	6
Qingdao	≤30	**5.5**	30.6%	0	1
	>31	**4.7**	33.0%	1	2
Shenzhen	≤30	**6.1**	36.8%	0	2
	>31	**7.6**	37.7%	0	1

Figure 11. Scatter plot of Loadings on Factor 2 by Loadings on Factor 1; Culture consensus analysis of Shanghai by unimportance/importance of participation of leisure activities



While Shanghai has 7 high (+/– .50) loadings on factor two, a scatter plot of loadings on factor 1 by loadings on factor 2 for Shanghai by unimportance/importance of

participation shows relatively tight clustering of informants located at the positive end of the first component. Therefore, a one-culture solution can be accepted for unimportance/importance of participation in leisure activities (Figure 11).

Figure 12. Scatter plot of Loadings on Factor 2 by Loadings on Factor 1; Culture consensus analysis of Shanghai by unimportance/importance of participation of leisure activities by gender (male)

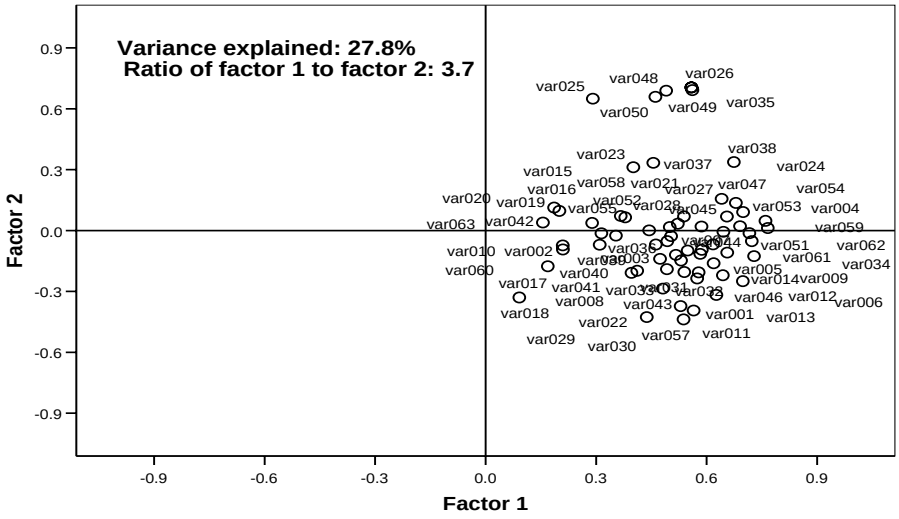


Figure 13. Scatter plot of Loadings on Factor 2 by Loadings on Factor 1; Culture consensus analysis of Shanghai by unimportance/importance of participation of leisure activities by gender (female)

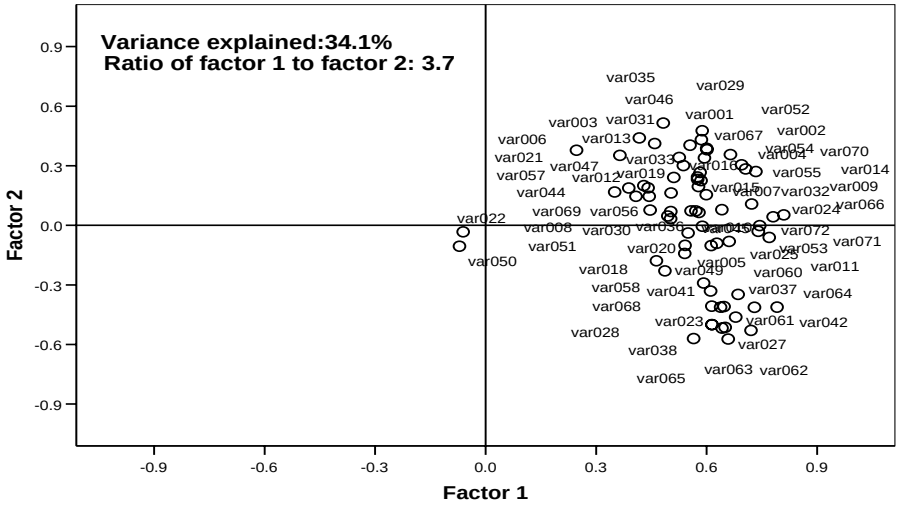


Figure 14. Scatter plot of Loadings on Factor 2 by Loadings on Factor 1; Culture consensus analysis of Beijing by unimportance/importance of participation of leisure activities by age (younger)

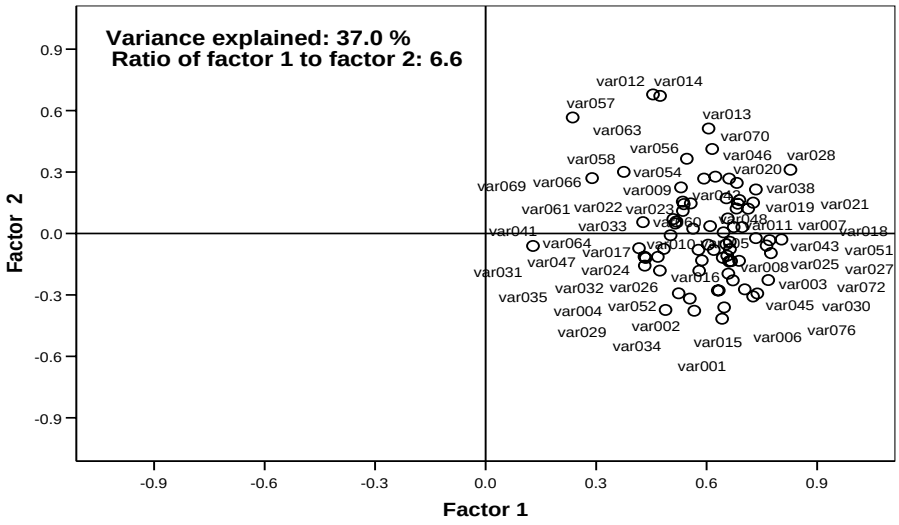
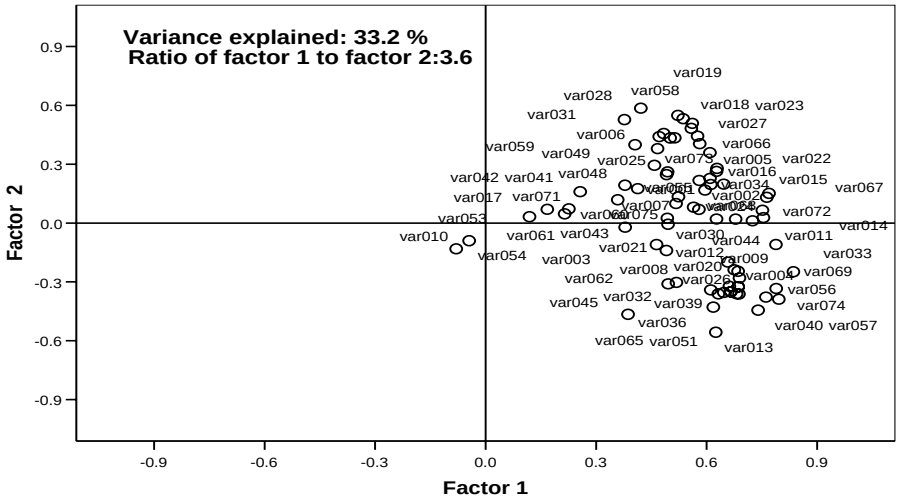


Figure 15. Scatter plot of Loadings on Factor 2 by Loadings on Factor 1; Culture consensus analysis of Shanghai by unimportance/importance of participation of leisure activities by age (older)



Since Beijing's younger group (≤30) and Shanghai's older group (>31) have more than 3 high (+/–.50) loadings on factor 2, scatter plots were also generated to examine whether the data support a one-culture solution in two groups (Table 37). As a result, the scatter plots support a one-culture solution of leisure activities by age in the six cities (Figures 14 and 15).

In this section, I will address the research question 4b (1) and (2)

4. What are the primary leisure constraints in each of the six cities?

b. Is there consensus for the importance of leisure constraints in the six cities?

1. Is there consensus for the importance of leisure constraints in the six cities for males and for females?

2. Is there consensus for the importance of leisure constraints in the six cities for younger and older informants?

Except for Qingdao and Hangzhou, the ratios of the first factor eigenvalue divided by the second factor eigenvalue are less than 3.0 in cultural consensus analyses of six cities by leisure constraints (Table 38).

Table 38. Culture consensus analysis of six cities by leisure constraints

Cities (6)	Ratio of Eigenvalue factor 1/factor 2	Variance explained by factor 1	Numbers of negative loadings on factor 1	Numbers of high (+/–.50) loadings on factor 2
Hangzhou	**3.0**	23.2%	6	9
Chengdu	1.8	16.4%	19	12
Beijing	2.4	21.7%	17	10
Shanghai	2.7	24.9%	19	7
Qingdao	3.4	31.0%	15	12
Shenzhen	1.7	18.0%	15	21

Compared with Beijing, Chengdu, Shanghai, and Shenzhen, the ratios of the first factor eigenvalue divided by the second factor eigenvalue in Hangzhou and Qingdao are 3.0 and 3.4, respectively. Numbers of negative loadings and numbers of high (+/–.50) loadings on factor 2 and on factor 1 are substantial in all cities. However, Figures 16 and 17 shows loose clustering of informants at the positive end of the first principle component of the figures, indicating no evidence of a single cultural solution of leisure constraints in Hangzhou and Qingdao.

Figure 16. Scatter plot of Loadings on Factor 2 by Loadings on Factor 1; Culture consensus analysis of Hangzhou by leisure constraints

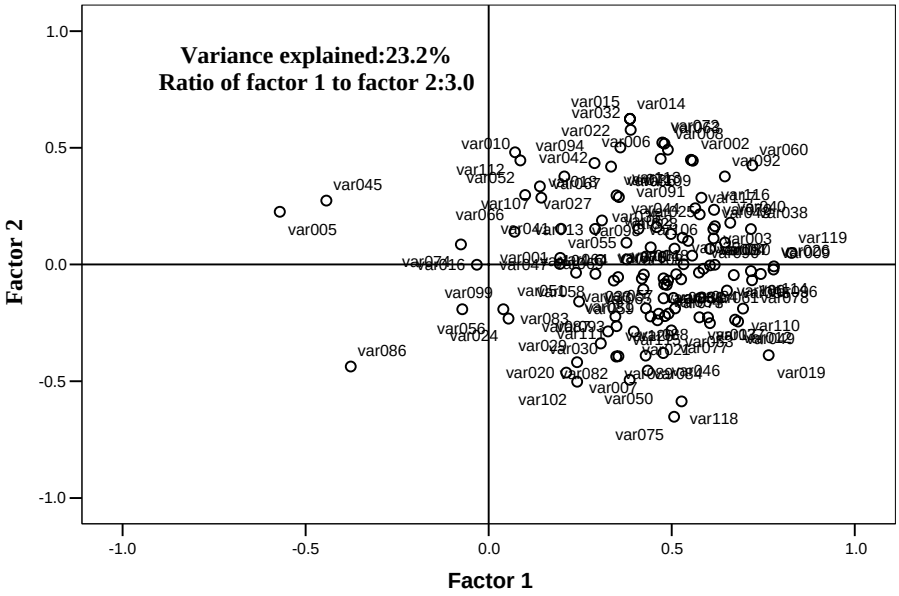
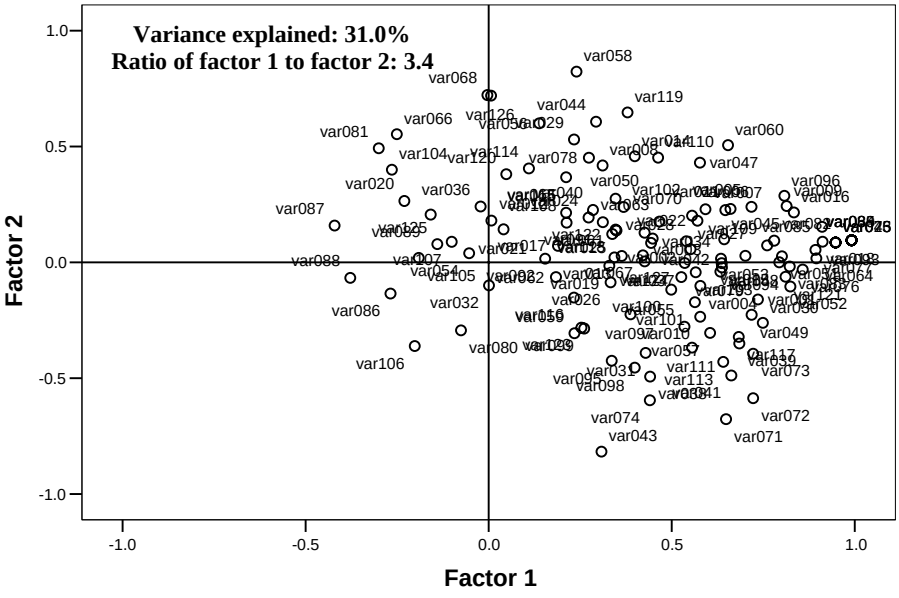


Figure 17. Scatter plot of Loadings on Factor 2 by Loadings on Factor 1; Culture consensus analysis of Qingdao by leisure constraints



The cultural consensus analyses of six cities by leisure constraints in gender and age groups show that the ratios of the first factor eigenvalue divided by the second factor eigenvalue were all greater than 3.0 in the male subgroup of Shanghai, the male and female groups of Qingdao, the younger group of Shanghai, and the older group of Qingdao (Tables 39 and 40).

Table 39. Culture consensus analysis of six cities by leisure constraints between genders

Cities (6)		Ratio of Eigenvalue factor 1/factor 2	Variance explained by factor 1	Numbers of negative loadings on factor 1	Numbers of high (+/–.50) loadings on factor 2
Hangzhou	male	2.7	24.2%	2	6
	female	2.6	23.7%	5	8
Chengdu	male	1.8	17.6%	9	4
	female	1.5	16.7%	7	7
Beijing	male	2.1	22.4%	10	8
	female	2.4	23.4%	10	7
Shanghai	male	**3.0**	26.5%	5	6
	female	2.2	25.4%	10	9
Qingdao	male	**3.4**	31.4%	6	9
	female	**3.6**	32.5%	10	6
Shenzhen	male	1.6	20.0%	5	15
	female	1.5	17.3%	12	10

Table 40. Culture consensus analysis of six cities by leisure constraints between younger and older

Cities (6)		Ratio of Eigenvalue factor 1/factor 2	Variance explained by factor 1	Numbers of negative loadings on factor 1	Numbers of high (+/–.50) loadings on factor 2
Hangzhou	≤30	2.8	25.0%	2	8
	>31	2.5	24.0%	3	9
Chengdu	≤30	2.2	18.8%	7	8
	>31	1.8	18.5%	9	5
Beijing	≤30	2.6	23.7%	12	9
	>31	1.9	23.3%	9	9
Shanghai	≤30	**3.0**	**29.5**%	**2**	**6**
	>31	2.3	24.1%	10	10
Qingdao	≤30	2.4	24.1%	9	7
	>31	**4.7**	40.5%	9	7
Shenzhen	≤30	2.1	21.3%	5	8
	>31	1.6	19.7%	9	9

While the eigenvalues of the male subgroup for Shanghai, the gender subgroup for Qingdao, and the older subgroup for Qingdao are three times larger than that of the second, there is no consensus in each subgroup in terms of scatter of plots. Figures 18–21 show loose clustering of informants located at the positive end of the first principle component of the graph, indicating no evidence of high informant-by-informant agreement and a single cultural model of leisure constraints.

Figure 18. Scatter plot of Loadings on Factor 2 by Loadings on Factor 1; Culture consensus analysis of Shanghai (Male only) by leisure constraints

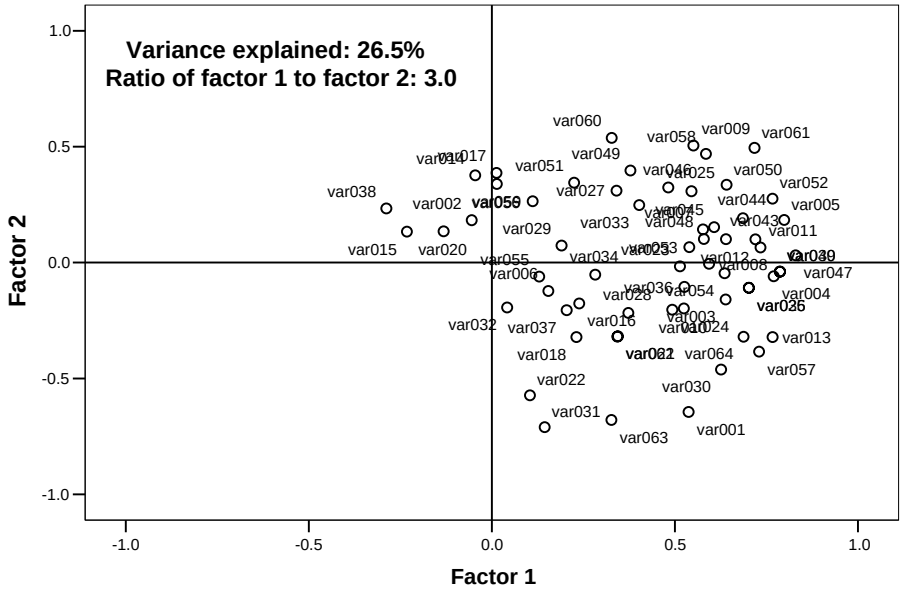


Figure 19. Scatter plot of Loadings on Factor 2 by Loadings on Factor 1; Culture consensus analysis of Qingdao (Male only) by leisure constraints

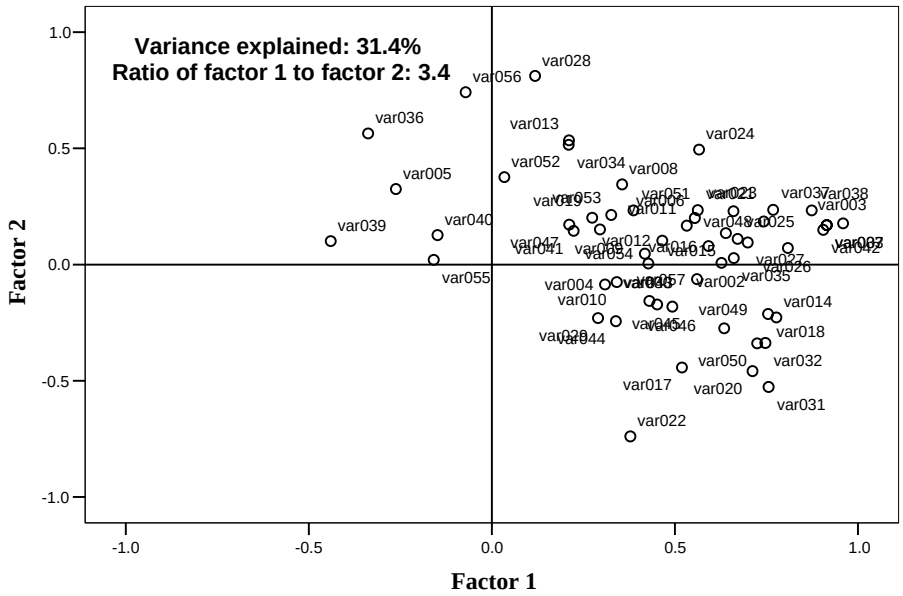


Figure 20. Scatter plot of Loadings on Factor 2 by Loadings on Factor 1;Culture consensus analysis of Qingdao (Female only) by leisure constraints

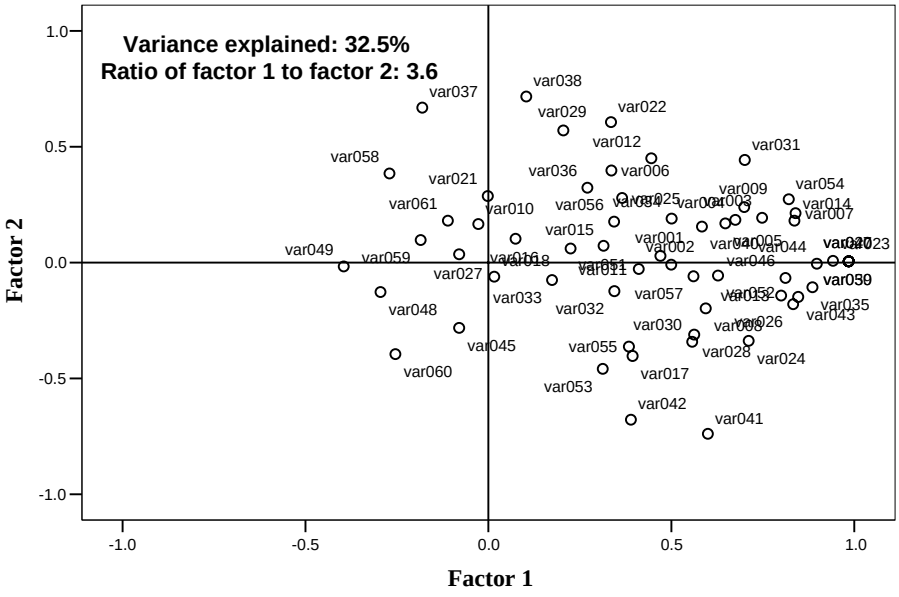


Figure 21. Scatter plot of Loadings on Factor 2 by Loadings on Factor 1; Culture consensus analysis of Qingdao (older only) by leisure constraints

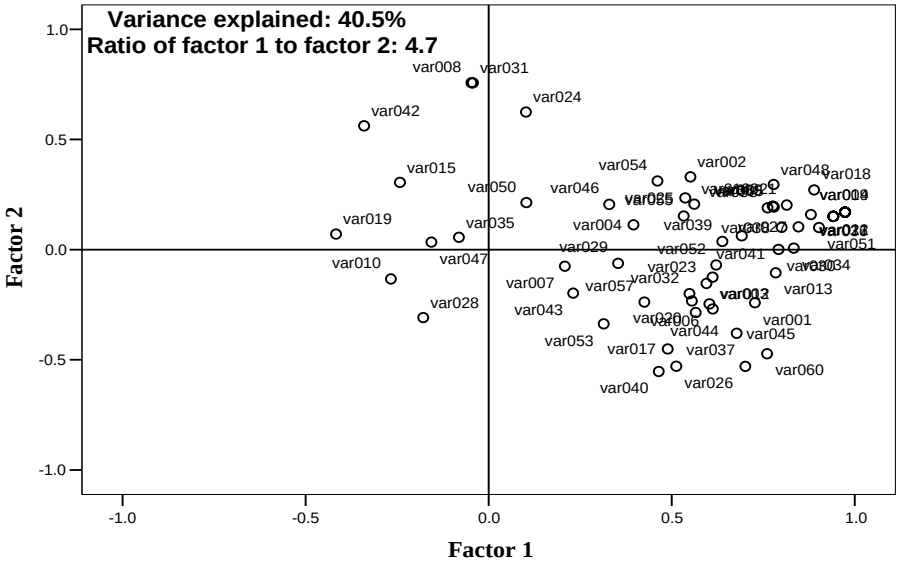
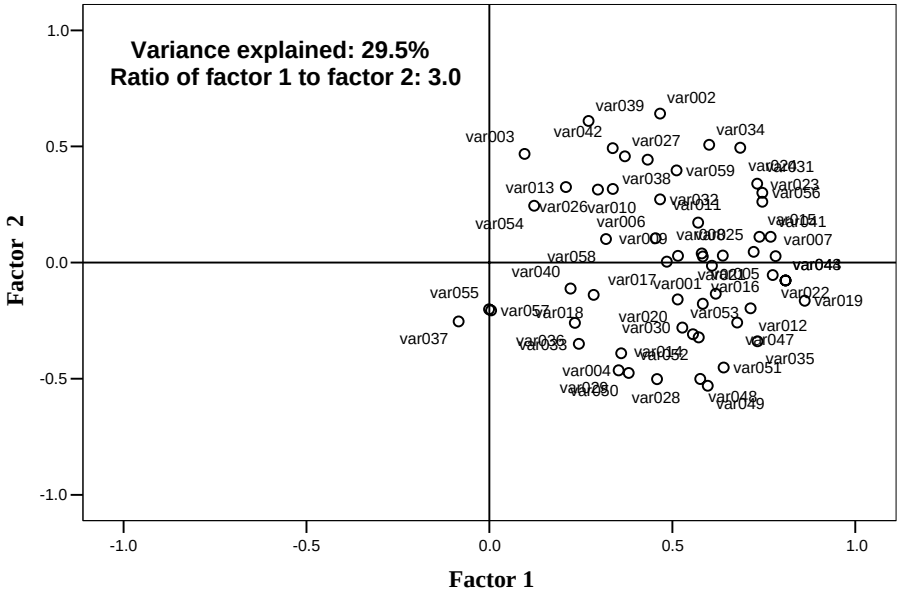


Figure 22. Scatter plot of Loadings on Factor 2 by Loadings on Factor 1; Culture consensus analysis of Shanghai (Younger only) by leisure constraints



In contrast, the relatively tight clustering of informants at the positive end of the first principle component of the graph gives supporting evidence of inter-informant agreement and a single cultural model of leisure constraints in Shanghai's younger subgroup proposed by Handwerker's (2002) criteria (Figure 22). Since the results obtained using PCA in SPSS and culture consensus analysis in ANTHROPAC were identical, I use Romney, Weller and Batchelder's criteria rather than Handwerker's. The RWB's criteria are the 3-1 eigenvalue ratio and no negative loadings on factor 1. Therefore, a one-culture solution can be accepted for leisure constraints in Shanghai's younger subgroup, whereas the rest of groups and subgroups can not be accepted for leisure constraints.

c. One-way ANOVA analysis of leisure activities, leisure constraints, and leisure satisfaction among the cities

The inter-city comparisons consisting of comparisons between the six cities resulted in a total of 15 pairs of cities: Beijing and Chengdu, Beijing and Hangzhou, Beijing and Qingdao, Beijing and Shanghai, Beijing and Shenzhen, Chengdu and Hangzhou, Chengdu and Qingdao, Chengdu and Shanghai, Chengdu and Shenzhen, Hangzhou and Qingdao, Hangzhou and Shanghai, Hangzhou and Shenzhen, Qingdao and Shanghai, Qingdao and Shenzhen, Shanghai and Shenzhen. In addition, the 15 pairs of cities are compared with each other in 4 subgroups (male/female, and older/younger). Because N/Y and U/I data have 89 variables, both datasets have a total of 1335 (89×15) pairs of city comparisons, respectively. Because Cons data have 37 variables, the Cons dataset has a total of 555 (37×15) pairs of city comparisons. Because L/S data have only one variable, the L/S dataset has a total of 15 pairs of city comparisons.

In this section, I will address research questions 2a and b:

2. Do the six cities differ in terms of participation rate in primary leisure activities?

- *a. Do the six cities differ in terms of participation rate in primary leisure activities between males and females?*
- *b. Do the six cities differ in terms of participation rate in primary leisure activities between younger and older residents?*

Table 41 illustrates one-way ANOVA comparisons of participation and nonparticipation for the six cities. At least 1 pair of cities shows statistical difference in participation rates for 22 activities with a Bonferroni post hoc test ($p<0.001$). All pairs of cities indicate no statistical difference in participation rates for the remaining 67 activities

with a Bonferroni post hoc test ($p<0.001$). Among the 15 pairs of cities, each pair of cities shows statistical difference in participation rates for a different number of activities, ranging from 0 to 7, with Bonferroni post hoc test ($p<0.001$) (Table 46). The pair of Qingdao and Shenzhen shows statistical difference in participation rates for 7 activities with a Bonferroni post hoc test ($p<0.001$). However, the pairs of Chengdu and Hangzhou, Chengdu and Shenzhen, and Qingdao and Shanghai indicate statistical difference in participation rates for only 1 activity with a Bonferroni post hoc test ($p<0.001$) (Table 46).

Table 41. One-way ANOVA comparisons of participation and nonparticipation of six cities
(df=5)

Activities	Group comparison	Sum of Squares	Mean Square	F	Sig.
Newspaper	Between Groups	.324	6.484E-02	1.742	.123
Reading books*1	Between Groups	2.300	.460	4.475	.001
Magazines	Between Groups	.888	.178	1.566	.167
Other reading	Between Groups	.792	.158	3.048	.010
TV*2	Between Groups	8.179	1.636	7.659	.000
Movies*3	Between Groups	4.836	.967	9.012	.000
Internet	Between Groups	1.789	.358	3.832	.002
Music	Between Groups	2.511	.502	2.132	.060
Radio	Between Groups	1.659	.332	1.538	.176
Swimming	Between Groups	2.171	.434	1.761	.119
Table Tennis*4	Between Groups	9.285	1.857	7.845	.000
Tennis	Between Groups	1.826	.365	2.303	.043
Golf*5	Between Groups	1.829	.366	5.408	.000
Soccer	Between Groups	1.131	.226	1.477	.195
Skating	Between Groups	.607	.121	.845	.518
Volleyball	Between Groups	.646	.129	.864	.505
Badminton	Between Groups	2.970	.594	2.498	.030
Archery	Between Groups	.236	4.720E-02	.699	.624
walking	Between Groups	7.392	1.478	7.052	.000
Running	Between Groups	3.346	.669	2.864	.014
Physical Exercises	Between Groups	2.128	.426	2.408	.035
Exercising with Equipment	Between Groups	1.901	.380	2.527	.028
Rope Skipping	Between Groups	1.807	.361	1.827	.105
Yoga	Between Groups	.725	.145	1.111	.353
Go to Gym*6	Between Groups	3.652	.730	3.965	.001
Shadow Boxing	Between Groups	.495	9.903E-02	1.704	.131
Taichi	Between Groups	.994	.199	2.369	.038
Martial art	Between Groups	1.391	.278	3.137	.008
Visit Teahouse*7	Between Groups	18.345	3.669	16.489	.000
Visit Coffeehouse	Between Groups	5.400	1.080	4.426	.001
Visit Bar or Pub	Between Groups	5.939	1.188	5.029	.000
Dining Out in Restaurant	Between Groups	2.033	.407	3.632	.003

Nightclubs	Between Groups	.650	.130	.537	.748
Electronic games	Between Groups	.529	.106	.465	.803
Internet games*8	Between Groups	5.657	1.131	4.626	.000
Chinese poker	Between Groups	1.742	.348	1.445	.206
Chess	Between Groups	4.076	.815	4.122	.001
Mahjong*9	Between Groups	9.842	1.968	8.448	.000
Billiards and Pool	Between Groups	1.254	.251	1.422	.214
Playing instruments	Between Groups	.580	.116	1.171	.322
Painting	Between Groups	2.073	.415	2.822	.016
Calligraphy	Between Groups	2.660	.532	3.396	.005
Singing	Between Groups	1.593	.319	1.335	.247
Hair Dressing/Beauty Salon	Between Groups	2.692	.538	2.182	.054
Dancing	Between Groups	3.670	.734	3.681	.003
Pets	Between Groups	.867	.173	1.075	.373
Cooking	Between Groups	2.327	.465	1.883	.095
Photography	Between Groups	7.492	1.498	6.959	.000
Collecting (stamps, coins, etc.)	Between Groups	2.271	.454	2.339	.040
Home Decorating	Between Groups	5.062	1.012	4.250	.001
Electronic pets	Between Groups	.481	9.618E-02	1.878	.096
Writing	Between Groups	4.148	.830	4.173	.001
Inventing*10	Between Groups	2.075	.415	5.030	.000
Camping	Between Groups	2.196	.439	2.751	.018
Hiking in Natural Areas*11	Between Groups	8.439	1.688	7.140	.000
Going to local Parks*12	Between Groups	9.569	1.914	9.113	.000
Going to zoos	Between Groups	3.561	.712	3.037	.010
Going to natural parks*13	Between Groups	18.410	3.682	19.392	.000
Fishing	Between Groups	2.652	.530	2.801	.016
Mountain Climbing*14	Between Groups	13.196	2.639	12.295	.000
Boating	Between Groups	2.490	.498	2.529	.028
Picnic	Between Groups	2.957	.591	2.782	.017
Driving for Pleasure	Between Groups	2.347	.469	2.271	.046
Bicycling for pleasure	Between Groups	5.241	1.048	5.126	.000
Mountain biking	Between Groups	.452	9.035E-02	1.344	.244
Take Naps*15	Between Groups	5.115	1.023	5.303	.000
Massage	Between Groups	6.085	1.217	5.163	.000
Hot Springs	Between Groups	5.414	1.083	4.976	.000
Meditation	Between Groups	3.451	.690	2.985	.011
Bathing*16	Between Groups	7.254	1.451	5.984	.000
Visit Historic or Cultural Site	Between Groups	3.717	.743	3.028	.010
Visit Theme Park*17	Between Groups	5.817	1.163	5.349	.000
Travel to Another Country*18	Between Groups	3.684	.737	4.868	.000
Visit Mountains or Water Area	Between Groups	2.434	.487	2.026	.073
Take Vacation	Between Groups	3.615	.723	2.965	.012
Visit Exhibitions*19	Between Groups	7.633	1.527	6.772	.000
Dating	Between Groups	4.979	.996	4.195	.001
Chatting	Between Groups	1.866	.373	3.385	.005
Visiting Friends and Relatives	Between Groups	2.689	.538	3.883	.002
Play with kids*20	Between Groups	5.410	1.082	4.607	.000
Family Gatherings	Between Groups	2.070	.414	1.985	.079
Social/ballroom dancing*21	Between Groups	8.956	1.791	7.464	.000
Volunteering in social work*22	Between Groups	4.124	.825	4.301	.001
Visit Museum/Art Gallery	Between Groups	4.626	.925	4.207	.001
Attend Theatre	Between Groups	1.338	.268	1.874	.097

Attend Sports Event	Between Groups	5.605	1.121	4.596	.000
Attend Music Event	Between Groups	2.419	.484	2.009	.075
Karaoke	Between Groups	1.689	.338	1.466	.199
Religious activity	Between Groups	1.134	.227	2.133	.060

An asterisk (*) denotes that at least 1 pair of cities is statistically different in the activity comparison with a Bonferroni post hoc test (p<0.001).

Activities	Pairs of Cities	No. of PC
*1 Reading books	Beijing and Shanghai	1
*2 TV	Chengdu and Qingdao; Chengdu and Shanghai	2
*3 Movie	Qingdao and Beijing; Qingdao and Shenzhen; Shanghai and Shenzhen	3
*4 Table tennis	Qingdao and Chengdu; Qingdao and Hangzhou; Qingdao and Shenzhen	3
*5 Golf	Hangzhou and Shenzhen	1
*6 Gym	Shenzhen and Qingdao	1
*7 Tea	Beijing and Chengdu; Beijing and Hangzhou; Chengdu and Qingdao; Hangzhou and Qingdao; Hangzhou and Shanghai; Shenzhen and Qingdao	6
*8 internet game	Beijing and Chengdu	1
*9 Mahjong	Chengdu and Beijing; Chengdu and Hangzhou; Chengdu and Qingdao	3
*10 Invent	Shenzhen and Beijing	1
*11 Hiking	Beijing and Chengdu; Chengdu and Shanghai; Hangzhou and Shanghai	3
*12 Go to park	Chengdu and Shanghai; Chengdu and Qingdao; Hangzhou and Qingdao; Hangzhou and Shanghai	4
*13 Natural park	Beijing and Qingdao; Beijing and Shenzhen; Chengdu and Qingdao; Chengdu and Shenzhen; Hangzhou and Qingdao; Hangzhou and Shenzhen; Qingdao and Shanghai; Shanghai and Shenzhen	8
*14 mountain climbing	Beijing and Shanghai; Hangzhou and Qingdao; Hangzhou and Shanghai; Qingdao and Shenzhen; Shanghai and Shenzhen	5
*15 Nap	Shenzhen and Beijing	1
*16 Bathing	Shenzhen and Beijing; Shenzhen and Qingdao	2
*17 Visiting theme park	Shenzhen and Qingdao	1
*18 Travel	Shenzhen and Hangzhou	1
*19 Exhibition	Beijing and Hangzhou ; Hangzhou and Qingdao	2
*20 Play with kids	Beijing and Hangzhou	1
*21 Ball dance	Beijing and Chengdu; Beijing and Qingdao	2
*22 Volunteering	Beijing and Hangzhou	1

Table 42 illustrates one-way ANOVA comparisons of participation and nonparticipation for the six cities for the male group. At least 1 pair of cities shows statistical difference in participation rates for 5 activities with a Bonferroni post hoc test ($p<0.001$). All pairs of cities indicate no statistical difference in participation rates for the remaining 84 activities with a Bonferroni post hoc test ($p<0.001$). Among the 15 pairs of cities, each pair of cities shows statistical difference in participation rate for a different number of activities, ranging from 0 to 2, with a Bonferroni post hoc test ($p<0.001$). The following pairs, Beijing and Chengdu, Beijing and Qingdao, Beijing and Shenzhen, Chengdu and Qingdao, Chengdu and Shenzhen, Hangzhou and Shenzhen, Qingdao and Shenzhen, and Shanghai and Shenzhen, shows statistical differences in participation rates

for only 1 activity with a Bonferroni post hoc test ($p<0.001$). However, the following pairs, Beijing and Hangzhou, Beijing and Shanghai, Chengdu and Hangzhou, Chengdu and Shanghai, Hangzhou and Shanghai, and Qingdao and Shanghai, indicate no statistical difference in participation rates for only 1 activity with a Bonferroni post hoc test ($p<0.001$) (Table 46).

Table 42. One-way ANOVA comparisons of participation and nonparticipation in male group of six cities (df=5)

Activities	Group comparisons	Sum of Squares	Mean Square	F	Sig.
Newspaper	Between Groups	.333	6.657E-02	1.719	.129
Reading books	Between Groups	.233	4.666E-02	.415	.838
Magazines	Between Groups	1.296	.259	1.922	.090
Other reading	Between Groups	.420	8.392E-02	1.331	.250
TV	Between Groups	3.157	.631	2.715	.020
Movies*1	Between Groups	2.572	.514	5.272	.000
Internet	Between Groups	1.368	.274	2.415	.036
Music	Between Groups	.825	.165	.700	.624
Radio	Between Groups	1.819	.364	1.477	.196
Swimming	Between Groups	1.006	.201	.801	.549
Table Tennis*2	Between Groups	4.772	.954	3.971	.002
Tennis	Between Groups	2.860	.572	3.136	.009
Golf*5	Between Groups	1.685	.337	3.684	.003
Soccer	Between Groups	1.794	.359	1.631	.151
Skating	Between Groups	1.413	.283	1.898	.094
Volleyball	Between Groups	.914	.183	1.065	.380
Badminton	Between Groups	3.862	.772	3.378	.005
Archery	Between Groups	.314	6.273E-02	.644	.666
walking	Between Groups	4.174	.835	3.845	.002
Running	Between Groups	1.040	.208	.918	.469
Physical Exercises	Between Groups	.549	.110	1.161	.328
Exercising with Equipment	Between Groups	1.975	.395	2.187	.055
Rope Skipping	Between Groups	1.170	.234	1.780	.116
Yoga	Between Groups	.355	7.108E-02	1.046	.390
Go to Gym	Between Groups	2.951	.590	3.170	.008
Shadow Boxing	Between Groups	.586	.117	1.530	.180
Taichi	Between Groups	.798	.160	1.591	.162
Martial art	Between Groups	1.410	.282	2.537	.028
Visit Teahouse*3	Between Groups	7.593	1.519	6.754	.000
Visit Coffeehouse	Between Groups	4.161	.832	3.475	.004
Visit Bar or Pub	Between Groups	3.481	.696	2.868	.015
Dining Out in Restaurant	Between Groups	1.446	.289	2.872	.015
Nightclubs	Between Groups	.390	7.800E-02	.323	.899
Electronic games	Between Groups	.804	.161	.656	.657
Internet games	Between Groups	2.590	.518	2.119	.063
Chinese poker	Between Groups	1.397	.279	1.221	.299
Chess	Between Groups	3.214	.643	2.781	.018

Mahjong *4	Between Groups	6.186	1.237	5.269	.000
Billiards and Pool	Between Groups	2.623	.525	2.334	.042
Playing instruments	Between Groups	.759	.152	1.481	.195
Painting	Between Groups	.932	.186	1.573	.167
Calligraphy	Between Groups	1.420	.284	1.638	.149
Singing	Between Groups	2.584	.517	2.125	.062
Hair Dressing/Beauty Salon	Between Groups	1.827	.365	1.583	.164
Dancing	Between Groups	1.208	.242	1.377	.232
Pets	Between Groups	.466	9.323E-02	.615	.688
Cooking	Between Groups	1.338	.268	1.091	.365
Photography	Between Groups	4.744	.949	4.497	.001
Collecting (stamps, coins, etc.)	Between Groups	1.683	.337	1.738	.125
Home Decorating	Between Groups	.784	.157	.707	.619
Electronic pets	Between Groups	.637	.127	2.412	.036
Writing	Between Groups	1.661	.332	1.693	.135
Inventing	Between Groups	1.914	.383	3.553	.004
Camping	Between Groups	2.186	.437	2.532	.029
Hiking in Natural Areas	Between Groups	3.063	.613	2.544	.028
Going to local Parks	Between Groups	4.401	.880	3.921	.002
Going to zoos	Between Groups	1.352	.270	1.212	.303
Going to natural parks *5	Between Groups	9.138	1.828	9.474	.000
Fishing	Between Groups	1.981	.396	1.864	.100
Mountain Climbing	Between Groups	4.165	.833	3.822	.002
Boating	Between Groups	1.146	.229	1.234	.292
Picnic	Between Groups	.703	.141	.654	.659
Driving for Pleasure	Between Groups	.918	.184	.836	.525
Bicycling for pleasure	Between Groups	1.011	.202	.930	.461
Mountain biking	Between Groups	.270	5.391E-02	.764	.576
Take Naps *15	Between Groups	1.768	.354	1.805	.111
Massage	Between Groups	4.006	.801	3.445	.005
Hot Springs	Between Groups	3.156	.631	2.707	.020
Meditation	Between Groups	.741	.148	.611	.691
Bathing	Between Groups	1.389	.278	1.110	.354
Visit Historic or Cultural Site	Between Groups	1.015	.203	.811	.543
Visit Theme Park	Between Groups	2.394	.479	2.165	.057
Travel to Another Country	Between Groups	1.788	.358	2.419	.036
Visit Mountains or Water Area	Between Groups	.301	6.021E-02	.246	.942
Take Vacation	Between Groups	.836	.167	.671	.646
Visit Exhibitions	Between Groups	4.098	.820	3.554	.004
Dating	Between Groups	3.578	.716	2.976	.012
Chatting	Between Groups	1.021	.204	1.644	.147
Visiting Friends and Relatives	Between Groups	1.489	.298	2.052	.071
Play with kids	Between Groups	3.075	.615	2.530	.029
Family Gatherings	Between Groups	1.500	.300	1.336	.248
Social/ballroom dancing	Between Groups	4.644	.929	3.861	.002
Volunteering in social work	Between Groups	2.664	.533	2.669	.022
Visit Museum/Art Gallery	Between Groups	2.517	.503	2.299	.045
Attend Theatre	Between Groups	.806	.161	1.217	.301
Attend Sports Event	Between Groups	2.054	.411	1.697	.134
Attend Music Event	Between Groups	1.656	.331	1.373	.234
Karaoke	Between Groups	.930	.186	.783	.562
Religious activity	Between Groups	.709	.142	1.581	.165

An asterisk (*) denotes that at least 1 pair of cities is statistically different in the activity comparison with a Bonferroni post hoc test (p<0.001).

Activities	Pairs of Cities (PC)	No. of PC

[*1] Movies	Beijing and Qingdao; Shenzhen and Qingdao	2
[*2] Table tennis	Hangzhou and Qingdao	1
[*3] Tea	Hangzhou and Qingdao	1
[*4] Mahjong	Beijing and Chengdu	1
[*5] Nature park	Beijing and Shenzhen; Chengdu and Qingdao; Chengdu and Shenzhen; Hangzhou and Shenzhen; Shenzhen and Shanghai	5

Table 43 illustrates one-way ANOVA comparisons of participation and nonparticipation for the six cities for the female group. At least 1 pair of cities shows statistical differences in participation rates for 12 activities with a Bonferroni post hoc test ($p<0.001$). All pairs of cities indicate no statistical difference in participation rates for the remaining 77 activities with a Bonferroni post hoc test ($p<0.001$). Among the 15 pairs of cities, each pair of cities shows statistical difference in participation rates for a different number of activities, ranging from 0 to 4, with a Bonferroni post hoc test ($p<0.001$). The pair of Hangzhou and Qingdao and the pair of Shanghai and Shenzhen show statistical differences in participation rates for 4 activities with a Bonferroni post hoc test ($p<0.001$). However, the following pairs, Beijing and Chengdu, Chengdu and Qingdao, Chengdu and Shanghai, Qingdao and Shanghai, and Qingdao and Shenzhen, indicate statistical differences in participation rates for only 1 activity with a Bonferroni post hoc test ($p<0.001$). The pairs of Chengdu and Hangzhou and Hangzhou and Shenzhen show no statistical difference in participation rates for all activities with a Bonferroni post hoc test ($p<0.001$) (Table 46).

Table 43. One-way ANOVA comparisons of participation and nonparticipation in female group of six cities (df=5)

Activities	Group comparisons	Sum of Squares	Mean Square	F	Sig.
Newspaper	Between Groups	.216	4.315E-02	1.188	.314
Reading books[*1]	Between Groups	3.138	.628	6.567	.000
Magazines	Between Groups	.433	8.660E-02	.985	.426
Other reading	Between Groups	.414	8.284E-02	2.030	.074
TV[*2]	Between Groups	5.377	1.075	5.580	.000
Movies[*3]	Between Groups	3.196	.639	5.345	.000
Internet	Between Groups	1.074	.215	2.783	.018
Music	Between Groups	3.912	.782	3.350	.006
Radio	Between Groups	.471	9.428E-02	.625	.681
Swimming	Between Groups	1.923	.385	1.625	.153
Table Tennis	Between Groups	3.930	.786	3.501	.004
Tennis	Between Groups	.360	7.206E-02	.534	.751
Golf	Between Groups	.881	.176	4.190	.001
Soccer	Between Groups	.202	4.038E-02	.752	.585
Skating	Between Groups	.257	5.146E-02	.370	.869
Volleyball	Between Groups	.446	8.914E-02	.701	.623
Badminton	Between Groups	.837	.167	.678	.641
Archery	Between Groups	.310	6.197E-02	1.849	.103
walking	Between Groups	3.773	.755	3.591	.003
Running	Between Groups	2.293	.459	1.884	.096
Physical Exercises	Between Groups	2.595	.519	2.341	.041
Exercising with Equipment	Between Groups	1.614	.323	2.932	.013
Rope Skipping	Between Groups	1.769	.354	1.516	.184
Yoga	Between Groups	.851	.170	.977	.431
Go to Gym	Between Groups	1.578	.316	1.771	.118
Shadow Boxing	Between Groups	.158	3.161E-02	.866	.504
Taichi	Between Groups	.669	.134	1.936	.088
Martial art	Between Groups	.635	.127	2.043	.072
Visit Teahouse[*4]	Between Groups	10.355	2.071	9.290	.000
Visit Coffeehouse	Between Groups	4.021	.804	3.309	.006
Visit Bar or Pub	Between Groups	2.772	.554	2.420	.035
Dining Out in Restaurant	Between Groups	1.301	.260	2.054	.071
Nightclubs	Between Groups	1.225	.245	1.007	.413
Electronic games	Between Groups	.970	.194	.982	.429
Internet games	Between Groups	2.986	.597	2.476	.032
Chinese poker	Between Groups	2.503	.501	2.036	.073
Chess	Between Groups	2.275	.455	3.195	.008
Mahjong	Between Groups	5.003	1.001	4.395	.001
Billiards and Pool	Between Groups	.162	3.234E-02	.332	.893
Playing instruments	Between Groups	.601	.120	1.341	.246
Painting	Between Groups	2.221	.444	2.630	.024
Calligraphy	Between Groups	2.123	.425	3.089	.010
Singing	Between Groups	.548	.110	.478	.792
Hair Dressing/Beauty Salon	Between Groups	2.192	.438	2.140	.060
Dancing	Between Groups	3.183	.637	2.953	.013
Pets	Between Groups	1.148	.230	1.361	.238
Cooking	Between Groups	3.314	.663	2.993	.012
Photography[*5]	Between Groups	6.084	1.217	5.783	.000
Collecting (stamps, coins, etc.)	Between Groups	2.356	.471	2.518	.029
Home Decorating	Between Groups	7.617	1.523	6.533	.000

Electronic pets	Between Groups	.171	3.423E-02	.700	.624
Writing[*6]	Between Groups	4.565	.913	4.867	.000
Inventing	Between Groups	.396	7.927E-02	1.366	.236
Camping	Between Groups	.734	.147	.978	.431
Hiking in Natural Areas	Between Groups	4.879	.976	4.189	.001
Going to local Parks[*7]	Between Groups	5.830	1.166	5.819	.000
Going to zoos	Between Groups	2.862	.572	2.374	.039
Going to natural parks [*8]	Between Groups	9.475	1.895	10.185	.000
Fishing	Between Groups	1.945	.389	2.453	.033
Mountain Climbing[*9]	Between Groups	10.587	2.117	9.999	.000
Boating	Between Groups	1.737	.347	1.667	.142
Picnic[*10]	Between Groups	4.466	.893	4.269	.001
Driving for Pleasure	Between Groups	1.538	.308	1.580	.165
Bicycling for pleasure	Between Groups	3.654	.731	3.896	.002
Mountain biking	Between Groups	.586	.117	1.883	.097
Take Naps	Between Groups	3.316	.663	3.426	.005
Massage	Between Groups	4.055	.811	3.422	.005
Hot Springs	Between Groups	3.593	.719	3.574	.004
Meditation	Between Groups	2.927	.585	2.651	.023
Bathing[*11]	Between Groups	9.470	1.894	8.336	.000
Visit Historic or Cultural Site	Between Groups	2.828	.566	2.331	.042
Visit Theme Park	Between Groups	4.717	.943	4.462	.001
Travel to Another Country	Between Groups	2.126	.425	2.689	.021
Visit Mountains or Water Area	Between Groups	3.047	.609	2.533	.029
Take Vacation	Between Groups	4.297	.859	3.588	.004
Visit Exhibitions	Between Groups	3.937	.787	3.597	.003
Dating	Between Groups	1.738	.348	1.473	.198
Chatting	Between Groups	1.709	.342	3.365	.006
Visiting Friends and Relatives	Between Groups	1.765	.353	2.517	.029
Play with kids[*12]	Between Groups	4.211	.842	3.764	.002
Family Gatherings	Between Groups	1.193	.239	1.220	.299
Social/ballroom dancing	Between Groups	4.153	.831	3.450	.005
Volunteering in social work	Between Groups	2.906	.581	3.277	.007
Visit Museum/Art Gallery	Between Groups	2.853	.571	2.571	.026
Attend Theatre	Between Groups	1.354	.271	1.783	.115
Attend Sports Event	Between Groups	3.697	.739	3.306	.006
Attend Music Event	Between Groups	3.272	.654	2.769	.018
Karaoke	Between Groups	1.663	.333	1.501	.189
Religious activity	Between Groups	.793	.159	1.257	.282

An asterisk (*) denotes that at least 1 pair of cities is statistically different in the activity comparison with a Bonferroni post hoc test (p<0.001).

Activities	Pairs of Cities (PC)	No. of PC
[*1] Reading book	Beijing and Shanghai; Shanghai and Shenzhen	2
[*2] TV	Chengdu and Qingdao; Chengdu and Shanghai	2
[*3] Movies	Beijing and Shanghai	1
[*4] Visit Teahouse	Hangzhou and Beijing; Hangzhou and Qingdao; Hangzhou and Shanghai	3
[*5] Photography	Beijing and Shenzhen; Chengdu and Shenzhen	2
[*6] Writing	Hangzhou and Shanghai; Shanghai and Shenzhen	2
[*7] Go to park	Hangzhou and Qingdao	1
[*8] Nature park	Qingdao and Beijing; Qingdao and Hangzhou; Qingdao and Beijing; Qingdao and Shanghai; Shenzhen and Chengdu; Shenzhen and Shanghai	6
[*9] Mountain climbing	Beijing and Shanghai; Hangzhou and Qingdao; Hangzhou and Shanghai; Shanghai and Shenzhen	4
[*10] Picnic	Beijing and Hangzhou	1
[*11] Bathing	Beijing and Chengdu; Beijing and Shenzhen; Qingdao and Shenzhen	3
[*12] Play with kids	Hangzhou and Beijing	1

Table 44 illustrates one-way ANOVA comparisons of participation and nonparticipation for the six cities for the younger group. At least 1 pair of cities shows statistical differences in participation rates for 12 activities with a Bonferroni post hoc test ($p<0.001$). All pairs of cities indicate no statistical difference in participation rates for the remaining 77 activities with a Bonferroni post hoc test ($p<0.001$). Among the 15 pairs of cities, each pair of cities shows statistical difference in participation rates for a different number of activities, ranging from 0 to 6, with a Bonferroni post hoc test ($p<0.001$). The pair of Beijing and Hangzhou shows statistical difference in participation rates for 6 activities with a Bonferroni post hoc test ($p<0.001$). However, the following pairs, Chengdu and Qingdao, Qingdao and Shanghai, and Shanghai and Shenzhen, indicate statistical differences in participation rates for only 1 activity with a Bonferroni post hoc test ($p<0.001$). The following pairs, Beijing and Shanghai, Chengdu and Hangzhou, Chengdu and Shanghai, Chengdu and Shenzhen, Hangzhou and Shanghai, Hangzhou and Shenzhen, and Qingdao and Shenzhen, show no statistical difference in participation rates for all activities with a Bonferroni post hoc test ($p<0.001$) (Table 46).

Table 44. One-way ANOVA comparisons of participation and nonparticipation in younger group of six cities (df=5)

Activities	Group comparisons	Sum of Squares	Mean Square	F	Sig.
Newspaper	Between Groups	.306	6.129E-02	1.247	.286
Reading books[*1]	Between Groups	.354	7.087E-02	.850	.515
Magazines	Between Groups	.892	.178	1.718	.129
Other reading	Between Groups	.287	5.732E-02	.987	.425
TV[*2]	Between Groups	2.633	.527	2.999	.011
Movies[*3]	Between Groups	1.148	.230	3.555	.004
Internet	Between Groups	.673	.135	1.865	.099
Music	Between Groups	1.525	.305	1.277	.273
Radio	Between Groups	.269	5.385E-02	.234	.948
Swimming	Between Groups	1.379	.276	1.116	.351
Table Tennis[*4]	Between Groups	6.096	1.219	5.174	.000
Tennis	Between Groups	2.304	.461	2.762	.018
Golf[*5]	Between Groups	.212	4.241E-02	.945	.451
Soccer	Between Groups	.537	.107	.598	.702

Skating	Between Groups	.876	.175	.987	.425
Volleyball	Between Groups	1.161	.232	1.456	.203
Badminton[*6]	Between Groups	2.122	.424	1.950	.085
Archery	Between Groups	.334	6.674E-02	1.152	.333
walking	Between Groups	2.951	.590	2.966	.012
Running	Between Groups	4.156	.831	3.793	.002
Physical Exercises	Between Groups	1.253	.251	1.233	.293
Exercising with Equipment	Between Groups	1.170	.234	1.467	.200
Rope Skipping	Between Groups	3.371	.674	3.285	.006
Yoga	Between Groups	.558	.112	.744	.591
Go to Gym	Between Groups	2.594	.519	2.790	.017
Shadow Boxing	Between Groups	.542	.108	1.694	.135
Taichi	Between Groups	.470	9.394E-02	1.222	.298
Martial art	Between Groups	1.249	.250	2.521	.029
Visit Teahouse[*7]	Between Groups	7.948	1.590	6.899	.000
Visit Coffeehouse[*8]	Between Groups	1.660	.332	1.331	.250
Visit Bar or Pub	Between Groups	2.299	.460	1.876	.097
Dining Out in Restaurant	Between Groups	1.399	.280	2.585	.026
Nightclubs	Between Groups	2.368	.474	1.913	.091
Electronic games	Between Groups	.414	8.276E-02	.333	.893
Internet games[*9]	Between Groups	2.780	.556	2.345	.041
Chinese poker	Between Groups	1.437	.287	1.226	.296
Chess	Between Groups	2.487	.497	2.499	.030
Mahjong[*10]	Between Groups	4.769	.954	4.155	.001
Billiards and Pool	Between Groups	2.262	.452	2.318	.043
Playing instruments	Between Groups	1.292	.258	2.265	.047
Painting	Between Groups	3.189	.638	3.943	.002
Calligraphy	Between Groups	4.545	.909	5.449	.000
Singing	Between Groups	1.506	.301	1.379	.231
Hair Dressing/Beauty Salon	Between Groups	2.299	.460	1.890	.095
Dancing	Between Groups	3.897	.779	3.612	.003
Pets	Between Groups	1.047	.209	1.192	.312
Cooking	Between Groups	2.460	.492	1.995	.078
Photography	Between Groups	9.688	1.938	9.626	.000
Collecting (stamps, coins, etc.)	Between Groups	2.190	.438	2.358	.040
Home Decorating	Between Groups	3.550	.710	3.012	.011
Electronic pets	Between Groups	.429	8.588E-02	1.337	.248
Writing	Between Groups	3.934	.787	3.707	.003
Inventing	Between Groups	1.490	.298	3.217	.007
Camping	Between Groups	1.432	.286	1.547	.174
Hiking in Natural Areas	Between Groups	6.826	1.365	5.775	.000
Going to local Parks[*11]	Between Groups	4.498	.900	4.637	.000
Going to zoos	Between Groups	4.960	.992	4.264	.001
Going to natural parks [*12]	Between Groups	10.423	2.085	11.363	.000
Fishing	Between Groups	1.415	.283	1.470	.199
Mountain Climbing[*13]	Between Groups	2.768	.554	2.595	.025
Boating	Between Groups	3.410	.682	3.249	.007
Picnic	Between Groups	2.600	.520	2.266	.047
Driving for Pleasure	Between Groups	1.424	.285	1.548	.174
Bicycling for pleasure	Between Groups	6.476	1.295	5.928	.000
Mountain biking	Between Groups	.469	9.388E-02	1.463	.201
Take Naps	Between Groups	2.566	.513	2.656	.022
Massage	Between Groups	3.487	.697	3.011	.011
Hot Springs	Between Groups	4.387	.877	4.267	.001
Meditation	Between Groups	2.875	.575	2.560	.027
Bathing	Between Groups	5.146	1.029	4.307	.001

Visit Historic or Cultural Site	Between Groups	3.471	.694	2.839	.016
Visit Theme Park	Between Groups	3.118	.624	2.792	.017
Travel to Another Country	Between Groups	.802	.160	1.271	.275
Visit Mountains or Water Area	Between Groups	2.790	.558	2.374	.038
Take Vacation	Between Groups	1.427	.285	1.153	.332
Visit Exhibitions	Between Groups	6.677	1.335	5.899	.000
Dating	Between Groups	.847	.169	.889	.488
Chatting	Between Groups	.856	.171	2.319	.043
Visiting Friends and Relatives	Between Groups	1.941	.388	2.982	.012
Play with kids*12	Between Groups	4.758	.952	3.938	.002
Family Gatherings	Between Groups	2.062	.412	1.878	.097
Social/ballroom dancing	Between Groups	5.055	1.011	4.397	.001
Volunteering in social work	Between Groups	5.057	1.011	5.057	.000
Visit Museum/Art Gallery*14	Between Groups	2.528	.506	2.306	.044
Attend Theatre	Between Groups	1.207	.241	1.718	.129
Attend Sports Event	Between Groups	5.223	1.045	4.341	.001
Attend Music Event	Between Groups	2.345	.469	1.920	.090
Karaoke	Between Groups	.541	.108	.553	.736
Religious activity	Between Groups	.457	9.145E-02	.961	.442

An asterisk (*) denotes that at least 1 pair of cities is statistically different in the activity comparison with a Bonferroni post hoc test (p<0.001).

Activities	Pairs of Cities (PC)	No. of PC
*1 Table tennis	Qingdao and Hangzhou	1
*2 visiting teahouse	Hangzhou and Beijing; Hangzhou and Qingdao	2
*3 Calligraphy	Beijing and Chengdu; Beijing and Qingdao	2
*4 Photography	Beijing and Hangzhou; Beijing and Shenzhen	2
*5 Hiking	Beijing and Hangzhou; Shenzhen and Beijing	2
*6 Nature parks	Beijing and Qingdao; Chengdu and Qingdao; Hangzhou and Qingdao; Shanghai and Qingdao	4
*7 Bike	Beijing and Chengdu	1
*8 Bathing	Shanghai and Shenzhen	1
*9 Exhibition	Beijing and Hangzhou	1
*10 Play with kids	Beijing and Hangzhou	1
*11 Ball dancing	Beijing and Qingdao	1
*12 Social work	Beijing and Hangzhou	1

Table 45 illustrates one-way ANOVA comparisons of participation and nonparticipation for the six cities for the older group. At least 1 pair of cities shows statistical differences in participation rates for 14 activities with a Bonferroni post hoc test ($p<0.001$). All pairs of cities indicate no statistical difference in participation rates for the remaining 75 activities with a Bonferroni post hoc test ($p<0.001$). Among the 15 pairs of cities, each pair of cities shows statistical differences in participation rates for a different number of activities, ranging from 0 to 5, with a Bonferroni post hoc test ($p<0.001$). Beijing and Shanghai shows statistical difference in participation rates for 5 activities with a Bonferroni post hoc test ($p<0.001$). However, the following pairs,

Beijing and Hangzhou, Beijing and Qingdao, Chengdu and Shenzhen, and Qingdao and Shanghai, indicate statistical difference in participation rates for only 1 activity with a Bonferroni post hoc test ($p<0.001$). The pair of Chengdu and Hangzhou shows no statistical difference in participation rates for all activities with a Bonferroni post hoc test ($p<0.001$) (Table 46).

Table 45. One-way ANOVA comparisons of participation and nonparticipation in older group of six cities (df=5)

Activities	Group comparisons	Sum of Squares	Mean Square	F	Sig.
Newspaper	Between Groups	.306	6.129E-02	1.247	.286
Reading books*1	Between Groups	.354	7.087E-02	.850	.515
Magazines	Between Groups	.892	.178	1.718	.129
Other reading	Between Groups	.287	5.732E-02	.987	.425
TV*2	Between Groups	2.633	.527	2.999	.011
Movies*3	Between Groups	1.148	.230	3.555	.004
Internet	Between Groups	.673	.135	1.865	.099
Music	Between Groups	1.525	.305	1.277	.273
Radio	Between Groups	.269	5.385E-02	.234	.948
Swimming	Between Groups	1.379	.276	1.116	.351
Table Tennis*4	Between Groups	6.096	1.219	5.174	.000
Tennis	Between Groups	2.304	.461	2.762	.018
Golf*5	Between Groups	.212	4.241E-02	.945	.451
Soccer	Between Groups	.537	.107	.598	.702
Skating	Between Groups	.876	.175	.987	.425
Volleyball	Between Groups	1.161	.232	1.456	.203
Badminton*6	Between Groups	2.122	.424	1.950	.085
Archery	Between Groups	.334	6.674E-02	1.152	.333
walking	Between Groups	2.951	.590	2.966	.012
Running	Between Groups	4.156	.831	3.793	.002
Physical Exercises	Between Groups	1.253	.251	1.233	.293
Exercising with Equipment	Between Groups	1.170	.234	1.467	.200
Rope Skipping	Between Groups	3.371	.674	3.285	.006
Yoga	Between Groups	.558	.112	.744	.591
Go to Gym	Between Groups	2.594	.519	2.790	.017
Shadow Boxing	Between Groups	.542	.108	1.694	.135
Taichi	Between Groups	.470	9.394E-02	1.222	.298
Martial art	Between Groups	1.249	.250	2.521	.029
Visit Teahouse*7	Between Groups	7.948	1.590	6.899	.000
Visit Coffeehouse*8	Between Groups	1.660	.332	1.331	.250
Visit Bar or Pub	Between Groups	2.299	.460	1.876	.097
Dining Out in Restaurant	Between Groups	1.399	.280	2.585	.026
Nightclubs	Between Groups	2.368	.474	1.913	.091
Electronic games	Between Groups	.414	8.276E-02	.333	.893
Internet games*9	Between Groups	2.780	.556	2.345	.041
Chinese poker	Between Groups	1.437	.287	1.226	.296
Chess	Between Groups	2.487	.497	2.499	.030
Mahjong*10	Between Groups	4.769	.954	4.155	.001

Billiards and Pool	Between Groups	2.262	.452	2.318	.043
Playing instruments	Between Groups	1.292	.258	2.265	.047
Painting	Between Groups	3.189	.638	3.943	.002
Calligraphy	Between Groups	4.545	.909	5.449	.000
Singing	Between Groups	1.506	.301	1.379	.231
Hair Dressing/Beauty Salon	Between Groups	2.299	.460	1.890	.095
Dancing	Between Groups	3.897	.779	3.612	.003
Pets	Between Groups	1.047	.209	1.192	.312
Cooking	Between Groups	2.460	.492	1.995	.078
Photography	Between Groups	9.688	1.938	9.626	.000
Collecting (stamps, coins, etc.)	Between Groups	2.190	.438	2.358	.040
Home Decorating	Between Groups	3.550	.710	3.012	.011
Electronic pets	Between Groups	.429	8.588E-02	1.337	.248
Writing[*6]	Between Groups	3.934	.787	3.707	.003
Inventing	Between Groups	1.490	.298	3.217	.007
Camping	Between Groups	1.432	.286	1.547	.174
Hiking in Natural Areas	Between Groups	6.826	1.365	5.775	.000
Going to local Parks[*11]	Between Groups	4.498	.900	4.637	.000
Going to zoos	Between Groups	4.960	.992	4.264	.001
Going to natural parks [*12]	Between Groups	10.423	2.085	11.363	.000
Fishing	Between Groups	1.415	.283	1.470	.199
Mountain Climbing[*13]	Between Groups	2.768	.554	2.595	.025
Boating	Between Groups	3.410	.682	3.249	.007
Picnic	Between Groups	2.600	.520	2.266	.047
Driving for Pleasure	Between Groups	1.424	.285	1.548	.174
Bicycling for pleasure	Between Groups	6.476	1.295	5.928	.000
Mountain biking	Between Groups	.469	9.388E-02	1.463	.201
Take Naps	Between Groups	2.566	.513	2.656	.022
Massage	Between Groups	3.487	.697	3.011	.011
Hot Springs	Between Groups	4.387	.877	4.267	.001
Meditation	Between Groups	2.875	.575	2.560	.027
Bathing	Between Groups	5.146	1.029	4.307	.001
Visit Historic or Cultural Site	Between Groups	3.471	.694	2.839	.016
Visit Theme Park	Between Groups	3.118	.624	2.792	.017
Travel to Another Country	Between Groups	.802	.160	1.271	.275
Visit Mountains or Water Area	Between Groups	2.790	.558	2.374	.038
Take Vacation	Between Groups	1.427	.285	1.153	.332
Visit Exhibitions	Between Groups	6.677	1.335	5.899	.000
Dating	Between Groups	.847	.169	.889	.488
Chatting	Between Groups	.856	.171	2.319	.043
Visiting Friends and Relatives	Between Groups	1.941	.388	2.982	.012
Play with kids[*12]	Between Groups	4.758	.952	3.938	.002
Family Gatherings	Between Groups	2.062	.412	1.878	.097
Social/ballroom dancing	Between Groups	5.055	1.011	4.397	.001
Volunteering in social work	Between Groups	5.057	1.011	5.057	.000
Visit Museum/Art Gallery[*14]	Between Groups	2.528	.506	2.306	.044
Attend Theatre	Between Groups	1.207	.241	1.718	.129
Attend Sports Event	Between Groups	5.223	1.045	4.341	.001
Attend Music Event	Between Groups	2.345	.469	1.920	.090
Karaoke	Between Groups	.541	.108	.553	.736
Religious activity	Between Groups	.457	9.145E-02	.961	.442

An asterisk (*) denotes that at least 1 pair of cities is statistically different in the activity comparison with a Bonferroni post hoc test (p<0.001).

Activities	Pairs of Cities (PC)	No. of PC
[*1] Reading books	Beijing and Shanghai; Chengdu and Shanghai; Shenzhen and Shanghai	3
[*2] TV	Qingdao and Chengdu	1

*3 Movies	Beijing and Shanghai; Shenzhen and Qingdao; Shenzhen and Shanghai	3
*4 Table Tennis	Hangzhou and Qingdao;	1
*5 Golf	Shenzhen and Beijing ; Shenzhen and Hangzhou	2
*6 Badminton	Qingdao and Shenzhen	1
*7 visiting teahouse	Beijing and Chengdu; Chengdu and Qingdao; Hangzhou and Beijing ; Hangzhou and Qingdao; Hangzhou and Shanghai	5
*8 visiting coffeeshop	Beijing and Shenzhen; Qingdao and Shenzhen	2
*9 Internet game	Chengdu and Qingdao	1
*10 Mahjong	Beijing and Chengdu; Beijing and Shanghai; Chengdu and Qingdao; Qingdao and Shanghai; Qingdao and Shenzhen; Shanghai and Beijing	6
*11 Go to park	Hangzhou and Qingdao; Hangzhou and Shanghai	2
*12 Nature parks	Hangzhou and Shenzhen; Chengdu and Shenzhen; Shanghai and Shenzhen	3
*13 Mountain climbing	Beijing and Qingdao; Beijing and Shanghai; Chengdu and Shanghai; Hangzhou and Qingdao; Hangzhou and Shanghai; Shenzhen and Shanghai	6
*14 Visiting museum	Qingdao and Shenzhen	1

Table 46. Number of leisure activities with statistical significance in inter-city comparisons of activity participation and nonparticipation

	All cities	All cities (male)	All cities (female)	All cities (older)	All cities (younger)
Beijing and Chengdu	5	1	1	2	2
Beijing and Hangzhou	4	0	3	1	6
Beijing and Qingdao	3	1	2	1	3
Beijing and Shanghai	2	0	3	5	0
Beijing and Shenzhen	4	1	2	2	2
Chengdu and Hangzhou	1	0	0	0	0
Chengdu and Qingdao	6	1	1	4	1
Chengdu and Shanghai	3	0	1	2	0
Chengdu and Shenzhen	1	1	2	1	0
Hangzhou and Qingdao	6	2	4	4	3
Hangzhou and Shanghai	4	0	3	3	0
Hangzhou and Shenzhen	3	1	0	2	0
Qingdao and Shanghai	1	0	1	1	1
Qingdao and Shenzhen	7	1	1	5	0
Shanghai and Shenzhen	3	1	4	4	1

* Each number indicates number of activities with a Bonferroni post hoc test ($p<0.001$) in each pair of cities.

In this section, I will address research questions 3a and b:

Do the six cities differ in terms of the perceived importance of primary leisure activities?

a. Do the six cities differ in terms of the perceived importance of primary leisure activities between males and females?

b. Do the six cities differ in terms of the perceived importance of primary leisure activities between younger and older residents?

Table 47 illustrates one-way ANOVA comparisons of importance and unimportance of activities in the six cities. At least 1 pair of cities shows statistical differences in importance for 26 activities with a Bonferroni post hoc test ($p<0.001$). All pairs of cities indicate no statistical difference in participation rates for the remaining 63 activities with a Bonferroni post hoc test ($p<0.001$). Among the 15 pairs of cities, each pair of cities shows statistical differences in the importance of a different number of activities, ranging from 1 to 11, with a Bonferroni post hoc test ($p<0.001$). The pair of Beijing and Chengdu shows statistical differences in the importance of 11 activities with a Bonferroni post hoc test ($p<0.001$). However, the following pairs, Beijing and Shenzhen, Chengdu and Shanghai, and Chengdu and Shenzhen, indicate statistical differences in the importance of only 1 activity with a Bonferroni post hoc test ($p<0.001$) (Table 52).

Table 47. One-way ANOVA comparisons of importance and unimportance of leisure activities in six cities (df=5)

Activities	Group comparisons	Sum of Squares	Mean Square	F	Sig.
Newspaper	Between Groups	16.978	3.396	2.319	.042
Reading books	Between Groups	31.770	6.354	3.177	.008
Magazines	Between Groups	22.954	4.591	2.630	.023
Other reading[*1]	Between Groups	35.100	7.020	4.092	.001
TV[*2]	Between Groups	36.163	7.233	4.537	.000
Movies[*3]	Between Groups	131.638	26.328	12.470	.000
Internet	Between Groups	29.580	5.916	3.154	.008
Music	Between Groups	49.347	9.869	5.728	.000
Radio	Between Groups	12.100	2.420	1.676	.138
Swimming	Between Groups	14.999	3.000	1.884	.095
Table Tennis[*4]	Between Groups	41.298	8.260	5.992	.000
Tennis	Between Groups	16.732	3.346	4.407	.001
Golf	Between Groups	8.003	1.601	4.602	.000
Soccer	Between Groups	10.339	2.068	2.092	.064
Skating	Between Groups	6.462	1.292	2.608	.024
Volleyball[*5]	Between Groups	15.361	3.072	4.749	.000
Badminton	Between Groups	39.714	7.943	4.745	.000
Archery	Between Groups	1.538	.308	1.128	.344
walking[*6]	Between Groups	84.728	16.946	7.252	.000
Running[*7]	Between Groups	42.666	8.533	3.883	.002
Physical Exercises	Between Groups	21.574	4.315	3.347	.005

Exercising with Equipment[*8]	Between Groups	37.645	7.529	7.132	.000
Rope Skipping	Between Groups	16.897	3.379	2.983	.011
Yoga	Between Groups	15.031	3.006	3.378	.005
Go to Gym	Between Groups	8.193	1.639	2.216	.051
Shadow Boxing[*9]	Between Groups	7.897	1.579	4.333	.001
Taichi[*10]	Between Groups	23.893	4.779	8.059	.000
Martial art[*11]	Between Groups	18.275	3.655	5.658	.000
Visiting Teahouse[*12]	Between Groups	99.142	19.828	13.584	.000
Visit Coffeehouse	Between Groups	20.493	4.099	3.073	.009
Visit Bar or Pub[*13]	Between Groups	40.092	8.018	6.755	.000
Dining Out in Restaurant	Between Groups	22.737	4.547	2.764	.017
Nightclubs	Between Groups	6.335	1.267	1.098	.360
Electronic games	Between Groups	4.901	.980	.756	.582
Internet games	Between Groups	21.345	4.269	2.655	.022
Chinese poker	Between Groups	17.122	3.424	2.544	.027
Chess[*14]	Between Groups	17.871	3.574	4.877	.000
Mahjong[*15]	Between Groups	69.105	13.821	11.752	.000
Billiards and Pool[*16]	Between Groups	14.713	2.943	5.109	.000
Playing instruments	Between Groups	5.848	1.170	1.870	.097
Painting	Between Groups	11.872	2.374	3.026	.010
Calligraphy	Between Groups	16.369	3.274	3.287	.006
Singing	Between Groups	16.245	3.249	1.768	.117
Hair Dressing/Beauty Salon	Between Groups	22.202	4.440	2.176	.055
Dancing	Between Groups	19.608	3.922	3.438	.004
Pets	Between Groups	16.400	3.280	2.833	.015
Cooking	Between Groups	20.169	4.034	1.734	.124
Photography[*17]	Between Groups	37.550	7.510	6.021	.000
Collecting (stamps, coins, etc.)	Between Groups	14.873	2.975	2.529	.028
Home Decorating	Between Groups	27.865	5.573	3.046	.010
Electronic pets	Between Groups	2.570	.514	1.986	.079
Writing	Between Groups	22.571	4.514	2.721	.019
Inventing	Between Groups	13.845	2.769	5.095	.000
Camping	Between Groups	10.830	2.166	2.226	.050
Hiking in Natural Areas	Between Groups	29.560	5.912	3.373	.005
Going to local Parks[*18]	Between Groups	60.251	12.050	7.514	.000
Going to zoos	Between Groups	15.667	3.133	2.948	.012
Going to natural parks[*19]	Between Groups	78.914	15.783	12.815	.000
Fishing	Between Groups	14.419	2.884	2.874	.014
Mountain Climbing[*20]	Between Groups	61.013	12.203	6.918	.000
Boating	Between Groups	6.184	1.237	1.589	.161
Picnic	Between Groups	14.766	2.953	3.040	.010
Driving for Pleasure	Between Groups	21.181	4.236	3.216	.007
Bicycling for pleasure	Between Groups	16.580	3.316	2.593	.025
Mountain biking	Between Groups	5.582	1.116	3.173	.008
Take Naps[*21]	Between Groups	67.766	13.553	6.070	.000
Massage[*22]	Between Groups	43.765	8.753	4.895	.000
Hot Springs[*23]	Between Groups	38.127	7.625	6.540	.000
Meditation	Between Groups	45.888	9.178	4.087	.001
Bathing	Between Groups	27.797	5.559	3.056	.010
Visit Historic or Cultural Site	Between Groups	13.661	2.732	1.490	.191
Visit Theme Park	Between Groups	17.593	3.519	2.926	.013
Travel to Another Country[*24]	Between Groups	38.476	7.695	7.805	.000
Visit Mountains or Water Area	Between Groups	15.921	3.184	1.600	.158
Take Vacation	Between Groups	10.471	2.094	.968	.436
Visit Exhibitions	Between Groups	36.329	7.266	4.733	.000
Dating	Between Groups	13.288	2.658	1.201	.307

Chatting	Between Groups	38.360	7.672	4.108	.001
Visiting Friends and Relatives	Between Groups	16.104	3.221	1.703	.131
Play with kids	Between Groups	32.660	6.532	2.378	.037
Family Gatherings	Between Groups	34.556	6.911	2.880	.014
Social/ballroom dancing[*25]	Between Groups	45.558	9.112	6.561	.000
Volunteering in social work	Between Groups	34.811	6.962	4.623	.000
Visit Museum/Art Gallery	Between Groups	23.159	4.632	3.390	.005
Attend Theatre	Between Groups	7.993	1.599	2.737	.018
Attend Sports Event[*26]	Between Groups	79.049	15.810	9.378	.000
Attend Music Event	Between Groups	10.368	2.074	1.575	.165
Karaoke	Between Groups	7.195	1.439	.866	.504
Religious activity	Between Groups	16.042	3.208	4.030	.001

An asterisk (*) denotes that at least 1 pair of cities is statistically different in the activity comparison with a Bonferroni post hoc test (p<0.001).

Activities	**Pairs of Cities *PC**	**No. of PC**
[*1] Other pleasure reading	Beijing and Shanghai	1
[*2] TV	Qingdao and Chengdu	1
[*3] Movies	Qingdao and Beijing; Qingdao and Hangzhou; Qingdao and Chengdu; Qingdao and Shenzhen	4
[*4] Table tennis	Qingdao and Hangzhou	1
[*5] Volleyball	Beijing and Chengdu	1
[*6] Walking	Beijing and Chengdu; Chengdu and Shanghai	2
[*7] Running	Beijing and Chengdu	1
[*8] Equipment	Beijing and Chengdu; Chengdu and Qingdao	2
[*9] Boxing	Beijing and Chengdu	1
[*10] Taichi	Shanghai and Beijing; Shanghai and Shenzhen; Shanghai and Hangzhou	3
[*11] Martial art	Beijing and Shanghai	1
[*12] Visiting teahouse	Beijing and Chengdu; Beijing and Hangzhou; Chengdu and Qingdao; Hangzhou and Qingdao	4
[*13] Go to bar	Beijing and Chengdu; Chengdu and Hangzhou; Chengdu and Qingdao	3
[*14] Chess	Beijing and Chengdu; Beijing and Shanghai	2
[*15] Mahjong	Beijing and Chengdu; Beijing and Shanghai; Chengdu and Hangzhou; Chengdu and Qingdao; Qingdao and Shanghai	5
[*16] Pool	Shenzhen and Shanghai	1
[*17] Photography	Beijing and Shenzhen; Qingdao and Shenzhen	2
[*18] Go to parks	Chengdu and Qingdao; Hangzhou and Qingdao; Hangzhou and Shanghai	3
[*19] Nature parks	Beijing and Qingdao; Hangzhou and Shenzhen; Qingdao and Chengdu; Qingdao and Shanghai; Qingdao and Hangzhou; Chengdu and Shenzhen	6
[*20] Mountain climbing	Hangzhou and Shanghai;	1
[*21] Nap	Qingdao and Shenzhen	1
[*22] Massage	Beijing and Shanghai	1
[*23] Hot spring	Hangzhou and Qingdao; Hangzhou and Shanghai	2
[*24] Travel	Hangzhou and Shanghai; Hangzhou and Shenzhen	2
[*25] Ball dancing	Beijing and Chengdu	1
[*26] Sports event	Beijing and Chengdu; Beijing and Hangzhou; Chengdu and Qingdao; Hangzhou and Qingdao	4

Table 48 illustrates one-way ANOVA comparisons of importance and unimportance of activities in the six cities for the male group. At least 1 pair of cities shows statistical difference in the importance of 9 activities with a Bonferroni post hoc test (p<0.001). All pairs of cities indicate no statistical difference in the participation rates for the remaining 80 activities with a Bonferroni post hoc test (p<0.001). Among the 15

pairs of cities, each pair of cities shows statistical differences in the importance of a different number of activities, ranging from 0 to 3, with a Bonferroni post hoc test ($p<0.001$). The pairs of Beijing and Chengdu and of Beijing and Shanghai show statistical differences in the importance of 3 activities with a Bonferroni post hoc test ($p<0.001$). However, the following pairs, Beijing and Shenzhen, Chengdu and Qingdao, Chengdu and Shanghai, Chengdu and Shenzhen, Hangzhou and Qingdao, Hangzhou and Shanghai, Qingdao and Shanghai, Qingdao and Shenzhen, and Shanghai and Shenzhen, indicate statistical differences in the importance of only 1 activity with a Bonferroni post hoc test ($p<0.001$). The following pairs, Beijing and Hangzhou, Chengdu and Hangzhou, and Hangzhou and Shenzhen, show no statistical difference in the importance of all activities with a Bonferroni post hoc test ($p<0.001$) (Table 52).

Table 48. One-way ANOVA comparisons of importance and unimportance of leisure activities in male group of six cities (df=5)

Activities	Group comparisons	Sum of Squares	Mean Square	F	Sig.
Newspaper	Between Groups	17.474	3.495	2.247	.049
Reading books	Between Groups	10.856	2.171	1.032	.399
Magazines	Between Groups	15.892	3.178	1.790	.114
Other reading	Between Groups	19.938	3.988	2.159	.058
TV	Between Groups	13.998	2.800	1.750	.123
Movies[*1]	Between Groups	56.345	11.269	5.527	.000
Internet	Between Groups	19.034	3.807	1.803	.111
Music	Between Groups	23.032	4.606	2.737	.019
Radio	Between Groups	11.784	2.357	1.199	.309
Swimming	Between Groups	14.550	2.910	1.722	.129
Table Tennis	Between Groups	26.323	5.265	3.308	.006
Tennis	Between Groups	16.863	3.373	3.599	.003
Golf	Between Groups	8.487	1.697	3.039	.011
Soccer	Between Groups	13.334	2.667	1.671	.141
Skating	Between Groups	11.284	2.257	4.458	.001
Volleyball	Between Groups	6.176	1.235	1.620	.154
Badminton[*2]	Between Groups	38.800	7.760	4.639	.000
Archery	Between Groups	1.470	.294	.718	.611
walking[*3]	Between Groups	56.064	11.213	4.722	.000
Running	Between Groups	15.655	3.131	1.413	.219
Physical Exercises	Between Groups	10.169	2.034	4.136	.001
Exercising with Equipment	Between Groups	19.812	3.962	2.922	.013
Rope Skipping	Between Groups	10.061	2.012	2.828	.016
Yoga	Between Groups	5.540	1.108	2.130	.061

Go to Gym	Between Groups	10.230	2.046	2.642	.023
Shadow Boxing	Between Groups	3.959	.792	1.658	.144
Taichi	Between Groups	13.712	2.742	3.815	.002
Martial art	Between Groups	12.460	2.492	2.721	.020
Visit Teahouse	Between Groups	48.173	9.635	5.995	.000
Visit Coffeehouse	Between Groups	14.272	2.854	2.034	.073
Visit Bar or Pub	Between Groups	27.791	5.558	4.009	.001
Dining Out in Restaurant	Between Groups	18.631	3.726	2.344	.041
Nightclubs	Between Groups	10.948	2.190	1.726	.128
Electronic games	Between Groups	7.127	1.425	.842	.521
Internet games	Between Groups	16.848	3.370	1.803	.111
Chinese poker	Between Groups	23.055	4.611	3.083	.010
Chess	Between Groups	15.985	3.197	2.971	.012
Mahjong[*4]	Between Groups	38.044	7.609	6.113	.000
Billiards and Pool[*5]	Between Groups	23.693	4.739	5.569	.000
Playing instruments	Between Groups	10.290	2.058	2.841	.016
Painting	Between Groups	9.228	1.846	2.571	.027
Calligraphy	Between Groups	15.914	3.183	2.571	.027
Singing	Between Groups	27.078	5.416	2.971	.012
Hair Dressing/Beauty Salon	Between Groups	16.320	3.264	2.251	.049
Dancing	Between Groups	11.609	2.322	2.319	.043
Pets	Between Groups	10.756	2.151	1.994	.079
Cooking	Between Groups	13.961	2.792	1.377	.232
Photography[*6]	Between Groups	36.050	7.210	6.229	.000
Collecting (stamps, coins, etc.)	Between Groups	16.782	3.356	2.472	.032
Home Decorating	Between Groups	6.296	1.259	.792	.556
Electronic pets	Between Groups	2.307	.461	2.110	.064
Writing	Between Groups	8.834	1.767	1.067	.378
Inventing	Between Groups	11.648	2.330	3.152	.008
Camping	Between Groups	13.431	2.686	2.666	.022
Hiking in Natural Areas	Between Groups	16.114	3.223	1.743	.124
Going to local Parks	Between Groups	29.323	5.865	3.607	.003
Going to zoos	Between Groups	13.412	2.682	2.777	.018
Going to natural parks[*7]	Between Groups	45.576	9.115	7.489	.000
Fishing	Between Groups	12.372	2.474	1.976	.081
Mountain Climbing	Between Groups	9.186	1.837	1.014	.409
Boating	Between Groups	3.409	.682	.913	.472
Picnic	Between Groups	4.312	.862	.843	.520
Driving for Pleasure	Between Groups	8.863	1.773	1.268	.277
Bicycling for pleasure	Between Groups	8.940	1.788	1.280	.272
Mountain biking	Between Groups	4.783	.957	2.578	.026
Take Naps	Between Groups	26.945	5.389	2.368	.039
Massage	Between Groups	32.289	6.458	3.853	.002
Hot Springs	Between Groups	28.305	5.661	4.224	.001
Meditation	Between Groups	16.615	3.323	1.493	.191
Bathing	Between Groups	9.813	1.963	1.101	.359
Visit Historic or Cultural Site	Between Groups	5.891	1.178	.663	.652
Visit Theme Park	Between Groups	11.144	2.229	2.056	.070
Travel to Another Country[*8]	Between Groups	30.419	6.084	6.812	.000
Visit Mountains or Water Area	Between Groups	5.285	1.057	.553	.736
Take Vacation	Between Groups	4.301	.860	.424	.832
Visit Exhibitions	Between Groups	27.984	5.597	3.594	.003
Dating	Between Groups	20.591	4.118	1.888	.096
Chatting	Between Groups	18.618	3.724	1.983	.080
Visiting Friends and Relatives	Between Groups	7.833	1.567	.826	.531
Play with kids	Between Groups	10.101	2.020	.723	.606

Family Gatherings	Between Groups	20.742	4.148	1.712	.131
Social/ballroom dancing[*9]	Between Groups	32.696	6.539	5.142	.000
Volunteering in social work	Between Groups	24.023	4.805	3.073	.010
Visit Museum/Art Gallery	Between Groups	18.420	3.684	2.702	.021
Attend Theatre	Between Groups	8.784	1.757	3.298	.006
Attend Sports Event	Between Groups	28.597	5.719	3.062	.010
Attend Music Event	Between Groups	16.972	3.394	2.650	.023
Karaoke	Between Groups	6.873	1.375	.833	.527
Religious activity	Between Groups	8.621	1.724	2.683	.021

An asterisk (*) denotes that at least 1 pair of cities is statistically different in the activity comparison with a Bonferroni post hoc test (p<0.001).

Activities	Pairs of Cities (PC)	No. of PC
[*1] Movies	Beijing and Qingdao	1
[*2] Badminton	Shenzhen and Beijing; Shenzhen and Qingdao	2
[*3] Walking	Chengdu and Beijing	1
[*4] Mahjong	Beijing and Chengdu	1
[*5] Pool	Beijing and Shanghai; Shenzhen and Shanghai	2
[*6] Photography	Beijing and Shanghai; Qingdao and Shanghai	2
[*7] Nature parks	Chengdu and Qingdao; Hangzhou and Qingdao; Shenzhen and Chengdu	3
[*8] Travel	Shanghai and Beijing; Shanghai and Chengdu; Shanghai and Hangzhou	3
[*9] Ball dancing	Beijing and Chengdu; Beijing and Qingdao	2

Table 49 illustrates one-way ANOVA comparisons of importance and unimportance of activities in the six cities for the female group. At least 1 pair of cities shows statistical difference in the importance of 12 activities with a Bonferroni post hoc test ($p<0.001$). All pairs of cities indicate no statistical difference in participation rates for the remaining 77 activities with a Bonferroni post hoc test ($p<0.001$). Among the 15 pairs of cities, each pair of cities shows statistical differences in the importance of a different number of activities, ranging from 0 to 5, with a Bonferroni post hoc test ($p<0.001$). The pair of Chengdu and Hangzhou shows statistical difference in the importance of 3 activities with a Bonferroni post hoc test ($p<0.001$). However, the following pairs, Beijing and Hangzhou, Hangzhou and Shenzhen, and Qingdao and Shanghai, indicate statistical differences in the importance of only 1 activity with a Bonferroni post hoc test ($p<0.001$). The following pairs, Beijing and Shanghai, Hangzhou and Qingdao, and Hangzhou and Shanghai, show no statistical difference in the importance of all activities with a Bonferroni post hoc test ($p<0.001$) (Table 52).

Table 49. One-way ANOVA comparisons of importance and unimportance of leisure activities in female group of six cities (df=5)

Activities	Group comparisons	Sum of Squares	Mean Square	F	Sig.
Newspaper	Between Groups	7.363	1.473	1.068	.378
Reading books	Between Groups	42.330	8.466	4.484	.001
Magazines	Between Groups	16.403	3.281	1.974	.082
Other reading	Between Groups	16.665	3.333	2.177	.056
TV	Between Groups	22.485	4.497	2.914	.014
Movies[*1]	Between Groups	100.152	20.030	9.453	.000
Internet	Between Groups	18.566	3.713	2.276	.047
Music[*2]	Between Groups	51.097	10.219	6.165	.000
Radio	Between Groups	3.211	.642	.832	.527
Swimming	Between Groups	4.408	.882	.567	.725
Table Tennis	Between Groups	15.684	3.137	2.752	.019
Tennis	Between Groups	6.800	1.360	2.270	.047
Golf	Between Groups	1.539	.308	2.321	.043
Soccer	Between Groups	1.413	.283	1.127	.346
Skating	Between Groups	.406	8.130E-02	.171	.973
Volleyball	Between Groups	9.973	1.995	3.774	.002
Badminton	Between Groups	15.720	3.144	1.881	.097
Archery	Between Groups	.942	.188	1.503	.188
walking	Between Groups	41.500	8.300	3.604	.003
Running	Between Groups	22.237	4.447	2.043	.072
Physical Exercises	Between Groups	12.250	2.450	1.354	.241
Exercising with Equipment[*3]	Between Groups	30.362	6.072	9.298	.000
Rope Skipping	Between Groups	12.796	2.559	1.815	.109
Yoga	Between Groups	14.787	2.957	2.526	.029
Go to Gym	Between Groups	2.230	.446	.609	.693
Shadow Boxing[*4]	Between Groups	8.012	1.602	6.351	.000
Taichi[*5]	Between Groups	13.612	2.722	5.436	.000
Martial art[*6]	Between Groups	11.661	2.332	6.031	.000
Visit Teahouse[*7]	Between Groups	66.550	13.310	10.169	.000
Visit Coffeehouse	Between Groups	19.757	3.951	3.114	.009
Visit Bar or Pub	Between Groups	17.616	3.523	3.638	.003
Dining Out in Restaurant	Between Groups	11.920	2.384	1.399	.224
Nightclubs	Between Groups	3.222	.644	.611	.692
Electronic games	Between Groups	3.017	.603	.705	.620
Internet games	Between Groups	8.550	1.710	1.300	.263
Chinese poker	Between Groups	9.840	1.968	1.704	.133
Chess	Between Groups	4.074	.815	2.426	.035
Mahjong[*8]	Between Groups	44.539	8.908	7.943	.000
Billiards and Pool	Between Groups	2.900	.580	2.510	.030
Playing instruments	Between Groups	.564	.113	.210	.958
Painting	Between Groups	9.306	1.861	2.222	.052
Calligraphy	Between Groups	6.826	1.365	1.847	.103
Singing	Between Groups	7.850	1.570	.858	.510
Hair Dressing/Beauty Salon	Between Groups	17.198	3.440	1.639	.149
Dancing	Between Groups	16.234	3.247	2.545	.028
Pets	Between Groups	11.816	2.363	1.932	.088
Cooking	Between Groups	23.826	4.765	1.948	.086
Photography	Between Groups	18.087	3.617	2.839	.016
Collecting (stamps, coins, etc.)	Between Groups	4.812	.962	1.028	.401
Home Decorating	Between Groups	40.753	8.151	4.177	.001

Electronic pets	Between Groups	1.304	.261	.930	.462
Writing	Between Groups	26.413	5.283	3.521	.004
Inventing	Between Groups	4.354	.871	2.272	.047
Camping	Between Groups	2.001	.400	.413	.839
Hiking in Natural Areas	Between Groups	23.575	4.715	2.823	.016
Going to local Parks	Between Groups	43.351	8.670	5.387	.000
Going to zoos	Between Groups	8.914	1.783	1.524	.181
Going to natural parks [*9]	Between Groups	31.487	6.297	4.933	.000
Fishing	Between Groups	4.213	.843	1.161	.328
Mountain Climbing	Between Groups	65.156	13.031	7.548	.000
Boating	Between Groups	7.395	1.479	1.835	.105
Picnic[*10]	Between Groups	15.844	3.169	3.391	.005
Driving for Pleasure	Between Groups	14.456	2.891	2.287	.046
Bicycling for pleasure	Between Groups	13.282	2.656	2.333	.042
Mountain biking	Between Groups	1.785	.357	1.048	.389
Take Naps	Between Groups	48.602	9.720	4.408	.001
Massage	Between Groups	22.627	4.525	2.393	.037
Hot Springs	Between Groups	15.033	3.007	2.918	.013
Meditation	Between Groups	33.612	6.722	2.993	.012
Bathing	Between Groups	23.896	4.779	2.571	.026
Visit Historic or Cultural Site	Between Groups	18.195	3.639	1.986	.080
Visit Theme Park	Between Groups	21.514	4.303	3.267	.007
Travel to Another Country	Between Groups	12.717	2.543	2.389	.038
Visit Mountains or Water Area	Between Groups	25.832	5.166	2.521	.029
Take Vacation	Between Groups	20.456	4.091	1.783	.115
Visit Exhibitions	Between Groups	26.531	5.306	3.599	.003
Dating	Between Groups	9.674	1.935	.864	.506
Chatting[*11]	Between Groups	37.419	7.484	4.050	.001
Visiting Friends and Relatives	Between Groups	20.104	4.021	2.114	.063
Play with kids	Between Groups	43.874	8.775	3.232	.007
Family Gatherings	Between Groups	24.111	4.822	2.041	.072
Social/ballroom dancing	Between Groups	13.873	2.775	1.884	.096
Volunteering in social work	Between Groups	24.197	4.839	3.470	.004
Visit Museum/Art Gallery	Between Groups	11.166	2.233	1.626	.152
Attend Theatre	Between Groups	1.656	.331	.493	.781
Attend Sports Event[*12]	Between Groups	44.220	8.844	6.464	.000
Attend Music Event	Between Groups	10.892	2.178	1.629	.151
Karaoke	Between Groups	6.824	1.365	.817	.538
Religious activity	Between Groups	8.210	1.642	1.695	.135

An asterisk (*) denotes that at least 1 pair of cities is statistically different in the activity comparison with a Bonferroni post hoc test (p<0.001).

Activities	Pairs of Cities (PC)	No. of PC
[*1] Movies	Beijing and Qingdao; Beijing and Shanghai; Qingdao and Hangzhou; Qingdao and Shenzhen	4
[*2] Music	Hangzhou and Qingdao	1
[*3] Equipment	Chengdu and Beijing; Chengdu and Hangzhou; Chengdu and Shanghai; Chengdu and Qingdao; Chengdu and Shenzhen	5
[*4] Boxing	Chengdu and Beijing; Chengdu and Hangzhou; Chengdu and Qingdao; Chengdu and Shenzhen	4
[*5] Taichi	Shanghai and Shenzhen	1
[*6] Marital art	Beijing and Shanghai; Shanghai and Qingdao; Shanghai and Shenzhen	3
[*7] Visit teahouse	Chengdu and Beijing; Chengdu and Qingdao; Chengdu and Shanghai; Chengdu and Shenzhen	4
[*8] Mahjong	Chengdu and Beijing; Chengdu and Qingdao; Chengdu and Shanghai; Chengdu and Shenzhen	4
[*9] Nature parks	Chengdu and Qingdao	1
[*10] Picnic	Beijing and Hangzhou	1

*11 Chatting	Hangzhou and Qingdao	1
*12 Sports event	Beijing and Chengdu; Beijing and Hangzhou	2

Table 50 illustrates one-way ANOVA comparisons of importance and unimportance of activities in the six cities for the younger group. At least 1 pair of cities shows statistical difference in the importance of 16 activities with a Bonferroni post hoc test ($p<0.001$). All pairs of cities indicate no statistical difference in participation rates for the remaining 73 activities with a Bonferroni post hoc test ($p<0.001$). Among the 15 pairs of cities, each pair of cities shows statistical differences in the importance of a different number of activities, ranging from 0 to 5, with a Bonferroni post hoc test ($p<0.001$). The pair of Beijing and Qingdao shows a statistical difference in the importance of 5 activities with a Bonferroni post hoc test ($p<0.001$). However, the following pairs, Chengdu and Qingdao, Chengdu and Shanghai, Hangzhou and Shanghai, and Qingdao and Shanghai, indicate statistical differences in the importance of only 1 activity with a Bonferroni post hoc test ($p<0.001$). The following pairs, Chengdu and Hangzhou, Chengdu and Shanghai, Hanghzou and Qingdao, and Qingdao and Shanghai, show no statistical differences in the importance of all activities with a Bonferroni post hoc test ($p<0.001$) (Table 52).

Table 50. One-way ANOVA comparisons of importance and unimportance of leisure activities in younger group of six cities (df=5)

Activities	Group comparisons	Sum of Squares	Mean Square	F	Sig.
Newspaper	Between Groups	8.603	1.721	1.106	.356
Reading books	Between Groups	31.251	6.250	3.360	.006
Magazines	Between Groups	10.158	2.032	1.166	.325
Other reading	Between Groups	9.586	1.917	1.126	.346
TV	Between Groups	15.683	3.137	1.705	.132
Movies	Between Groups	62.877	12.575	7.268	.000
Internet	Between Groups	21.867	4.373	2.559	.027
Music	Between Groups	9.683	1.937	1.117	.351
Radio	Between Groups	16.385	3.277	1.909	.092
Swimming	Between Groups	15.946	3.189	2.097	.065
Table Tennis	Between Groups	31.028	6.206	4.362	.001
Tennis*1	Between Groups	19.576	3.915	4.410	.001

Golf	Between Groups	1.673	.335	1.478	.196
Soccer	Between Groups	12.068	2.414	1.855	.101
Skating	Between Groups	12.825	2.565	3.812	.002
Volleyball	Between Groups	14.217	2.843	3.982	.002
Badminton	Between Groups	23.258	4.652	2.654	.022
Archery	Between Groups	1.692	.338	1.105	.357
walking	Between Groups	31.950	6.390	2.736	.019
Running[*2]	Between Groups	51.704	10.341	4.695	.000
Physical Exercises	Between Groups	13.330	2.666	1.748	.123
Exercising with Equipment	Between Groups	23.202	4.640	4.155	.001
Rope Skipping[*3]	Between Groups	25.697	5.139	4.434	.001
Yoga	Between Groups	6.925	1.385	1.300	.263
Go to Gym	Between Groups	6.279	1.256	1.571	.167
Shadow Boxing	Between Groups	5.063	1.013	2.220	.052
Taichi[*4]	Between Groups	11.607	2.321	4.422	.001
Martial art	Between Groups	13.368	2.674	3.782	.002
Visit Teahouse	Between Groups	37.538	7.508	4.975	.000
Visit Coffeehouse	Between Groups	13.617	2.723	1.916	.091
Visit Bar or Pub	Between Groups	17.093	3.419	2.585	.026
Dining Out in Restaurant	Between Groups	13.107	2.621	1.609	.157
Nightclubs	Between Groups	13.726	2.745	1.960	.084
Electronic games	Between Groups	5.148	1.030	.632	.676
Internet games	Between Groups	8.309	1.662	.907	.476
Chinese poker	Between Groups	10.974	2.195	1.640	.148
Chess	Between Groups	11.801	2.360	3.240	.007
Mahjong[*5]	Between Groups	28.512	5.702	6.342	.000
Billiards and Pool	Between Groups	14.926	2.985	4.369	.001
Playing instruments	Between Groups	7.729	1.546	1.983	.080
Painting	Between Groups	13.469	2.694	3.186	.008
Calligraphy[*6]	Between Groups	24.800	4.960	4.468	.001
Singing[*7]	Between Groups	41.444	8.289	4.229	.001
Hair Dressing/Beauty Salon	Between Groups	20.101	4.020	2.010	.076
Dancing	Between Groups	24.806	4.961	3.767	.002
Pets	Between Groups	18.606	3.721	2.656	.022
Cooking	Between Groups	19.726	3.945	1.730	.127
Photography[*8]	Between Groups	50.743	10.149	9.092	.000
Collecting (stamps, coins, etc.)	Between Groups	11.439	2.288	1.895	.094
Home Decorating	Between Groups	20.555	4.111	2.224	.051
Electronic pets	Between Groups	2.329	.466	1.302	.262
Writing	Between Groups	27.838	5.568	3.062	.010
Inventing	Between Groups	14.473	2.895	4.564	.000
Camping	Between Groups	12.229	2.446	2.106	.064
Hiking in Natural Areas	Between Groups	27.133	5.427	2.938	.013
Going to local Parks	Between Groups	25.023	5.005	2.975	.012
Going to zoos	Between Groups	24.117	4.823	4.474	.001
Going to natural parks[*9]	Between Groups	55.382	11.076	9.313	.000
Fishing	Between Groups	14.347	2.869	3.002	.011
Mountain Climbing	Between Groups	24.511	4.902	2.632	.023
Boating	Between Groups	12.268	2.454	2.826	.016
Picnic	Between Groups	19.161	3.832	3.675	.003
Driving for Pleasure	Between Groups	14.026	2.805	2.400	.037
Bicycling for pleasure	Between Groups	25.635	5.127	3.499	.004
Mountain biking[*10]	Between Groups	8.741	1.748	5.036	.000
Take Naps[*11]	Between Groups	47.316	9.463	4.383	.001
Massage	Between Groups	32.380	6.476	3.815	.002
Hot Springs[*12]	Between Groups	31.619	6.324	5.224	.000

Meditation	Between Groups	32.656	6.531	2.787	.017
Bathing	Between Groups	25.276	5.055	2.821	.016
Visit Historic or Cultural Site	Between Groups	24.965	4.993	2.662	.022
Visit Theme Park	Between Groups	15.801	3.160	2.529	.029
Travel to Another Country*13	Between Groups	19.726	3.945	4.109	.001
Visit Mountains or Water Area	Between Groups	19.451	3.890	1.822	.107
Take Vacation	Between Groups	10.470	2.094	.931	.461
Visit Exhibitions	Between Groups	35.113	7.023	4.286	.001
Dating	Between Groups	12.327	2.465	1.131	.343
Chatting	Between Groups	27.344	5.469	3.493	.004
Visiting Friends and Relatives	Between Groups	26.305	5.261	2.907	.014
Play with kids	Between Groups	748.397			
Family Gatherings	Between Groups	35.299	7.060	2.933	.013
Social/ballroom dancing*14	Between Groups	35.782	7.156	2.851	.015
Volunteering in social work*15	Between Groups	36.777	7.355	4.752	.000
Visit Museum/Art Gallery	Between Groups	37.341	7.468	4.420	.001
Attend Theatre	Between Groups	17.755	3.551	2.542	.028
Attend Sports Event*16	Between Groups	6.255	1.251	2.540	.028
Attend Music Event	Between Groups	64.741	12.948	7.629	.000
Karaoke	Between Groups	12.313	2.463	1.826	.107
Religious activity	Between Groups	15.975	3.195	1.798	.112

An asterisk (*) denotes that at least 1 pair of cities is statistically different in the activity comparison with a Bonferroni post hoc test (p<0.001).

Activities	**Pairs of Cities (PC)**	**No. of PC**
*1 Tennis	Shanghai and Qingdao	1
*2 Running	Beijing and Chengdu; Beijing and Shanghai	2
*3 Rope Skipping	Beijing and Qingdao	1
*4 Taichi	Shanghai and Beijing	1
*5 Mahjong	Beijing and Chengdu	1
*6 Calligraphy	Beijing and Qingdao	1
*7 Singing	Beijing and Qingdao	1
*8 photography	Beijing and Hangzhou; Beijing and Shanghai; Beijing and Shenzhen	3
*9 Nature park	Qingdao and Beijing; Qingdao and Chengdu; Qingdao and Hangzhou	3
*10 Mountain biking	Beijing and Shanghai; Chengdu and Shanghai	2
*11 Naps	Shenzhen and Beijing	1
*12 Hot spring	Hangzhou and Shanghai	1
*13 travel	Hangzhou and Shanghai	1
*14 Ball dancing	Qingdao and Beijing	1
*15 Volunteering	Beijing and Hangzhou	1
*16 Sports event	Beijing and Chengdu; j and Hangzhou	2

Table 51 illustrates one-way ANOVA comparisons of importance and unimportance of activities in the six cities for the older group. At least 1 pair of cities shows statistical differences in the importance of 13 activities with a Bonferroni post hoc test ($p<0.001$). All pairs of cities indicate no statistical differences in the participation rates for the remaining 75 activities with a Bonferroni post hoc test ($p<0.001$). Among the 15 pairs of cities, each pair of cities shows statistical difference in the importance of a different number of activities, ranging from 0 to 6, with a Bonferroni post hoc test

(p<0.001). Chengdu and Qingdao show a statistical difference in the importance of 6 activities with a Bonferroni post hoc test (p<0.001). However, the following pairs, Beijing and Hangzhou, Beijing and Qingdao, Chengdu and Hangzhou, and Qingdao and Shenzhen, indicate statistical differences in the importance of only 1 activity with a Bonferroni post hoc test (p<0.001). The following pairs, Beijing and Shenzhen, Chengdu and Shanghai, Chengdu and Shenzhen, Hangzhou and Shenzhen, and Shanghai and Shenzhen, show no statistical difference in the importance of all activities with a Bonferroni post hoc test (p<0.001) (Table 52).

Table 51. One-way ANOVA comparisons of importance and unimportance of leisure activities in older group of six cities (df=5)

Activities	Group comparisons	Sum of Squares	df	Mean Square	F	Sig.
Newspaper	Between Groups	13.865	5	2.773	2.054	.071
Reading books*1	Between Groups	54.727	5	10.945	5.484	.000
Magazines	Between Groups	20.107	5	4.021	2.280	.046
Other reading*2	Between Groups	42.534	5	8.507	4.970	.000
TV *3	Between Groups	24.601	5	4.920	4.541	.000
Movies*4	Between Groups	105.941	5	21.188	9.408	.000
Internet	Between Groups	21.477	5	4.295	2.338	.041
Music	Between Groups	51.062	5	10.212	6.098	.000
Radio	Between Groups	11.206	5	2.241	2.205	.053
Swimming	Between Groups	4.902	5	.980	.591	.707
Table Tennis	Between Groups	19.468	5	3.894	2.924	.013
Tennis	Between Groups	6.264	5	1.253	2.078	.068
Golf	Between Groups	7.143	5	1.429	2.954	.013
Soccer	Between Groups	4.064	5	.813	1.376	.233
Skating	Between Groups	2.326	5	.465	1.834	.105
Volleyball	Between Groups	5.309	5	1.062	1.867	.099
Badminton	Between Groups	32.947	5	6.589	4.313	.001
Archery	Between Groups	1.533	5	.307	1.290	.267
walking	Between Groups	67.568	5	13.514	5.803	.000
Running	Between Groups	21.882	5	4.376	2.092	.066
Physical Exercises	Between Groups	13.371	5	2.674	2.678	.022
Exercising with Equipment*5	Between Groups	19.869	5	3.974	4.084	.001
Rope Skipping	Between Groups	9.176	5	1.835	1.709	.132
Yoga	Between Groups	9.611	5	1.922	2.770	.018
Go to Gym	Between Groups	8.794	5	1.759	2.636	.023
Shadow Boxing	Between Groups	3.953	5	.791	2.984	.012
Taichi	Between Groups	14.981	5	2.996	4.438	.001
Martial art	Between Groups	7.316	5	1.463	2.545	.028
Visit Teahouse*6	Between Groups	71.107	5	14.221	10.199	.000
Visit Coffeehouse*7	Between Groups	25.447	5	5.089	4.265	.001
Visit Bar or Pub*8	Between Groups	35.941	5	7.188	7.187	.000

Dining Out in Restaurant	Between Groups	17.954	5	3.591	2.144 .060
Nightclubs	Between Groups	8.272	5	1.654	2.112 .063
Electronic games	Between Groups	4.500	5	.900	1.076 .373
Internet games	Between Groups	26.421	5	5.284	4.341 .001
Chinese poker	Between Groups	18.373	5	3.675	2.741 .019
Chess	Between Groups	14.018	5	2.804	3.829 .002
Mahjong[*9]	Between Groups	70.176	5	14.035	10.086 .000
Billiards and Pool	Between Groups	7.057	5	1.411	3.247 .007
Playing instruments	Between Groups	3.035	5	.607	1.687 .137
Painting	Between Groups	3.299	5	.660	.976 .432
Calligraphy	Between Groups	1.516	5	.303	.356 .878
Singing	Between Groups	2.925	5	.585	.392 .854
Hair Dressing/Beauty Salon	Between Groups	14.721	5	2.944	1.414 .218
Dancing	Between Groups	6.438	5	1.288	1.435 .211
Pets	Between Groups	9.847	5	1.969	2.318 .043
Cooking	Between Groups	9.935	5	1.987	.840 .522
Photography	Between Groups	13.555	5	2.711	2.020 .075
Collecting (stamps, coins, etc.)	Between Groups	14.778	5	2.956	2.601 .025
Home Decorating	Between Groups	19.782	5	3.956	2.204 .053
Electronic pets	Between Groups	1.838	5	.368	2.503 .030
Writing	Between Groups	12.937	5	2.587	1.794 .113
Inventing	Between Groups	8.563	5	1.713	4.458 .001
Camping	Between Groups	4.728	5	.946	1.268 .277
Hiking in Natural Areas	Between Groups	10.047	5	2.009	1.228 .295
Going to local Parks [*10]	Between Groups	47.951	5	9.590	6.534 .000
Going to zoos	Between Groups	2.884	5	.577	.564 .727
Going to natural parks [*11]	Between Groups	28.741	5	5.748	4.562 .000
Fishing	Between Groups	5.240	5	1.048	.984 .428
Mountain Climbing[*12]	Between Groups	54.985	5	10.997	6.825 .000
Boating	Between Groups	.903	5	.181	.272 .928
Picnic	Between Groups	6.748	5	1.350	1.561 .170
Driving for Pleasure	Between Groups	11.471	5	2.294	1.559 .171
Bicycling for pleasure	Between Groups	1.120	5	.224	.224 .952
Mountain biking	Between Groups	1.064	5	.213	.602 .698
Take Naps	Between Groups	32.916	5	6.583	2.838 .016
Massage	Between Groups	25.656	5	5.131	2.742 .019
Hot Springs	Between Groups	10.407	5	2.081	1.842 .104
Meditation	Between Groups	21.035	5	4.207	1.986 .080
Bathing	Between Groups	27.521	5	5.504	3.079 .010
Visit Historic or Cultural Site	Between Groups	8.756	5	1.751	1.006 .414
Visit Theme Park	Between Groups	11.165	5	2.233	1.965 .083
Travel to Another Country	Between Groups	25.008	5	5.002	4.930 .000
Visit Mountains or Water Area	Between Groups	11.671	5	2.334	1.285 .270
Take Vacation	Between Groups	12.430	5	2.486	1.195 .311
Visit Exhibitions	Between Groups	12.621	5	2.524	1.813 .110
Dating	Between Groups	27.014	5	5.403	3.224 .007
Chatting	Between Groups	29.817	5	5.963	2.937 .013
Visiting Friends and Relatives	Between Groups	18.728	5	3.746	1.946 .086
Play with kids	Between Groups	7.453	5	1.491	.526 .757
Family Gatherings	Between Groups	31.355	5	6.271	2.807 .017
Social/ballroom dancing	Between Groups	18.852	5	3.770	3.558 .004
Volunteering in social work	Between Groups	10.523	5	2.105	1.645 .147
Visit Museum/Art Gallery	Between Groups	15.415	5	3.083	2.367 .039
Attend Theatre	Between Groups	5.811	5	1.162	1.788 .114
Attend Sports Event	Between Groups	25.076	5	5.015	3.049 .010
Attend Music Event	Between Groups	6.286	5	1.257	.983 .428

Karaoke	Between Groups	6.454	5	1.291	.938 .457
Religious activity*13	Between Groups	25.482	5	5.096	5.439 .000

An asterisk (*) denotes that at least 1 pair of cities is statistically different in the activity comparison with a Bonferroni post hoc test (p<0.001).

Activities	Pairs of Cities (PC)	No. of PC
*1 Reading books	Beijing and Shanghai	1
*2 Other pleasure reading	Beijing and Shanghai	1
*3 TV	Chengdu and Qingdao	1
*4 Movies	Beijing and Qingdao; Beijing and Shanghai; Chengdu and Qingdao; Shanghai and Qingdao	4
*5 Equipment	Chengdu and Qingdao	1
*6 Visit teahouse	Beijing and Chengdu; Beijing and Hangzhou; Chengdu and Qingdao; Qingdao and Hangzhou	4
*7 Visit coffeeshop	Shenzhen and Qingdao	1
*8 Bar	Chengdu and Beijing; Chengdu and Hangzhou; Chengdu and Qingdao	3
*9 Mahjong	Shanghai and Beijing; Shanghai and Hangzhou; Shanghai and Qingdao	3
*10 Go to parks	Hangzhou and Qingdao; Hangzhou and Shanghai	2
*11 Nature parks	Qingdao and Chengdu	1
*12 Mountain climbing	Hangzhou and Shanghai	1
*13 Religious activities	Beijing and Shanghai; Hangzhou and Shanghai	2

Table 52. Number of leisure activities with statistical significance in inter-city comparisons of activity importance and unimportance

Pair of cities	All cities	All cities (male)	All cities (female)	All cities (younger)	All cities (older)
Beijing and Chengdu	11	3	2	3	2
Beijing and Hangzhou	2	0	1	3	1
Beijing and Qingdao	2	2	2	5	1
Beijing and Shanghai	6	3	0	4	5
Beijing and Shenzhen	1	1	2	2	0
Chengdu and Hangzhou	2	0	5	0	1
Chengdu and Qingdao	9	1	3	1	6
Chengdu and Shanghai	1	1	4	1	0
Chengdu and Shenzhen	1	1	3	0	0
Hangzhou and Qingdao	7	1	0	1	2
Hangzhou and Shanghai	5	1	0	2	4
Hangzhou and Shenzhen	2	0	1	0	0
Qingdao and Shanghai	2	1	1	1	2
Qingdao and Shenzhen	3	1	2	0	1
Shanghai and Shenzhen	2	1	2	0	0

*Each number indicates number of activities with Bonferroni Post Hoc test (P<0.001) in each pair of the cities

In this section, I will address research questions 4c (1) and (2):

4. What are the primary leisure constraints in each of the six cities?

c. Does the importance of the leisure constraints differ between the six cities?

1. *Does the importance of the leisure constraints differ between each of the six cities for males and females?*
2. *Does the importance of the leisure constraints differ between each of the six cities for older and younger residents?*

Table 53 illustrates one-way ANOVA comparisons of constraints for the six cities. At least 1 pair of cities shows statistical difference in the importance of 13 constraints with a Bonferroni post hoc test ($p<0.001$). All pairs of cities indicate no statistical difference in the importance of constraints for the remaining 24 constraints with a Bonferroni post hoc test ($p<0.001$). Among the 15 pairs of cities, each pair of cities shows a statistical difference in the importance of a different number of constraints, ranging from 0 to 9, with a Bonferroni post hoc test ($p<0.001$). The pair of Qingdao and Shanghai shows statistical difference in the importance of 9 constraints with a Bonferroni post hoc test ($p<0.001$). However, the pair of Shanghai and Shenzhen indicates statistical difference in the importance of only 1 constraint with a Bonferroni post hoc test ($p<0.001$). The following pairs, Beijing and Chengdu, Beijing and Hangzhou, Beijing and Shanghai, Beijing and Shenzhen, Chengdu and Hangzhou, Chengdu and Shanghai, Chengdu and Shenzhen, Hangzhou and Shanghai, and Hangzhou and Shenzhen, show no statistical differences in the importance of all constraints with a Bonferroni post hoc test ($p<0.001$) (Table 58).

Table 53. One-way ANOVA comparisons of constraints in six cities (df=5)

Constraints	Group comparisons	Sum of Squares	Mean Square	F	Sig.
Money	Between Groups	17.282	3.456	1.737	.124
Fees too high	Between Groups	10.276	2.055	1.157	.329
Income too low	Between Groups	23.120	4.624	2.456	.032
Economic pressure	Between Groups	4.579	.916	.504	.774
Bureaucracy/corruption	Between Groups	20.107	4.021	2.022	.073
No steady lob	Between Groups	27.333	5.467	2.640	.022

Lack of time	Between Groups	29.968	5.994	3.259	.006
Too Busy with paid work	Between Groups	33.526	6.705	4.000	.001
Too Busy with Housework	Between Groups	23.782	4.756	2.573	.025
Taking care of children and grandchildren	Between Groups	31.773	6.355	3.457	.004
Too Busy Taking Care of Elders[*1]	Between Groups	98.314	19.663	12.586	.000
Too busy studying	Between Groups	31.690	6.338	3.601	.003
Life pressure	Between Groups	26.300	5.260	2.885	.014
No vacation	Between Groups	17.332	3.466	1.730	.125
Lack of transportation[*2]	Between Groups	81.522	16.304	8.834	.000
Lack of driving experience[*3]	Between Groups	83.491	16.698	8.461	.000
Traffic conditions	Between Groups	46.435	9.287	5.372	.000
No vehicle[*4]	Between Groups	70.298	14.060	8.462	.000
Lack of leisure information[*5]	Between Groups	48.857	9.771	6.731	.000
Safety issues in leisure sites [*6]	Between Groups	49.909	9.982	6.740	.000
Crowding issues	Between Groups	5.255	1.051	.589	.709
Poor service quality[*7]	Between Groups	35.073	7.015	4.168	.001
Lack of facilities or space in leisure sites[*8]	Between Groups	33.414	6.683	4.323	.001
Lack of energy for leisure [*9]	Between Groups	38.170	7.634	4.493	.000
Lack of skill[*10]	Between Groups	40.707	8.141	5.412	.000
No partners[*11]	Between Groups	37.954	7.591	5.396	.000
Social cultural environment	Between Groups	15.470	3.094	2.316	.042
Different life style (of participants) [*12]	Between Groups	27.559	5.512	3.931	.002
Lack of Group activities	Between Groups	22.133	4.427	2.880	.014
Restricted by family	Between Groups	17.256	3.451	2.322	.042
Not in mood to participate	Between Groups	19.149	3.830	2.587	.025
Lack of interest	Between Groups	45.480	9.096	5.826	.000
Lack of initiative	Between Groups	21.981	4.396	3.206	.007
Lack of concept or consciousness of "leisure"	Between Groups	24.850	4.970	3.431	.005
Lack of family support[*13]	Between Groups	46.744	9.349	6.975	.000
Personal stress	Between Groups	14.019	2.804	1.639	.147
Self-factors	Between Groups	14.003	2.801	2.101	.063

An asterisk (*) denotes that at least 1 pair of cities is statistically different in the constraints comparison with a Bonferroni post hoc test (p<0.001).

Constraints	**Pairs of Cities (PC)**	**No. of PC**
[*1] Taking care of elders	Qingdao and Beijing; Qingdao and Shanghai; Qingdao and Hangzhou; Qingdao and Shenzhen	4
[*2] Lack of transportation	Qingdao and Beijing; Qingdao and Chengdu; Qingdao and Shanghai; Qingdao and Shenzhen	4
[*3] Lack of driving experience	Qingdao and Hangzhou; Qingdao and Shanghai; Qingdao and Shenzhen	3
[*4] No vehicle	Qingdao an Chengdu; Qingdao and Shanghai; Qingdao and Hangzhou; Qingdao and Shenzhen	4
[*5]Lack of leisure information	Qingdao and Beijing; Qingdao and Shanghai; Qingdao and Shenzhen	3
[*6] Safety issues	Qingdao and Beijing; Qingdao and Hangzhou; Qingdao and Shanghai	3
[*7] Poor service quality	Qingdao and Beijing	1
[*8] lack of Space	Qingdao and Beijing	1
[*9] Lack of energy	Qingdao and Beijing	1
[*10] Lack of skill	Qingdao and Chengdu; Qingdao and Shanghai	2
[*11] No partner	Qingdao and Shanghai; Shenzhen and Shanghai	2
[*12] Different life style	Qingdao and Hangzhou	1
[*13] Lack of family support	Qingdao and Beijing; Qingdao and Chengdu; Qingdao and Shanghai	3

Table 54 illustrates one-way ANOVA comparisons of constraints of the six cities in the male group. At least 1 pair of cities shows statistical difference in the importance

of 7 constraints with a Bonferroni post hoc test ($p<0.001$). All pairs of cities indicate no statistical differences in the importance of the remaining 30 constraints with a Bonferroni post hoc test ($p<0.001$). Among the 15 pairs of cities, each pair of cities shows statistical difference in the importance of a different number of constraints, ranging from 0 to 3, with a Bonferroni post hoc test ($p<0.001$). The pair of Qingdao and Shanghai shows statistical difference in the importance of 3 constraints with a Bonferroni post hoc test ($p<0.001$). However, the following pairs, Beijing and Qingdao, Beijing and Shenzhen, Chengdu and Shanghai, and Hangzhou and Qingdao, indicate statistical differences in the importance of only 1 constraint with a Bonferroni post hoc test ($p<0.001$). The following pairs, Beijing and Chengdu, Beijing and Hangzhou, Beijing and Shanghai, Chengdu and Hangzhou, Chengdu and Shenzhen, Hangzhou and Shanghai, Hangzhou and Shenzhen, Qingdao and Shenzhen, and Shanghai and Shenzhen, show no statistical difference in the importance of all constraints with a Bonferroni post hoc test ($p<0.001$) (Table 58).

Table 54. One-way ANOVA comparisons of constraints in male group of six cities (df=5)

Constraints	Group comparisons	Sum of Squares	Mean Square	F	Sig.
Money	Between Groups	4.765	2.473	.032	.032
Fees too high	Between Groups	3.852	2.207	.053	.053
Income too low	Between Groups	4.493	2.372	.039	.039
Economic pressure	Between Groups	1.467	.835	.525	.525
Bureaucracy/corruption	Between Groups	4.249	2.151	.059	.059
No steady lob	Between Groups	5.792	3.018	.011	.011
Lack of time	Between Groups	3.686	2.008	.077	.077
Too Busy with paid work	Between Groups	2.866	1.849	.103	.103
Too Busy with Housework	Between Groups	2.642	1.848	.103	.103
Taking care of children and grandchildren	Between Groups	2.476	1.778	.117	.117
Too Busy Taking Care of Elders[*1]	Between Groups	7.545	5.148	.000	.000
Too busy studying	Between Groups	2.950	1.733	.126	.126
Life pressure	Between Groups	6.033	3.418	.005	.005
No vacation	Between Groups	5.481	2.746	.019	.019
Lack of transportation[*2]	Between Groups	8.471	4.478	.001	.001
Lack of driving experience	Between Groups	7.693	4.525	.001	.001
Traffic conditions[*3]	Between Groups	7.836	4.694	.000	.000
No vehicle[*4]	Between Groups	7.987	5.003	.000	.000
Lack of leisure information	Between Groups	4.883	3.400	.005	.005
Safety issues in leisure sites	Between Groups	5.669	3.918	.002	.002
Crowding issues	Between Groups	.894	.514	.765	.765
Poor service quality	Between Groups	3.034	1.810	.110	.110
Lack of facilities or space in leisure sites	Between Groups	2.423	1.633	.150	.150
Lack of energy for leisure	Between Groups	3.087	1.870	.099	.099
Lack of skill	Between Groups	5.337	3.733	.003	.003
No partners	Between Groups	3.796	2.669	.022	.022
Social cultural environment	Between Groups	1.320	1.054	.386	.386
Different life style (of participants)	Between Groups	2.981	2.364	.039	.039
Lack of Group activities[*5]	Between Groups	5.276	3.850	.002	.002
Restricted by family	Between Groups	2.622	2.186	.055	.055
Not in mood to participate	Between Groups	.978	.789	.558	.558
Lack of interest[*6]	Between Groups	8.652	6.080	.000	.000
Lack of initiative	Between Groups	3.929	3.353	.006	.006
Lack of concept or consciousness of "leisure"	Between Groups	1.930	1.397	.224	.224
Lack of family support[*7]	Between Groups	7.208	5.754	.000	.000
Personal stress	Between Groups	2.657	1.613	.156	.156
Self-factors	Between Groups	2.893	2.467	.032	.032

An asterisk (*) notes at lest a pair of cities are statistical different in the constraints comparison with Bonferroni Post Hoc test (P<0.001).

Constraints	**Pairs of Cities (PC)**	**No. of PC**
[*1] Taking care of elders	Qingdao and Hangzhou; Qingdao and Shanghai	2
[*2] Lack of transportation	Qingdao and Shanghai	1
[*3] Traffic conditions	Qingdao and Chengdu	1
[*4] No vehicle	Qingdao and Shanghai	1
[*5] Lack of Group activities	Chengdu and Shanghai	1
[*6] Lack of interest	Shenzhen and Beijing	1
[*7] Lack of family support	Qingdao and Beijing, Qingdao and Chengdu	2

Table 55 illustrates one-way ANOVA comparisons of constraints in the six cities for the female group. At least 1 pair of cities shows statistical difference in the

importance of 3 constraints with a Bonferroni post hoc test ($p<0.001$). All pairs of cities indicate no statistical difference in the importance of the remaining 34 constraints with a Bonferroni post hoc test ($p<0.001$). Among the 15 pairs of cities, each pair of cities shows statistical difference in the importance of a different number of constraints, ranging from 0 to 3, with a Bonferroni post hoc test ($p<0.001$). The pair of Beijing and Qingdao shows statistical difference in the importance of 3 constraints with a Bonferroni post hoc test ($p<0.001$). However, the following pairs, Chengdu and Qingdao, Hangzhou and Qingdao, and Qingdao and Shanghai, indicate statistical differences in the importance of only 1 constraint with a Bonferroni post hoc test ($p<0.001$). The following pairs, Beijing and Chengdu, Beijing and Hangzhou, Beijing and Shanghai, Beijing and Shenzhen, Chengdu and Hangzhou, Chengdu and Shanghai, Chengdu and Shenzhen, Hangzhou and Shanghai, Hangzhou and Shenzhen, and Shanghai and Shenzhen, show no statistical difference in the importance of all constraints with a Bonferroni post hoc test ($p<0.001$) (Table 58).

Table 55. One-way ANOVA comparisons of constraints in female group of six cities (df = 5)

Constraints	Group comparisons	Sum of Squares	Mean Square	F	Sig.
Money	Between Groups	7.056	1.411	.706	.619
Fees too high	Between Groups	9.785	1.957	1.109	.355
Income too low	Between Groups	17.552	3.510	1.914	.091
Economic pressure	Between Groups	1.572	.314	.167	.975
Bureaucracy/corruption	Between Groups	7.891	1.578	.809	.544
No steady lob	Between Groups	12.380	2.476	1.114	.353
Lack of time	Between Groups	12.170	2.434	1.303	.262
Too Busy with paid work	Between Groups	14.724	2.945	1.608	.157
Too Busy with Housework	Between Groups	29.530	5.906	2.883	.014
Taking care of children and grandchildren	Between Groups	29.259	5.852	2.792	.017
Too Busy Taking Care of Elders[*1]	Between Groups	72.641	14.528	8.800	.000
Too busy studying	Between Groups	19.518	3.904	2.192	.055
Life pressure	Between Groups	14.755	2.951	1.599	.159
No vacation	Between Groups	6.452	1.290	.658	.656
Lack of transportation[*2]	Between Groups	51.349	10.270	5.712	.000
Lack of driving experience	Between Groups	39.347	7.869	3.715	.003
Traffic conditions	Between Groups	26.730	5.346	3.062	.010
No vehicle	Between Groups	26.811	5.362	3.131	.009

Lack of leisure information[*3]	Between Groups	31.887	6.377	4.213.001
Safety issues in leisure sites	Between Groups	28.955	5.791	3.893.002
Crowding issues	Between Groups	8.762	1.752	.960 .442
Poor service quality	Between Groups	30.393	6.079	3.649.003
Lack of facilities or space in leisure sites	Between Groups	23.671	4.734	2.982.012
Lack of energy for leisure	Between Groups	30.552	6.110	3.520.004
Lack of skill	Between Groups	22.707	4.541	2.902.014
No partners	Between Groups	23.740	4.748	3.447.005
Social cultural environment	Between Groups	9.582	1.916	1.368.236
Different life style (of participants)	Between Groups	20.478	4.096	2.662.022
Lack of Group activities	Between Groups	14.225	2.845	1.702.133
Restricted by family	Between Groups	15.188	3.038	1.784.115
Not in mood to participate	Between Groups	36.353	7.271	4.404.001
Lack of interest	Between Groups	17.770	3.554	2.164.058
Lack of initiative	Between Groups	12.262	2.452	1.574.167
Lack of concept or consciousness of "leisure"	Between Groups	28.266	5.653	3.809.002
Lack of family support	Between Groups	23.556	4.711	3.436.005
Personal stress	Between Groups	15.562	3.112	1.782.116
Self-factors	Between Groups	14.319	2.864	1.913.091

An asterisk (*) denotes that at least 1 pair of cities is statistically different in the constraints comparison with a Bonferroni post hoc test (p<0.001).

Constraints	Pairs of Cities (PC)	No. of PC
[*1] Taking care of elders	Qingdao and Beijing; Qingdao and Hangzhou; Qingdao and Shanghai; Qingdao and Shenzhen	4
[*2] Lack of transportation	Qingdao and Beijing; Qingdao and Chengdu; Qingdao and Shenzhen	3
[*3] Lack of leisure information	Qingdao and Beijing	1

Table 56 illustrates one-way ANOVA comparisons of constraints in the six cities for the younger group. At least 1 pair of cities shows statistical difference in the importance of 2 constraints with a Bonferroni post hoc test (p<0.001). All pairs of cities indicate no statistical difference in the importance of the remaining 35 constraints with a Bonferroni post hoc test (p<0.001). Among the 15 pairs of cities, each pair of cities shows statistical difference in the importance of a different number of constraints, ranging from 0 to 2, with a Bonferroni post hoc test (P<0.001). The pair of Beijing and Qingdao shows statistical difference in the importance of 2 constraints with a Bonferroni post hoc test (p<0.001). However, the following pairs, Hanghzou and Qingdao, Qingdao and Shanghai, and Qingdao and Shenzhen, indicate statistical difference in the importance of only 1 constraint with a Bonferroni post hoc test (p<0.001). The following

pairs, Beijing and Chengdu, Beijing and Hangzhou, Beijing and Shanghai, Beijing and Shenzhen, Chengdu and Hangzhou, Chengdu and Qingdao, Chengdu and Shanghai, Chengdu and Shenzhen, Hangzhou and Shanghai, Hangzhou and Shenzhen, and Shanghai and Shenzhen, show no statistical difference in the importance of all constraints with a Bonferroni post hoc test ($p<0.001$) (Table 58).

Table 56. One-way ANOVA comparisons of constraints in younger group of six cities (df =5)

Constraints	Group comparisons	Sum of Squares	df	Mean Square	F	Sig.
Money	Between Groups	3.380	5	.676	.349	.883
Fees too high	Between Groups	2.716	5	.543	.339	.889
Income too low	Between Groups	6.511	5	1.302	.716	.612
Economic pressure	Between Groups	6.780	5	1.356	.785	.561
Bureaucracy/corruption	Between Groups	17.741	5	3.548	1.747	.123
No steady lob	Between Groups	28.564	5	5.713	2.653	.022
Lack of time	Between Groups	26.604	5	5.321	3.102	.009
Too Busy with paid work	Between Groups	29.229	5	5.846	3.485	.004
Too Busy with Housework	Between Groups	18.618	5	3.724	2.230	.051
Taking care of children and grandchildren	Between Groups	17.954	5	3.591	2.494	.031
Too Busy Taking Care of Elders[*1]	Between Groups	51.442	5	10.288	6.933	.000
Too busy studying	Between Groups	19.689	5	3.938	2.117	.063
Life pressure	Between Groups	13.410	5	2.682	1.439	.209
No vacation	Between Groups	8.046	5	1.609	.814	.540
Lack of transportation	Between Groups	35.079	5	7.016	3.827	.002
Lack of driving experience	Between Groups	47.700	5	9.540	4.244	.001
Traffic conditions	Between Groups	13.261	5	2.652	1.504	.188
No vehicle	Between Groups	32.091	5	6.418	3.605	.003
Lack of leisure information	Between Groups	14.576	5	2.915	1.912	.091
Safety issues in leisure sites	Between Groups	26.104	5	5.221	3.267	.007
Crowding issues	Between Groups	7.715	5	1.543	.868	.503
Poor service quality	Between Groups	20.202	5	4.040	2.361	.039
Lack of facilities or space in leisure sites	Between Groups	16.351	5	3.270	1.979	.081
Lack of energy for leisure	Between Groups	27.014	5	5.403	3.248	.007
Lack of skill	Between Groups	25.533	5	5.107	3.106	.009
No partners	Between Groups	19.491	5	3.898	2.537	.028
Social cultural environment	Between Groups	11.113	5	2.223	1.534	.178
Different life style (of participants)	Between Groups	23.486	5	4.697	3.247	.007
Lack of Group activities	Between Groups	34.656	5	6.931	4.372	.001
Restricted by family	Between Groups	12.859	5	2.572	1.956	.084
Not in mood to participate	Between Groups	14.823	5	2.965	2.056	.070
Lack of interest	Between Groups	18.713	5	3.743	2.383	.038
Lack of initiative	Between Groups	20.632	5	4.126	2.948	.013
Lack of concept or consciousness of "leisure"	Between Groups	20.888	5	4.178	2.767	.018
Lack of family support[*2]	Between Groups	28.995	5	5.799	4.261	.001
Personal stress	Between Groups	5.181	5	1.036	.569	.724
Self-factors	Between Groups	6.850	5	1.370	.943	.453

An asterisk (*) denotes that at least 1 pair of cities is statistically different in the activity comparison with a Bonferroni post hoc test ($p<0.001$).

Constraints	Pairs of Cities (PC)	No. of PC
*1 Taking care of elders	Qingdao and Beijing; Qingdao and Hangzhou; Qingdao and Shanghai; Qingdao and Shenzhen	4
*2 lack of family support	Qingdao and Beijing	1

Table 57 illustrates one-way ANOVA comparisons of constraints of the six cities for the older group. At least 1 pair of cities shows statistical difference in the importance of 5 constraints with a Bonferroni post hoc test ($p<0.001$). All pairs of cities indicate no statistical difference in the importance of the remaining 32 constraints with a Bonferroni post hoc test ($p<0.001$). Among the 15 pairs of cities, each pair of cities shows statistical difference in the importance of a different number of constraints, ranging from 0 to 3, with a Bonferroni post hoc test ($p<0.001$). The pair of Hangzhou and Qingdao and the pair of Qingdao and Shenzhen show statistical difference in the importance of 3 constraints with a Bonferroni post hoc test ($p<0.001$). However, the pair of Beijing and Shenzhen indicates statistical difference in the importance of only 1 constraint with a Bonferroni post hoc test ($p<0.001$). The following pairs, Beijing and Chengdu, Beijing and Hangzhou, Beijing and Shanghai, Chengdu and Hangzhou, Chengdu and Qingdao, Chengdu and Shanghai, Chengdu and Shenzhen, Hangzhou and Shanghai, Hangzhou and Shenzhen, and Shanghai and Shenzhen, show no statistical difference in the importance of all constraints with a Bonferroni post hoc test ($p<0.001$) (Table 58).

Table 57. One-way ANOVA comparisons of constraints in older group of six cities (df = 5)

Constraints	Group comparisons	Sum of Squares	Mean Square	F	Sig.
Money	Between Groups	24.393	4.879	2.504	.030
Fees too high	Between Groups	28.868	5.774	3.115	.009
Income too low	Between Groups	37.817	7.563	4.070	.001
Economic pressure	Between Groups	7.574	1.515	.791	.556
Bureaucracy/corruption	Between Groups	12.502	2.500	1.280	.272
No steady lob	Between Groups	11.253	2.251	1.127	.346
Lack of time	Between Groups	10.895	2.179	1.299	.264
Too Busy with paid work	Between Groups	15.740	3.148	1.725	.128
Too Busy with Housework	Between Groups	18.470	3.694	1.826	.107
Taking care of children and grandchildren	Between Groups	51.320	10.264	6.416	.000
Too Busy Taking Care of Elders[*1]	Between Groups	16.471	3.294	2.020	.075
Too busy studying	Between Groups	19.298	3.860	2.168	.057
Life pressure	Between Groups	17.898	3.580	1.773	.118
No vacation	Between Groups	51.148	10.230	5.950	.000
Lack of transportation	Between Groups	52.829	10.566	6.916	.000
Lack of driving experience	Between Groups	42.452	8.490	5.058	.000
Traffic conditions	Between Groups	36.458	7.292	4.974	.000
No vehicle[*2]	Between Groups	45.020	9.004	6.929	.000
Lack of leisure information[*3]	Between Groups	32.628	6.526	4.942	.000
Safety issues in leisure sites[*4]	Between Groups	16.545	3.309	1.896	.094
Crowding issues	Between Groups	18.942	3.788	2.278	.046
Poor service quality	Between Groups	20.442	4.088	2.872	.015
Lack of facilities or space in leisure sites	Between Groups	15.437	3.087	1.744	.124
Lack of energy for leisure	Between Groups	26.868	5.374	4.019	.001
Lack of skill	Between Groups	19.839	3.968	3.240	.007
No partners	Between Groups	9.451	1.890	1.603	.159
Social cultural environment	Between Groups	11.159	2.232	1.651	.146
Different life style (of participants)	Between Groups	1.898	.380	.259	.935
Lack of Group activities	Between Groups	12.590	2.518	1.554	.172
Restricted by family	Between Groups	19.473	3.895	2.582	.026
Not in mood to participate	Between Groups	35.857	7.171	4.614	.000
Lack of interest[*5]	Between Groups	9.774	1.955	1.471	.198
Lack of initiative	Between Groups	17.966	3.593	2.648	.023
Lack of concept or consciousness of "leisure"	Between Groups	21.514	4.303	3.254	.007
Lack of family support	Between Groups	11.992	2.398	1.495	.191
Personal stress	Between Groups	17.805	3.561	3.005	.011
Self-factors	Between Groups	24.393	4.879	2.504	.030

An asterisk (*) denotes that at least 1 pair of cities is statistically different in the constraints comparison with a Bonferroni post hoc test (P<0.001).

Constraints	**Pairs of Cities (PC)**	**No. of PC**
[*1] Taking care of elders	Qingdao and Beijing; Qingdao and Hangzhou; Qingdao and Shanghai; Qingdao and Shenzhen	4
[*2] No vehicle	Qingdao and Shenzhen	1
[*3] Lack of leisure information	Qingdao and Beijing; Qingdao and Hangzhou; Qingdao and Shanghai; Qingdao and Shenzhen	4
[*4] Safety issues	Qingdao and Hangzhou	1
[*5]Lack of interest	Shenzhen and Beijing	1

Table 58. Number of constraints with statistical significance in inter-city comparisons of leisure constraints

	All cities	All cities (male)	All cities (female)	All cities (older)	All cities (younger)
Beijing and Chengdu	0	0	0	0	0
Beijing and Hangzhou	0	0	0	0	0
Beijing and Qingdao	8	1	3	2	2
Beijing and Shanghai	0	0	0	0	0
Beijing and Shenzhen	0	1	0	1	0
Chengdu and Hangzhou	0	0	0	0	0
Chengdu and Qingdao	4	2	1	0	0
Chengdu and Shanghai	0	1	0	0	0
Chengdu and Shenzhen	0	0	0	0	0
Hangzhou and Qingdao	5	1	1	3	1
Hangzhou and Shanghai	0	0	0	0	0
Hangzhou and Shenzhen	0	0	0	0	0
Qingdao and Shanghai	9	3	1	2	1
Qingdao and Shenzhen	5	0	2	3	1
Shanghai and Shenzhen	1	0	0	0	0

*Each number indicates number of constraints with a Bonferroni post hoc test ($p<0.001$) in each pair of cities.

In this section, I will address research questions 5a and b:

5. What are the levels of leisure satisfaction for each of the six cities?

a. Are there differences in leisure satisfaction for males and females in each of the six cities?

b. Are there differences in leisure satisfaction for older and younger residents in each of the six cities?

Table 59 illustrates one-way ANOVA comparisons of leisure satisfaction in the all-cities, male, female, older, and younger groups. As the table indicates, pairs of cities for the female, younger, and older group show no statistical difference with a Bonferroni post hoc test ($p<0.001$) in terms of leisure satisfaction, whereas the pair of Beijing and Shenzhen for the all-cities group and the pair of Hangzhou and Shenzhen for the female group indicate statistical differences in terms of leisure satisfaction with a Bonferroni post hoc test ($P<0.001$) (Table 59).

Table 59. One-way ANOVA of leisure satisfaction comparisons (all city, male, female. older and younger) (df=5)

Leisure satisfaction		Sum of Squares	df	Mean Square	F	Sig.
All cities*[1]	Between Groups	70.619	5	14.124	5.604	.000
All cities (male) *[2]	Between Groups	49.867	5	9.973	4.251	.001
All cities (female)	Between Groups	17.906	5	3.581	1.492	.192
All cities (older)	Between Groups	20.830	5	4.166	1.729	.127
All cities (younger)	Between Groups	59.607	5	11.921	5.343	.000

An asterisk (*) denotes that at least 1 pair of cities is statistically different in the activity comparison with a Bonferroni post hoc test (p<0.001).

*[1] Beijing and Shenzhen

*[2] Hangzhou and Shenzhen

Chapter Five: Discussion and Conclusion

Leisure activities pursued by urban Chinese within the cities

The findings of the study are similar to those of previous leisure activity studies that found that media habits (Mitchell, 1983) or mass media (Ragheb, 1980) are major leisure activities pursued by the U.S population. Similarly, media habits (e.g., movies, reading, etc.) are considered the most important activities for urban Chinese in terms of frequency of participation and ranked importance. This study also found that social activities (visiting friends and relatives, dating, chatting, and participating in family gatherings) (Ragheb, 1980) play important roles in the daily life of the Chinese urban population. Furthermore, the activities that were reported by the informants more frequently and that were rated as more important are associated with passive leisure activities identified by previous research (Szalai, 1972). Passive leisure (Juster et al., 1985) has been defined as activity that does not require physical or mental exertion, such as reading, watching television, relaxing, and other similar pursuits. Among the 30 leisure activities most participated in for all cities, a total of 21 passive activities identified from the list—reading a newspaper, other pleasure reading, using the Internet, dining out, chatting, reading books, visiting friends and relatives, watching movies, reading magazines, going to local parks, attending family gatherings, listening to music, karaoke, watching TV, meditation, taking naps, playing with children and grandchildren, singing, visiting mountains or water area, playing Chinese poker, and taking a vacation—were rated by all six cities as major important activities. Reading a newspaper, reading books, chatting, attending family gatherings, watching movies, visiting friends and relatives, and playing with children were the top 10 mean important leisure activities in all cities and

also are identified as forms of passive leisure. The finding of this study is consistent with those of previous studies on Chinese leisure activities (Li & Chai, 1995; Wang, 2004). Therefore, the findings of this study support those of previous research: that passive leisure, as a form of leisure, continues to play a dominant role in the leisure activities of the Chinese urban population.

This study also found that ranks of participation rate and mean of importance are not the same or similar for all leisure activities. Some activities have the same or similar ranks for both (visiting exhibitions in Hangzhou, reading the newspaper in Shanghai, etc.). Some activities have low participation rates with high mean importance (yoga in Beijing, volunteering in social work, etc.), whereas some activities have high participation rates with low mean importance (teahouse visiting in Hangzhou, Chinese poker in Shanghai, etc.). The disequilibrium of both ranks for some activities can be explained by the following: (a) some activities may not be culturally accepted by a certain group, resulting in a reduction in participation, but still may be viewed as important activities in the group; (b) some activities may be well accepted culturally by a certain group, resulting in a substantial increase in participation, but still may be viewed as less important activities in the group; (c) different types of leisure constraints faced by different individuals in different cities may lead to dissonance in both ranks of some activities.

Although outdoor activities were viewed as an American tradition by previous research (Ferris, 1962; Ragheb, 1980), outdoor activities are considered less important than other forms of activity by urban Chinese. Some traditional outdoor activities (camping, hunting) are not found in the top 30 leisure activities in terms of frequency of

participation and importance of activities. However, the findings strongly suggest that some cultural factors lead to unique types of leisure activities. The Chinese urban populations in the six cities still pursue leisure activities that serve to keep the mind in a continual quiet, clear condition (Wu, 2002). For example, meditation was rated by all cities as one of the top 20 leisure activities, and the participation rate for meditation was in the top 30 leisure activities for all cities. Meditation has been an integral part of Confucianism, Buddhism, and Taoism from their beginnings; a person can discipline him- or herself in a tranquil condition, cultivating art and literature and enjoying free time, through meditation (Chen, 2004). In addition, this study reveals that modern urban Chinese people continue to seek mountain and water places for their leisure, a preference that played a dominant role in leisure activities such as hill-dwelling, sightseeing, boating, and tranquility and comfort during the Ming dynasty (Wu, 2002). Visiting mountain and water areas was rated in the top 30 activities, and its participation rate was also ranked in the top 30 activities by all cities.

Leisure constraints faced by urban Chinese within the cities

While the concepts of structural constraints, intrapersonal constraints, and interpersonal constraints (Crowford & Godbey, 1987) can be applied to describe the constraints faced by urban Chinese in the six cities studied, the findings indicate that urban Chinese are more affected by structural constraints than by intrapersonal or interpersonal constraints. In the top 20 constraints in the six cities, structural constraints such as time, money, transportation, and space were a main influence on informants' leisure participation. Since Chinese traditional culture greatly influences free-time use in China (Dong & Chick, 2004), the majority of free time for urban populations is spent on

family commitments, work commitments, supporting parents, and children's education. In this light, a lack of time is the most important constraint factor in the six cities. Although the average income of the six cities is higher than that for other cities, residents were reluctant to invest too much money in leisure because they wanted to save more for their retirement and for future medical purposes and were particularly worried about unseen retirement benefits and a deficient medical insurance system. However, the lack of a partner for activities is the only interpersonal constraint identified by urban Chinese in the top 20 constraints. Low levels of interpersonal constraints can be explained by the fact that urban Chinese culturally prefer to choose social activities as their leisure activities.

Culture consensus on leisure activities and constraints within the cities

Although Hangzhou, Chengdu, Beijing, Shanghai, Qingdao, and Shenzhen are geographically different from each other, the findings of culture consensus analysis illustrate that the pattern of inter-informants agreement for leisure activities in all groups and subgroups (gender and age) meet Romney et al.'s (1986) criteria. At the same time, the findings indicate that the subgroups of male/female and younger/older comprise a single cultural group, respectively, with agreements on what activities they pursued. Therefore, the findings show that the Chinese, regardless of gender and age, pursue similar leisure activities within urban areas. The findings challenge the assumption that geographical locations and natural environment may directly influence the leisure preferences of urban Chinese (Lou & Yue, 2004). Culture consensus on leisure activities regardless of groups and subgroups may be explained by the fact that residents in the six cities have limited recreation sites available in which to pursue leisure activities and that

a majority of leisure activities are performed in several places such as the home or scenic spots, parks, squares, and green spaces for all urban Chinese.

However, culture consensus analysis of leisure constraints illustrated that there is no consensus in Chengdu, Beijing, Shanghai, Qingdao, and Shenzhen, respectively, and the subgroups in terms of leisure constraints. While Hangzhou shows consensus on leisure constraints, it is not as high as the consensus on leisure activities, and there is no consensus on leisure constraints in the subgroups of gender and age in Hangzhou. Therefore, the findings show that the urban Chinese as well as the subgroups (gender and age), except for Shanghai's younger group, have no similar leisure constraints or, at least, do not agree on the leisure constraints they face within urban areas. Although it is difficult to explain why all groups and subgroups have high consensus on leisure activities in terms of participation and importance, whereas they have little or no agreement on leisure constraints, the evidence of consensus analysis provides strong evidence that supports previous leisure constraints studies conducted by Kay and Jackson (1991), Shaw, Bonen, and McCabe (1991), Scott (1991), and Jackson et al. (1993). The weak and absent consensus on leisure constraints in all groups and subgroups can be explained by the following: (a) leisure constraints may not lead to a significant reduction in leisure participation; (b) leisure constraints vary in different leisure activities; (c) people in each city may have different negotiations strategies for constraints; and (d) variation in the reporting of constraints and negotiating are different for different gender and age groups.

Participation rate in primary leisure activities between the cities

Among 15 pairs of cities, all pairs of cities differ in terms of participation rate in primary leisure activities. However, in male, female, older and younger groups, some pairs of cities show no differences in terms of participation rate in primary leisure activities. Therefore, the findings of the study indicate that participation rates for primary leisure activities are the same between some pairs of cities in subgroups.

Perceived importance of primary leisure activities between the cities

Among the 15 pairs of cities, all pairs of cities differ in terms of perceived importance of primary leisure activities in the all-cities group. However, in male, female, older and younger groups, some pairs of cities show no differences in terms of perceived importance of primary leisure activities. Therefore, the findings of the study indicate that the perceived importance of primary leisure activities is the same for some pairs of cities in subgroups.

Importance of the leisure constraints between the cities

Among the 15 pairs of cities, 7 pairs of cities show no differences in terms of the importance of leisure constraints in the all-cities, male, female, older, and younger groups. However, in the all-cities group and the male group, 9 pairs of cities show no difference in terms of the importance of leisure constraints. In the female and the older groups, 10 pairs of cities show no difference in terms of the importance of leisure constraints. In the younger group, 11 cities show no difference in terms of the importance of leisure constraints. Therefore, the findings of the study indicate that urban Chinese face similar leisure constraints between most pairs of cities.

Levels of leisure satisfaction between the six cities

Among the 15 pairs of cities, all pairs of cities show no differences in terms of leisure satisfaction except the pair of Beijing and Shenzhen in the all-cities group. In addition, among the 15 pairs of cities, all pairs of cities show no differences in terms of leisure satisfaction except the pair of Hangzhou and Shenzhen in the male group. However, in the female, older, and younger groups, none of the pairs of cities shows differences in terms of leisure satisfaction. Therefore, the findings of the study indicate that the degrees of leisure satisfaction are the same between all pairs of cities in the female, older, and younger groups.

The similarities in leisure activities and leisure constraints between some pairs of cities can be explained by the fact that residents in the six cities may have a limited choice of recreation sites and may choose similar places such as home or scenic spots, parks, squares, and green spaces in which to spend their leisure time (Lou & Yue, 2004). The second possible explanation could be choosing the same leisure partners in urban areas. As Lou and Yue (2004) indicated in their study, more than 80% of residents in Shanghai, Wuhan, and Chengdu prefer to spend their leisure time with their family members and friends. The third possible explanation is that the government overly encourages urban Chinese to spend their free time and money during the three major long holidays (the Spring Festival, May Day Golden week, and National Day week), which results in similar types of leisure between some pairs of cities. Last, because the majority of samples in this study are young, high-income, white-collar urban Chinese, the characteristics of the samples may lead to similarities in leisure activities and leisure constraints between some pairs of cities.

In sum, this preliminary study, based on analysis of an existing data set, is the first application of the new systematic ethnographic approach to understanding intracity differences in leisure activities and leisure constraints. This study also provides new insights that cognitive anthropology can make significant contributions to the comparative study in leisure research. The findings of this study confirm that the free-listing technique is a useful first step in the definition of new domains and the best way to ensure that the concepts (leisure) are culturally relevant (Weller & Romney, 1988). Therefore, I believe this study can be of great value to leisure researchers for future leisure research. First, the study helps us to identify and compare actual leisure activities and leisure constraints in a variety of cultural contexts and large populations across China, with the goal of enhancing the possibility of more equitable leisure opportunities throughout the world. Second, this study provides a new way to analyze existing data (secondary data) for leisure research. Last, by using the findings of this study, it is possible to propose leisure trends, recommendations for changes in policies, and leisure services that enhance leisure opportunities for all citizens in China as well as the world. Because a convenience sample was mainly used for this study, future research should focus on using random samples. In addition, future studies should expand to other Chinese cities, as well as to other cities in other countries, to provide cross-cultural comparative studies.

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Appendix A

Leisure lifestyle questionnaire form
SECTION 1 LEISURE LIFESTYLE

1. Leisure activities

For each activity listed below, please check whether or not you participate. If you participate, indicate whether you do so regularly or occasionally and, finally, the importance of the activity to you.

Activity	Yes /No	Regularly /Occasionally	unimportant				important
• Reading Newspapers	___ ___	_____ _____	①	②	③	④	⑤
• Reading books	___ ___	_____ _____	①	②	③	④	⑤
• Reading Magazines	___ ___	_____ _____	①	②	③	④	⑤
• Other pleasure reading	___ ___	_____ _____	①	②	③	④	⑤
• Watching TV	___ ___	_____ _____	①	②	③	④	⑤
• Watching Movies/go to movies	___ ___	_____ _____	①	②	③	④	⑤
• Using Internet	___ ___	_____ _____	①	②	③	④	⑤
• Listening to Music	___ ___	_____ _____	①	②	③	④	⑤
• Radio	___ ___	_____ _____	①	②	③	④	⑤
• Swimming	___ ___	_____ _____	①	②	③	④	⑤
• Table Tennis	___ ___	_____ _____	①	②	③	④	⑤
• Tennis	___ ___	_____ _____	①	②	③	④	⑤
• Golf	___ ___	_____ _____	①	②	③	④	⑤
• Soccer	___ ___	_____ _____	①	②	③	④	⑤
• Skating	___ ___	_____ _____	①	②	③	④	⑤
• Volleyball	___ ___	_____ _____	①	②	③	④	⑤

• Badminton	___ ___	_____ _____	①	②	③	④	⑤
• Archery	___ ___	_____ _____	①	②	③	④	⑤
• Fast walking or walking for pleasure	___ ___	_____ _____	①	②	③	④	⑤
• Running, Jogging	___ ___	_____ _____	①	②	③	④	⑤
• Physical Exercises	___ ___	_____ _____	①	②	③	④	⑤
• Exercising with Equipment	___ ___	_____ _____	①	②	③	④	⑤
• Rope Skipping	___ ___	_____ _____	①	②	③	④	⑤
• Yoga	___ ___	_____ _____	①	②	③	④	⑤
• Go to Gym	___ ___	_____ _____	①	②	③	④	⑤
• Shadow Boxing	___ ___	_____ _____	①	②	③	④	⑤
• Taichi	___ ___	_____ _____	①	②	③	④	⑤
• Martial art	___ ___	_____ _____	①	②	③	④	⑤
• Other Exercise_____	___ ___	_____ _____	①	②	③	④	⑤
• Visit Teahouse	___ ___	_____ _____	①	②	③	④	⑤
• Visit Coffeehouse	___ ___	_____ _____	①	②	③	④	⑤
• Visit Bar or Pub	___ ___	_____ _____	①	②	③	④	⑤
• Dining Out in Restaurant	___ ___	_____ _____	①	②	③	④	⑤
• Nightclubs	___ ___	_____ _____	①	②	③	④	⑤
• Other Dining and Drinking_____	___ ___	_____ _____	①	②	③	④	⑤
• Electronic games	___ ___	_____ _____	①	②	③	④	⑤
• Internet games	___ ___	_____ _____	①	②	③	④	⑤
• Chinese poker	___	_____	①	②	③	④	⑤

	___	_____					
• Chess	___ ___	_____ _____	①	②	③	④	⑤
• Mahjong	___ ___	_____ _____	①	②	③	④	⑤
• Billiards and Pool	___ ___	_____ _____	①	②	③	④	⑤
• Other Game_____	___ ___	_____ _____	①	②	③	④	⑤
• Playing instruments	___ ___	_____ _____	①	②	③	④	⑤
• Painting	___ ___	_____ _____	①	②	③	④	⑤
• Calligraphy	___ ___	_____ _____	①	②	③	④	⑤
• Singing	___ ___	_____ _____	①	②	③	④	⑤
• Hair Dressing/Beauty Salon	___ ___	_____ _____	①	②	③	④	⑤
• Dancing	___ ___	_____ _____	①	②	③	④	⑤
• Pets	___ ___	_____ _____	①	②	③	④	⑤
• Cooking	___ ___	_____ _____	①	②	③	④	⑤
• Photography	___ ___	_____ _____	①	②	③	④	⑤
• Collecting (stamps, coins, etc.)	___ ___	_____ _____	①	②	③	④	⑤
• Home Decorating	___ ___	_____ _____	①	②	③	④	⑤
• Electronic pets	___ ___	_____ _____	①	②	③	④	⑤
• Writing	___ ___	_____ _____	①	②	③	④	⑤
• Inventing	___ ___	_____ _____	①	②	③	④	⑤
• Other art, craft or hobby_____	___ ___	_____ _____	①	②	③	④	⑤
• Camping	___ ___	_____ _____	①	②	③	④	⑤
• Hiking in Natural Areas	___ ___	_____ _____	①	②	③	④	⑤

• Going to local Parks	___ ___	_____ _____	①	②	③	④	⑤
• Going to zoos		_____ _____					
• Going to natural parks		_____ _____					
• Fishing	___ ___	_____ _____	①	②	③	④	⑤
• Mountain Climbing	___ ___	_____ _____	①	②	③	④	⑤
• Boating	___ ___	_____ _____	①	②	③	④	⑤
• Picnic	___ ___	_____ _____	①	②	③	④	⑤
• Driving for Pleasure	___ ___	_____ _____	①	②	③	④	⑤
• Bicycling for pleasure	___ ___	_____ _____	①	②	③	④	⑤
• Mountain biking		_____ _____					
• Other Outdoor Recreation_____	___ ___	_____ _____	①	②	③	④	⑤
• Take Naps	___ ___	_____ _____	①	②	③	④	⑤
• Massage—Foot, Face, Body	___ ___	_____ _____	①	②	③	④	⑤
• Hot Springs	___ ___	_____ _____	①	②	③	④	⑤
• Meditation	___ ___	_____ _____	①	②	③	④	⑤
• Bathing	___ ___	_____ _____	①	②	③	④	⑤
• Other Relaxation_____	___ ___	_____ _____	①	②	③	④	⑤
• Visit Historic or Cultural Site	___ ___	_____ _____	①	②	③	④	⑤
• Visit Theme Park	___ ___	_____ _____	①	②	③	④	⑤
• Travel to Another Country	___ ___	_____ _____	①	②	③	④	⑤
• Visit Mountains or Water Area	___ ___	_____ _____	①	②	③	④	⑤
• Take Vacation	___	_____	①	②	③	④	⑤

	___	_____					
• Visit Exhibitions (art and education)	___ ___	_____ _____	①	②	③	④	⑤
• Other Tourist Activity_____	___ ___	_____ _____	①	②	③	④	⑤
• Dating	___ ___	_____ _____	①	②	③	④	⑤
• Chatting (by phone, with family and friends, online)	___ ___	_____ _____	①	②	③	④	⑤
• Visiting Friends and Relatives	___ ___	_____ _____	①	②	③	④	⑤
• Play with Children and grandchildren	___ ___	_____ _____	①	②	③	④	⑤
• Family Gatherings	___ ___	_____ _____	①	②	③	④	⑤
• Social/ballroom dancing	___ ___	_____ _____	①	②	③	④	⑤
• Volunteering in social work or civic activities	___ ___	_____ _____	①	②	③	④	⑤
• Other Socializing_____ _____	___ ___	_____ _____	①	②	③	④	⑤
• Visit Museum/Art Gallery	___ ___	_____ _____	①	②	③	④	⑤
• Attend Theatre	___ ___	_____ _____	①	②	③	④	⑤
• Attend Sports Event	___ ___	_____ _____	①	②	③	④	⑤
• Attend Music Event	___ ___	_____ _____	①	②	③	④	⑤
• Karaoke	___ ___	_____ _____	①	②	③	④	⑤
• Religious activity	___ ___	_____ _____	①	②	③	④	⑤
• Other Entertainment/Cultural___ _____	___ ___	_____ _____	①	②	③	④	⑤

2. Leisure satisfaction

How <u>satisfied</u> are you with your current leisure lifestyle? (Please circle <u>one</u>)						
Extremely Dissatisfied	Moderately Dissatisfied	Slightly Dissatisfied	Neither Satisfied nor Dissatisfied	Slightly Satisfied	Moderately Satisfied	Extremely Satisfied

3. Leisure constraints

For each of the possible constraints listed below, indicate how <u>important</u> it is for you?

constraints	unimportant				important
• Money	①	②	③	④	⑤
• Fees Too High	①	②	③	④	⑤
• Income Too Low	①	②	③	④	⑤
• Economic Pressure	①	②	③	④	⑤
• Bureaucracy/corruption	①	②	③	④	⑤
• No Steady Job	①	②	③	④	⑤
• Lack of Time	①	②	③	④	⑤
• Too Busy With Paid Work	①	②	③	④	⑤
• Too Busy With Housework	①	②	③	④	⑤
• Too Busy Taking Care of Children and grandchildren	①	②	③	④	⑤
• Too Busy Taking Care of Elders	①	②	③	④	⑤
• Too Busy Studying	①	②	③	④	⑤
• Life Pressure	①	②	③	④	⑤
• No Vacation	①	②	③	④	⑤
• Lack of Transportation	①	②	③	④	⑤
• Lack of Driving Experience	①	②	③	④	⑤
• Traffic Conditions	①	②	③	④	⑤
• No Vehicle	①	②	③	④	⑤
• Lack of leisure Information	①	②	③	④	⑤
• Safety Issues in leisure sites	①	②	③	④	⑤
• Crowding Issues	①	②	③	④	⑤
• Poor Service Quality	①	②	③	④	⑤
• Lack of Facilities or Space in leisure sites	①	②	③	④	⑤
• Lack of Energy for leisure	①	②	③	④	⑤
• Lack of skill	①	②	③	④	⑤
• No partners	①	②	③	④	⑤
• Social Cultural Environment	①	②	③	④	⑤
• Different Life Style (of participants)	①	②	③	④	⑤
• Lack of Group Activities	①	②	③	④	⑤
• Restricted by Family	①	②	③	④	⑤
• Not in Mood to Participate	①	②	③	④	⑤
• Lack of Interest	①	②	③	④	⑤
• Lack of Initiative	①	②	③	④	⑤
• Lack of concept or consciousness of “leisure”	①	②	③	④	⑤

• Lack of Family Support	①	②	③	④	⑤
• Personal Stress	①	②	③	④	⑤
• Self-Factors	①	②	③	④	⑤
Please add any other factors which you think could constrain your leisure constraints.	**unimportant**				**important**
a)	①	②	③	④	⑤
b)	①	②	③	④	⑤
c)	①	②	③	④	⑤
d)	①	②	③	④	⑤
e)	①	②	③	④	⑤

5. How would you describe your health, compared to others your age? Please check one.

___ Excellent ___ Good ___ Fair ___ Poor

Section 2

1. Is this city your main residential area? Yes_____No____ if not, where else do you live?

2. Your occupation：
1) governmental employees 2) students 3) posts and telecommunications
4) computer/internet network service 5) business/trade 6)bank/finance
7)tourism/hospitality 8) Health/medical service 9) real estate
10)transportation 11) law/ jurisdiction/tax
12)culture/entertainment/sports 13)media /advertisement
14)research institutes /education 15) agriculture/fishery/
16) Mining / manufacture 17) independent contractor

3. Gender: male___ female___

4. The highest level of schooling you have completed;
Less that high school_____, High school/vocational school_____,
college (associate degree) /university____, graduate school_____

5. Your total household monthly income:
○Less than 1000 Yuan ○1000Yuan ~3000 Yuan ○3001 Yuan ~ 5000 Yuan
○ 5001 Yuan ~7000 Yuan ○7001 Yuan ~9000 Yuan ○9001 Yuan ~11000 Yuan
○ 11000 Yuan~13000Yuan ○ 13001Yuan~15000Yuan ○ Over 15001

6. You age:
○20~25 ○26~30 ○31~35 ○36~40○41~45 ○46~50 ○51~55 ○56~60 ○61~

7. Except yourself, how many people live in your household? *Number of people*:
○ 0 ○ 1 ○ 2 ○3 ○ 4 ○5 ○ 6

8 .our marital status:
○single ○ married ○ divorced ○widow

9.information sources of encouraging to participate or plan leisure activities (please rank by 1、2、3、4…）
a) website ( )
b) travel agency ( )
c)TV ( )
d)radio ( )
e)magazine and newspaper ( )
f)relative and friends recommendation ( )
g) other ( ) (please describe) _____

Appendix B

中国城市人群休闲生活方式的问卷调查表

尊敬的女士\先生：

休闲是一个国家生产力水平高低的标志，是衡量社会文明的尺度。**2006** 年世界休闲博览会将在杭州举行，为了解中国城市人群的休闲方式，探索制约人们休闲活动的主要因素，把握世界休闲经济的发展动向，展望中国人未来理想的休闲方式，浙江大学亚太休闲教育研究中心与世界休闲组织共同承担了中国城市人群休闲生活方式的研究课题。我们非常荣幸地邀请您作为我们的调查对象，恳请您配合我们的调查工作，如实地填写调查内容。本调查表的内容无对错之分，请您不必顾忌，**2006** 年的世界休闲大会还有赖于您的大力支持和积极配合。再次感谢您。

注:**休**闲是指由内部动机引发的，为了从外界环境的压力中解脱出来，使个体能够以自己喜欢的、本能地感到有价值的，并且与谋生和经济利益无关的方式，去休息、消遣、自发地参加活动和自由发挥才能的一种社会文化活动。

浙江大学亚太休闲教育研究中心

第一部分　　休闲生活方式

在以下列出的每一个休闲活动中，请您以打勾的方式表明你“是”“ 否”参与这项活动。如果您参与这项活动，请表明是“经常”参与或者是“偶尔”参与。最后请表明该项活动对你如何重要。

活　动	是 / 否	经 常 / 偶 尔	不 重 要　重 要
• 读报	___ ___	_____ _____	① ② ③ ④ ⑤
• 读书	___ ___	_____ _____	① ② ③ ④ ⑤
• 读杂志	___ ___	_____ _____	① ② ③ ④ ⑤
• 其它娱乐性阅读	___ ___	_____ _____	① ② ③ ④ ⑤
• 看电视	___ ___	_____ _____	① ② ③ ④ ⑤
• 看电影	___ ___	_____ _____	① ② ③ ④ ⑤
• 上网	___ ___	_____ _____	① ② ③ ④ ⑤
• 听音乐	___ ___	_____ _____	① ② ③ ④ ⑤
• 听广播	___ ___	_____ _____	① ② ③ ④ ⑤
• 游泳	___ ___	_____ _____	① ② ③ ④ ⑤
• 打乒乓球	___ ___	_____ _____	① ② ③ ④ ⑤
• 打网球	___ ___	_____ _____	① ② ③ ④ ⑤
• 打高尔夫	___ ___	_____ _____	① ② ③ ④ ⑤
• 踢足球	___ ___	_____ _____	① ② ③ ④ ⑤
• 滑冰	___ ___	_____ _____	① ② ③ ④ ⑤
• 打排球	___ ___	_____ _____	① ② ③ ④ ⑤
• 打羽毛球	___ ___	_____ _____	① ② ③ ④ ⑤
• 射箭	___ ___	_____ _____	① ② ③ ④ ⑤
• 快走或娱乐徒步	___ ___	_____ _____	① ② ③ ④ ⑤
• 跑步或慢跑	___ ___	_____ _____	① ② ③ ④ ⑤
• 身体锻炼	___ ___	_____ _____	① ② ③ ④ ⑤
• 器械练习	___ ___	_____ _____	① ② ③ ④ ⑤
• 跳绳	___ ___	_____ _____	① ② ③ ④ ⑤
• 练愈加功	___ ___	_____ _____	① ② ③ ④ ⑤
• 到健身房		_____ _____	① ② ③ ④ ⑤
• 练拳	___ ___	_____ _____	① ② ③ ④ ⑤
• 打太极拳	___ ___	_____ _____	① ② ③ ④ ⑤
• 武术	___ ___	_____ _____	① ② ③ ④ ⑤
如果您还参加了其它的体育锻炼，请在以下横线上最多列举出两个, 并表明是经常参与或者是偶尔参与。最后请表明	___ ___	_____ _____	① ② ③ ④ ⑤

该项活动对你如何重要								
• 逛茶馆	___ ___	_____	_____	①	②	③	④	⑤
• 逛咖啡馆	___ ___	_____	_____	①	②	③	④	⑤
• 逛酒吧	___ ___	_____	_____	①	②	③	④	⑤
• 饭馆里吃饭	___ ___	_____	_____	①	②	③	④	⑤
• 逛歌厅或舞厅	___ ___	_____	_____	①	②	③	④	⑤
如果您还参加了其它的外出饮食或喝酒活动，请在以下横线上最多列举出两个, 并表明是经常参与或者是偶尔参与。最后请表明该项活动对你如何重要。	___ ___	_____	_____	①	②	③	④	⑤
• 电子游戏	___ ___	_____	_____	①	②	③	④	⑤
• 网上游戏	___ ___	_____	_____	①	②	③	④	⑤
• 中国扑克	___ ___	_____	_____	①	②	③	④	⑤
• 象棋	___ ___	_____	_____	①	②	③	④	⑤
• 打麻将	___ ___	_____	_____	①	②	③	④	⑤
• 打台球	___ ___	_____	_____	①	②	③	④	⑤
如果您还参加了其它的游戏活动，请在以下横线上最多列举出两个, 并表明是经常参与或者是偶尔参与。最后请表明该项活动对你如何重要。	___ ___	_____	_____	①	②	③	④	⑤
• 弹奏乐器	___ ___	_____	_____	①	②	③	④	⑤
• 画画	___ ___	_____	_____	①	②	③	④	⑤
• 书法	___ ___	_____	_____	①	②	③	④	⑤
• 唱歌	___ ___	_____	_____	①	②	③	④	⑤
• 美容美发	___ ___	_____	_____	①	②	③	④	⑤
• 跳舞	___ ___	_____	_____	①	②	③	④	⑤
• 养宠物	___ ___	_____	_____	①	②	③	④	⑤
• 烹饪	___ ___	_____	_____	①	②	③	④	⑤
• 摄影	___ ___	_____	_____	①	②	③	④	⑤
• 集邮，集币或其他收集爱好	___ ___	_____	_____	①	②	③	④	⑤
• 家庭装饰	___ ___	_____	_____	①	②	③	④	⑤
• 电子宠物	___ ___	_____	_____	①	②	③	④	⑤
• 写作	___ ___	_____	_____	①	②	③	④	⑤
• 发明	___ ___	_____	_____	①	②	③	④	⑤

如果您还参加了其它的艺术，手工艺或个人兴趣爱好活动，请在以下横线上最多列举出两个, 并表明是经常参与或者是偶尔参与。最后请表明该项活动对你如何重要。	___ ___	_____	_____	①	②	③	④	⑤
• 野营	___ ___	_____	_____	①	②	③	④	⑤
在野外的自然环境中徒步	___ ___	_____	_____	①	②	③	④	⑤
• 逛当地的公园	___ ___	_____	_____	①	②	③	④	⑤
• 逛动物园	___ ___	_____	_____	①	②	③	④	⑤
• 逛自然公园	___ ___	_____	_____	①	②	③	④	⑤
• 钓鱼	___ ___	_____	_____	①	②	③	④	⑤
• 爬山	___ ___	_____	_____	①	②	③	④	⑤
• 划船	___ ___	_____	_____	①	②	③	④	⑤
• 野餐	___ ___	_____	_____	①	②	③	④	⑤
• 开车兜风	___ ___	_____	_____	①	②	③	④	⑤
• 骑自行车兜风		_____	_____	①	②	③	④	⑤
• 山地车	___ ___	_____	_____	①	②	③	④	⑤
如果您还参加了其它户外活动，请在以下横线上最多列举出两个, 并表明是经常参与或者是偶尔参与。最后请表明该项活动对你如何重要。	___ ___	_____	_____	①	②	③	④	⑤
• 睡午觉或打盹	___ ___	_____	_____	①	②	③	④	⑤
按摩—脚，脸，身体	___ ___	_____	_____	①	②	③	④	⑤
• 去温泉	___ ___	_____	_____	①	②	③	④	⑤
• 静养，闭目养神	___ ___	_____	_____	①	②	③	④	⑤
• 洗浴	___ ___	_____	_____	①	②	③	④	⑤
如果您还参加了其它放松性活动，请在以下横线上最多列举出两个, 并表明是经常参与或者是偶尔参与。最后请表明该项活动对你如何重要。	___ ___	_____	_____	①	②	③	④	⑤
• 访问历史文化地	___ ___	_____	_____	①	②	③	④	⑤
• 访问主题公园	___ ___	_____	_____	①	②	③	④	⑤
• 出国旅行	___ ___	_____	_____	①	②	③	④	⑤
• 访问山水胜地	___ ___	_____	_____	①	②	③	④	⑤

• 度假	___ ___	_____	_____	①	②	③	④	⑤
观看艺术性，教育性展览	___ ___	_____	_____	①	②	③	④	⑤
如果您还参加了其它旅游活动，请在以下横线上最多列举出两个, 并表明是经常参与或者是偶尔参与。最后请表明该项活动对你如何重要。	___ ___	_____	_____	①	②	③	④	⑤
• 约会	___ ___	_____	_____	①	②	③	④	⑤
• 聊天 (电话，和亲朋好友，网上）	___ ___	_____	_____	①	②	③	④	⑤
• 访问亲戚和朋友	___ ___	_____	_____	①	②	③	④	⑤
• 和孩子和外孙玩	___ ___	_____	_____	①	②	③	④	⑤
• 参加家庭聚会	___ ___	_____	_____	①	②	③	④	⑤
• 跳交际舞	___ ___	_____	_____	①	②	③	④	⑤
志愿作社会工作或市民活动 (社会义工）	___ ___	_____	_____	①	②	③	④	⑤
如果您还参加了其它社会活动，请在以下横线上最多列举出两个, 并表明是经常参与或者是偶尔参与。最后请表明该项活动对你如何重要。	___ ___	_____	_____	①	②	③	④	⑤
参观博物馆或艺术画廊	___ ___	_____	_____	①	②	③	④	⑤
• 看戏	___ ___	_____	_____	①	②	③	④	⑤
观看现场体育表演或比赛	___ ___	_____	_____	①	②	③	④	⑤
观看现场音乐会或演出	___ ___	_____	_____	①	②	③	④	⑤
• 卡拉 OK	___ ___	_____	_____	①	②	③	④	⑤
• 宗教活动	___ ___	_____	_____	①	②	③	④	⑤
如果您还参加了其它的文化娱乐活动，请在以下横线上最多列举出两个, 并表明是经常参与或者是偶尔参与。最后请表明该项活动对你如何重要。	___ ___	_____	_____	①	②	③	④	⑤

您满意您当前的休闲方式吗? (请选择一个)						
非常 不满意	中等 不满意	轻微 不满意	既不满意 也不不满意	轻微 满意	中等 满意	非常 满意

人们经常因为各种原因不能参与所喜爱的休闲活动。请您表明以下的不能参加休闲活动的原因对你何等重要。

不能参加休闲活动的原因	不	重	要	重	要
• 缺钱	①	②	③	④	⑤
• 费用太高	①	②	③	④	⑤
• 收入太低	①	②	③	④	⑤
• 经济上的压力	①	②	③	④	⑤
• 官僚或腐败	①	②	③	④	⑤
• 没有安定的工作	①	②	③	④	⑤
• 缺少时间	①	②	③	④	⑤
• 太忙于工作	①	②	③	④	⑤
• 太忙于家务	①	②	③	④	⑤
• 太忙于照看孩子和孙子孙女	①	②	③	④	⑤
• 太忙于照看老人	①	②	③	④	⑤
• 太忙于学习	①	②	③	④	⑤
• 生活的压力	①	②	③	④	⑤
• 缺少假期时间	①	②	③	④	⑤
• 缺少交通工具	①	②	③	④	⑤
• 缺少开车经验	①	②	③	④	⑤
• 交通状况	①	②	③	④	⑤
• 缺少个人交通工具	①	②	③	④	⑤
• 缺少有关休闲机会的信息	①	②	③	④	⑤
• 休闲场所个人安全问题	①	②	③	④	⑤
• 休闲场所太拥挤	①	②	③	④	⑤
• 休闲场所的服务质量太差	①	②	③	④	⑤
• 休闲场所缺少设备和空间	①	②	③	④	⑤
• 我没有足够的精力去参加休闲活动	①	②	③	④	⑤
• 我缺少技能参加某些休闲活动	①	②	③	④	⑤
• 我缺少伙伴参加休闲活动	①	②	③	④	⑤
• 社会和文化的氛围不适合我	①	②	③	④	⑤
• 参与者和我有不同的生活方式	①	②	③	④	⑤
• 缺少群体活动	①	②	③	④	⑤
• 我被家庭义务所约束	①	②	③	④	⑤
• 我没有处在参与的状态和心情	①	②	③	④	⑤
• 我缺少兴趣	①	②	③	④	⑤

• 我缺少能量去参与	①	②	③	④	⑤
• 我缺少休闲的概念和意识	①	②	③	④	⑤
• 我缺少家庭支持	①	②	③	④	⑤
• 我有太多的个人压力	①	②	③	④	⑤
• 自我原因	①	②	③	④	⑤
请补充其它任何限制你休闲的因素	**不重要**				**重要**
a)	①	②	③	④	⑤
b)	①	②	③	④	⑤
c)	①	②	③	④	⑤
d)	①	②	③	④	⑤
e)	①	②	③	④	⑤

和你同龄的人相比，你是怎样描述你的健康状况的。请选择一个。

___ 极好 ___ 好 ___ 一般__ 差

第二部分　　个人基本信息

1. 您的主要居住地是本市吗？是_____不是____ 如果不是, 您还住在哪里? ____

2. 您所从事的行业是：
〇政府机关/干部〇学生　〇邮电通讯　〇计算机　〇网络
〇商业/贸易　〇银行/金融/证券/保险/投资　〇税务　〇资讯
〇社会服务　〇旅游/饭店　〇健康/医疗服务 〇房地产　〇交通运输
〇法律/司法　〇文化/娱乐/体育　〇媒介/广告 〇科研/教育
〇农业/渔业/林业/畜牧业　〇矿业/制造业 〇自由职业　〇其他

3. 您的性别:　男性___　女性___

4. 您的受教育程度是：
高中以下____，高中/中专____，大学/大专____，大学硕士研究生及以上____

5.您家庭的月收入是：
〇少于 1000 元　〇1000 元至 2000 元　〇 2001 元至 3000 元
〇3001 元至 4000 元　〇4001 元至 5000 元 〇 5001 元至 6000 元
〇6001 至 7000 元　〇7001 元至 8000 元　〇 8001 至 9000 元
〇9001 元至 10000 元 〇 10000 元以上

6. 您的年龄在：
〇20 至 25 岁之间　〇26 至 30 岁之间 〇31 至 35 岁之间　〇36 至 40 岁之间
〇41 至 45 岁之间　〇46 至 50 岁之间 〇51 至 55 岁之间　〇56 至 60 岁之间　〇61 岁以上

7. 除了您以外, 和您生活在一起的家庭成员或朋友有几人？
〇0 人 〇 1 人 〇 2 人 〇3 人 〇 4 人　〇5 人 〇 6 人

8 您的婚姻状态是：
〇未婚 〇 已婚 〇 离婚　〇 独居

9.什么样的信息来源会激发您参与或计划休闲活动? (请您用 1、2、3、4…排序, a) 网站 ( ) b) 旅行社 ( ) c)电视 ( ) d)收音机 ( ) e)杂志和报纸 ( ) f)亲戚朋友推荐 ( ) g) 其它 ( ) (请说明信息来源渠道) _____

VITA

ERWEI DONG

Erwei Dong completed a Bachelor of Education in Physical Education at the Liaoning Normal University in Dalian, China in 1993. He has a Master of Science in Physical and Health Education from the Tokyo Gakugei University, Japan in 1999 and a Ph.D. in Leisure Studies from the Pennsylvania State University, U.S.A in 2006. Currently, he is affiliated with the Department of Recreation and Leisure Studies, SUNY Cortland, U.S.A.