Socio-demographic variation in motives for visiting urban green spaces in a large Chinese city

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ABSTRACT

The motives of people for visiting urban green spaces (UGS) mirror their needs and expectations on UGS, which help to ascertain why people patronize UGS in the way they do. Such knowledge can promote effective decision making in satisfying the public needs and anticipations for UGS. However, the efforts to address the motives for visiting UGS are limited, whereby less attention is given to the related socio-demographic variations. This study concentrated on the motives for visiting UGS and the relevant differences across social groups in Guangzhou, China. Data were obtained from the responses of 595 visitors by using stratified random sampling, and in-person questionnaire survey at 24 UGS across the city. The results indicated that the nature- and exercise-dominated multiple motives call for multi-purpose management and multifunctional planning and design of the UGS. The significant variations in the motives for visiting were associated with the socio-demographic factors. Decision-makers should seriously consider the particular needs and expectations of the diverse groups, and consider these factors in the decision-making process concerning UGS. Further work could investigate non-users and associations of age and characteristics of UGS with motives for visiting. With complexities of cities, more attention needs to be given to the use of consistent methodologies in future research to obtain comparable findings and further generalizations.

Introduction

Motives denote the internal factors that arouse and give direction to human behavior (Iso-Ahola, 1999), and motives originate from a desire to achieve specific psychological outcomes or benefits (Manfredo, Driver, & Tarrant, 1996). The motives of people to visit urban green spaces (UGS) mirror their needs and expectations (Chiesura, 2004), and are associated with their attachment to these places (Kyle, Mowen, & Tarrant, 2004). Understanding motives for visiting is of great importance in ascertaining why people patronize UGS in the way they do as well as in understanding the consequences of UGS visits (Yuen, 1996). More importantly, knowledge about motives for visiting can assist decision-makers to achieve effective planning, management, and design of UGS to fulfill public requirements and expectations.

Studies conducted in different cities consistently show that people hold multiple motives associated with UGS. For example, Singaporean residents typically harbor social interaction, enjoyment of nature, relaxation, and exercise as their main motives

(Yuen, 1996; Yuen, Kong, & Briffett, 1999). In Ankara (Turkey), to while away, to rest and contemplate, to meet and chat with friends, and to escape from the stresses of urban life constitute the main motives for visiting parks (Oguz, 2000). In Amsterdam (the Netherlands), to relax is the most important motive, followed by to listen and to observe nature, and to escape from the city (Chiesura, 2004). UGS visits of Hong Kong people are principally motivated by their need for exercise, clean air, peace, and relaxation (Lo & Jim, 2010). The most important motive of the Swiss for visiting nearby UGS is the restoration associated with nature experience, whereas social bonding is identified as the weakest motive (Home, Hunziker, & Bauer, 2012). An Australian study found that common motives include enjoying nature, escaping various pressures, and enjoying the outdoor climate (Weber & Anderson, 2010). A recent review identified a core set of motives for visiting, which includes contact with nature, attractive environments/landscapes, social contact, recreation and play, privacy, active participation in community design, and a sense of community (Matsuoka & Kaplan, 2008). However, the motives for visiting UGS vary across cities. For example, exercise is strongly pursued by Hong Kong residents but is lowly ranked by those living in Amsterdam. Social contact is the major motive in Singapore and Ankara but is less common in Amsterdam and

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Hong Kong. More research in other cities remains to be done to achieve a more comprehensive understanding of the motive patterns and influence local decision making.

People with distinct socio-demographic backgrounds harbor different needs and anticipations for UGS, and thus have varied motives for visiting. Studies have found the associations of the (broadly defined) recreational motives with socio-demographic variables, such as age, gender, and education level (Home et al., 2012; Lee, Scott, & Moore, 2002). Younger people worldwide usually pursue more active activities (e.g., sports), whereas adults and the older tend to enjoy nature (e.g., contemplation) (Chiesura, 2004; Matsuoka & Kaplan, 2008). However, this seemingly general motive pattern does not apply to several specific cities (Home et al., 2012; Sanesi & Chiarello, 2006). Compared to males, more females are motivated by relaxation and intimate interpersonal relationships (Lee et al., 2002). Females are also more likely to accompany children, whereas males typically choose sports activities (Sanesi & Chiarello, 2006; Yuen, 1996). A recent study indicated that respondents with higher education levels tend to be motivated by the aspiration to learn about nature and to socialize with others more than the respondent holding lower education levels (Home et al., 2012). The socio-demographic variations in motives for visiting UGS should be factored into pertinent decision making such that the particular needs of all subgroups of the society can be met.

However, only limited research has dealt with motives for visiting UGS, and less attention is given to relevant variations among social groups. The current research investigated the motives for visiting UGS and addressed particularly the socio-demographic differences in China, where urban societies are diversifying and evolving because of rapid urbanization and the high-rise and high-density residences for urban citizens. Chinese cities, particularly large ones, typically feature high population, development density with limited UGS, and fast transformation. These characteristics may induce different motives for visiting UGS than those in Western cities. Guangzhou, one of the largest municipalities in China, was chosen as a case city.

Methods

The questionnaire design in this research consulted several cognate studies (Chiesura, 2004; Lee et al., 2002; Oguz, 2000; Pincetl & Gearin, 2005; Ward Thompson, Aspinall, Bell, 2005; Yuen, 1996) and solicited advice from local UGS officials. The respondents were asked to select their (multiple) motives for visiting UGS in general from twelve key motives presented. The socio-demographic variables included gender, age, marital status, education level, income, occupation, place of residence, childhood residence, and walking time from home to the proximal UGS.

The sampling and survey processes were reported in detail elsewhere (Jim & Shan, 2013; Shan, 2012). In summary, stratified random sampling was used based on the 2000 Guangzhou census data (Guangzhou Census Office, 2002), which was the latest source available for this study. The predefined sample size (600) was allotted to the eight central districts in Guangzhou in accordance with their respective population size. Following a pretest, the full survey was accomplished in December 2005 through *in situ* face-to-face interviews with the help of four trained undergraduate students from a local university. A total of 24 UGS were chosen as sampling sites, with the involvement of local UGS managers and experts to ensure inclusion of main UGS types in the city. The sampling sites covered city- and district-

level parks, residential green spaces, squares, and greenways. Overall, the city-level parks are typically superior to the district-level ones and the other types with the latter having similar quality. On-site visitors aged >15 were randomly selected as respondents at two intervals during the survey. All the questionnaire survey processes complied with relevant laws and institutional guidelines.

Frequency statistics described the general motives for visiting UGS, and multivariate logistic regression analysis examined the associations of the socio-demographic factors with the motives for visiting. The (forward) stepwise method based on the likelihood ratio test, which is the most reliable (Zhang & Dong, 2004: 177), was used to screen the significant independent/socio-demographic variables. According to Jin and Cao (2003: 332), for a logistic regression analysis, the smallest frequency of all categories of a dependent variable should be five to ten times more than the number of independent variables included. Hence, the current study analyzed only the motives for visiting with a frequency over 45.

For each model, a test for multi-collinearity of independent variables was first performed. The results indicated that in all cases, multiple correlations among the variables were not high (tolerance>0.1). The Hosmer–Lemeshow goodness of fit test ($p > 0.05$) showed that all the models adequately fit the data. The results were presented as odds ratios (OR) with p values. Statistical analyses were performed with SPSS version 17.

Results

Response rate and characteristics of the sample

A detailed description of this section has been provided elsewhere (Jim & Shan, 2013), and thus, only a brief introduction is presented here. Among the 713 chosen visitors, 606 participated in the questionnaire survey, which generated a response rate of 85%. A total of 11 (1.8%) questionnaires were eliminated because of missing socio-demographic information; hence, 595 were valid and were used in the analysis.

More than half of the respondents were males (55.8%) and young. Most of the respondents (31.4%) were 30–49 years old, followed by 15–24 years old (29.6%), and 25–29 years old (23.2%). The respondents aged ≥50 comprised the age group with the least number of respondents (15.8%). Meanwhile, 42.8% of the respondents had a university or higher degree, whereas only 20.4% obtained lower secondary education, which suggested relatively high education level in the sample. For income, the middle group RMB1000 to 3000/month constituted the most number of respondents (54.1%), followed by <RMB 1000/month (28.3%) and ≥RMB 3000/month (17.6%). In terms of place of residence, in comparison with the census data, Haizhu district was underrepresented by 4.1%, whereas Fangcun overrepresented by 5.7%.

Among the five variables examined, Chi-square test comparing the sample with the 2000 Guangzhou census data found significant differences only for education ($X^2 = 61.09$, $p = 0.000$). The sample included more respondents having university or higher education (42.8% versus 17.3% of the census).

Motive for visiting UGS

On the average, Guangzhou respondents had multiple motives for visiting (mean = 2.68; Table 1). "To enjoy fresh air and beautiful scenery" was the most reported motive, which was mentioned by 62.8% of respondents. "To relax" attracted almost the same support as the above mentioned motive with 61.8% of