



## Research paper

## Differences in the recreational value of urban parks between weekdays and weekends: A discrete choice analysis

Christine Bertram<sup>a,\*</sup>, Jürgen Meyerhoff<sup>a,b</sup>, Katrin Rehdanz<sup>a,c</sup>, Henry Wüstemann<sup>b</sup><sup>a</sup> Kiel Institute for the World Economy, Kiellinie 66, D-24105 Kiel, Germany<sup>b</sup> Technische Universität Berlin, Straße des 17. Juni 145, D-10623 Berlin, Germany<sup>c</sup> University of Kiel, Department of Economics, Wilhelm-Seelig-Platz 1, D-24118 Kiel, Germany

## HIGHLIGHTS

- Temporal contexts significantly affect recreational preferences of urban residents.
- During the week, distance to parks is of particular importance.
- For the weekend, larger parks are preferred while distance matters less.
- Cleanliness and maintenance are most important for visits at any time of the week.

## ARTICLE INFO

## Article history:

Received 25 November 2015

Received in revised form 11 October 2016

Accepted 30 October 2016

## Keywords:

Urban parks

Discrete choice experiment (DCE)

Recreational behaviour

Context-dependent preferences

Weekend vs. weekday

## ABSTRACT

Urban parks offer city residents a broad range of opportunities for recreation. This paper explores whether preferences for urban parks are context-dependent, i.e., whether they differ between recreational occasions on weekdays and weekends. Knowledge about such differences in behaviour and preferences could help decision makers in cities to optimise their portfolio of urban parks. Employing a discrete choice experiment for the case of Berlin, Germany, the analysis finds that preferences significantly differ between weekday and weekend recreation for some park characteristics. For weekdays, respondents prefer urban parks in closer proximity to their homes while the size of the parks is not so important. For the weekend, larger parks with picnic facilities are preferred while distance matters less. Most important are, however, cleanliness and maintenance, regardless of whether a park is visited on weekdays or the weekend. The results underline the importance of considering different temporal contexts when preferences for outdoor recreation are concerned.

© 2016 Elsevier B.V. All rights reserved.

## 1. Introduction

Urban parks provide a large variety of benefits including environmental and particularly recreational benefits (e.g., Bullock, 2008; Cornelis & Hermy, 2004; Nowak & Heisler, 2010; Tameko, Donfouet, Pythagore, & Sikod, 2011; Weber & Anderson, 2010). These depend, among other things, on the characteristics of the parks visited such as their size, cleanliness, and available facilities such as playgrounds and sport facilities (Elmendorf, Willits, & Sasidharan, 2005; Payne, Mowen, & Orsega-Smith, 2002; Priego, Breuste, & Rojas, 2008; Stamps & Stamps, 1985). Other important park characteristics are accessibility (Giles-Corti et al., 2005; Wright Wendel, Zarger, & Mihelcic, 2012) and distance between

the place of residence and the parks. The latter is often mentioned as the most crucial determinant of the frequency of park visits (Schipperijn et al., 2010). The importance of urban parks and other types of green urban areas has also increasingly attracted attention in the literature on ecosystem services and their value to society (Haase et al., 2014).

One issue that has, to the best of our knowledge, not been investigated so far is whether preferences for urban parks are context-dependent, i.e., whether they differ between weekdays and weekends. Urban dwellers might look for different park characteristics when they visit a park on the weekend because they have more time and might thus be willing to travel longer distances to reach a park with desired characteristics. In contrast, distance may be more important than other characteristics during the week when time constraints are more severe. Information on such context-dependent preferences for urban parks could be important for urban planners and decision makers in order to

\* Corresponding author.

E-mail address: [christine.bertram@ifw-kiel.de](mailto:christine.bertram@ifw-kiel.de) (C. Bertram).

optimize the portfolio of urban parks and provide their citizens with parks which are more in line with their preferences.

The present literature investigating behavioural differences between weekdays and weekends in an urban context is, however, mainly concerned with more general questions of time allocation including time for recreation. The studies show temporal variations in time allocation with respect to socio-demographics (Argawal, 2003; Bhat & Misra, 1999; Cao & Chai, 2014), employment status (Kumar & Levinson, 1995), activity patterns (Argawal, 2003; Kumar & Levinson, 1995; Zhong, Hunt, & Lu, 2008), travel time and trip length (Argawal, 2003), and distance (Kumar & Levinson, 1995). Recreational or leisure activities are, however, not further specified or disaggregated in these studies. There is another literature dealing with preferences for recreational activities that varies depending on the temporal context, but this literature is more concerned with seasonal variations. Kemperman, Borgers, Oppewal, and Timmermans (2000) apply a discrete choice experiment (DCE) to analyse whether preferences for theme park visits vary over different times of the year. Their results indicate that preferences are indeed context-dependent and differ significantly between spring and summer. In addition, Bartczak, Englin, & Pang (2012) apply a system of seasonal demand models to investigate seasonal variations in preferences for forest visits. They find significant differences in preferences between the four seasons, which results in different estimates of consumer surplus for each season. The findings of this literature thus highlight the importance of considering different temporal contexts when preferences for outdoor recreation are concerned.

To investigate context-dependent preferences, this paper employs a survey-based DCE to establish a hypothetical market (Hensher, Greene, & Rose, 2006) for park visits on weekdays and weekends. Generally, applying DCEs has become popular for valuing environmental goods and services. However, only a small literature applies DCEs to value the benefits of urban green, and among those only one focuses on urban parks (Bullock, 2008). Bullock (2008) applies a DCE to urban parks in Dublin, Ireland, finding, among others, that preferences for park attributes differ according to the type of the park (small local parks, larger regional parks). For small local parks, quality is enhanced by the presence of play facilities and a mixture of quiet and busier areas. In the context of larger regional parks, an adventure play park and good walking and seating facilities attract the highest values. Moreover, natural lakes and woodlands become positive factors for regional parks, while the negative influence of journey time is reduced. Other applications of DCEs in urban contexts refer to other types of urban green such as street trees (Giergiczny & Kronenberg, 2014) and urban streams (Bae, 2011) or goods such as public rights of way (Morris et al., 2009), trails (Reichhart & Arnberger, 2010), and the provision of neighbourhood improvements (Lanz & Provins, 2013).

The data used for our analysis come from a web survey carried out in Berlin, the capital city of Germany. The city, which has a surface area of 892 km<sup>2</sup> (BSDUDE, 2012) and a population of 3.5 million (ASBB, 2015), offers residents free access to more than 2800 public parks (BSDUDE, 2013a) covering 2% (2100 ha) of Berlin's city area. The majority of these parks are rather small with less than 10 ha, 80 parks have a size of 10–50 ha, and 23 parks are larger parks with a size of more than 50 ha. Despite their large total number, they are very unevenly distributed throughout the city (Kabisch & Haase, 2014), which implies that the distances between people's place of residence and a park varies considerably among residents. Generally, parks in Berlin are highly frequented and used both on weekdays and weekends for a large variety of recreational activities such as sports, meeting friends, playing with children, and walking the dog (BSDUDE, 2013b; Bertram & Rehdanz, 2015). Information on residents' preferences for park characteristics is, therefore, of great importance for decision makers to inform urban planning and

park management for sustaining and improving the urban environment.

## 2. Methodology and data

### 2.1. Sample and questionnaire design

The survey was implemented by using the web panels of two independent survey companies. We had to choose two survey companies instead of one due to the fact that the survey is the result of a cooperation of two research institutions and related administrative issues. As both companies have their own survey design, the web presentation of both surveys differed from each other. However, the content and order of the questions were identical. Also the recruiting process was similar. A random sample of panel members living in Berlin was each time drawn and subsequently invitations were sent by email. The email provided a link to the survey, but the topic of the survey was not specified. Those who followed the invitation were directed to a starting screen indicating the expected length of the survey and the potential reward. The topic was still kept very general, only indicating that the survey was related to city life, to avoid self-selection in terms of interest in environmental issues. The survey was carried out in June and July 2014. At the beginning of the survey, participants were screened to ensure that they had been living in Berlin for at least one year.

The questionnaire consisted of five parts: Firstly, respondents faced general questions about their recreational behaviour in urban parks. This included questions regarding the number of park visits and main activities, differentiated by park visits during the week and on weekends. Secondly, respondents had the opportunity to indicate the park they visited the most, again during the week and on weekends. We then introduced and precisely described all attributes and levels applied in the DCE in the third part of the survey. Respondents were subsequently asked to describe the park they visited most frequently by choosing the levels of the introduced attributes. In this way, we made respondents familiar with the choice attributes and their levels. The fourth part of the survey presented the choice sets. Finally, the survey requested socio-economic and demographic characteristics of the respondents and their households in the fifth part of the survey.

A meeting with experts from the park departments of all 12 city districts in Berlin was conducted before designing the questionnaire. Within the meeting, the park attributes that were deemed to be important for park visitors were discussed and identified. An early version of the questionnaire was pretested with university students. The final version of the survey was pretested with 100 participants.

### 2.2. Experimental design and empirical strategy

Table 1 presents the attributes used to create the unlabelled choice tasks as well as their levels. Each choice set comprised four alternatives, one being an opt-out alternative and three being hypothetical alternatives offering parks described by the attribute levels. The hypothetical alternatives were characterised by six non-monetary attributes. The attributes cleanliness, maintenance, and habitats for plants and animals could take on three quality levels (e.g., badly maintained, maintained, and very well maintained). The attribute facilities comprised five facilities of which each could or could not be present in the park (playgrounds, sport facilities, toilets, picnic/barbecue areas, and flowerbeds). The size of the park was differentiated in three levels (small: up to 10 ha, medium: 10 to 50 ha, and large: more than 50 ha), and distance to the park had five levels (300 m, 800 m, 1500 m, 3000 m, and 5000 m). Finally, the respondent's individual yearly monetary contribution to a local

Download English Version:

<https://daneshyari.com/en/article/5115174>

Download Persian Version:

<https://daneshyari.com/article/5115174>

[Daneshyari.com](https://daneshyari.com)