Access to green areas and the frequency of visits – A case study in Helsinki

Abstract

Environmental considerations concerning physical activity and health relate to accessibility, and this accessibility is directly influenced by how recreation areas and facilities are provided and managed. This study aims to provide some evidence to support the general argument that a good supply of recreation opportunities encourages people's participation in outdoor recreation. The study's data are compiled from an outdoor recreation survey of Finnish 15- to 74-year olds, conducted between 1998 and 2000, which focused on the recreational behaviour of people living in Helsinki (*n*=367), and their visits to close-to-home outdoor recreation areas. Almost all (97%) of the Helsinki residents surveyed participated in outdoor recreation during the year. Half of them embarked on a recreational outing daily or every other day. The most typical close-to-home activity was walking for pleasure or fitness. Other popular activities were cycling, jogging, dog walking and outings with children. Physical or fitness activities represented about 90% of all close-to-home outings. Those who lived in the suburbs of Helsinki participated in close-to-home recreation significantly more often than those living in the city centre, and had done so more recently in terms of when the survey was conducted. The amount of green areas in the vicinity of the participant's residence and the short distance to green areas suitable for recreational use increased the number of close-to-home outings among Helsinki residents. This supports the argument that a good provision of opportunities promotes an active lifestyle. Thus, recreation areas and facilities should be located close to residential areas, and provide safe, comfortable and year-round access for daily outings.

Introduction

For both urbanites and other Finnish people, outdoor recreation is an important way to spend leisure time. Nature-based recreation provides an opportunity for refreshment and relaxation, both physically and mentally. City residents seek

and are often rewarded with a feeling of recovery or better coping abilities after communing with nature (Korpela, 2001). A close-to-home natural environment offers contact with nature and a place for physical exercise (Hansen-Møller and Oustrup, 2004). To gain positive effects from outdoor recreation and other exercise, it is important that the participation is frequent and lasts long enough (Vuori and Miettinen, 2000). The supply of close-to-home recreation opportunities should respond to people's recreational needs, and should also take into consideration the obstacles to fulfilling these needs. The physical and social environment strongly influences people's exercise habits. For example, health-motivated people tend to be more frequent trail users than others (Gobster, 2005). Easily accessible and nearby recreational areas, trails and other facilities, as well as an aesthetic and safe environment make frequent participation in outdoor recreation and expected health benefits possible (Humpel et al., 2002; Paronen, 2005).

This study strives to illustrate the relationship between the supply of close-to-home recreation opportunities and the frequency of participation in close-to-home recreation. The goal is to provide information that will help assess the link between supply and demand factors, which will hopefully help our decision-makers to consider the importance of recreation opportunities from the point of view of health and well-being benefits. From society's point of view it is also a question of the considerable savings in health and social care costs that are possible in the long run.

For Finnish people, outdoor recreation is the most significant and familiar way to participate in activities that have positive physical impacts. Almost all (97%) of the population surveyed participate in some type of outdoor recreation, the most popular of which are swimming, walking for fitness, cycling and cross-country skiing, which are typically close-to-home activities. All these activities provide a good amount of physical exercise. The average number of recreation occasions is two to three times a week, and the average length of each occasion is about one and a half hours (Pouta and Sievänen, 2001a). The minimum amount of exercise recommended to maintain physical health is thirty minutes per day (Oja, 2000; Miilunpalo,

2001). Thus, the opportunity to participate in outdoor recreation in close-to-home areas is essential for Finnish people determined to achieve good health and well-being through their leisure-time activities.

Active living is defined as physically active leisure behaviour. The preconditions for a physically active lifestyle are considered to be dependent on the provision and supply of recreation opportunities, e.g., environmental determinants in built-up environments, including parks, open spaces and recreational facilities that offer opportunities for active living (Henderson and Bialeschki, 2005). Recently, many scientists and practitioners have submitted requests for more evidence to prove the positive relationship between a green environment and human health and well-being (Frumkin, 2003). Environmental considerations related to physical activity and health are a matter of access for individuals, regardless of their physical ability to exercise, and this access is directly influenced by how recreation areas and facilities are provided and managed. Henderson and Bialeschki (2005) refer to evidence-based research that shows an empirical relationship between the presence of park and recreation areas and facilities and the physical activity and health of the community members.

The attributes of an attractive living environment include recreation areas and the quality of their natural characteristics and services, an adequate amount of sites, in terms of number, land area and spatial distribution, and accessibility in terms of safety and an easy getaway. These attributes create a supporting environment for physically active life (Giles-Corti and Donovan, 2002). Appreciation for suburban areas is based on the natural environment and a feeling of spaciousness (Päivänen, 1996). The ‘adequate space’ of a recreation area can be assessed by how well different kinds of activities can take place in the area before they disturb each other, and by the extent to which local users and other visitors feel an area to be crowded. In a Dutch study (De Vries et al., 2003), the relationship between residents’ perceived health-status indicators and the amount of green space in one's living environment was consistent when the personal characteristics, such as age and socio-economic status, were controlled. The

quality of green areas also seems to be linked to residents' interest in close-to-home recreation areas (Lenthe et al., 2004).

The link and relationship between the supply of recreation opportunities and how people use these opportunities, and thus get different kinds of benefits from visiting a natural and green environment, are discussed in literature from different perspectives, such as economics (travel-cost approach) or social sciences (Walsh, 1986; Driver et al., 1991). One approach to study demand and supply relationship has been to look at the recreationist's decision-making process (Driver and Brown, 1975). The decision to participate in outdoor recreation is based on a multitude of factors, and is always dependent on the situation, time and place. The decision of a potential recreationist depends on his or her personal interests and resources, but also on the physical and social environment. Driver and Brown (1975) have presented a social–psychological model that explains the decision-making process and the factors that affect a person's decision in each part of the process. Environmental factors are influential in several parts of the process: messages from the environment raise interest in participation, and are used in evaluating the different options before making a choice. If the decision favours participation, the experiences of the actual participation later either strengthen or weaken the behaviour tendency. If the evaluation of the experience is positive, the expected benefits have been realised. These gained benefits are assessed again, and the result of the evaluation has an influence on the next decisions on participation. If the visitor has had several positive experiences in the past, they are more likely to return on a more frequent basis.

There is plenty of evidence that one's physical environment and physical activity are correlative. Multiple facets of the physical and social environment influence the well-being of people. Different environments enhance a range of behaviours by promoting and sometimes requiring certain actions, while discouraging and prohibiting other behaviours (Stokols, 1992; Paronen, 2005). Humpel et al. (2002) reviewed 19 quantitative studies that assessed the relationship between physical activity behaviour and objectively determined physical environment

attributes. There were five categories of attributes: accessibility of facilities, opportunities for activity, weather, safety and aesthetics. The studies concluded that accessibility, opportunities, and aesthetic attributes have a significant association with physical activity.

Accessibility refers to the distance from a resident's home to a recreation area or trail, in addition to how safe and easily accessible the recreation site is (Pouta and Sievänen, 2001a). In terms of available time during weekdays, most working people have somewhat restricted possibilities to engage in recreation outside their own residential area. Close-to-home recreation opportunities are, therefore, essential for fulfilling daily recreation needs. The proximity and good accessibility of recreation areas have been found to be an important attractiveness factor in one's living environment. A short distance to recreation areas was important for 95% of the residents of a Swedish town (Lindhagen, 1996). Other studies showed a relationship between the distance to recreation areas and the number of visits to the area: the number of visits decreased when the distance to a recreation area or the closest forest increased (Kardell, 1982; Jensen and Skov-Petersen, 2002; Roovers et al., 2002). According to the Swedish study, residents expressed that the maximum distance to a recreation area should not exceed one kilometre (Hörnsten and Fredman, 2000). According to the recommendations given by the Nordic Council of Ministries, the maximum walking distance to recreation areas for daily use should be 250–300 m, but areas provided for weekend and vacation use may be located further away (Nordisk Ministerråd, 1996).

Grahn and Stigsdotter (2003) identified a significant relationship between the number of visits to an urban open green space and the level of self-reported stress experienced. In the same study, proximity to a green environment (distance travelled to a public urban green area, access to a garden) also appeared to be influential, in addition to the duration of the visit. An individual who lived 50 m or less from an urban open green space visited it 3–4 times weekly, but when the distance was 300 m, the number of visits reduced to an average of 2.7, and if the distance was 1000 m, visits occurred only once a week (see

also Jensen and Skov-Petersen, 2002). Furthermore, less distance between a person's home and a trail was associated with greater use (Troped et al., 2001), and people who live closer to a park or trail use it more frequently, on average, than people who live farther from these facilities (Hoehner et al., 2005).

The number of recreation areas, their accessibility and the continuity of the trails, as well as the network of the areas are established as part of the land-use planning process for residential areas. Recreation studies, which offer information about the relationship between the supply of recreation opportunities and recreational behaviour, provide valuable information for planning recreation areas themselves but also for the process of more general land-use planning and urban planning. Information on the factors affecting recreation demand, and more understanding of these factors, are necessary when aiming to improve close-to-home recreation opportunities.

This study aims to offer some evidence to support the general argument that a good supply of recreation opportunities enhances participation in outdoor recreation. The study aims to determine the relationship between recreation demand and recreation opportunities, particularly how demand affects recreation behaviour. A particular focus of the study is whether the amount of green areas and other accessibility factors in residential areas have any effect on the number of close-to-home recreation occasions. Our research questions are:

- 1.
  What proportion of Helsinki's population participate in close-to-home recreation, and how often?
- 2.
  How does the supply of green areas affect the frequency of recreational visits to green areas?
- 3.
  How do the demand factors such as gender, age and education affect the frequency of visits to close-to-home green areas?

For the case study, we have gathered information on the recreation behaviour of the population of the City of Helsinki, which has the biggest population in the country, and thus represents the most urbanised environment in Finland.

Section snippets

The case of Helsinki

Helsinki has a large amount of of green areas, parks, open space, urban forest, a long line of forested seashore, islands and water areas, which provide a lot of recreation opportunities for its residents. There are 320 ha of managed parks and 310 ha of urban forest in the city, and 730 ha of managed parks and more than 4200 ha of forest in the suburban areas (Helsingin kaupungin tietokeskus, 2003). In addition to these, the municipality of Helsinki manages about 3500 ha of forestland for

Survey method

This study used population survey data collected in the context of the national outdoor recreation demand and supply inventory (LVVI) by the Survey Research Unit of Statistics Finland. The LVVI survey data was employed to create the LVVI Outdoor Recreation statistics (Pouta and Sievänen, 2001b). The same data has also been used for analyses of more detailed research questions. The data was collected between August 1998 and May 2000 by using CATI-technique (computer-assisted telephone

Recreational visits to close-to-home areas by Helsinki residents

Nearly all (97%) Helsinki residents participate in some outdoor recreation during the year. Half of the residents make outdoor visits on a daily basis or every second day. Living in the suburbs is related to more close-to-home visitation compared to living in the centre (χ^2=8.106, p=0.004). Not all city residents are that active: 7% said their last recreation occasion took place more than four weeks before the survey. Among suburban residents, some 5% did not participate in outdoor recreation

Discussion and conclusions

The relationship between the amount of green areas in the residential areas and the frequency of participation in close-to-home recreation is not studied much on a population-wide level.

Our study shows that both a good amount of green areas and easy access (i.e. short distance) to a natural environment increase the number of visits to a green environment by Helsinki residents.

Our first study question was “what proportion of Helsinki's population participates in close-to-home recreation, and

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