



## **FULL LENGTH ARTICLE**

# **The Role of the Environmental Features of Public Parks in Attracting People toward Morning Exercise: A Case of Khorramabad City**

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### **ABSTRACT**

The purpose of this research was to examine the effect of environmental features of parks on people's tendency to participate in morning exercises. The population consisted of all the people who used the parks of Khorramabad City for morning exercise. 200 park users were randomly selected as the sample. The data were collected using a questionnaire developed by the researcher with 30 items that evaluated the effect of environmental features on physical activity on a 5-point Likert scale. The validity of the instrument was confirmed by professors and experts. Its reliability was also confirmed using Cronbach's alpha ( $\alpha = 0.842$ ). Descriptive and inferential statistics (Friedman test) were used for data analysis. The results suggested that the facilities and aesthetics of parks are significantly associated with park use for morning exercise. However, the relationship between morning exercise and safety, condition, and access was not significant.

**Keywords:** Environmental features, parks, morning exercise

### **INTRODUCTION**

During the past few decades, the role of sport and physical education in health and vitality has been the focus of attention of sport scientists. Research has shown that organized physical activity is effective for the health and well-being of the society. Morning exercise is an example of such organized activities that does not require any advanced facilities and equipment. This form of exercise does not last long and can be a part of people's daily program. In this research, the effect of environmental features of parks that can attract people to physical activity are examined. These variables are: safety (i.e. personal security and fear), access (i.e. availability and proximity), aesthetics (i.e. attractiveness and appeal), condition (i.e. maintenance and sanitation), and facilities (i.e. amenities such as parking lots and concessions).

Ramezanijad et al. (2009) examined the motives of those participating in public outdoors sports. They identified health, physical fitness, pleasure, job relationships, prevention and treatment of diseases, and social interactions as the most important reasons for participation in physical activities[35].

Alizadeh (2006) examined the ways to increase the productivity of sport facilities and found that 71% of the experts considered "easy access" as the most important factor in the productivity of sport facilities[1].

Kaczynski et al (2008) examined the association between the size, distance, and features of parks with physical activity. They found that parks with a paved trail or wooded area were about 7 times more likely to be used for physical activity than parks without these facilities. They also showed that neither perceived neighborhood safety nor aesthetics were significantly related to the use of a park for physical activity[27].

Kaczynski et al. (2010) examined the effect of availability and land use diversity on the use of parks for physical activity[28]. They showed that parks with low land use diversity and a higher number of facilities were most likely to be used for physical activity. Kaczynski and Henderson (2007) reviewed the studies on environmental factors that enhance or limit people's use of parks for physical activity[26]. They showed that found that 14 out of 20 articles that included parks or open space reported at least some, if not entirely, positive associations between park availability, access, use, or proximity and respondents' physical activity levels.

Alves et al (2008) studied the preferences of older people for environmental attributes of local parks. The showed that older people preferred a neighborhood park which is without nuisance, has cafes and toilets, many trees and plants, light traffic en route, wildlife to watch, and is well maintained[2].

Panter and Jones (2008) examined the correlations between physical activity, perceptions of the neighborhood environment, and access to facilities in an English city. The showed that walkability was associated with higher levels of overall physical activity. Neighborhood perceptions were also associated with higher aerobic activity and walking, although this relationship was not statistically significant[34].

Iounes et al (2009) examined the association of physical activity and neighborhood environment among Japanese adults. They found that three perceived environmental attributes, namely high residential density, good access to shops, and presence of sidewalks, were significantly associated with walking 150 minutes per week or more. They also showed that presence of bike lanes was related to high levels of moderate to vigorous physical activity[24].

Stronegger et al (2010) examined the association between perceived characteristics of the neighborhood, physical activity behavior, health. They found a significant positive association between perceived social-environmental quality of the residential environment self-rated health and leisure time physical activity[41].

McCormack et al (2010) conducted a review of the research on the association of the characteristics of urban parks with park use and physical activity. They showed that attributes such as safety, aesthetics, amenities, maintenance, and proximity were important for encouraging park use[31].

Saelens et al (2003) studied the effect of neighborhood environment characteristics on walking and cycling. They showed that density, connectivity, and land use mix were positively associated with the rates of walking and cycling[39].

Floyd et al (2008) studied the extent of physical activity in low- and high-income communities in diverse communities. They found that the residents of low-income neighborhoods had lower levels of physical activity, which is probably due to their problem in access to parks and other recreational facilities[15].

## METHODOLOGY

The present research was an applied descriptive study. The population consisted of the people used the parks of Khorramabad City for morning exercise. 200 park users were selected as the sample. A questionnaire was developed by the researcher for data collection. Descriptive statistics (measures of central tendency and dispersion) and inferential statistics (Spearman correlation coefficient and Friedman test) were used for data analysis.

## FINDINGS

The data in Table 1 show that there is a significant relationship between demographic characteristics (age, education, and job) and tendency toward morning exercise. There is also a significant relationship between park facilities and aesthetics and the use of parks for morning exercise, but park condition, access, and safety were not significant correlates of morning exercise.

Table 1. The relationship between the variables

Variables		Weekly morning exercise
Age	Spearman correlation coefficient	0.18**
	Significance level	0.01
Education	Spearman correlation coefficient	-0.15*
	Significance level	0.04
Job	Spearman correlation coefficient	0.17*
	Significance level	0.02
Facilities	Spearman correlation coefficient	0.02**
	Significance level	0.005
Safety	Spearman correlation coefficient	0.07
	Significance level	0.30
Aesthetics	Spearman correlation coefficient	0.17*
	Significance level	0.02
Condition	Spearman correlation coefficient	0.13
	Significance level	0.07
Access	Spearman correlation coefficient	0.11
	Significance level	0.13

\* Significant at the 0.05 level

The results of Friedman test in Table 2 show that facilities had the highest mean (4.98) on a five-point Likert scale.

Table 2. The results of Friedman test for ranking the variables

Variable	Mean Rank
Facilities	4.98
Aesthetics	3.75
Access	2.98
Condition	1.75
Safety	1.51

## DISCUSSION AND CONCLUSION

The results of this research showed that there is a significant relationship between age and use of parks for morning exercise. This is consistent with the results of [25,37,16]. These studies showed that more facilities are associated with higher levels of physical activity, particularly in older adults. In contrast, inconsistent research has shown that lower diversity of the neighborhood environment is likely to increase sedentary behavior especially in younger individuals [12]. In general, we can argue that personal characteristics such as age and gender are predictors of use of parks for physical activity. Research has shown that people older than 60 are less inclined to walk for recreation and do it for health purposes, and young women are less likely to use parks for physical activity. Also youths' perception of higher availability, quality, and park use by peers and families are positively associated with park use [36].

Based on the present findings, there is a significant negative relationship between education and park use for morning exercise. This is consistent with the results of [3,7 and 23]. Studies consistent with the present research show that more educated tend to use sidewalks more [5]. Furthermore, research evidence has shown that leisure-time physical activity is positively associated with education in men and women, especially when they have easy access to the park or visit it along with a companion [3]. Similarly, Cerin and Leslie (2008) reported educational attainment as one of the most important demographic characteristics associated with leisure-time physical activity. This finding can be explained by the fact that the majority of park users were young individuals who showed higher propensity for physical exercise [7]. Our findings show that there is a significant positive relationship between park facilities and people's propensity for morning exercise. This finding is consistent with the results of Nakhi (2003), Humpel et al (2002), Owen et al (2004), King et al (2005), Heinrich et al (2007), Alves et al (2008), Sallis et al (1997), and McCormack et al (2010), but inconsistent with the results of Riva et al (2007), and Kaczynski et al. (2008). In the majority of studies consistent with this research, more facilities lead to higher levels of physical activity and recreation [32,22,33,29,21,2,40,31,37,30].

The results also showed that there is no significant relationship between safety and park use for morning exercise. This is not consistent with the findings of Foster et al (2004), DeBourdeaudhuij et al (2003), Kirtland et al (2003), Gómez et al (2004), Suminski et al (2005), Farley et al (2007), and Sugiyama and Thompson (2008). Foster et al (2004) showed that although both genders had positive perceptions of their physical and social environments their responses differed [15,10,30,18,43,13,42,15]. Women's walking was related to concerns about safety to walk during the day, and having shops within walking distance, while men's walking more than 150 minutes per week was related to access to a local park with no expressed concerns about safety. Safety of parks is positively associated with physical activity in women [18]. Suminski et al (2005) showed that women are four times more likely to walk for exercise in a safe neighborhood [43]. Farley et al (2007) showed that children in low-income residential neighborhoods will be more willing to go outdoors and be physically active in a safe environment [13]. Stranger danger and road safety are the most important concerns of parents for the safety of the children which may force them to restrict their children from playing outside (Carver et al., 2008). There is also a strong positive correlation between safety and walking for recreation (Sugiyama and Thompson, 2008). Promotion of public health which is one of the goals of social marketing can be achieved by controlling abusive behaviors in public places such as parks [19]. Despite the importance of safety in people's propensity for outdoors physical activity, the participants of the present research did not report safety as a major concern. This may suggest that the parks of Khorramabad City are a safe place for morning exercise.

The results of this research showed that there is a significant positive relationship between the aesthetics of parks and park use for morning exercise. This is consistent with the findings of [32,3,10,20,33,17,24,28]. Aesthetics refers to the attractive scenery and different features of a park [29,5]. Aesthetics is an environmental feature that cannot be objectively measured and is mainly based on people's perceptions. As a result, people's perceptions of park aesthetics differ by age and gender. Research has shown that men living in the neighborhood of beautiful parks tend to walk more than those living in unattractive

environments [43]. Humpel et al (2004) showed that aesthetics factors such as friendly, pleasant and attractive neighbourhood is positively associated physical activity[22]. Also Saelens et al (2003) reported higher propensity for physical activity in attractive environments[39]. Giles-Corti et al (2005) showed that people with good access to attractive public open spaces were 50% more likely to achieve high levels of walking[17].

Our results showed that there is no significant relationship between condition and park use for morning exercise. Condition refers to the maintenance and sanitation of the park. Humpel et al (2004) showed that maintenance of the environment is one of the significant correlates of walking in men and women[22]. The overall condition of parks can influence park use and consequently increase physical activity. Tilt (2010) showed that perceptions of ample neighborhood vegetation and preference for natural-looking environments can positively influence walking trips. We can conclude that the parks of Khorramabad City were in a good condition in terms of maintenance and sanitation, thus satisfying park users[44].

The results of this research also indicate that there is no significant relationship between access to parks and park use for morning exercise. This is consistent with the findings of [1,10,45, 33, 17, 29,11,8, 42,24, and 27] Access is the availability or affordability of parks for the public. It involves four components: overall access to the park, equal access, individual access (the distance from one's place of residence to the park), and inner access. Walking to parks is positively associated with living in a neighbourhood with high proximity to parks [38]. Easy access to parks can also reduce sedentary behavior in young people (Epstein et al 2006) and increase physical activity especially in young women[12,8]. Increased park availability is positively associated with park use [37]. The proximity of recreational facilities and amenities appears to influence physical activity participation [31]. However, the association between physical activity and access to parks is mediated by the social and economic condition, place of residence, and environmental features [4]. Sugiyama and Thompson (2008) showed that the quality of, and access to, open, green spaces in a neighbourhood were associated with longer walking time for the study participants[42]. A study on physical activity in children showed that children living in the proximity of parks and playing grounds were 5 times more likely to participate in physical activities than those living away from these areas. Positive perceptions and access are both strong predictors of parks use for physical activity. However, when access to parks is limited, living in the vicinity of parks is an important factor in park use [28].

In sum, given the data provided in Table 2 (the results of Friedman test), facilities were ranked as the most important determinant of park use in Khorramabad City, followed by aesthetics, access, condition, and security.

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