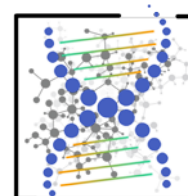


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THE RELATIONSHIP BETWEEN PARTICIPATION IN PHYSICAL ACTIVITY, ENVIRONMENTAL HEALTH AND SPORT FACILITIES STATUS AMONG CITIZENS OF SANANDAJ

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ABSTRACT

As a social phenomenon, sport has affected lifestyle among a large number of people all over the world in different physical, economic, political, and social ways. The present study aimed to examine the health and environmental status of sports venues and its relationship with the level of participation in physical activities among Sanandaj citizens. The statistical population included the outdoor and indoor sports spaces (a minimum of 250 m²) and the citizens of Sanandaj. The study sample consisted of 22 sports venue and 380 participating citizens. Data collection tools included two researcher-designed questionnaire and two data collection forms. Descriptive statistical indices were used to analyze the collected data, and one sample t-test and Pearson Correlation Coefficient were utilized for correlation analysis. The result of the present study showed that there was a significant relationship between the health ($p=0.0001$, $r=0.68$) and environmental ($p=0.0001$, $r=0.88$) status of the sports venues and the citizens' participation in physical activities. Moreover, there was no significant relationship between the level of participation in physical activities and demographic characteristics like gender and education level ($p=0.725$, $r=0.31$). However, there was a significant relationship between age and the level of participation in physical activities ($p=0.008$, $r=0.430$). According to the results of the present study, it can be stated that health and environmental issues are among important challenges for citizens in doing physical activities and using sports venues, and taking such issues into consideration can cause Sanandaj citizens to become willing to take a more active part in sports activities.

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Introduction

As a social phenomenon, sport has influenced the lives of a large number of people around the world in different physical, economic, educational, and social aspects. It should be stated that most people are somehow affected by the phenomenon of sport. Nowadays, sports activities have become an inseparable part of people's everyday life [1]. In industrialized and developed countries, it is usually necessary to provide the citizens with an appropriate per capita of service and sports spaces. As a result, health, recreational, and environmental requirements make it necessary to pay specific attention to an appropriate per capita of sports venues to provide sports services in urban planning [2]. Over the last 50 years, Iran's population has quadrupled, which naturally increases the need for more sports facilities and services. Suitable sports and physical activities can create necessary mobility, spiritual pleasure and happiness, and physical ability. Sport has its own special health principles whose adherence prevents the incidence of serious consequences [3]. Therefore, being provided with health services is one of the inalienable individual and social rights, because healthy body and mind are considered as important infrastructures for the development of the society. Stadiums and sports venues have long been known as environments that play an effective role in providing human with physical and mental health. All people who refer to such sports complexes and gyms aim to obtain health and happiness and spend useful and suitable free time. In most developed countries, remarkable measures have been taken in this regard. Meanwhile, over the last few years, environment program

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and United Nations in collaboration with the Sport and Environment Commission and International Olympic Committee have designed activities for this purpose. These groups in conjunction with the world scientific communities have developed and distributed educational and scientific packs on environmental and sports issues some of which are translated and accessible in Iran [4]. On the other hand, environment or the place in which we live can affect all our physical endeavors and activities and have a large effect on human lifecycle. For many people, sport is in a tight relation with environment where they exercise. Most of the time, presence in nature help people enjoy their time and feel happy while exercising. Carrying out certain exercises in an ecologically destructed area is difficult, if not impossible. An unhealthy environment not only causes damage to athletes, but also is a barrier to individual motivations in prioritizing the exercises. If the sports venue is inappropriate, it will have an unfavorable effect on conducting physical exercises outdoor, such as walking in cities polluted with fog or smoke or sailing in waters contaminated with bacterial agents [5]. Nowadays, all sports competitions, places, and centers are affected by the interaction between the regional and global factors and environment. Therefore, athletes are more exposed to environmental hazards than other people. As a result, in addition to the necessity of importance of environmental safety in design and construction management of sports venues, it is highly significant to observe environmental principles in planning and using such places and avoid causing different types of pollution that leads to destruction and damage to the athletes' environment[6]. In this regard, while designing sports facilities and places, some points should be taken into close consideration including interest in physical activities among the people living in the region, light and orientation, safety tips and enough space, commuting safety, adjacency with parks and educational and residential facilities (appropriate adjacency), and distance from industrial places, railways, sewers, high voltage power lines, terminals, military and nuclear facilities, slaughterhouses, and sanitary facilities (inappropriate adjacency) [7]. Athletes are more vulnerable than other for two reasons. First, athletes are more exposed to different types of pollution due to the type of exercise they carry out. Second, athletes carry out exercises with more intensity and depth [8].

Farsi (2006)[9] conducted a study entitled, "An investigation into the safety and sanitary condition of sports venues in Tehran universities and providing an appropriate solution". The results of his study indicated that sports venues are not in a favorable condition in terms of safety and sanitary conditions. [10] asserted that the authorities and urban planners need to pay more attention to health and environmental issue in such places in order to attract more people participating in sports. [11] reported that in addition to family and friends, social and environmental factors can also affect participation on physical activities. [12] concluded that factors such as social relationships, parents' interest in physical activities, parents' sports habits, parental encouragement, local environment, lack of smoking, school classes, and participation in organized sports play an effective role in physical activities among children. [13] stated that there is a positive significant relationship between tendency to participate in sports activities and environmental pollutions and health awareness.

Olympic Movement's Agenda 21 explicitly emphasizes the necessity of making environmental and health standards in sports complexes and spaces [14]. In this regard and in order to enhance quantitative and qualitative status of sports activities and also minimize the damages caused by exercises and sports competitions in nonstandard environments, and due to the needs and capacities of the country, the present study aimed to examine sports venues in Sanandaj city in health and environmental terms and evaluate the level of their accordance with Olympic Movement's Agenda 21. Moreover, there are few studies on the relationship between health and environmental status of sports venues and the citizens' participation, this relationship was examined and discussed for Sanandaj's citizens.

Method

The present study was an applied investigation which was carried out by a descriptive-correlational method. The research method was a combine one; library- and field-based. The statistical population was all sports venues (outdoor and indoor) of Sanandaj and suburbs. Based on the information obtained from Sports Department and General Administration of Youth and Sports of Sanandaj, there were 22 sports venues. And 380 citizens participated in the present study. Data collection tools included a researcher-designed participation motivation questionnaire which consisted of 26 questions and was scored based on a Likert scale and approved by professors and experts regarding its validity, an environment checklist which is a standard checklist (containing 39 questions) which was developed by Environmental Protection Agency in order to measure and compare and assess the environmental status of the sports venues, a health checklist which contains 53 questions that was developed by the researcher based on domestic and international indices and approved by the experts. The reliability coefficient of the sports participation motivation questionnaire was 0.743, and the reliability coefficient of the environmental and health checklist was 0.952. Data analysis was carried out using descriptive statistics, summarizing, mean, and inferential statistics (t-test and Pearson Correlation Coefficient) using SPSS 20.0.

Results

The results of descriptive analysis of the data showed that the mean age of the 380 participants was 21.45 years. Out of the study participants, 74% were men and 24% were women. With regard to their education, 48% had a bachelor's or higher degree, 22% had an associate's or lower degree, 17% had a master's or a doctorate's degree, and 13% had other degrees. Regarding the citizens' participation in sports activities, about 72% of them regularly exercised, over 39% had conducted their sports activities for more than 1 year, and 70% of them exercised twice or thrice a week. Moreover, approximately 63%

of the participants had exercised in the target sports spaces for three months. Table 1 presents the descriptive data on the environmental condition of the sports venues in Sanandaj.

Table 1. Environmental status

Town	Min	Max	Mean	SD
Sanandaj	1.3750	2.4694	1.9835	0.3541
Naysar	1.0254	2.4712	1.8745	0.3278
Hasanabad	0.9737	2.4709	1.8094	0.2709

Table 2 indicates descriptive data on the health condition of the sports spaces in Sanandaj.

Table 2. Health condition

Town	Min	Max	Mean	SD
Sanandaj	0.9035	4.0955	2.1452	0.8205
Naysar	0.2718	3.2459	1.6517	0.6358
Hasanabad	0.5364	3.4250	1.8395	0.7214

The results of inferential analysis of the collected data regarding the relationship between health status and the citizens' participation are presented in Table 3.

Table 3. The relationship between health condition and the citizens' participation

		The citizens' participation
Health status	Pearson Correlation Coefficient	0.86
	Sig.	0.0001
	N.	22

According to Table 3, the correlation coefficient between health status of the sports venues and the level of the citizens' participation of in physical activities is 0.86. Therefore, there is a significant direct relationship between health status and the level of the citizens' participation.

Table 4. The relationship between environmental status and the citizens' participation

		The citizens' participation
Environmental status	Pearson Correlation Coefficient	0.88
	Sig.	0.0001
	N.	22

According to Table 4, the correlation coefficient between environmental status of sports venues and the rate of participation in physical activities among the citizens is 0.88; therefore, there was a significant direct relationship between environmental status of sports venues and the rate of participation in physical activities among the citizens.

Table 5. The relationship between demographic characteristics and motivation of participation in sports activities

	Age	Gender	Education level
Participation motivation	R=0.430	R=0.314	R=0.873
	R=0.038	R=0.725	R=0.230

According to the results presented in Table 5, there was a significant direct relationship between the rate of participation in physical activities among the citizens of Sanandaj and their age ($p=0.038$, $R=0.430$). However, there was no significant relationship between their gender and education and the rate of their participation in physical activities.

Discussion and Conclusion

The results of the present study showed that there is a significant relationship between the health status of sports venues and the rate of the citizens' participation in physical activities, which is in agreement with the results of the studies carried out by [10, 15, 16]. The results of the present study indicated that Sanandaj's sports venues are in a favorable condition with regard to health issues, and it can be stated that Sanandaj's sports venues have a more inappropriate health condition compared to those of [10]. The present study is not in line with the study carried out by [9]. Keeping the hygiene in this area is a part of

religious responsibilities, which is the major cause of taking health issues into account, and thus inconsistency between the two studies happens.

Furthermore, there was a significant relationship between environmental conditions of sports venues and the rate of participation in physical activities among Sanandaj's citizens. This finding is in agreement with those of the studies carried out by [5, 11, 12, 17]. In other words, more attention needs to be paid to environmental factors in order to enhance the individuals' participation in sports. According to the results of the present study, it can be stated that authorities and planners need to pay more attention to health and environmental issues of sports venues so as to enhance people's participation in sports.

The citizens' demographic characteristics had no relationship with the level of their participation in physical activities. This finding is in line with the studies carried out by Naderian et al (2007), Mohseni (2003), and Khosravi et al (2013), indicating that women use sports facilities less [10, 18, 19]. In his study, Bahmanpour (2005) figured out that adopting protective measures and creating a sustainable environment can enhance people's participation in sports [5]. Mechanic and Hasell (2003) found that environmental factors can lead to women's participation in physical activities [20]. Natalia (2010) showed that environmental facilities are only accessible for a few parts of an area, and such facilities can lead to people's participation. This finding is in agreement with those of the present study [17].

[21] asserted that different environments are effective in people's participation in sports activities. Proximity and easy access to sports facilities lead to more participation of individuals in sports activities. In their study entitled, "Policies to make environment and their importance in environmental health", Handy et al (2002) showed that changing the structure of the environment can enhance the quality of life and physical activities [21]. They reported that environment influences the individuals' health. The results of the present study also showed that there is a direct relationship between environmental conditions and health. All of the relevant studies emphasized the direct relationship between environment and the citizens' participation in sports, which is in line with the findings of the present study. The results of the present study showed that there is a significant relationship between health and environmental status of the sports venues and the citizens' motivation to participate in physical activities. It was concluded that the more favorable the health and environmental status of the sports venues, the more the participation of people will be resulted. Therefore, it is necessary that authorities pay more attention to health and environmental conditions of sports venues in order to enhance the citizens' participation in sports. Moreover, since there is a relationship between the environmental and health managers' awareness and interest and the citizens' participation in sports, programs need to be developed to enhance their interest and awareness whereby the rate of participation will rise. Since there is a relationship between environmental condition of sports venues and health, the health condition and environmental status of the places should be enhanced in order to increase the rate of participation in sports among people.

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