

## Research Paper

# Preference study for Urban parks activities using multiple method group A case of Gorgan city

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### Abstract

Current literatures on urban parks and green spaces showed that people's preference for visiting urban parks in various group users is different. People visit parks for various motives and activities, leading to several patterns of park usability. However, the patterns in urban park use in majority of Iran cities are not yet known. This study presented the preference for activity in urban parks among people in Gorgan city. A survey research was conducted to gain understanding of respondents' preferences for activity in urban parks. The Data was collected among 300 visitors of two well-known urban parks in Gorgan. Visitors rated preference for four activities: relaxation, socializing, nature involvement, and playing activities. The results revealed that the people of Gorgan chose relaxation and nature involvement as the most preferred activities whilst socializing and playing were the least preferred activities. Furthermore, a significant difference in two variables: relaxation and nature involvement activity was found among marital status and visitor age groups. The results also indicated the role of urban parks on psychological needs of the citizens, which creates urban nature as a valuable urban resource and key component for city sustainability. This result contributes notions towards significantly impacting design of urban parks and their facilities that designers and decision makers should manage those facilities to satisfy the visitors' needs.

**Keywords:** Gender, Green space, Health, Multiple method group, Relaxation.

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## 1. INTRODUCTION

The important role of urban parks in urban environments is highlighted in majority of researches [1, 2]. Urban parks provide the urbanites contact with nature, active and passive recreations and social communication [3, 4]. In general, urban parks provide environments for recreation, activity, and enjoyment [5]. The current literature on urban parks and green spaces also show that people's preference for visiting urban parks in different group users is different. The result showed that people visit parks for various motives, leading to several patterns of using urban parks [6-8]. Therefore, it is crucial to investigate people's preference for activity in urban parks and to consider their needs in park designs. Understanding on how different groups use urban parks is necessary to appropriately design new parks and improve existing parks to satisfy the user's needs. However, the pattern of urban park use in the Gorgan city is not yet discovered.

### 1.1. Previous studies on Preference for Activity in Urban Parks

Researchers reported that urban parks were visited for as picnicking, resting, and relaxing. However, as they various motives and activities [6-8]. In a study among visitors of two popular urban parks of Isparta, Turkey, people visited parks for passive recreational activities such as dog walking and sports activities [7]. Consistent with these studies, "to relax" is the most frequently mentioned motive by the visitors in a study by Anna Chiesura[9], and people of arid area also recognized "to raise and improve mentally" in addition to "to relax"[10]. The result of these researches supported studies on restorative environments that reported urban nature contributes to reduce stress and mental fatigue of residents in the cities [11-14].

Nature involvements activities were also indicated by the visitors. In Denmark, enjoying weather and getting fresh air was the most important reason for visiting urban green spaces [15]. In another study, the urban green spaces stimulated people to spend time in parks instead of other Promenades [3, 16]. Other variables of nature involvements such as sitting under the trees shade and looking at water, flowers and plants were also reported in other studies, but

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they were not known as the most motives for visiting urban parks [10, 15]. Furthermore, walking along the park was seen as the most preferred activities of the participants in studies by Oguz et al., [17] and Hami et al., [3]. Likewise in studies on restorative environments indicated that people preferred walking in urban parks and urban green space than built environments in the cities [18, 19]. There is now a strong evidence that viewing and being in nature leads to improve people's health [20-22].

Spending time with family and friends was indicated as the main reason for visiting parks by visitors in Tehran, in which highlighting the importance of considering this aspect of city social life [23]. Similarly, the result of a study highlighted the importance of support from friends towards the increase in leisure and recreational physical activity participation among older adults [24]. Recent findings also offer evidence that parks promote health and well-being through social interactions, and good health increases the quality of life in the urban environments [2, 25]. Findings from a telephone survey in Hong Kong reported exercise and taking leisure walk were the two most popular activities, especially by the elderly for their health [6]. However, many studies showed that park did not play the important role in playing activities. It was related to providing facilities in urban parks or specific, exciting places for playing.

Peoples' preference for activity in urban parks was also influenced by demographic factors, in addition to cultural background [26, 27]. Findings on people's preference of picnic sites showed great differences in preferences for picnic sites regarding to income level, gender, age, and occupational groups, and the survey subjects preferred the areas with higher natural beauties [27]. In another park preference study by Payne et al., [28], younger adults and whites were more likely to choose conservation to recreation than the older adults and blacks. A study on demographic characteristics of urban park users in three eastern cities of Turkey showed that male, unmarried, and young was the biggest group of urban park users. Furthermore, the findings also showed that Turkish women tend to use urban parks during the weekends and on public holidays, usually with their children. Majority of users were at the age of between 19 and 24, who were the university graduates. The result also showed that gender and income had no association on the use of parks, but marital status, age, and education status did have some effects [7, 8]. In a study of public green spaces in the city of Bari in Italy, old men recognized the improvement of climate conditions and environment as function of urban green space, while their women favored the play option for children. Furthermore, this study also showed that socializing and leisure was the most preferred activity amongst the younger interviewees of both sexes [29]. However, in contrast to the abovementioned studies, some researches did not find significant differences between females and males regarding motives to visit the urban parks [9].

### 1.2. Multiple method group

As above mentioned, the current literature showed that

people visit urban parks for various activities [3, 10]. Factor analysis was an often used technique to identify activity groups. Main activities were namely appreciation and exploration of nature, group physical activity, and social interaction. However, disadvantage of factor analysis is that it does not show the correlation between items and subtests are specified and fitted to the data. Recently, researchers used Multiple Group Method. The advantage of Multiple Group Method is that sums of items are used to define the different subtests instead of factors. Multiple Group Method showed that whether or not a priori idea about the assignment of items to subscales is supported by the data. The departure point of this study was to use Multiple Group Method for analysis people's Activities in Urban Parks.

### 1.3. Goal of the present research

Generally, since, studies about Iranian's demands, preferences, and intentions regarding urban parks were scarce [3], which also covered the Gorgan city of Golestan province, therefore, a study on preference for activity in urban parks among the visitors in order to design better urban parks is essential. The purpose of this research was to determine the people's preference for activity in urban parks among people in Gorgan city with using Multiple Method Group. The specific questions addressed here were:

- What kinds of activities do people prefer to engage in urban parks?
- Are there significant different in people's preference for activity in urban parks related to the demographic information (age, gender, marital, education)?

## 2. MATERIALS AND METHODS

A survey research was conducted to gain understanding on respondents' preferences for activity in urban parks. A questionnaire survey was used for data collection. The questionnaire consisted of two parts. The first part consisted questions about the users' personal data such as age, gender, and educational level. It was aimed to obtain a representative picture of the users' situation in Gorgan. The second part focused on types of activities people preferred in the urban parks. The main activities were selected based on previous studies [3, 23]; namely: nature involvement (sitting in park, looking at the flowers and plants, hearing birds, watching and listening to water, walking in park nature, listening to bird, enjoying of weather and getting fresh air ); socializing (picnic, together with friends, to do something together with people, to do something together with family), relaxation (to rest, to enjoy in park environment, copy to worries, to get away from stressful environment, to raise and improve mentally), playing (to play football or volleyball, to exercise, bicycle) activities. Respondents rated their preference on a 7 point Likert scale (1= strongly disagree to 7= strongly agree). Data were randomly collected by face-to-face interviews amongst visitors of two most popular urban parks in Gorgan. From the literature, it

shows that face-to-face interview is the most sociable way to collect data, and the most effective way to gain people's co-operation [7, 30]. The research was carried out daily in June and July 2013 when people were intensively visited the parks.

2.1. Study area

Gorgan makes the capital of the Golestan province located in the northern part of Iran. Gorgan is located in the southeast of the Caspian Sea. The town of Gorgan is draped in a civilization of 6000 years. The region of Gorgan is located only 37 kilometers from the Caspian Sea. Gorgan town is located along a small tributary of the Siah Ab River. Owing to such a positioning, the climate in Gorgan is a very pleasant one. Gorgan is one of the big and beautiful cities located in the north of Iran. It is a green city full of trees, and has a beautiful and famous road which goes toward mountains called Naharkhoran.

The two crowded parks of the city are Shahr Park and Chaleh Bagh Park (Fig. 1). The beautiful nature of two parks in city center of Gorgan converts these parks to a place for entertainment. Plants and prunes of all kind of trees, bushes and herbs, beautiful, colorful and permanent flowers change these parks to a unique place in city center of Gorgan. The up and down of this park , stony steps, beautiful lawns, sporty locations and seating for families increase the attraction of Gorgani families'. The weeping willow trees, pines, palms, beautiful and colorful flowers make the atmosphere of this garden dreamy and worth seeing atmosphere, suitable place for families to spend some hours after one working day.

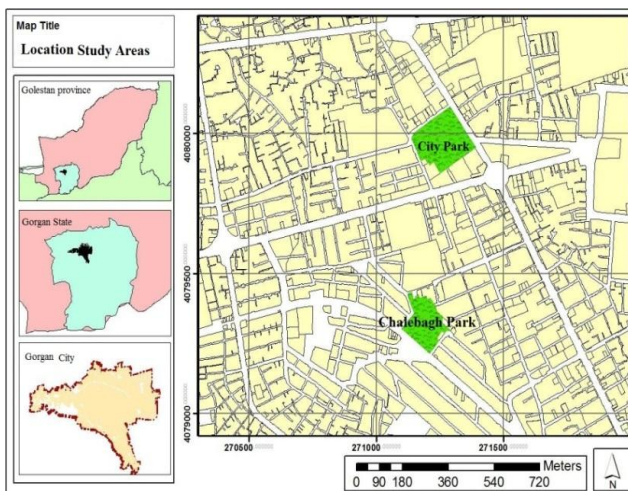


Fig. 1 Case study areas

2.2. Data analysis

The collected data was analyzed using normal statistical techniques within SPSS ver.18. A description was conducted for providing the respondents' profile. Multiple Group Method also used to verify whether the data supported the grouping into the four preferred

activities. This was followed by group mean comparison (t-test, ANOVA) multiple group to determine the differences between demographic information and preferred activities.

3. RESULTS

3.1. Sample attribute

Table 1 obtains descriptive statistics of the study population (N =275). 66.5 % of participants were females and 33.5% were males and majority of them were single (68.4%). The participants of the survey were categorized into age groups with all age groups represented. The least represented groups were the over 50s while the most represented were the 18-25s. With regard to maternal education, 35.6% completed diploma and were under diploma, 58.5% had a college or undergraduate degree, and 5.8% had graduated degree.

Table 1 Demographic profile of participants

Demographic variables	Frequency	Percent
<b>Gender</b>		
Male	181	66
Female	94	34
<b>Martial</b>		
Single	188	68
Married	87	32
<b>Age</b>		
18-25	165	60
26-35	74	27
36-50	30	11
>50	6	2
<b>Education</b>		
Diploma and under diploma	98	36
Under graduated	161	58
Graduated	16	6

3.2. Multiple group method

Multiple Group Method, a simple and effective type of confirmatory factor analysis[31, 32], used to verify whether the data supported the grouping into the four activities-types (relaxation, socialization, nature involvement, playing activity (Table 2). The result confirmed a prior category and all items were highly correlated with their subsets. Furthermore, a reliability analysis was performed for each of the groups using Cronbach's alpha. Cronbach's alpha of each group was higher than 0.70.

**Table 2** Corrected correlations between four activity-types and 18 different activities via multiple group method

	<b>Nature involvement</b>	<b>Socializing</b>	<b>Relaxation</b>	<b>Playing</b>
<b>Relaxation</b>				
To sit in park	<b>0.62</b>	0.25	0.42	0.07
To look at the flowers and plants	<b>0.74</b>	0.32	0.55	0.26
To hear birds	<b>0.72</b>	0.30	0.42	0.57
To watch and listen to water	<b>0.70</b>	0.42	0.40	0.40
To enjoy of weather and get fresh air	<b>0.66</b>	0.30	0.25	0.27
To walk in park nature	<b>0.67</b>	0.41	0.57	0.29
<b>Socializing</b>				
To picnic	0.28	<b>0.80</b>	0.41	0.25
To be with friends	0.32	<b>0.80</b>	0.35	0.32
To be with people	0.37	<b>0.73</b>	0.29	0.31
To be with family	0.47	<b>0.72</b>	0.39	0.27
<b>Relaxation</b>				
To rest	0.54	0.23	<b>0.60</b>	0.08
To enjoy in park environment	0.59	0.41	<b>0.76</b>	0.31
To copy to worries	0.38	0.35	<b>0.77</b>	0.29
To get away from stressful environment	0.38	0.33	<b>0.80</b>	0.19
To raise and improve mentally	0.42	0.44	<b>0.76</b>	0.26
<b>Playing</b>				
To play football, volleyball	0.31	0.36	0.29	<b>0.81</b>
To exercise	0.33	0.32	0.19	<b>0.84</b>
To bicycle	0.43	0.21	0.26	<b>0.74</b>

3.3. Descriptive of mean activities

Table 3 presents the mean ratings of preferred activities for all participants and in term of their age,

gender, martial and education. The results show that relaxation and nature involvement activities received the highest mean score among the other presented activities.

**Table 3** Mean ratings for preferred activities in term of demographic variables

	<b>Relaxation</b>	<b>Nature involvement</b>	<b>Socializing</b>	<b>Playing</b>
All	5.33	4.90	4.70	4.26
<b>Gender</b>				
Male	5.29	4.84	4.68	4.34
Female	5.41	4.97	4.74	4.09
<b>Martial state</b>				
Single	5.22	4.74	4.65	4.37
Married	5.27	5.20	4.82	4.01
<b>Education</b>				
Diploma	5.30	4.84	4.64	4.51
Undergraduate	5.38	4.90	4.76	4.11
Graduated	5.00	5.04	4.47	4.21
<b>Age Group</b>				
18-25	5.33	4.88	4.75	4.40
26-35	4.27	4.68	4.40	3.39
36-50	5.53	5.28	5.12	4.95
>50	4.40	3.93	4.32	3.80

### 3.4. T-test

An independent sample t-test was run for preferred activities in terms of gender and marital. There were no

significant differences between men and women in terms of sociality and playing activity; however, there was a significant difference between single and married visitors in term of nature involvement and relaxation variables (Table 4).

**Table 4** An independent sample t-test for preferred activities different related-single and married status

	Single (N=169)		Married (N=75)		t	p
	Mean	S.D	Mean	S.D		
<b>Relaxation</b>	5.22	1.02	5.53	0.91	-2.36	0.02**
<b>Nature involvement</b>	4.74	1.11	5.15	0.99	-2.87	0.00**
<b>Socializing</b>	4.64	1.24	4.81	1.14	-1.09	0.28
<b>Playing</b>	4.37	1.37	4.01	1.37	1.88	0.06**

### 3.5. Analysis of variance

This study also used analysis of variance to explore the impact of different age and education groups on participants' preferred activities.

As expected, there was no significant difference

between the two variables in term of education. However, in term of age, it was appeared to be significantly different between age groups in terms of nature involvement activities ( $F=3.2$ ,  $df=245$ ,  $p<0.05$ ; Table 5) but the result of post doc test did not show significant different between groups.

**Table 5** Analysis of variance (ANOVA) of preferred activities different among age groups

		Sum of Squares	df	Mean Square	F	Sig.
Nature involvement	Between Groups	10.63	3.00	3.54	3.07	0.03**
	Within Groups	277.15	240.00	1.15		
	Total	287.78	243.00			
Socializing	Between Groups	10.39	3.00	3.46	2.41	0.07
	Within Groups	345.08	240.00	1.44		
	Total	355.47	243.00			
Relaxation	Between Groups	1.99	3.00	0.66	0.66	0.58
	Within Groups	240.39	240.00	1.00		
	Total	242.38	243.00			
Playing	Between Groups	10.80	3.00	3.60	1.92	0.13
	Within Groups	450.99	240.00	1.88		
	Total	461.79	243.00			

## 4. DISCUSSION

This study presented the people's preference for activity in urban parks, and a comparative analysis among different groups of visitors was conducted. The results of this study revealed significant differences as well as similarities to other cultures in Gorgan people's preference for activity in urban parks. Multiple Method Group was the strength of this study instead of using Factor analysis. Multiple Method Group shows correlation between each of items and its subset.

In agreement with previous studies on urban parks, the findings showed that majority of visitors of urban parks in Gorgan were males, unmarried, and the undergraduates and young people [6-8, 33]. The study also found that people in the 18-35 of age were the most intensive park users. Relaxation and nature involvement activities were found as the most preferred activities (mean >5), while

socialization and playing activity (mean < 4.41) were the least preferred activities among the visitors of urban parks in Gorgan city.

The findings indicated that relaxation activity was the most preferred activities for visiting urban parks among the Gorgan people. Thus, the outcomes of this study supported the previous studies on urban parks by Abkar et al. [10] and Chiesura[9]. The results also supported studies on restorative environments, which emphasized on urban parks and green spaces as restorative environments and settings that contributed to reduce stress and mental fatigue in city context [34-38]. In the modern society today, urban lifestyle, stressors such as noise from traffic, fear of crime, crowding were caused to create stress and mental health of people in the cities. The urbanites want to escape from their daily hassles, and have a great day to recover from a stressful week at work [14, 39]. However, since most of people live in cities do not have the opportunity to visit

natural settings, the urban parks and green spaces can play an important role on people health [14, 37-39].

Nature involvement activities were other highly preferred activities by the visitors, especially for the group age above 35 years. For example, they favor walking in park nature, sitting on benches, looking at the flowers and plants, listening and watching birds, watching and listening to water, enjoying weather and fresh air. Most likely when a visitor enjoys the park nature, this contributes to the visitor's recovery of stress and reduces mental fatigue - whereas relaxation is the most preferred activity. This result conformed to previous studies in other countries [9, 33, 40]. Therefore, urban planners must include nature and green area preservation as a part of city development.

Furthermore, a significant difference in two variables: relaxation and nature involvement activity was found among marital status and visitor age groups. Nature involvement was found as a significant variable among age groups. Nature involvement with high degree was indicated to the main use of urban parks for married couples among the age groups of 36-50. These results were correlated with the previous study findings, regarding the effect of demographic on preferred activity in urban parks [7, 8, 17].

However, there was inconsistency with some of the previous studies [3, 7, 16], in which social activities in urban parks were the least preferred by the visitors. Moreover, although some researchers found active enjoyments such as sports and specific activities as one of the main uses of urban greens paces, however, this study reported that active enjoiments such as playing, bicycling, and exercising had the lowest rating in preferred urban parks activities [4, 6, 17] . However, it is a question of why active enjoyment rating is low in the Gorgan's urban parks. Is it possible that facilities, crowded environment, culture, and society are the contributing factors on it? Perhaps, one of the reasons is related to nearby access to urban forest in the Gorgan city. Majority of Gorgan people visit urban forests during the weekends and holidays, and they may prefer to go to urban forest with their family members and friends to enjoy socializing and playing together thus less people willing to go to urban parks. Aside, lack of enough space may deter doing playing activities in park as well. However, it is essential for future research to examine people's preference for playing activities in urban parks and urban forests. Moreover, this research did not find any significant difference among user groups in term of socializing and playing.

## 5. CONCLUSION

This study presented people's preference for visiting urban parks among different user groups in the Gorgan city. The result of this research is very important as there is no study about people's preference from Gorgan local park visitors' point of view being published. This study confirmed that park authorities should consider urban park as place for providing possibilities to bring back to the nature in cities, in other words, urban parks are known representative of nature environment where people need to

involve in it. It is also important for designers to notice park function in people point of view.

Managers not only need to consider parks as a natural setting but they are as social places, which cause people interaction. Thus, urban parks can be performed as place to grow social skills. The results indicated the role of urban parks on psychological needs of the citizens, which create urban nature as a valuable urban resource and key component for city sustainability.

Furthermore, in designing an urban park it is essential to pay attention to users' demographic information such as age and marital status because different groups need different desires. It seems that people previous experiences affect their decision to choose activity in urban park. Married people may need more relaxation because of life pressure and having not enough free time at home. In addition, they expect urban park as place for experiencing nature environment, which differ significantly from single visitors. Park designers should consider demographic information as important indicator in planning and designing pubic open spaces such as urban parks. Therefore, park designers have to prioritize facilities and activities to answer to the main users; groups. This result contributes notions towards significantly impacting design of urban parks and their facilities that designers and decision makers should manage those facilities to satisfy the visitors' needs.

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