

# How to Increase Social Activities in Public Open Spaces in Residential Areas: A Case Study

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## ABSTRACT

The aim of the present study is to investigate how we can increase social activities in open spaces of residential areas, and what are its important factors. Participants were 25 of residents in Ekbatan residential complex in Tehran, Iran, and questionnaires were used as data collection tool. Research method was a combination of both correlation and qualitative methods. According to our findings, the quality and quantity of social activities in open spaces of residential spaces can be increased by the improvement of function, design, and type of these spaces. Also, we found that geometry and spatial quality are the more important features of residential areas for increasing social interactions in open spaces.

**KEYWORDS:** public open spaces, residential complexes, social activities, geometry, spatial quality

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## 1. INTRODUCTION

Social interaction, which is known as one of the most important human needs, is necessary for the individual's personal and social growth and development. Open public spaces are proposed to be as a platform for creating and developing this vital human need. Along with the growing of tall building architecture which was stated since the 20<sup>th</sup> century, the open spaces between residential blocks were also proposed and formed as a physical platform as well as urban public spaces. Unfortunately, such spaces have failed to play their social-functional roles well in Iran, and the designers also have neglected this issue. Perhaps the main problem is lack of qualitative and quantitative social activities in open spaces of residential complexes. Public open spaces can be considered to be in line with spaces and different areas of private lives, and critical for residential complexes. On the one hand, developing urbanization and the scarcity of land in urban areas, and on the other hand, fostering the culture of using open spaces in building construction similar to the western building construction caused the owners to construct multi-story buildings in big cities especially in Tehran[1]. Despite the fact that different classes of the society have appealed to such buildings; they are still faced with sharp critics of lack of a good and healthy life [2] because a house is not only a physical shelter or a hostel, and psychological, cultural and family issues should be taken into consideration[3].

A public space is a social space that is generally open and accessible to people. Roads (including the pavement), public squares, parks and beaches are typically considered public space. A physical space is required for responding to humans' social needs and providing necessary opportunities for them to gain social experience. Today, public open spaces are huge capacities in response to this aspect of life in dense urban societies [4]. Physical elements are the first factors which can socially activate the open spaces to provide the ground for the individuals to enter and stay in the space. Some important factors such as access, visual attractions, natural elements, and many other factors can be mentioned in this regard but in comparison with physical elements, the creation and prediction of social events, which can provide the opportunity to participate in social activities and promote the sense of belonging to the place as well, is more efficient in the individuals' social presence and activities[5]. Humans are social beings and most of their needs are met in the society and by interacting with others. Inevitably, humans make behaviors a part of which is associated with social activities or is somehow influenced by social factors. Public open spaces are places for human activities and behaviors, and places for creating and strengthening social relations, and can bring the attitudes of individuals with different characteristics and intellectual histories close to each other [6].

As it was mentioned above, public open spaces of residential complexes provide appropriate conditions for the residents' social activities which lead to promote the individuals' personalities and their mental and social health but unfortunately, little attention has been paid to this issue in Iran, and there is a considerable need for conducting study in this field. Few number of studies conducted in this field necessitate carrying out study on the relationship between social activities and physical quality of open spaces of residential complexes. In this paper an attempt was made to identify, and examine the key factors in promoting social activities in public open spaces in urban residential areas.

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## 2. MATERIALS AND METHODS

### 2.1. Social activities

Human survival depends on the continuity of life and social activities. So, city on a large scale, and residential spaces on a smaller scale should be full of collective areas for social activities as the context of human biology [6]. Human have an essential need for having relationship with natural environment and people of the society. Recent studies show that spending time in an open area and having relationship with others will have positive psychological and emotional effects on the individuals, and collective spaces of a tall residential building lead to create social interaction among residents such a way that such spaces are efficient and appropriate in terms of establishing face to face relationships, the common experience of space, human relationships with body, and performing public and collective activities among the residents as well[1]. Many definitions and meanings have been given about social activities and relationships in the field of environmental psychology. McMillan and Chavis[7] defined the sense of community as “a feeling that members have of belonging, a feeling that members matter to one another and to the group, and a shared faith that members' needs will be met through their commitment to be together”. The emphasis on the sense of belonging to others is due to distinguish it from the sense of place. In addition, the sense of place is a word which carries the concepts of identity, place, and belonging and attachment to place[8]. Researchers believe that reducing the individual’s social interactions is one of the negative impacts of population density [9].

### 2.2. Public spaces

From socio-cultural perspective, public open spaces are defined as places for creating and strengthening external relations, interactions, and social activities, and as places where different groups with different needs and interests come together[5]. According to Hajerand Reijndorp[10], public places, where different social individuals and groups have share there, are the places of exchange of ideas and information, and places for the formulation of social networks. Such places are places for having experience rather than being only a place. Such experiences and activities among different individuals and groups result in getting a sense of collective identity, self-esteem, and social participation[3]. These spaces can be designed and planned in terms of activity to provide a particular activity, or like squares and Plaza has physical and activity diversity, and therefore be more social [11].

### 2.3. Public space characteristics

As it was discussed above, physical elements, which provide the ground for individuals to enter a place and stay there, and predicting and creating social events, which provide an opportunity for individuals to participate in social activities and promote their sense of place, respectively, are features activating public spaces socially. These characteristics are very large and varied. Four most important and efficient characteristics of public spaces are mentioned in the following: (a) sociality, (b) use and activities, (c) access and linkage (d) image and comfort [3].



Figure 1. Different dimensions of Public open spaces (Source: www.pps.org)

Madanipour [12] mentioned some of the major factors of sociable open space as follows: Publicity, all-day usability, and visual and physical accessibility. As well as characteristics of public open spaces explained above, sociable public spaces have certain properties which largely guarantee the presence of both individuals and communities in such spaces. Figure 1 above depicts a diagram of different dimensions of Public open spaces. In summary, these characteristics are discussed in both physical and functional aspects:

### **2.3.1. Physical characteristics**

Physical characteristics of a public space are related to the way of access, location, and physiological comfort in different climate and security conditions. In addition, existence of natural elements, which lead to increase the environmental excitement and vitality, invite pedestrians to such space, and provide the facilities to rest, gain pleasant experience and enhance people health, in public spaces are of great importance (Kaplan and Kaplan, 1998).

Design qualities such as determination and integrity of space, dimensions, proportions, flexibility, form, geometry, materials, restriction, body, and physical and spatial continuity can be efficient in the sense of place as a whole and as a result, have a favorable effect on the human perception [13]. Ignoring the following factors causes the public spaces not to be responsible appropriately in terms of sociability.

- Appropriate physical opportunities for sitting, pausing, and thinking in the space
- Focal areas for gathering of people in places such as playgrounds, chat sites, etc.
- The entrances, physical and visual access to the space
- Predicting functional elements as well as aesthetic dimensions
- Appropriate routes, paths, and communication for guiding people into a space, and spatial legibility and clarity
- Controlling accessibility to transport vehicles and pedestrian's security

Huang [14] investigated five types of spaces including seating, scenic, circulation, activity, and vague spaces, and 10 design elements of open spaces including concave seating, convex seating, visual focus, plant, node, route, play area, and undefined and border areas in terms of social activities. The study findings indicated that both space types and design elements have an effect on residents' social activities. Among five space types, significantly more social activities were found in circulation spaces, and significantly fewer social activities were observed in seating and vague spaces. Regarding the percentages of social interaction, scenic and activity spaces respectively had the first and second ranks. Among ten design elements, route and node respectively had the first and second ranks, and outweighed the other design elements in terms of the quantity of social interaction. Considering the percentage of social interaction, visual focus, plant, play area, and open space had the first and fourth ranks, and relatively higher than other elements.

### **2.3.2. Functional characteristics**

Studies show that although aesthetic and visual elements are necessary for the sociability of spaces, these elements, in and of themselves, are not enough. Functional characteristics of public open spaces can affect the quality and quantity of attracting people to pause and interact in such spaces. The existence of sufficient spaces for seating and occurring specific events can link people together, establish interaction among them, and increase the space attractiveness [15]. Spaces, where support from dynamic interaction, environmental education, free exchange of information and training, and getting environmental experience and create a possibility of creative express for individuals and groups, are successful in social activities [3].

## **2.4. Human needs and public open spaces**

The necessity of paying attention to physical elements does not lead to create a desirable space but the desirable quality of open space requires higher quantity such as more space level. In order to consider a space favorable, first, needs of humans as the users should be met. This feature is also mentioned in Maslow's hierarchy of needs [16].

According to the human needs and based on the Maslow's hierarchy of needs, Public open spaces characteristics are categorized as follows:

- *Physiological and mental well-being*: well-being includes climate considerations such as rain control, sunshine, wind speed, and in general physical security [17].
- *Comfort*: presence in nature, space privacy, minimizing noise pollution, the correct locating of the various functional spheres, keeping the noisy functional settlements such as children's playgrounds from sitting spaces, and the appropriate density of the population in the open space are some of important factors in eliminating these needs [18]. Continuity of walking traits, providing lighting and unobstructed movement, easy accessing to individuals, and supplying comfort and security are also effective in this issue [5].

- *Inactive presence in the space*: Zhang and Lawson [19] gave the title of transitional activities to such a presence such as standing, sitting, and walking in the space due to waiting, watching, and searching or finding a friend by chance. Inactive presence in the space can increase the opportunity for social activities, and physical factors such as seating areas, vegetation are some of the factors encouraging people to attend in the space.
- *Active presence in the space*: the open space is a physical manifestation of a part of collective activities, and cannot be achieved in the confined space of the houses. Open spaces as the public areas should be able to provide the grounds for doing common and collective activities. Zhang and Lawson [19] named such activities as “social activity”.
- *Security*: space security is one of the most effective factors in the quality of public spaces. Providing security in the space have some advantages including improving the quality of life, enhancing residents’ satisfactions, encouraging various social groups to participate in these places, increasing social interaction, and participation and cooperation among individuals, and ultimately reducing crime commitment[5]
- *Responding to the aesthetic needs*: the aesthetic need is one of the great human needs in terms of both sentimental aesthetics such as beauty in form and shape, and rationalist aesthetics. Taking the factors stimulating the residents’ sentimental aesthetics into consideration can be largely efficient in bringing residents’ satisfaction of the space wherein they live, and cause them to attend in such places more.

## 2.5. Previous works

There are a few number of studies conducted on the quality of social activities and the quality of the public spaces. Each of the studies conducted in this field has somehow investigated the role of one of the environmental-physical factors in social activities. For example, Francis et al [20] conducted a study on the relationship between four public spaces including public open space, community centers, schools and shops, and sense of community among residents of new housing developments. They concluded that the perceived quality of public open space and shops were strongly associated with sense of community, and the presence of high quality public spaces in local neighborhoods may be important for enhancing the sense of community among residents. Another study is the effect of green spaces on the residents’ behavioral and social health. Many studies have been conducted in this field which show that the existence of green space in living and working environments, and the opinions on green spaces lead to increase health among residents. According to Hartig et al [21], exposure to natural and green spaces can lead to a decrease in individuals’ stress and increase in individuals’ recovery after getting disease. Green spaces as spaces which can gather people of different classes together are of high significance. Gathering different classes of people can be efficient in cultural and social interaction, and modifying the society as well[22]. Green spaces are of high importance in terms of both environmental needs and providing leisure space and communication and social interaction platform [1], and play role in creating collective sense [9]. Another study examined the effect of gated and non-gated residential neighborhoods on the sense of community. Generally, they investigated the effects of physical factors such as gated element, size and design of neighborhoods on the local community ties. It was found that residents in non-gated residential areas had a higher sense of community compared to those in gated communities [23]. Since in the gated residential neighborhoods, there is a more homogeneous social environment, according to other studies conducted in Europe, sense of community is higher compared to that n non-gated ones[24; 25].

## 2.6. Research method

In general, this study is a correlational/qualitative research which aims at finding the relationship between features of open spaces in residential complexes, and quality and quantity of the social activities in such spaces.

### 2.6.1. Case study

To obtain a better result, a case was selected to make the study more practical, and avoid from presenting only the theoretical discussions. *Ekbatan* residential complex was chosen as the case study due to the age and history of this complex in Tehran as well as its open spaces between the blocks which have made it an appropriate case for the current study.

### 2.6.2. Statistical population

The statistical population was consisted of 25 residents of Phase B of *Ekbatan* residential complex in Tehran, Iran who were selected using cluster random sampling method such that at least 4 residents of each block can answer the questions.

### 2.6.3. Data collection method and tool

Both field and library studies were done to collect data. To collect data, a questionnaire including 4 main sections was designed. Questions of each section were designed based on the research criteria. First section was related to the demographic characteristics. The second part contained items on the residents’ presence in public

spaces, and included 5 questions. The third section was consisted of 4 questions related to the quality of public open spaces used by individuals, and the latter part contained the items about physical quality of public spaces. All the questions were 4-choice items. Most of the questions related to the third section were designed based on Likert Scale to analyze the residents' satisfaction by calculating the average weight.

**2.6.4. Research Variables**

The research variables include the features of open spaces which can increase the quality and quantity of the social activities in them. These variables are as follows:

- (1). *Participation rate*
- (2). *Function of spaces*
- (3). *Design of spaces*
- (4). *Usage of spaces*
- (5). *The type of space*
- (6). *Vegetation cover of spaces*

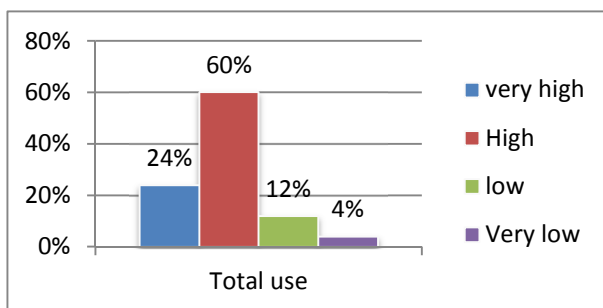
**3. RESULTS AND DISCUSSION**

**3.1. Demographic characteristics of participants**

From among of 25 participants, 18 respondents (i.e. 72% of respondents) were male, and 7 respondents (i.e. 28% of respondents) were female. Age range of respondents was between 15 and 60 years old, and the average age of the respondents was 37 years old.

**3.2. Examining research questions**

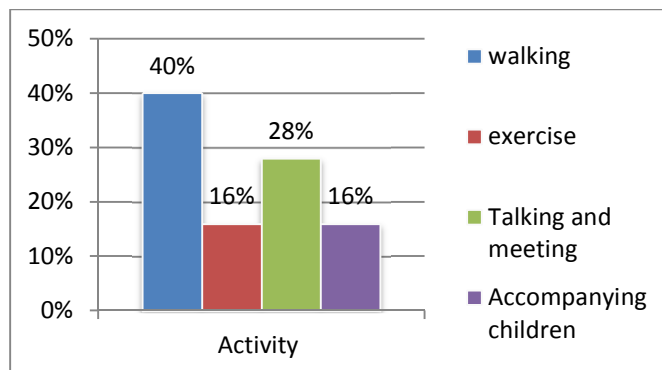
**3.2.1. Participation rate**



**Figure 2.** Usage of public spaces by participants in Ekbatan complex

According to figure 2, the *participation rate* of 24% of participants was very high, and for 60% of them the level of participation in public spaces of the complex was high, the usage of the 12% of them was reported as low, and for 4% of them, it was very low.

**3.2.2. Type of use**

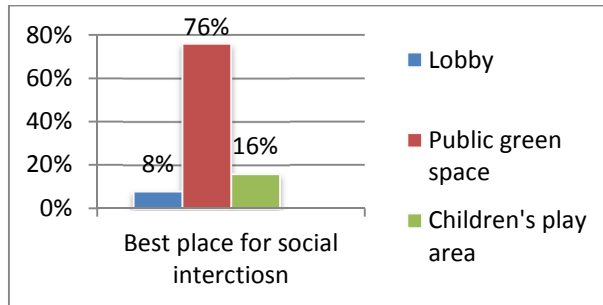


**Figure 3.** Different activities of residents in public space in Ekbatan complex

As can be seen in figure 3, about the type of use, 40 %, 16%, 28%, and 16% of residents used the open spaces for walking, doing exercise, talking and meeting with friends, and for accompany their children when playing, respectively.

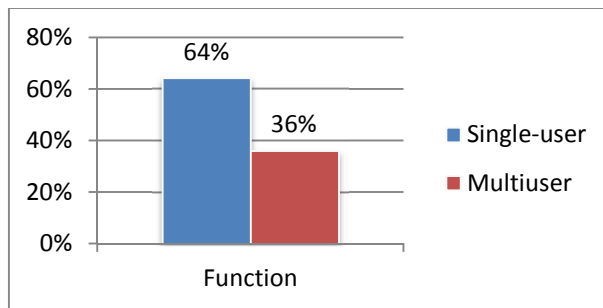
**3.2.3. Type of spaces**

More than 76 % of them chose green space of the complex for gathering together which indicates the role of such space as the most important element of residential areas (Fig.4).



**Figure 4.**Best place for social interaction in the study complex

**3.2.4. Function**

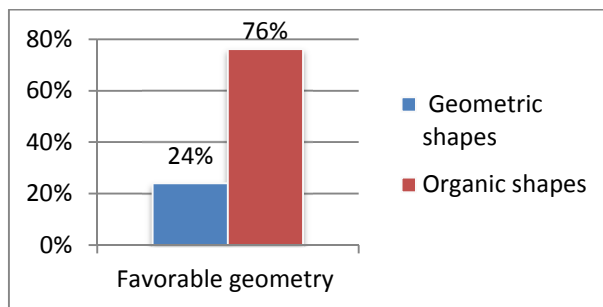


**Figure 5.** Best functions of public open space

According to figure 5, 64% of the residents in Ekbatan preferred single user, and 36% chose multiuser open spaces. Possibly, the main reason was unsuitable location of children’s play area and green space which misuse both functions.

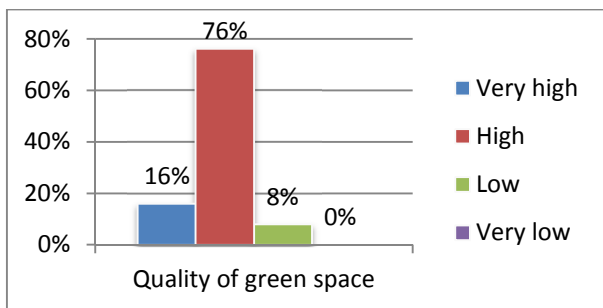
**3.2.5. Design of spaces**

Figure 6 show that the 76% of participants preferred organic shapes and 24% like geometric shapes for the open space (Fig.5).



**Figure 6.**Favorable geometry for open spaces according to study participants

### 3.2.6. Vegetation covers of spaces

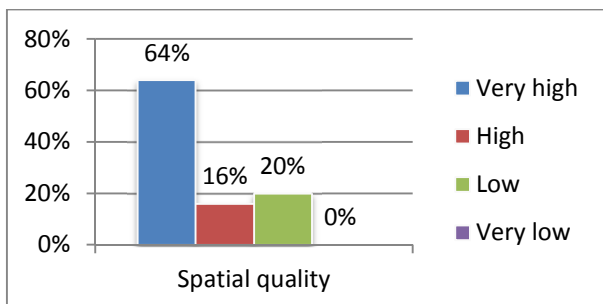


**Figure 7.** Quality of vegetation covers in Ekbatan complex according to the residents

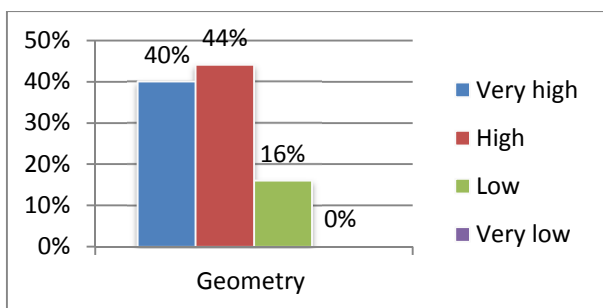
As seen in figure 7, for the 76% of residents the importance of having vegetation cover in the complex was in very high level, while for 16% of them it was in very high level.

### 3.3. The role of geometry and spatial quality of residential areas in social interactions

According to figures 8 and 9, majority of the residents stated that spatial quality and geometry of residential areas play a significant role in the quality and quantity of social interaction. In terms of spatial quality, 64% of them considered its importance as very high while for 20% of the participants it was in low level. In terms of the geometry feature, 40% was considered it as very important and for 44%, it was just important.



**Figure 8.** Importance of the spatial quality of residential areas



**Figure 9.** Importance of the geometry of residential

## 4. CONCLUSION AND DISCUSSION

This study aimed at investigating the effective factors open spaces of residential complexes in social activities. This was case study conducted in Iran and participants were 25 of residents in *Ekbatan* residential complex in Tehran, Iran, 18 males and 7 females between 15 to 60 years of age. According the results: the participation rate of only 24% of participants in public spaces was very high; more than 76 % of them chose green space for gathering together in the area; 40 %, 16%, 28%, and 16% of residents used the open spaces for walking, doing exercise,

talking and meeting with friends, and for accompany their children when playing, respectively; 64% of the residents preferred single user spaces; 76% of participants preferred organic shapes for designing open spaces; and the importance of having vegetation cover in the complex was in very high level for only 16% of residents.

According to our findings, the quality and quantity of social activities in open spaces of residential spaces can be increased by the improvement of function, design, and type of these spaces. Also, we found that geometry and spatial quality are the more important features of residential areas for increasing social interactions in open spaces.

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