A Review of Relationship between Environmental Quality and Citizen's Behavioral Patterns in Public Spaces (Case Study: Mashhad Kouhsangi and Qaranei Streets)

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ABSTRACT: Purpose of this article is to introduce different approaches in reviewing the mutual relationship between the built environment and citizen's behavioral patterns in public spaces with applying analytical and comparative methods by using a questionnaire, a sample of 200 members of the audience in two streets of Mashhad, Kouhsangi and Qaranei, by using two tests of the ordinal logistic regression and the Kruskal-Wallis have been conducted. This study seeks to develop a conceptual framework identifying influential elements in regeneration public spaces and in order to identify factors contributing to numerous variables have been studied such as a variety of activities, Sociability, location of public spaces, diversity, and dynamism, impact and effect of behavioral patterns. This article first attempt to clarify the importance of this issue and establish the position of behavioral patterns in relation to the physical and built environment. Then develop a conceptual framework to identify the impact and effectiveness of various criteria. The results of this study indicate Classification of parameters affecting the interaction between the built environment and citizens' behavioral patterns that can be used in the next preceding studies and in various public spaces, especially street, be measured.

Keywords: *Public Space, Behavioral Patterns, Physical qualities, Social interaction, Urban design.analysis.*

INTRODUCTION

Urban design should be seeking to increase social interaction and human solidarity instead of differentiation and separation. But nowadays, whatever we face in most urban public spaces is the reduction of social relations and participation of inhabitants in these spaces. In this article, considering the mutual influences of the built environment and behavioral patterns in public spaces as the main problem, tried to survey the mutual relationship between them and identify the effective criteria in this mutual connection.

One of the missions of urban design creates the environments that provide certain behavioral patterns for individuals or groups of people. One of the environment capabilities provides the movement activity and physiological comfort. The environment should be designed in a manner that is responsive to the needs of different groups of a beneficiary. If design space does not respond to the citizen's behavioral patterns and their needs or does not create shelter for their activities, so it will act compulsory and mutually the use and efficiency of public spaces will be reduced drastically.

Public spaces include the complex patterns of functions that the understanding and the perception of how these relationships can affect on quality design of these spaces and have the variety of significance. Therefore, the identification of different components, such as the physical and social components and etc. is used as a factor for, a mutual solidarity of behavioral patterns of consumers in an artificial environment. And for this purpose, this question arises that "how and what is the amount of impact of the different behavioral components in relation to the built environment? And what the mutual connection is there

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between two components?"

Considering the purpose of this study - regeneration the public spaces - which are the formations of a place of specific behavioral patterns for individuals or groups of people. Considering that One of the environment capabilities provides the movement activity and physiological comfort. The environment should be designed in a manner that is responsive to the needs of different groups of a beneficiary. Conflicts, limitations, and crises existing on the using of public spaces in the city are due to the lack of matching spaces with the behavioral patterns of user groups of these spaces. This issue can be one of the weakening factors in the sense of belonging in the city.

The survey of this research was important in several aspects:
The first goal of this study restores the social life to the streets as one of the most important public spaces and one of the ways in which virtually considered, create a selection of new behavior in public space. So the goal and how to achieve these items will be useful. The study also is looking for, making quick changes, effective, tangible and small scale in public areas. The offers of this project are a reflection of all the activities that people want to do on the streets. So the wants and needs of people are considered and these issues are valuable.

This article with developing a conceptual framework in regeneration public spaces to attract the attention of officials and experts in these spaces. In this regard, in order to better understand the effective factors on the qualities of design in the public space and citizen's behavioral patterns, several variables will be examined that can be mentioned to the activities diversity, sociability, balance activities, diversity and dynamics, impact and inspiration behavioral patterns.

MATERIALS AND METHODS

Because of the relationship between human and environment, the major research field of urban design placed in the category of researches based on an inductive method. The research method of this paper, qualitative and holistic, is the analysis of public spaces and citizens' behavior patterns. Therefore, the research method of this paper is a descriptive-analytic method that it has benefited from the documentary and Library studies method. Meanwhile, the Logical reasoning method had been used in the direction of categorization and evaluation of the interaction between the built environment and behavioral patterns. So during the studies in the field of the public spaces and the factors affecting it, features and effects components have been identified and the amount of effective and impressible studies has been scrutinized. Then, with Compiling the codification of a conceptual framework for identifying and reviewing the effectiveness and impressible various criteria. In order to survey these effects, the researchers' questionnaire made is used. 170 persons of selected samples from the Cochrane method were selected according to the unlimited, statistical society, in order to its scrutiny with 15% error factor increased to 200 Questionnaires. In the two studied samples, Kouhsangi and Qaranei streets in Mashhad were studied. The questionnaire of Cronbach's alpha for Qaranei St. is calculated 0.948 and for Kouhsangi St. is calculated 0.869. After the analysis of results, the impact of environmental quality on citizen's behavior was done by using the Ordinal logistic regression test, and ranking these Components was done by using the Kruskal-Wallis Test for nonparametric data too.
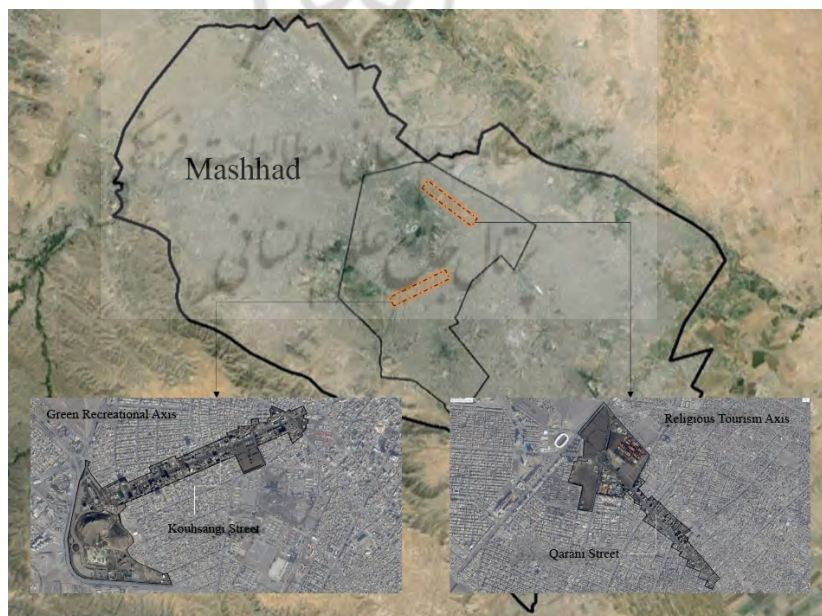

Fig.1: Position of Kouhsangi and Qaranei streets in Mashhad.

Background Research

Nowadays various interpretations of the concept of the public space can be provided that each of them suggests requirements, priorities, concerns, and ideas. These differences more than anything else are originating from the diversity of views relative to the subject. Theories related to the subjects of the environmental quality in the public spaces from the Urbanists such as Rapoport (1982), Habermas (1962), Lang (2009), Jacobs (1961), Lynch (1981), Canter (1977), and also in Iran by Urbanists such as Bahrainy (1996), Pakzad & Bozorg (2012), Behzadfar (2008) has been proposed.

Issues related to the social interactions and behavioral patterns discussed in the works and different findings, that including people like Carmona et al. (2003), Mehta (2006), Banerjee (2001), Madanipour (1996), Carr (1992), Gehl and Svarre (2013) can be mentioned.

The experiences and opinions about the public space and the spatial quality and the social interactions in the different works and findings have been investigated and studied among the many works and it's various, the parameters of the living environmental quality and behavioral patterns have been extracted. In Table 1, the opinions of several theorists in the field of urban design will be mentioned.

Table 1: Selection of the opinions of theorists.

Author	Title	Findings
Rapoport (1982)	Cultural origin of settlements and the meaning of the built environments	;One can understand the environment from the concepts ;Culture has an impact on the city and gives it shape People with the help of culture, it means that a set of values, beliefs, worldviews and the common of the institutional regularity, Gives meaning to their environments and the meaningless space convert to the place.
Carmona et al. (2003)	Urban Design Reader	Three types of outdoor activities, activities, and qualities of the outdoors; The future of the public arenas and the Revitalization places; The features of the third place.
Gehl and Svarre (2013)	Public space and public life	Presentation of the problems and the capacity of the public spaces and the methodology to the form of tables, maps, and graphs Providing recommendations and Solutions and Strategies related to the public spaces reinforcement and improve
Mehta (2006, 2014)	Lively Streets and the Social Life of Streets	The attractive of the public spaces is not depending on the traditional urban square but also a good public space needs the psychological and sociological health of modern societies. A good urban space is responsive, democratic and meaningful.
Pakzad & Bozorg (2012)	The alphabet of psychological environment for designers	The key concepts in the survey of behavior, perception and its effective factors The process of feeling environments and the survey of the five senses The nature of behavior in relation to the human - environment The effective factors on social behavior

The Quality of Built Environments

Many recent efforts in the field of urban design, focused on the production and management of public spaces in cities. This study examines different views of urban design than urban public spaces and the interaction between the built environment and the citizen's social behavior. The presence of the people in public spaces depends on how to organizing and space managing that can determine the behavioral patterns in public spaces and social life in cities.

In fact, the quality in an urban space is the features that by examining them can be judged about the success, performance and good or bad in urban space (Golkar, 1998). This imagination is wrong to think that the quality of public arenas is only related to the visual aspects. On the contrary, there are subjects that are directly depending on the way of the user's perception, performance, social conditions, and different economic activities in public arenas. So far, different categorizations of the qualities required are taken in the public arenas. Carmona has been extracted the universal positive qualities in a mixture of a wide range of available resources in this field with expressed in the goals of urban design in this arena in the form of the following table:

In the urban literature, it is not many years that the term of the "quality" is common. Look at to the existing literature indicates that all efforts on achieving the concept of sustainable public space or the sustainable collective place with the concept of quality are related together.

In another way, we can say that to express the quality of criteria on the views of experts arises from a subjective ideal from urban public spaces on their mind, that this kind of ideal situation can be considered as a sense of stability in these places and as the main point of urban planning goals. The theorists of empiricism such as Lynch, Appleyard, Lang, and Nasser can be considered the most important supporters for the concept of urban environmental quality. In Fig. 1 are proposed the component of quality based on PPS evaluation.

Golkar (2002), the urban design can be considered as the result of three forces (components), the functional quality, the experimental - aesthetic quality and the environmental quality of cities. "The functional quality" on the one hand includes: providing easy movement and accessing for pedestrians and vehicles to the adsorbent urban centers and on the other hand, includes other features such as inactive recreation, watching the people and the different events in order to guarantee for

Table 2: Universal positive qualities for public space (Source: Carmona et al, 2008, 15).

| Clean and tidy	Well cared for	Clear of litter, fly tipping, fly posting, abandoned cars, bad smells, detritus, and grime; adequate waste-collection facilities; provision for dogs
Accessible	Easy to get to and move around	Ease of movement, walkability; barrier-free pavements; accessible by foot, bike, and public transport at all times; good quality parking; continuity of space; lack of congestion
Attractive	Visually pleasing	Aesthetic quality; visually stimulating; uncluttered; well-maintained paving, street furniture, landscaping, grass/verges, front gardens; clear of vandalism and graffiti; use of public art; coordinated street furniture
Comfortable	Comfortable to spend time in	Free of heavy traffic, rail/aircraft noise, intrusive industry; provision of street furniture, incidental sitting surfaces, public toilets, shelter; legible; clear signage; space enclosure
Inclusive	Welcoming to all, free, open and tolerant	Access and equity for all by gender, age, race, disability; encouraging engagement in public life; activities for young people; unrestricted
Vital and viable	Well-used and thriving	An absence of vacant/derelict sites, vacant/boarded-up buildings; encouraging a diversity of uses, meeting places, animation; availability of play facilities; fostering interaction with space
Functional	Functions without conflict	Houses compatible uses, activities, vehicle/pedestrian relationships; provides ease of maintenance, servicing; absence of street parking nuisance
Distinctive	A positive, identifiable character	A sense of place and character; positive ambiance; stimulating sound, touch, and smell; reinforcing existing character/history; authentic; individual
Safe and secure	Feels and is safe and secure	Reduced vehicle speeds, pedestrian, cyclist safety; low street crime, anti-social behavior; well lit and good surveillance, availability of authority figures; perception of security
Robust	Stands up to the pressures of everyday use	High-quality public realm, not repeatedly dug up; resilient street furniture, paving materials, boundaries, soft landscaping, street furniture; well-maintained buildings; adaptable, versatile space
Green and unpolluted	Healthy and natural	Better parks and open space; greening buildings and spaces; biodiversity; unpolluted water, air, and soil; access to nature; absence of vehicle emissions
Fulfilling	A sense of ownership and belonging	Giving people a stake (individually or collectively); fostering pride, citizenship, and neighborliness; allowing personal freedom; opportunities for self-sufficiency
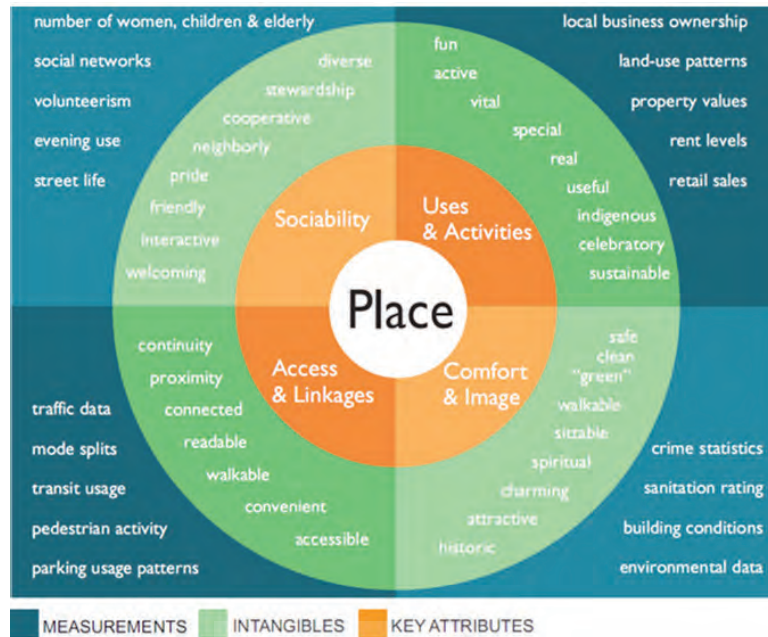
Fig.2: The main component of quality in PPS evaluation (Source: Project for Public Space (PPS)).

the liveliness and richness of the spatial experience of city; The experimental-aesthetic quality deals with the perception and cognition receiving and peripheral preferences of people for urban spaces; and the environmental quality in the wisdom dimension is the urban spaces and in the macro dimension has a concern of environmental sustainability in the urban.

The Function of Urban Public Spaces

The issue of production, reinforcement, and development of urban space, active, dynamic and alive as one of the strategic goals to improve the quality of the environment in the artificial environment of urban, is always one of the major priority for planners and urban designers. The importance of this issue is mainly because of the significant role that these spaces have in society and this repeatedly has been proposed by many from professionals involved urban issues, social and psychological, such as Gordon Cullen (1959), Jacobs (1961), Habermas (1962), Serge Chermayeff (1964), Schultz (1975), Kanter (1977), Kevin Lynch (1981), Tysdl, work and colleagues (1992), flowers (2013, 1996), Banerjee (2001), Hall (2002), Cremona (2003) and Mehta (2014).

Experience shows that in spite of the attention of scholars and their emphasis, tried to create, revitalizing and reinforcement urban public space were not generally successful and it seems that we can noted some reasons for this: analyzing and designing urban spaces; The unidirectional growth of urban psychological tendencies and less attention to social context; The lack of accurate identification of the social factors affecting on the content and the form of urban space and their mechanism; Lack of adequate definition of the content of urban

public space

The improvement of public spaces as the meeting places for people with each other emphasizes the importance of people being together. Another discussion is about the separation of the public sphere from the private arena that can be seen in the theories of public space such as Hannah Arendt and Jürgen Habermas' point of view. They believe that a strong public domain is a place where the public life goes on and in particular has been isolated from privacy sphere and they believe that this type of public space is essential for maintaining healthy communities.

It should be mentioned that according to Habermas's theory the concept of public domain is more generally and beyond from the concept of public space and somehow the public space is considered part of the public domain. Public space is open and available space to the public; the public space is a situation for people that go there to individual and collective activities. In the definition of Habermas, the public domain is the growth of social consciousness in modern society (Behzadfar et al., 2013).

And therefore this kind of spaces requires more attention and protection because of the Combined with the spirit of the citizens and have direct effects on their thoughts and feelings. There are many alternative methods for classifying that arenas are public or not, and also about evaluation and quality. These criteria contain that whether people will pay for being in it, whether is there restrictions for time or how to use it? Do you allow photography in there? Or people who are into space are involved with the basic functions. (Cowan& Hall, 2005)

John Lang also presents a fairly comprehensive definition from

the public arena, and he also introduces in this arena other spaces called "quasi-public spaces":

The focus of urban design is designing the public arena of an integrated human body. "Public arena" contains the space between the buildings, and also a part of interior buildings (such as the entrance space, malls and commercial outdoor and indoor path that we are called "quasi-public space"). The sum of these two class elements formed the category that we are called the "public arena". (Golkar, 2002)

Public spaces are generally accessible to everybody. These spaces are places where citizens and people can like each other and with fewer restrictions than other spaces, enter it. With all the differences in views that there are about public spaces and urban spaces, all experts jointly have been mentioned street and square as two main urban public spaces. Moughtin, Zuker, Sitte, Krier, and Marcus in their studies of urban space have focused on two elements square and streets (Behzadfar et al., 2013).

Theories of Environmental Quality and Public Space

There is no consensus among experts about the functional typology of public spaces and in most cases, more typology of public space is studied. Public space is in the form of street, square, playgrounds, markets, Open Spaces local communities, according to Stephen Carr' (Carr, 1992).

According to Gehl, a social activity takes place every time two people are together in the same space. To see and hear one other, to meet, is in itself a form of contact, a social interaction. The actual meeting, merely being present, is furthermore the seed for more comprehensive forms of social activity. This connection is important in relation to physical planning. Although the physical framework does not have a direct influence on the quality, content, and intensity of social contacts, architects and planners can affect the possibilities for a meeting, seeing, and hearing people.

Gehl says there are generally three types of outdoor activities. Essential activities - selected activities - social activities (Gehl & Gemzoe, 2010).

The first category is that include essential and important activities occur under any circumstances and they don't have a specific relationship with the unique characteristics of society. This range of activities needs different degrees of social participation. Essential activities have the least impressible from the surrounding environment, they are independent of the external environment and people almost do not have any choice.

The second category is related to picking and choosing activities that are necessary for appropriate and ideal conditions. Walking in open spaces, stop and pause at entertainment places, sit and relax in Attractive and spectacular places are considered one of the selected activities.

The third category is also related to the social activities that depend on the characteristics of urban space is included a wide range of mutual relations between people. These activities due to the impressible of other activities and social space are called the final activities. in return, in spaces that are rich of these dimensions, the high level of social activity formed (Gehl & Gemzoe, 2010). The relationship between environmental quality and the variety of activities in public space can be seen in Fig. 2.

Different aspects of human needs in urban spaces and how to respond to these needs, in relation to the classification of aspects of human needs that have been conducted based on Maslow's hierarchy pattern by Karr and colleagues (1992); that is including, comfort, convenience, inactive presence in spaces, active presence in spaces and discovery.

According to Rappaport, the physical environment for behavior creates clues. In fact, we can say that the environment
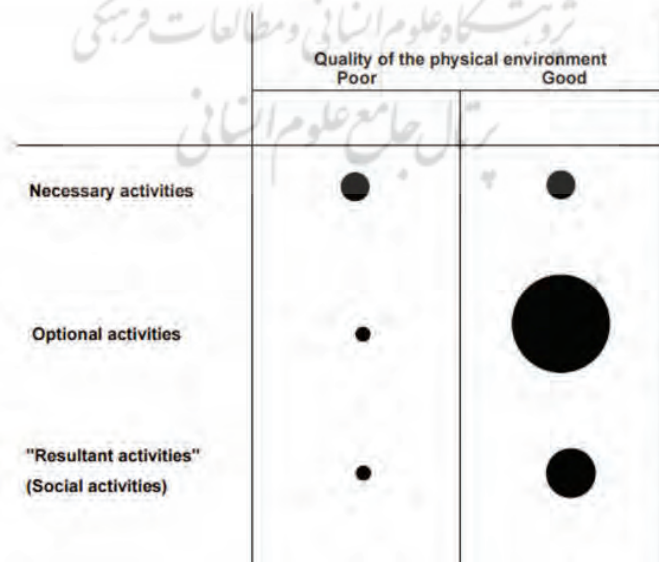

Fig. 3: Relationship between environmental quality and activities (source: Gehl, 2008).

established nonverbal communication with humans. People act based on understanding environmental clues. Therefore, an environment must have understandable language. If we know designing is the process of coding, users encoded if the code is not common, not understandable or not appropriate thus environment does not communicate (Rapoport, 1982).

It should be noted that the capabilities of the physical environment can be separated from their social content and the effect together. Gibson believes the spaces that have complete capabilities based on the presence of people in the environment achieve to this quality.

Some physical environments to provide some behaviors are more capable or more graceful; it means that in some conditions, there is a higher degree of compatibility between environment and behavior. (Lang, 2009)

Non-Physical Factors Affecting to the Use of Behavioral Opportunities Available in Physical Environment

Environmental information obtained through perception process that motivated by mental schemas and guided by human needs. Schemas conduct not only perceptual processes but also emotional reactions and spatial behavior and in contrast, these processes and reactions also effect on mental schemas as a result of perceived behavior, human's emotions and actions are limited by the capabilities of the natural and built environment, cultural environment and inner personality of a character. (Lang, 2009)

Cities are made up of diverse places, there is easier access in public spaces and people are free to pursue a variety of activities in it, these spaces are city living breathing space that offers opportunities to explore the unknown and the new, the unexpected can provide. These spaces are places in which one is not alone and is not involved in the complexities of normal relations (Franck & Stevens, 2013). So generally, when

it is spoken about space that provides a choice of multiple behaviors, it means that has been provided an opportunity for the different behaviors so that different people from different groups can find a reason to pause in space. A pause of the people in space attract more people and reinforcement the social life also the occurrence of the different behaviors, are creating new behaviors and activity thus create lively space.

Theorists and urban design, with different phrases to express the factors in the reinforcement of social life and increase the presence of people in space. Stephen Kaplan describes the environmental characteristics that people prefer to be present in it. Jan Gehl (2008), with the implementation of several projects, introduces the necessary changes in the urban space, in a way that the result of it will reinforcement of the social life. William H. White (1980) also expresses the features of space that increase use of space by people. Mark Francis introduces prerequisites in design that is necessary for people to user space.

Although the designer through the control of capabilities of built environment impresses the human experience, it is misplaced that we expected the built environment by itself explain social behavior and determine behavioral patterns. The situation of people, culture, motivations, experiences, norms, and values, and the costs and rewards can get people to participate in activities and the interpretation of aesthetic them from the Surroundings environment determines the extent use of environment (Lang, 2009). John Lang knows the culture, eligibility of the individuals and group, costs and rewards, environmental preferences of the factors are the effective factors on reinforcement of the social life and increase the presence of people.

Individual components have a direct effect on social interactions and behavioral patterns and each person according to a social, economic and cultural situation that growth in
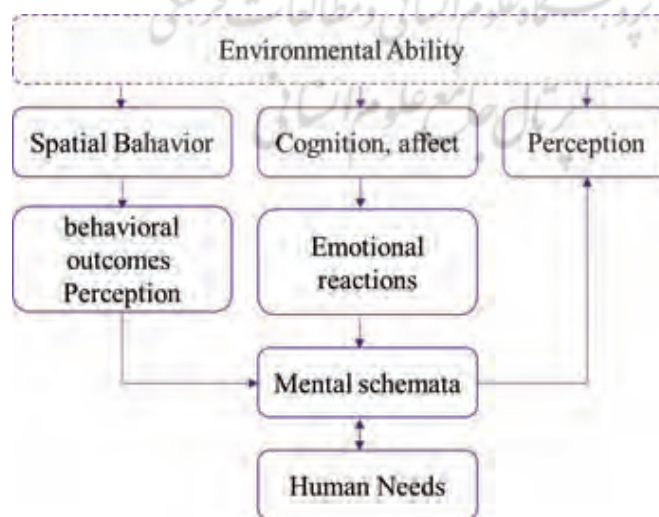

Fig. 4: Fundamental processes of human behavior (Source: Lang, 2009).

Table 3: Factors affecting the social interactions (Source: Behzadfar and Tahmasebi, 2013).

Perception components	Individual components	Physical components	Effective components
indirect impact on behavior	Direct impact on behavior	Direct impact on behavior	The quality of impact
Continuity and survival social interactions	The formation and consolidation of interaction	The formation and consolidation of interaction	Type of impact
In the following	The beginning	The beginning	effective arrange
Safety, security, legibility	Gender, a period of residence, age, income level	The quality of functional and activities	indicators

it, selects the type and certain level of relationships with others and the environment. Of course, the role of physical components and environment as the field of formation simple and complex social relations cannot be ignored, so here the role and the capabilities of the design of the physical environment and the performance quality of space are strongly emphasized to promotion in social interactions and behavioral patterns. The analysis of the qualitative components determines that the individual components have direct and indirect effects on social interactions.

RESULTS AND DISCUSSION

Throughout history, the urban public spaces had the basic role in urban social life. But they have lost their importance and they are not considered the main focus in social network cities. Technological changes, population growth, and specialized activities to cause create a discontinuity in functions and removing space from the public realm.

The instrumental approach to space and the category of social classification in society has led to gap spatial - social and privatization of space. Encounter with urban design as a supplier of the aesthetic experience of the city is due to the profit view of the cities and attention to the places as a capital market.

But the city's public spaces have still deeper meaning in many people's view and in practice can play an active role in the dynamics of urban life.

Urban designers improve the spatial closeness. These spaces have a positive identity and them receptive activities, and different people. The creation of this social clubs can be a positive step towards reducing potential conflicts that due to different interpretations and different expectations of urban spaces; and they can also be effective in improving urban development and social cohesion of cities. The giving of possibility to the public arenas is lead to create constructive social communication, the desirable social interaction and increase the cultural, political and social discourse in the city.

Considering the theoretical foundations, the effective dimensions, and components on the relation between behavioral patterns and environmental quality in the form of conceptual framework presented in Fig. 4.

In the surveys conducted, the effects of environmental quality on the behavior of citizens in the two case studies were evaluated; Kouhsangi St. with the role of green tourism and
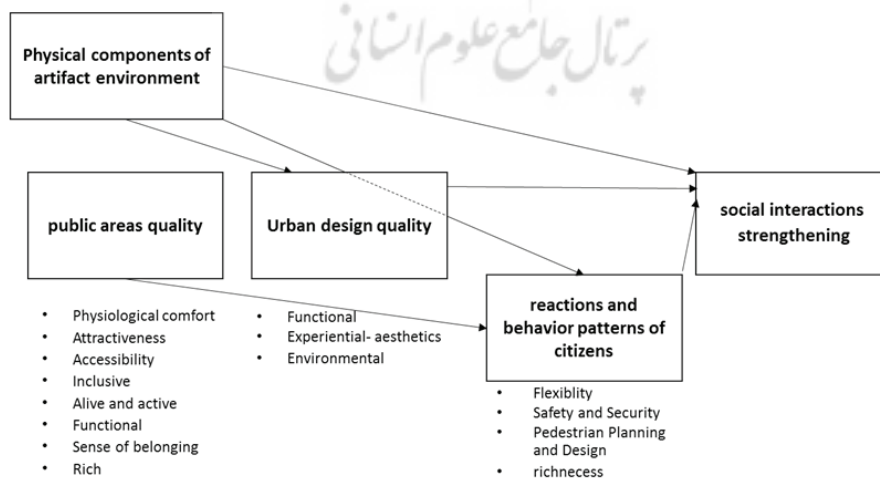

Fig.5: The conceptual framework relation between behavioral patterns and environmental quality.

Qaranei St. with the role of religious tourism. The results of that will be analyzed as follows.

In the survey of aspects of the environmental quality on the behavior of citizens, the indicators of environmental quality are considered as an independent variable and the behavior of citizens are considered as a dependent variable. How the effects of an independent variable on the dependent variable through the data obtained from ordinal logistic regression are reported in Tables 4 and 5.

In the row of "Environmental quality", have been reported the impact factor and the result of significant of Wald test result for the effect of the variable of the environmental quality on the amount of repetition citizen's behavior in The two streets Kouhsangi and Qaranei St.

The level of significance of the Wald test for the effect of this variable in the two studied sample is equal to 0.000 that is lower than 0.05 (in the 95% significance level).

As a result, the null hypothesis based on non-significant of the

Table 4: The estimated impact factors along with significant test results (Qaranei St.).

ParameterE stimates							
						95% Confidence Interval	
		Estimate	Std. Error	Wald	df	Sig.	Lower Bound	Upper Bound
Threshold	[BehaviorRecode = 1.00]	16.702	2.914	32.852	1	.000	10.991	22.414
	[BehaviorRecode = 2.00]	21.624	3.665	34.804	1	.000	14.440	28.808
Location	Environmental quality	.108	.019	32.997	1	.000	.071	.145
	Physiological comfort	.198	.073	7.319	1	.007	.055	.342
	Accessibility	.228	.049	21.785	1	.000	.132	.324
	Attractive	.331	.056	35.187	1	.000	.221	.440
	Inclusive	.277	.075	13.756	1	.000	.131	.424
	Alive and active	.254	.042	36.644	1	.000	.172	.337
	Functional	.336	.054	38.155	1	.000	.230	.443
	Sense of belonging	.593	.099	35.615	1	.000	.398	.787
	Rich	.452	.092	23.961	1	.000	.271	.633

Link function: Logit.

Table 5: The estimated impact factors along with significant test results (Kouhsangi St.)

ParameterE stimates							
						95% Confidence Interval	
		Estimate	Std. Error	Wald	df	Sig.	Lower Bound	Upper Bound
Threshold	[Behavior = 1.00]	19.334	4.161	21.587	1	.000	11.178	27.489
	[Behavior = 2.00]	25.551	4.727	29.224	1	.000	16.287	34.815
Location	Environmental quality	.119	.023	25.848	1	.000	.073	.165
	Physiological comfort	.216	.068	10.211	1	.001	.083	.348
	Accessibility	.247	.069	12.659	1	.000	.111	.383
	Attractive	.351	.082	18.489	1	.000	.191	.511
	Inclusive	.286	.110	6.684	1	.010	.069	.502
	Alive and active	.270	.061	19.637	1	.000	.151	.390
	Functional	.255	.066	14.823	1	.000	.125	.385
	Sense of belonging	.602	.135	19.912	1	.000	.338	.867
	Rich	.351	.106	10.861	1	.001	.142	.560

Link function: Logit.

impact variable of the environmental quality on the dependent variable is rejected.

The Survey of Impact Each of Indicators of Environmental Quality on Citizen's Behavior

In the survey of indicators of the Physiological comfort, the level of significance of Wald test for the effect of this variable in both samples, Kouhsangi St. and Qaranei St., is equal to 0.000 that is higher than 0.05 (in the 95% significance level). Accordingly, the estimated impact factor of 0.196 (Qaranei St.) and 0.216 (Kouhsangi St.) is significant and indicates that the positive effect of this variable on the number of repetition citizens' behaviors. Due to the significance, (significance is lower than 0.05), all of the indicators of environmental quality in both samples selected Can show the impact factor of other indicators on column "Estimate" in table 6.

On the other hand, by using the Kruskal-Wallis Test each of the indicators of environmental quality in both samples selected (Mean Rank column) have been ranked. In indicators of "accessibility" and "functional", Qaranei St. has allocated the first rank and in other indicators the second rank.

And the table of Test Statistics is the main result content of the Kruskal-Wallis Test. As you can see in this table, we can be observing the amount of Chi-square statistics with 4 df and as well as the level of significant P-Value test with zero value that shows H0 hypothesis is rejected.

Due to the above output, the Final result is that the indicators of environmental quality in Kouhsangi and Qaranei streets are different.

Table 6: Compare the impact factors (Ordinal Logistic Regression Test) and means rank (Kruskal-Wallis Test) of the indicators of environmental quality on citizen's behavior in Kouhsangi and Qaranei St. of Mashhad.

indicators of environmental quality	Case Study	N	Mean Rank	Estimate
Physiological comfort	Kouhsangi St. (Green tourism)	100	145.12	0.216
	Qaranei St. (Religious tourism)	100	55.89	0.198
Accessibility	Kouhsangi St. (Green tourism)	100	93.74	0.247
	Qaranei St. (Religious tourism)	100	107.27	0.228
Attractive	Kouhsangi St. (Green tourism)	100	113.93	0.351
	Qaranei St. (Religious tourism)	100	87.07	0.331
Inclusive	Kouhsangi St. (Green tourism)	100	144.82	0.286
	Qaranei St. (Religious tourism)	100	56.18	0.277
Alive and active (liveliness and dynamics)	Kouhsangi St. (Green tourism)	100	111.76	0.270
	Qaranei St. (Religious tourism)	100	89.25	0.254
Functional	Kouhsangi St. (Green tourism)	100	100.38	0.255
	Qaranei St. (Religious tourism)	100	100.63	0.336
Sense of belonging	Kouhsangi St. (Green tourism)	100	116.59	0.602
	Qaranei St. (Religious tourism)	100	84.41	0.593
Rich	Kouhsangi St. (Green tourism)	100	140.66	0.351
	Qaranei St. (Religious tourism)	100	60.34	0.452

Table 7: Kruskal-Wallis Test

TestS tatistics[a,b]								
	Physiological comfort	Accessibility	Attractive	Inclusive	Alive and active	Functional	Sense of belonging	Rich
Chi-Square	119.298	2.749	10.829	118.132	7.583	.001	15.641	97.071
df	1	1	1	1	1	1	1	1
Asymp. Sig.	.000	.097	.001	.000	.006	.976	.000	.000

a. Kruskal Wallis Test

b. Grouping Variable: NEMOONE

CONCLUSION

Analyzing the citizen's opinions in logistic regression test in two streets, Kouhsangi and Qaranei streets were obtained significant results:

In Kouhsangi St. (the Green tourism), the indicator of the Sense of belonging (the impact factor is 0.602) from indicators of environmental quality, had the greatest impact on the formation citizen's behaviors. After that, the indicators of rich attractive (the impact factor is 0.351), alive and active (the impact factor is 0.602) had the greatest impact.

This result for Qaranei St. (the religious tourism), Sense of belonging (the impact factor is 0.593) is from the indicators of environmental quality that had the greatest impact on the formation citizen's behaviors. After that, the indicators of rich (the impact factor is 0.452), functional (the impact factor is 0.336) and attractive (impact factor 0.331) had the greatest impact.

From this survey it can be concluded, the role of the street has the potential impact on the amount of citizen's perception from the environment and the formation of different behaviors on them. On the other hand, it should be said that the issues discussed in the study, is the major indicators of the environmental quality that is associated with the physical component of the city. The city is defined as a combination of means, activity and physical. In the end, we can say that in this study we tried to read the components of the environmental quality that in connection with Public and social arenas particularly the citizen's behavioral patterns again. In order to better understanding the Effective factors on the quality of designing in the public space and citizen's behavioral patterns, several variables were examined. It can be noted: a variety of activities, human scale, Sociability, the balance of activity, size and location of public spaces, temporary and non-permanent of them, diversity and dynamics, Change of the role and image of the street in different hours and times, and effective and impressionable from the behavioral pattern.
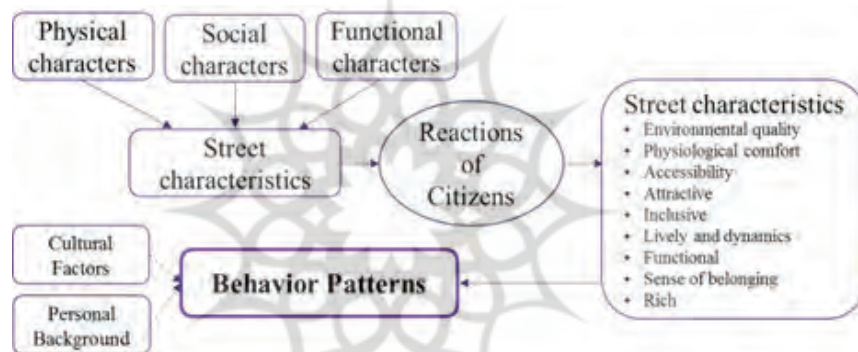

Fig. 6: Street Characteristics.

REFERENCES

Bahrainy, S. H. (1996). Urban space analysis. Tehran: Tehran University.

Behzadfar, M. (2008). Urban Identity,". A Look at Tehran Identity", Second Edition, Tehran: Tehran.

Behzadfar, M., & Habib, F., & Firoozabadi, A., & Forouzangohar, H. (2013). Genealogy appropriate norms for urban design with special emphasis on their phenomenal in the public realm. *Journal of Urban Management,* 32, 57-80.

Behzadfar, M., & Tahmasebi, A., (2013). Identify and evaluate components that affect social interactions, consolidating and expanding citizenship in streets case of Sanandaj city. *Journal of Bagh_e Nazar,* 25, 17-28.

Banerjee, T. (2001). The future of public space: beyond invented streets and reinvented places. *Journal of the American Planning Association*, 67(1), 9-24.

Canter, D. (1977). The psychology of place.

Carmona, M., de Magalhães, C., & Hammond, L. (Eds.). (2008). Public space: the management dimension. Routledge.

Carmona, M., Heath, T., Oc, T., & Tiesdell, S. (2003). Urban Spaces-Public Places: The Dimensions of Urban Design.

Carr, S. (1992). Public space. Cambridge University Press.

Cowan, R., & Hall, P. G. (2005). The dictionary of urbanism (Vol. 67). Tisbury: Streetwise press.

Franck, K., & Stevens, Q. (Eds.). (2013). Loose space: possibility and diversity in urban life. Routledge.

Gehl, J. (2008). Life between buildings: using public space. Translated by Shima Shasti. Tehran Jahad Daneshgahi Press.

Gehl, J., & Gemzoe, L. (2010). Public spaces-public life. Ali Ghafari, Sadegh SoheiliPoor, Beheshti Press. Tehran.

Gehl, J., & Svarre, B. (2013). How to study public life. Island Press.

Golkar, K. (1998). Explore the definition of urban design. Research Center for Urban Development and Architecture of Iran. Tehran.

Golkar, K. (2002). Urban design and its place in the hierarchy of urban development Planning in Tehran. Tehran.

Jacobs, J. (1961). The death and life of American cities. Vintage.

Habermas, J. (1962). The Structural Transformation of the Public Sphere; An Inquiry into a Category of Bourgeois Society. Translated by Thomas Burger. Cambridge: MIT Press.

Lang, J. T. (2009). Creating architectural theory: The role of the behavioral sciences in environmental design. Alireza Eynifar. Tehran University. Tehran.

Lynch, K. (1981). Theory of a good city. Hosein Bahraini, Tehran: Tehran University Publication.

Madanipour, A. (1996). Design of urban space: An inquiry into a socio-spatial process. Farhad Mortezaee. Tehran: Processing and urban planning Office.

Mehta, V. (2006). Lively Streets: Exploring the relationship between the built environment and social behavior (Doctoral dissertation).

Mehta, V. (2014). Evaluating public space. Journal of Urban Design, 19(1), 53-88.

Pakzad, J. & Bozorg, H., (2012). The alphabet of psychological environment for designers. Tehran: Armanshahr press.

Rapoport, A. (1982). The meaning of the built environment: A nonverbal communication approach. University of Arizona Press.

White, W. H. (1980). The Social Life of Small Spaces. Washington DC: The Conservation Foundation.

Project for Public Space (PPS). (2016). What makes a successful place? Retrieved from https://www.pps.org/article/grplacefeat.