

Research Paper

Investigating factors affecting the quality of local cultural spaces applying the AHP technique

M. Izadi¹, J. Mohammadi^{2,*}

¹Ph.D. Candidate of Geography and Urban Planning, University of Isfahan, Faculty of Geographic Planning Science, Isfahan, Iran

Associated Professor of Geography and Urban Planning, University of Isfahan, Faculty of Geographic Planning Science, Isfahan, Iran

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Abstract

Due to audiences' diversity, local cultural spaces have the highest share in residents' mass life. Therefore, these spaces are the necessary environment for social relations and face-to-face communication of residents of urban area. If these are well qualified, welfare would be promoted. This study aims at identifying and evaluating factor influencing quality of local cultural spaces and aims to recognize and prioritize the factor using AHP analytical hierarchical process so as to promote them. This applied study has a descriptive-analytical basis with a population of 75 experts in urban planning and cultural matters and academic staff used as participants. First, the quality criteria of cultural space was determined based on the 4 main criteria and 26 sub-criteria in a hierarchical tree. Then experts were asked to score the major and minor criteria and specify their priorities based on paired comparisons. Applying the Expert Choice which implements the AHP, the weights of each criterion and sub-criterion were estimated respectively. Finally, according to the study's aim, priorities were determined. The results obtained showed that the physical criteria, weighting 0.557, got the first priority and it was followed by social (0.162), economic (0.148) and environmental (0.133) criteria which got the second to the fourth rank. The sub-criteria affecting the "quality of cultural spaces" of the physical structure included safety, human scale and availability.

Keywords: Space, Cultural spaces, Quality, Analytical hierarchy process(AHP), Neighborhood.

1. INTRODUCTION

Individuals' behavior in cities depends to a large extent on their perception of the environment. Perception is a mental process in which the sensory experiences gain significance and in this way, individuals perceive human relations and meanings of [1]. When a man tries to understand the urban space, interact with it and find its way, in fact, it means that his mind tries to provide a clear, integrated and coherent picture of the whole city.

One of the factors shaping such image are cultural spaces [2]. Cultural spaces and social fields are optimally significant spaces in cities and provide a suitable ground for the formation of social events and recording collective memory for citizens; in the past cities, buildings and spaces such as bazaar and stamping grounds as cultural promenades had a role such as the role of urban signs and increased the readability and the physical identity of the urban space through forming a clear and accurate mental image of the city.

Thus, collective spaces have changed over time, both in structure and physical dimensions and in nonphysical aspects of their identity [3]. In this regard, improving the quality of urban spaces and paying attention to the psychological health of citizens and finally strengthening local interests in the age of technology and industry is essential.

One of the signs of the influence of modernity in the life of human societies is urban life and belonging to the group and participating in the social spaces are some of the needs of current human life. Use of public spaces are different for people in different communities in terms of variables such as age, sex, social groups, ethnic minorities and etc. And these factors may affect the amount and manner of participation in the urban public spaces [4]. Thus, the development of cultural spaces paved the ground for the manifestation of diversity of thoughts and multiple needs of the citizens and the authorities. On the other hand, considering regional variations, the urban development and the creation of participation ground for many different groups with various interests would be inevitable. In the meantime, good planning is one of the necessary and sufficient conditions for urban development programs. Due to the fact that urban space is essentially a multifaceted,

* Corresponding author: j.mohammadi@geo.ui.ac.ir
Tel / Fax: 98 03137933081

complex and diverse phenomenon, one of the important type of spaces is cultural and social spaces. The main objective of this study is to evaluate and rank the factors affecting the quality of the local cultural spaces. Therefore, considering the goal, influential factors in the quality of local cultural spaces were prioritized applying AHP in Expert Choice.

2. THEORETICAL FRAMEWORK

Public spaces have old history as old as the first human-made cities. *Agura* in Greece, *ferom* in Roma, and *Bazar* in Persian cities were the very first public spaces which had direct influences on city establishment. The idea of city formation with high-quality public spaces was the paramount human’s goal in the very first process of city formation. For Chinese people, a square city with gates was deemed ideal. Greeks deemed a certain amount of population for an ideal city. Moreover, urbanization scientist have attempted to consider an ideal design with a set of characteristics for their ideal cities. However, in the recent decades ideal city design has been replaced by principles and regulations which attempt to transform city space into a better living place. These principles and rules attempt to create qualified public places in the cities. Many

theorists have proposed ideas in this field and have presented patterns for the evaluation of the quality of urban public spaces [16].

According to Jan Gehl’s theory, people activities in urban spaces are classified into three necessary, optional and social groups. Generally, necessary activities are relatively obligatory and include daily activities. Since these are obligatory they have the lowest effect on the environment and the space. When selective activities have a greater relationship with physical planning of urban spaces when people are willing to do them and when they are performed as obligatory activities. Finally, social activity is an activity which requires constant presence of people in urban public spaces; by this we mean an activity, such as people’s accidental confrontations, which takes place automatically [17].

As it is observed, according to Gehl’s theory selective activities are performed based on people’s tendency and appropriateness of the time and place. Here, appropriateness of the time and place implies the concept of the utilized space with quality. Quality of urban space and its constructing components are the most important factors in formation of selective activities in urban spaces [18]. Thus, as illustrated in table (1) the most important criteria involved with quality of urban spaces are considered according to theorists.

Table 1 Theorists and the evaluation criteria of quality of public spaces; retrieved from different resources

Criteria for evaluation of quality of public spaces	Theorist
Activity prioritization of visual discipline, compound utilization, attention to street, domination, social talk, flexibility	Jacobs (1961)
Environment readability, cultural heritage readability, freedom of choice, heterogeneous forms, possibility of social life, consideration of native-regional links	Violich (1983)
Pollution, resource corruption, dangers, nutrition, high immense buildings, social discrimination, far, extra homogeneity of the society, no contact with nature, long trips within the city, insufficient recreational places, high growth rate, bad atmosphere, housing unfair condition, ineffective services, poverty, unemployment	Capone & Roach (1984)
Creation of communication, space limitation, edge consistency, control of perspectives, uniting inside and outside spaces	Trancik (1986)
Historical preservation and urban amendment, designing sidewalks, vitality, diversity of utilization, cultural premise or environment, attention to architectural values	Coleman (1987)
Vitality, identity, control, availability of opportunities, happiness, nativity and meaning, social life, urban self-dependency	Jacobs & Appleyard (1987)
Place, hierarchy, criterion, harmony, limitation, material, luxury, art, symptoms ,lights, attention to local society	Charles (1989)
Structure, readability, form, sense of place, identity, perspective, human criteria	Southworth 1989
Function, relationship, diversity, residential welfare, discipline, solidarity, transparency, correlation, identity, focal formation, unity, personality, uniqueness, attraction, criterion, visual and functional alternation, vitality harmony	Greene (1992)
Vitality, harmony, diversity, human criterion, possibility of privatization of place, readability, flexibility, possibility of accurate and controlled change, richness	Goodey (1993)
Diversity, concentration, democracy, permeating, security, organic designing, economy, appropriate tools, creative relationships, flexibility, consulting with users	Haughton & Hunter (1994)
Human criteria, native making responsibility, prediction of open areas, prediction of cores, attention to street view, diversity, compound utilization, use of designing vocabulary, environment preservation	Nelessen (1994)
Analyzing urban spaces in relation with behavioral patterns of users, providing regulations appropriate to qualitative and quantitative analysis of street spaces and behavioral patterns of users particularly pedestrians	Hussein Bahraini (1996)
Re-identification of urban design with an approach to social-spatial process of urban spaces	Ali Madanipour (2000)
Designing public spaces for expanding safety perceptions and reducing crimes and fear of crimes	Elzelinka Din Bernan (2001)
Introducing different urban spaces and explaining principles of designing each one by a local approach	Jahanshah Pakzad (2005)

Source: data analysis

According to this table, the comparative analysis shows that majority of the criteria and patterns of evaluation of space quality share two common features. First, these criteria are mostly dependent on a person's specialized knowledge or the organization that presents the pattern. Therefore, since it is one-dimensional, some aspects of quality evaluation are overlooked. Second, the utilized concepts in these pattern are never compatible with conditions of public spaces completely.

Local cultural spaces have an important share in promoting and enhancing the social talents of individuals in a society. Addressing cultural spaces in the city as one of the urban utilities would reform the social environment of citizens. In fact, special attention should be given to planning and physical design of residential neighborhoods and a healthy environment be provided for the promotion of education and expansion of social bonds and

eliminating deficiencies [19]. Habermas used public sphere for a social arena in which people produce a collection of behaviors, positions and orientation toward certain values and norms through dialogue and argumentation and reasoning based on equal conditions and away from any pressure [20]. Pierre Bourdieu regards social space as abstract representation of a template in which life styles associated with everyday living space are formed. There would be a reciprocal relation between the two abilities determining the behavior: On the one hand, the ability to produce the action and on the other hand, the capability to assess the actions [21]

In addition, the high importance of urban space lies in explaining environments for learning and cognition, as the biological and communication distance and their design can be a tool to facilitate the teaching of citizenship and citizenship culture.

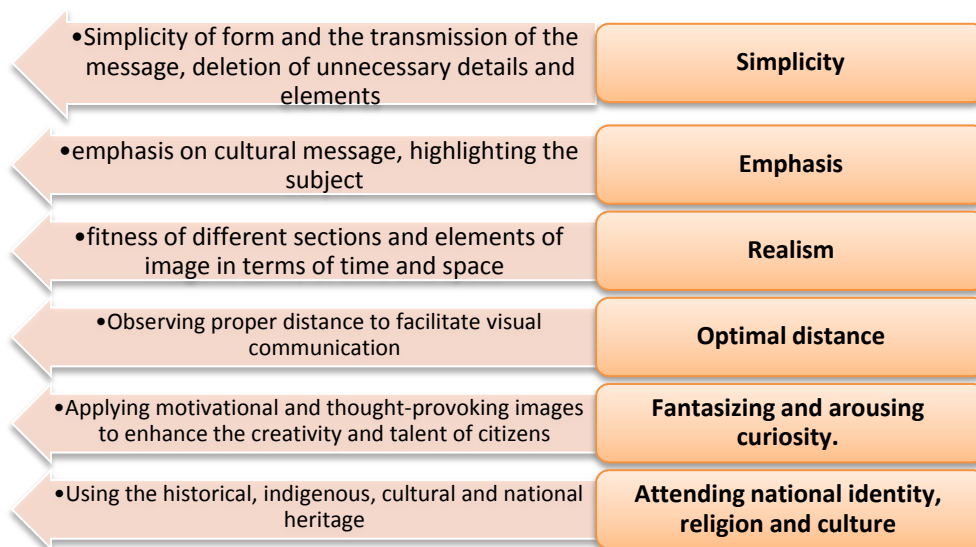


Fig. 2 Characteristics of elements of space as cultural and educational tools

Source: [22]

According to table 2, some criteria and strategies have been proposed for designing cultural spaces.

Table 2 Principles and criteria of designing cultural spaces

Description	strategy
Making the roadway far to calm the places Providing spaces for sitting close to cultural spaces Putting these spaces adjacent to compatible applications Designing the place at the farthest distance from sound-provoking places	Providing suitable locations for cultural spaces
Define the scope of cultural spaces through identifying the educational and recreational functions Pacifying designed cultural spaces applying green spaces and setting trees, shrubs and flowers around the designed environment Separation of the route performance to car and pedestrian routes (routes for walking people)	Maintaining security in cultural spaces designed for comfort of users of cultural spaces
Placing designed spaces away from places used mostly by strangers (people who do not belong to the neighborhood). Designing blocking edges in many parts to limit the roadway Attending to experts' theories about the users of all ages and urban spaces and including them in the design of cultural spaces Attending to citizens' favorite entertainment for different age	Noting characteristics of individual identity

groups, ethnic, local and cultural games	
Noting morphology and standards in the design of urban spaces and furniture	
Attending to children, the elderly and the mentally and physically disabled people in designing the space so that they can make use of these spaces.	Satisfying basic needs in the application of cultural spaces
Considering the cultural spaces for all (according to economic, social status)	
Making urban educational, cultural and recreational furniture flexible for being used by different age groups applying a design that is capable of changing.	Making spaces and urban furniture flexible
Making spaces and urban furniture flexible through assigning different functions to them	

Adapted from [23]

Cultural area is a suitable space for creativity and choices, actions and exchange of investment based on the properties of the field and habits that Bourdieu considers. The extent to which public space allows actors to do activities of daily living and innovation is something which can be perceived through the combination of anti-capitalist perspective of Lefebvre and Habermas in the field of human action. Choosing the right form of identity, type of leisure spaces for participation in the community, the communication method with the public spaces and etc. are issues that have to be examined. Observations from the space show that mere attention to physical shape and form without noting the content, stakeholders, their social interactions, and above all their human needs would not create a good atmosphere.

According to topic of the present study, cultural spaces are deemed as places for activity and considered as city places. The mentioned which are themselves selective activities imply a relationship between space (physical spaces, i.e. the hardware dimension) and activity (recreation, cultural, social and educational activities, i.e. software dimension). So, formation of cultural-social selective activity is in direct relationship with quality of these spaces.

The present study investigates the theoretical concepts aiming at analyzing influential components of quality of local spaces are defined in a way that firstly a review of the paramount theorist all over the world has been put and then some theories of the country have been added to them in order to reach higher readability. So, the goal of the study is defining the theoretical fundamentals and obtaining indexes and criteria for the evaluation of local cultural-social spaces.

In this way, influential factors of urban environment quality are investigated and desirability of cultural spaces are defined as an urban place. This model has great generalizability and coverage. So, in the final classification of factor, four environmental, physical, social, and economy components have been compared and selected as the macro-criteria; sub-criteria are selected based on test and compliance with the mentioned theories.

3. METHODOLOGY

Regarding its research content and theoretical

structure, the present study is a descriptive-analytic one. Data collection has been done based on library studies, content analysis, questionnaire and interview.

This applied study has a descriptive-analytical basis with a population of 75 experts in urban planning and cultural matters and academic staff used as participants.

The utilized analytical method in this study is AHP analytical hierarchical process model. Based on this method, the selected criteria are entered into the analytical model as the input criteria and finally the influential factors of cultural spaces are prioritized.

The questionnaire was prepared based on AHP method and experts were asked to score the major and minor criteria and specify their priorities. Applying the Expert Choice which implements the AHP, the weights of each criterion and sub-criterion were estimated respectively. Finally, according to the study's aim, priorities were determined.

Explaining the research structure

The structure of the present study started with presented aim and then a review of theoretical discussions related to the research subject. Its result was the selection of criteria affecting the quality of cultural spaces. After that, using the AHP, the selected criteria were evaluated from the viewpoints of experts and accordingly, criteria affecting the quality of cultural spaces were prioritized. Then, by constructing paired comparison matrices among criteria and sub-criteria, their significance coefficients were calculated and finally, effective factors were prioritized based on the degree of favorability.

- **Analytic Hierarchical Process (AHP)**

Decision-making is one important human characteristics. Each individual encounters multi-criteria issues daily and has to make decisions about them [5]. The AHP technique is a flexible, strong and simple method to be applied in cases where the opposite decision-making criteria make the selection difficult [6]. This requires that the criteria be analyzed in equal levels [7]. This method is used to evaluate alternative plans in a smaller level to evaluate environmental impact [8] and would determine the subject index and parameter value in multi-thematic issues [9]. In addition, it shows the degree of compatibility and incompatibility of the [10]. The AHP method was

introduced by Saaty in 1971 as a widespread decision-making analysis tool for modeling unstructured problems in areas such as political, economic, social, and management sciences. This method applied the pair-by-pair comparison values for a set of objects to elicit a corresponding priority vector that represents preferences [11]. Applying qualitative and quantitative criteria, simultaneously, and the compatibility in judgments are features that make the AHP method appropriate in determination of the parameters of the research study [12]. There are three main principles in AHP: [13].

a) Draw up a hierarchical tree (dividing the problem into smaller parts)

b) Development principles and priority setting (paired comparison between different criteria and priority of one criteria compared to the other criteria)

The logical consistency of judgments. Establishing relations between components if they are compatible [14]. Basically, the first level of each tree points to the decision-making objective. The second level points to the decision-making criteria and the final level suggests the options that are compared with each other and compete with each other in selection [15]. The AHP technique requires pairwise comparison between options and these comparisons are in the form of pairwise comparisons matrix and is performed in the form of 9-point Likert scale proposed by Saaty.

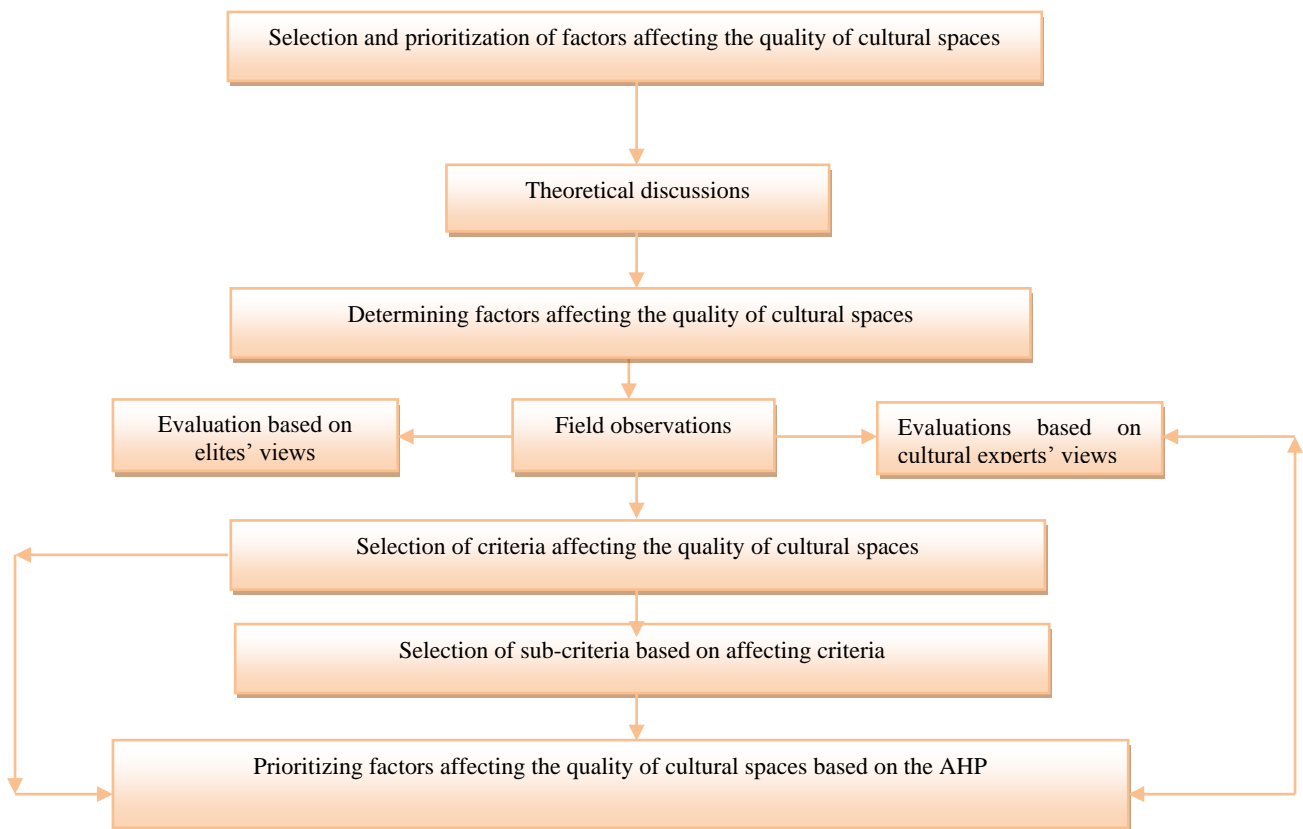


Fig. 1 Research methodology process

Research Findings and Discussion

The more quality local cultural spaces have, the better the conditions for carrying out social interactions following previously mentioned mass activities such as visiting, conversation, playing, sports; these spaces get features of civil life and vitality and then change to places. According to findings of the present study, capability of physical environment to attract people is dependent on factors whose realization relies on many factors. Some of these factors are related to environmental physical structure such as services' diversity and compliance, security, safety, and appropriate compaction and capacity. If these needs and qualified features are satisfied, physical premise can play a key role in creating a vital attractive environment. To cater for the required qualities, the designer can diagnose the mentioned factors through a reciprocal interaction with users and then move toward their realization and preparation of the condition for

selective and optional activities. In other words, after provision of the necessary qualities, the least conditions for possibility of such activities and people's presence in the environment would be increased which would serve as a point of departure to mass activities and social interactions. In this respect, the present study seeks to compare the influential factors of local cultural environment against the mentioned criteria and then it defines the relative weight of each according to these criteria. Subsequently, criteria and sub-criteria are evaluated and weight of each criterion is measured based on experts' ideas. Finally, final weight has been set through compounding them. The trend this process, analysis and obtaining results are made through Expert Choice software.

In this study, attempts have been made to use AHP method to measure the factors influencing the quality of cultural spaces and to prioritize each based on their

importance. So, to define the main and secondary criteria in the first step, a hierarchical tree was drawn. This tree has three levels including goal (definition of influential factors of cultural space quality), main criteria (4 criteria) and secondary criteria (16 criteria). (Fig. 3)

The first step in the AHP is creating a hierarchical structure of the matter under investigation, in which the objectives, criteria, options and the relationship between them are shown. The next four steps in this method include the measurement of criteria and sub-criteria weights (efficiency of importance of criteria and sub-criteria) and calculation of the final score, and the investigation of the logical consistency of judgments.

- Defining importance of criteria and sub-criteria

In the second step, the goal is to identify values of criteria and sub-criteria and compare them two by two and obtain comparison ratio (CR). This ratio must be less than 0.1. In this step, data regarding experts' ideas was entered to Expert Choice. Firstly, main criteria were compared against each other and weight and CR of each was calculated. it is worth mentioning that use was made of average of their comments since they had different comments.

In this step, experts' comments was presented using Thomas's comparative method in the following table. Comparison of criteria and sub-criteria was made to prioritize the importance and value.

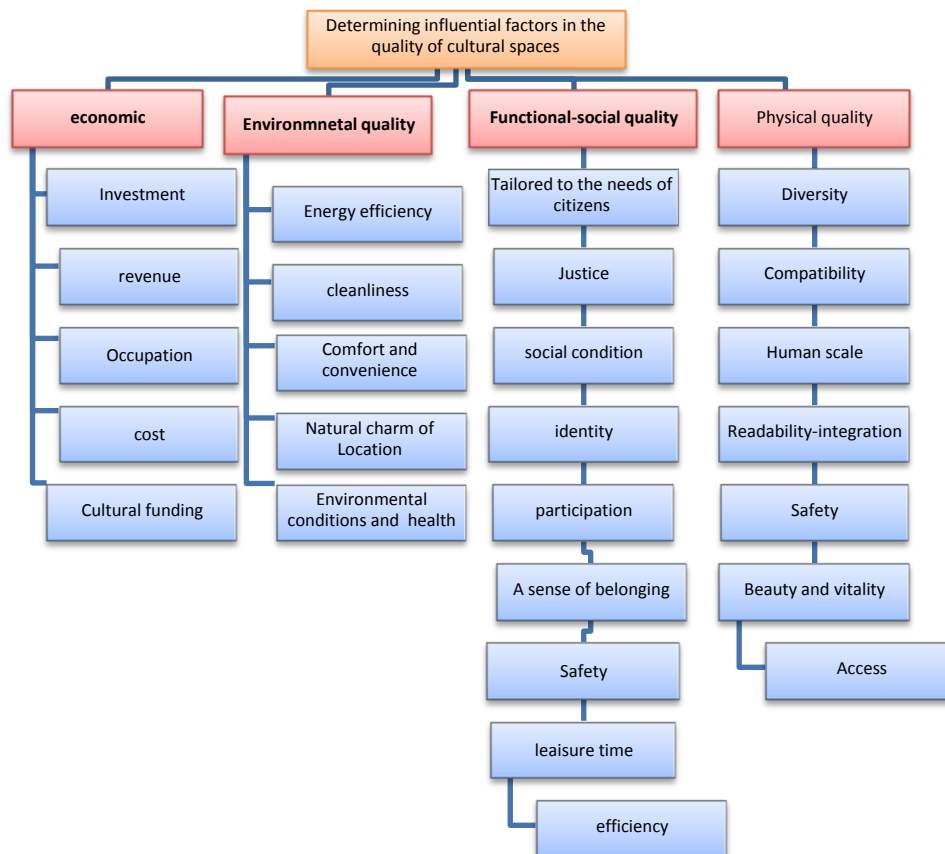


Fig. 3 Determining criteria and sub criteria based on AHP method according to the target objective
Source: data analysis

Paired comparisons value [24]		
Score	Definition	Explanation
1	Equal importance	Two criteria are equally important in achieving the goal.
3	Slightly greater importance	Experience shows that to achieve the objective, i is more important than j.
5	More importance	Experience shows that to achieve the objective, i is much more important than j.
7	Much more importance	Experience shows that to achieve the objective, i is more important than j
9	Absolute importance	The much higher importance of i in comparison to j is absolutely proven.
2, 4, 6, 8	Between these intervals	When there are moderate states.

At this stage, in relation to the purpose of the study, each of the criteria and sub-criteria were assessed and their priorities were specified. It should be noted that in all

stages of weighting, Thomas L. Saaty paired comparison method was applied.

In Table 4-9, the mean scores and priority of experts

about sub-criteria are presented. These scores were entered the software program and matching coefficients and weights were obtained.

- Determining the final score

The final score for each criteria and sub-criteria was determined.

- Investigating consistency in weighting

At this stage, it is necessary to evaluate the consistency or inconsistency of the judgments or in fact, the weights given to criteria and sub-criteria. When the coefficient is less or equal to 0.1, the consistency in judgment is accepted, otherwise the judgment should be revised and re-weighting is required.

Paired comparison of criteria

Zebardast (2002) citing Saaty states: the mechanism that Saaty (1988) considered to investigate the inconsistency in judgments is calculating the coefficient called the inconsistency coefficient which is resulted from the division of the inconsistency index to the random index. When this coefficient is less than or equal to 0.1, the consistency in judgment is accepted, otherwise the judgment should be revised. In other words, the binary

matrix of criteria should be formed again [25]. The inconsistency index and the random index are drawn from the following formula and table:

$$I.I = \frac{y_{max} - n}{n - 1}$$

Table 3 Random index (RI)

N	1	2	3	4
R.I	0.1	0.09	0.06	0.04

Applying the Thomas L. Saaty comparison method, paired comparison of all criteria was done by experts and the geometric mean was calculated. Since in this research inconsistency index is less than 0.1, the consistency in judgment is accepted.

Based on Table 5 and Fig. 4, in the first state, main criteria were compared in binary form with each other.

Most experts believed that the most important parameter for the quality of cultural spaces is physical criteria, weighting 0.557 which got the first priority and it was followed by social (0.162), economic (0.148) and environmental (0.133), which got the second to the fourth rank.

Table 4 Binary comparison of main criteria

Main criteria	Physical	Social	Environmental	Economic
Physical	0	7	6	5
Social		0	4	3
Environmental			0	2
Economic				0

Table 5 Ranking main criteria

Main criteria	Final weight based on expert's opinion	Ranking
Physical	0.557	1
Social	0.162	2
Environmental	0.133	4
Economic	0.148	3

Source: data analysis



Fig. 4 Ranking criteria (Source: data analysis)

Paired comparison of sub-criteria

Applying the Thomas L. Saaty comparison method, paired comparison of all sub-criteria was done by experts and the geometric mean was calculated. Since in this research inconsistency index is less than 0.1 (inconsistency coefficient= 0.00), the consistency in judgment is accepted.

- Based on Table 5 and Fig. 6, in physical criterion, safety is considered as the most important sub-criterion with the coefficient of 0.361 and variety with the

coefficient of 0.040 got the last priority and was considered as the least important sub-criterion.

- In social criterion, the first priority was for justice with the coefficient of 0.231 and the last priority was for socio-demographic status of the neighborhood with the coefficient of 0.072.
- In the economic criterion, occupation with the coefficient of 0.357 was the first priority and cultural budget with the coefficient of 0.061 obtained the last priority.

In the environmental criterion, energy efficiency sub-criteria with the coefficient of 0.460 got the first rank of

importance and natural attractions of the location with the coefficient of 0.098 had the lowest rank of importance.

Table 6 Binary comparison of secondary physical criteria

Secondary criteria	Diversity	Compatibility	Human scale	Legibility-integrity	safety	Beauty and vitality	Accessibility
Diversity	0	2	3	4	1	3	1
Compatibility		0	5	6	2	4	2
Human scale			0	5	2	6	1
Legibility-integrity				0	2	5	3
safety					0	7	6
Beauty and vitality						0	5
Accessibility							0

Table 7 Binary comparison of secondary social criteria

Secondary criteria	Proportionate to citizens' needs	Justice	Social status of neighborhoods	Identity	Participation	Sense of belongingness	Security	Leisure time	Efficacy
Proportionate to citizens' needs	0	4	2	3	5	1	1/3	4	1
Justice		0	6	5	6	3	5	1	2
Social status of neighborhoods			0	4	5	2	1	3	3
Identity				0	4	3	2	5	3
Participation					0	7	6	5	4
Sense of belongingness						0	2	3	1
Security							0	6	2
Leisure time								0	1/2
Efficacy									0

Table 8 Binary comparison of secondary environmental criteria

Secondary criteria	Energy efficiency	Cleanness	Comfort	Natural attractions of places	Environmental and hygienic conditions
Energy efficiency	0	1	2	4	3
Cleanness		0	2	3	5
Comfort			0	6	5
Natural attractions of places				0	2
Environmental and hygienic conditions					0

Table 9 Binary comparison of secondary economic criteria

Secondary criteria	Investment	Employment	Income	Costs	Cultural budget
Investment	0	6	5	4	3
Employment		0	4	3	1
Income			0	4	5
Costs				0	1
Cultural budget					0

Table 10 Ranking the sub-criteria

Main Criterion	Sub-criteria	Final weight based on expert's opinion	Ranking
Physical (k)	K ₁ Variety	0.040	7
	K ₂ Compatibility	0.087	4
	K ₃ Human scale	0.255	2
	K ₄ Readability-integration	0.061	5
	K ₅ Safety	0.361	1
	K ₆ Beauty and vitality	0.059	6
	K ₇ Availability	0.137	3
Social (A)	A ₁ Tailored to the needs of citizens	0.102	4
	A ₂ Justice	0.231	1
	A ₁ Socio-demographic status of the neighborhood	0.072	9
	A ₄ Identity	0.078	8
	A ₅ Cooperation	0.084	7
	A ₆ Sense of belonging	0.108	3
	A ₇ Safety	0.127	2
	A ₈ Leisure time	0.098	6
	A ₉ Efficiency	0.100	5
Environmental (Z)	Z ₁ Energy efficiency	0.460	1
	Z ₂ Purity	0.135	4
	Z ₃ Comfort and wealth	0.136	3
	Z ₄ Natural attractions of the location	0.098	5
	Z ₅ Environment and health conditions	0.171	2
Economic (E)	E ₁ Investment	0.187	3
	E ₂ Revenue	0.256	2
	E ₃ Occupation	0.357	1
	E ₄ Costs	0.140	4
	E ₅ Cultural budget	0.061	5

Source: data analysis

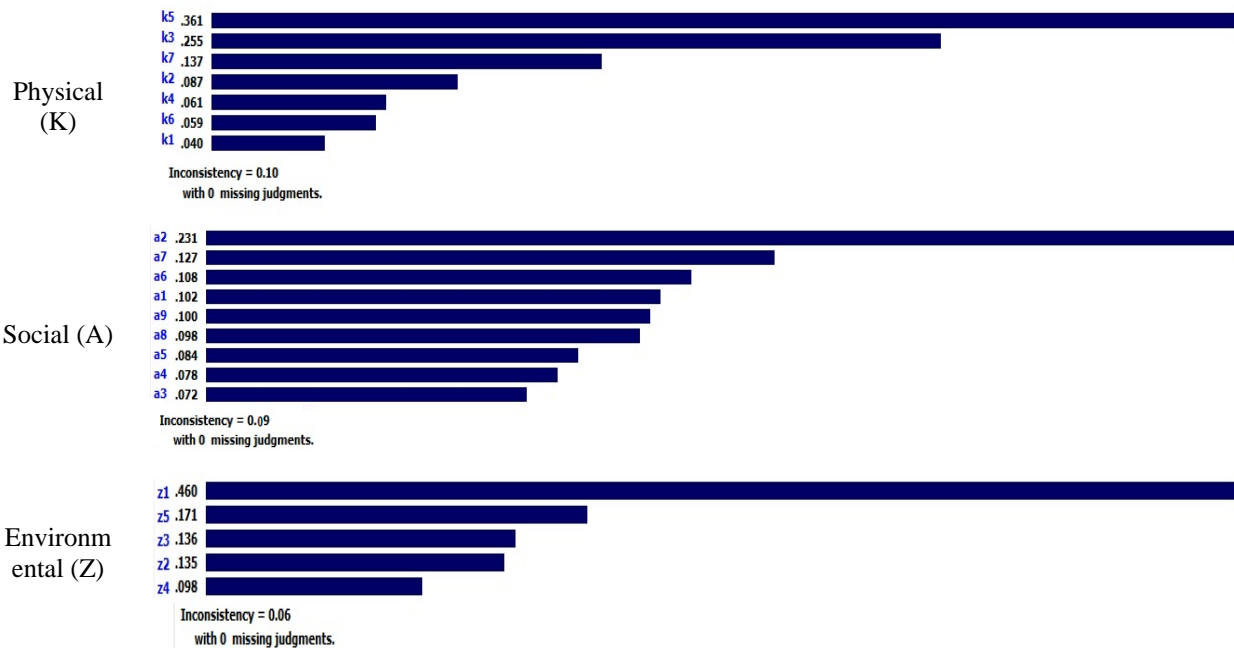




Fig. 5 Ranking sub-criteria (Source: data analysis)

5. CONCLUSION

Investigating methods and theories of cultural spaces as well as psychological components of cultural needs at different ages and the essential role of architecture and urban spaces in preparing the ground for the realization of these potentials, point to the significant role of environment in shaping individual's perceptive character. Such spaces provide a field for experimental facilities and exploratory learning in the form of participation and people interaction in a dynamic environment which has an influential and constructive role in sense of belonging to the place and perception of citizenship. Accordingly, creating spaces with the required components to access the cultural needs of different age groups and eliminating spatial deficiencies of existing cultural centers is a major step toward institutionalized criteria of a sustainable society. In fact, expected interactions and activities from these spaces, especially in the provision of spaces for participation and interaction will change the cultural and perceptive patterns of citizens which would move society towards sustainability.

As can be seen above, the aim has been to offer a scientific and accurate framework of cultural space quality. To this aim, use was made of accurate theoretical basics to define indexes in this field; finally, effective factors were defined using an appropriate method. In this respect, to obtain this goal, 26 influential factors were classified into 4 physical, social, environmental and economy components. Also, importance ratio of each was set using Analytical Hierarchical Process (AHP).

- It seems that physical factors are affective in the quality of cultural spaces.
- Applying the AHP model, the results of this study show that the physical factor has the first priority compared to the social, environmental and economic factors in the quality of cultural spaces.
- It seems that environmental factors are less taken into consideration in the quality of cultural spaces.
- The results of the hierarchical process model show that the environmental criteria with the sub criteria of energy efficiency, cleanliness, comfort, natural attractions of the location, environment and health conditions are in the last priority in the quality of cultural spaces.

So results of analysis of sub-criteria as shown in table 10 and Fig. 5 indicate that, regarding physical dimension, sub-criteria of beauty and vitality (0.059) and diversity (.040) had the lowest importance. Regarding social dimension, lowest importance are for two sub-criteria of social-population condition and identity with values of 0.072 and 0.078, respectively. Regarding the environmental

dimension, the lowest importance are dedicated to cleanness with value of 0.135 and natural attractions with value of 0.98. In economy dimension, sub-criterion 'cultural budget', with 0.061 weight value, had the lowest importance.

Sub-criterion of 'safety' with 0.36 value and 'human' with 0.25 value had the greatest importance within physical space. In social dimension, the most important sub-criteria were 'justice' with 0.23 value and 'security' with 0.127 values. Environmental dimension showed the most important sub-criteria with weight value of 0.46 for 'energy efficiency' and 0.17 for 'environmental and healthcare condition'. In economy dimension, 'employment' and 'income' with values 0.357 and 0.256 had the highest significance.

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AUTHOR (S) BIOSKETCHES

Izadi M., Ph.D. Candidate of Geography and Urban Planning, University of Isfahan, Faculty of Geographic Planning Science, Isfahan, Iran
Email: izadim90@yahoo.com

Mohammadi J., Associated Professor of Geography and Urban Planning, University of Isfahan, Faculty of Geographic Planning Science, Isfahan, Iran.
Email: j.mohammadi@geo.ui.ac.ir

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