

Evaluation of Factors Affecting the Increase of Liveliness in Community Spaces, from the Viewpoint of Architecture and Urbanism Intellectuals in Iran

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Received: 18 November 2017- Accepted: 13 September 2018

Abstract

The human life style in community spaces and deficiency in the number of appropriate spaces for the presence and gathering of people, indicates the need to create necessary infrastructure in order to reconcile people with public realms. This is a key requirement for the continuance of human social life and improvement of their social culture. Public (community) spaces are places that belong to all the citizens and acquire meaning only with presence of people and their activities. Therefore, creating different capacities such as liveliness and its improvement - as one of the key factors in this area - is necessary to make human presence more possible. The principle issue in this paper is to design a suitable lively place for improving the level of ideal social interactions with the help of liveliness factors. For this purpose, we will analyze and categorize effective factors in the improvement of liveliness in spaces such as variety, memorability, flexibility, readability, while presenting the views of professionals and experts of this field. This paper is carried out with the help of survey research method and the use of questionnaires. Also, liveliness factors have been evaluated by experts and professionals in two categories; physical and mental factors of public spaces. The result of this paper shows that the effect of mental factors on people's presence and liveliness of the public space are highly significant than the physical factors; Focusing on components such as liveliness in design, identifying and providing cultural and social needs of users, and considering these factors in the design of the complex, shows a meaningful connection with enhancement in the acceptance of these public spaces and of people's presence in them. This is due to the fact that joy and vitality of a space encourages the reappearance of people, and this creates hope in life and can have a positive effect on their personality development in this environment.

Keywords: Community space, Liveliness, The view of experts, Mental factors, Physical factors.

1. Introduction

Humans are social beings whose ideal life is to live in a collective form. Urban public spaces are considered to play an essential role in establishing social interactions. When people interact with others in their community, they sense a stronger relationship with their place and society. On the other hand, liveliness and vitality is one of the main components of a place with urban quality. Lively urban environments create social interactions between different people and create and enhance social capital (Kordjazi and Mirsaedi, 2014: 3).

A vibrant and lively environment can show people's commitment to one another. Liveliness is deduced from the enhancement of space; in other words, environmental factors can facilitate liveliness. Some spaces create motivation in a person, an incentive that will lead to greater presence of people in space (Askari and Litkouhi, 2015: 2). As a result, the design of public centers as a subset of public spaces for the use of the public from any age or group with the right to use it without any limitation, is recognized as an important necessity.

By exploring and understanding liveliness indicators, it can be understood that what makes these spaces socially active, is primarily physical factors that can trigger the

what is more effective than physical factors in the presence and social interactions of individuals, is anticipating and creating social events, which while creating common opportunities for social activities can also lead to a sense of liveliness in the place (Askari and Litkouhi, 2015: 3). The liveliness of public places depends on people's desires towards them and the kind of behaviors they provide. The tedious nature of a space and the lack of liveliness are not only offset by changes in the built environment, but there must also be a desire for engaging in activities (Jafari, 2010: 4).

The necessity of this research is due to the deficiency of lively spaces for the presence of individuals and the creation of appropriate social interactions. Regarding the research done in this area and the categorization of liveliness indicators, two categories of physical and mental components can be referred. It seems that among the many factors that various intellectuals have expressed in regard to the liveliness of space, mental factors are more effective than physical factors in promoting the liveliness of space.

Considering the mentioned points, this question is raised: what solutions can be presented to create a lively environment in public spaces and attract people to the designed space with respect to the liveliness factors?

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2. Research Background

In light of the extensive research done in the field of liveliness, to achieve a better understanding, a brief introduction of the ideas of the intellectuals in this field have been addressed and in the literature of the research's section, the definitions and main concepts have been discussed.

Jane Jacobs and Kevin Lynch are two of the intellectuals who have specifically addressed the issue of liveliness. The different approaches of these two are more about the liveliness of urban spaces. Lynch has mainly considered biological and ecological criteria more than socio-cultural factors.

In the book "Theoretical Basis and Urban Design Process", Jahanshah Pakzad says, "Life of the individual is among the totality and community, and what gives life to a space is people and their active and passionate presence in the space" (Pakzad, 2014: 105).

Koroush Golkar also quotes different perspectives on the existential state of urban liveliness in a paper entitled "The Concept of Living Quality in Urban Design". On the other hand, in his book "Responsive Environments", Jan Bentley (1976) points to the factors such as permeability, diversity, readability, flexibility, sensory richness and belonging, and considers them as factors that contribute to increasing the presence of people in the environment and improving the level of its responsiveness (Bentley, Alex, Maureen, McGillin, and Smith, 2016: 95). In his book "Creating an Architecture Theory", John Lang also emphasizes the increasing presence of people and the establishment of social interactions (Lang, 2011: 13).

Vikas Mehta and Jeniffer K. Bosson in a paper entitled "Revisiting Lively Streets: Social Interactions in Public Space" Poses that Given the investment in streets, it is imperative for planners and urban designers to determine what makes streets social places. Defining street liveliness as stationary social behavior and duration of stay, we present an empirical longitudinal study extending previous research findings. Extending prior findings, we ask, what changes in street characteristics over time predict increases in liveliness? Complementing previous results, we found liveliness was significantly predicted by increases in commercial seating, public seating, block variety, independent businesses, and community-gathering places (Mehta and Bosson, 2018).

Also Jamie Anderson and Kai Roggeri Kohen Steemers in a paper entitled "Lively Social Space, Well-Being Activity, and Urban Design: Findings From a Low-Cost Community-Led Public Space Intervention" say that We examine the extent to which a public space intervention promoted liveliness and three key behaviors that enhance well-being ("connect," "be active," and "take notice"). The exploratory study combined directly observed behaviors with self-reported, before and after community-led physical improvements to a public space in central Manchester (the United Kingdom). The findings demonstrate the feasibility of the research methods, and the impact of improved quality of outdoor neighborhood space on liveliness and well-being activities. The local

community also played a key role in conceiving of and delivering an effective and affordable intervention. The findings have implications for researchers, policy makers, and communities alike (Anderson et al, 2016).

Siavash Jalaladdini and Derya Oktay in a paper entitled "Urban Public Spaces and Vitality: A Socio-Spatial Analysis in the Streets of Cypriot Towns" say that This paper focuses on the issue of vitality in urban public spaces, streets in particular, as a major indicator of their success. The study first provides a theoretical framework for understanding the social value and role of urban public spaces on quality of urban life; second, it discusses the essential components of vitality in streets. Finally, investigating vitality and its determinants in two major streets in Famagusta and Kyrenia, North Cyprus, the paper highlights the issues of proper connections and proximity to important magnets, and physical and social attributes in the street area (Jalaladdini et al, 2012).

In relation to the background of designing cultural centers, based on the advantages of some built complexes, they can be categorized as examples of lively public spaces which the presence of liveliness factors in them is visible. Heydar Aliyev cultural center, Georges-Pompidou cultural center, the new Louis Vuitton headquarters, etc. are some examples of such spaces in foreign countries. Although in Iran, according to some characteristics like inspiration from traditional architecture symbols, variety of spaces, simple and various masses, etc., Niyavaran cultural center could be in the lively space classification. In conclusion, by analysing the said cases, a suitable background for designing lively spaces can be achieved.

3. Definitions

3.1. Community space

On the verge of the third millennium, public spaces are considered to be the third place that play a major role in establishing social interactions (Kashanijo, 2010: 95). These places are where the highest number of interactions take place among citizens and are the mainstay of the functional and ceremonial activities of the citizens (Andalib, 2010: 18).

It can be said that the "public space" is the same as "community complex", a space in which social life is flowing and is in people's collective memory due to a historical and social reality or a predefined program. The existence of community spaces has played a very important role in attracting people and their presence in the cities. This presence provides opportunities for social interactions and social responses and creates a common collective memory - a sense of belonging to the space (Lavasani and Yazdani, 2010: 42).

In addition to the characteristics of public spaces that are of both objective (space physic, urban services, availability) and subjective characteristics (urban life, continuity over generations and interactions among individuals), public spaces also have other features. The cumunal space is the product of the seizure of space by users and their activities. Space occupation is different

from its seizure, because people present in the cumunal space, unlike the public space users who are separate groups of individuals, form human units that share the same spatial experience. From this feature, it can be understood that the main distinction is the meaningfulness of space for the user, and the main characteristic is human intervention for giving meaning to it (Mansori, 2015: 63).

3.2. *Liveliness*

The concept of liveliness has entered the field of urban-architectural engineering from the social sciences and psychology from several decades ago. In the dictionary of Dehkoda, the word "liveliness" is defined as "Having vitality and joy" (Dehkoda, 1998). The words of vitality and joy in Persian are used in the same sense, however with the publication of Donald Epilard's classic work, what has been said in the urban design literature since 1981, is mainly about the concepts of "liveliness" and "liveability" that means "liveliness" in Persian (Okhovat, 2003: 19).

The general definition of liveliness can be the ability of a place to provide a variety of activities and users (with a variety of economic, social and cultural backgrounds)

with the aim of diversifying social experiences and interactions in such a way that security, equality and comfort is provided for all users (Dadpor, 2012).

In the end, it can be said that a lively cumunal space is an urban space in which the presence of a significant number of individuals and their variability (in terms of age and gender) can be seen over a wide scope of the day in which their activities are mainly selective or social (Khasto and Saeedi Rezvani, 2010: 66).

4.Theoretical Framework for Explaining the Components of Liveliness

Given the various definitions of the various scholars of various disciplines (such as psychology, sociology, urbanism, etc.) in relation to liveliness, we have to present different views of theorists in order to understand this term and its components. Therefore, the different perspectives on the concept of liveliness (considering that architecture has not been widely investigated in relation to liveliness) are summarized in Table 1. Finally, the components of liveliness will be presented based on all the provided concepts.

Table 1
Summary of the views of domestic and foreign scholars on liveliness (Source: author)

Theorist	Key concepts
Pakzad	Life of the individual is being among the totality and community, and what gives life to a space is people and their active and passionate presence in the space (Pakzad, 2014: 98).
Golkar	He defines liveliness as one of the components of urban design quality. He categorizes different perspectives on the existential state of urban liveliness into three categories: objective view (environmental determinism), environmental probability (mental view), and environmental probability (Golkar, 2006: 26).
Lynch	He considers liveliness as one of the seven main pillars of quality in a public space. These seven pillars are: liveliness, meaning, proportionality, access, monitoring and discretion, effectiveness, and justice; that is, to what extent the city's form is supportive of vital functions and biological needs, and most importantly, how it enables the survival of all beings (Lynch, 2014: 165).
Jacobs	Jacobs considers dynamics and liveliness to be complex, dense and crowded, and points to the positive economic, social, and emotional effects of such spaces. Thus, diversity of use, physical diversity, and diversity of activities are the main conditions of urban liveliness (Jacobs, 2013: 15).
Landry	He separately defines liveliness and survivability and identifies nine effective criteria for liveliness: useful individuals' density, diversity, access, safety and security, identity and distinction, creativity, communication, organizational capacity, and competition (Landry, 2008).
Bentley et al	The built environment of mankind can greatly influence the possibility of leaving or remaining in a place by expanding the options available to the public. He points out factors such as permeability, diversity, readability, sensory richness and degree of Belonging, and considers them as effective factors in increasing the presence of users in the space and promoting its level of responsiveness (Bentley, Alex, Maureen, McGillin, and Smith, 2016: 82).

A review of the ideas of scholars reveals a wide range of the indices and components related to the concept of liveliness and its components. To discipline such a wide range of various elements and concepts that experts have

pointed out, it is necessary to formulate a theoretical framework. Table 2 shows the common components of scholars and intellectuals in the field of liveliness:

Table 2
Exploring the common components of space liveliness from the viewpoint of scholars (Source: author)

Theorist	Lynch	Jacobs	Pakzad	Bentley Et Al
Effective factors in space liveliness	-	Using Of Different Mixed Use	Forms Variety - Various Micro Spaces	Variety
	Meaning	Readability	-	Readability
	Access	Permeability	-	Permeability
	Compatibility	Flexibility	Various Use	Flexibility
	-	Visual Proportions	Visual Quality	Visual Proportions
	-	Sustainability	-	Efficiency In Energy Consumption And Cleanliness
	-	Partnership	-	degree of Belonging
	Control and Observation	-	Small Height Differences- Specifying Space Boundaries	-
	-	-	Memorability	-
	-	-	-	Movement In Space

Theorists, in line with their studies, offer models to classify, these qualities. Two common models in this area are the Cantor Model and the Kermuna Model are reviewed in this paper. Based on the Cantor model (Figure

1), which is also known as the Place Model, the urban environment is a place consisting of three interconnected dimensions of "bodies," "activities," and "assumptions." (Golkar, quoted by Cantor, 2001: 53).

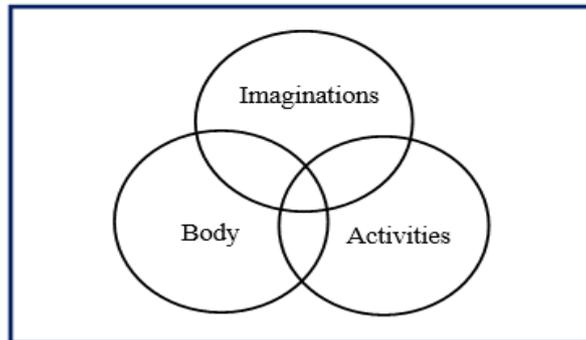


Fig. 1. Cantor model (Source:Punter,1999)

Also, in Mathew Karmona model (Fig. 2), six different aspects of the qualities of a desirable urban environment are expressed as perceptual component, social component,

visual component, functional component, perceptual component, and temporal component (Kermona, 2003).

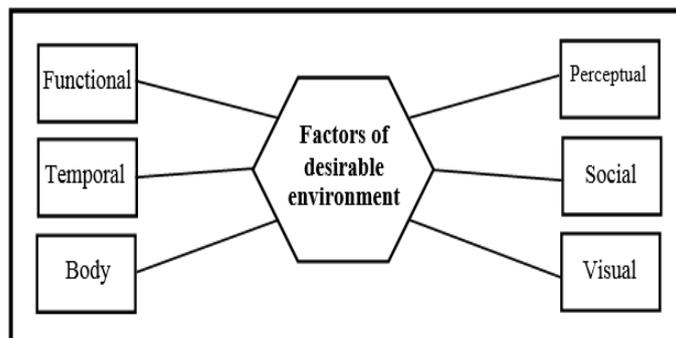


Fig. 2. Carmona model (Source: authors)

4.1. Concluding the views of scholars and intellectuals

Considering the components expressed by experts, the proposed models and the compliance of common concepts with the presented models, an analysis is carried out to identify and use the most comprehensive and effective components in promoting the liveliness of communal complexes.

In his book "Responsive Environments", Bentley (1976), it has been emphasized that "the built environment of mankind, by enhancing opportunities via expanding options available to the public, can greatly influence the possibility of leaving or remaining in a place. He points out factors such as permeability, diversity, readability, sensory richness and belonging" (Bentley, Alex, Maureen, McGillin, and Smith, 2016: 82).

The theory of Bentley and his colleagues in the book "Responsive Environments" is considered inadequate due to the lack of attention to the environmental (climatic) considerations, and in the light of the criticisms made, Bentley was ultimately led to add three criteria related to environmental and ecological issues to previous seven criteria in 1990 (Golkar, quoted by Bentley, 2001: 54).

Because creating environmental comfort and considering environmental factors can play an effective role in the liveliness of an environment. Also, Golkar's perspective

on the important challenge of design is how to create a good relationship between creating security, increasing social positive interactions, and physical characteristics of the environment. As a result, 10 main and important components can be taken into account, which according to the various concepts provided by experts, are the most appropriate terms for understanding and using these components.

Consequently, by looking at the stated content and summing up the indicators of liveliness affecting the cumunal space, it can be found that the components of liveliness have mutual and close physical and mental effects on the audience of the space. Therefore, the following subdivisions are considered by the author, based on their greatest physical or mental effects on users. The components of security, sensory richness, belonging, and more memorability are defined by the mental and emotional impact that space has on the audience. However, the environmental components, visual proportions, readability, variety, permeability and flexibility are more effective on the physical form of the building and affect the quality of the built space. A built environment that has the characteristics of the expressed components, can create a vibrant and dynamic atmosphere. Table 3 summarizes the definitions of the components of liveliness:

Table 3
Definition of each factor (Source: authors)

Total classification	Factors	Definition
Mental	Security	A space with mental and physical security
	Memorability	The space stimulates the positive emotions of users by creating a familiar scene.
	Sensory Richness	Achieving different sensory experiments due to varied opportunities which is a result of "choice" (Kalber, 2009: 113).
	degree of Belonging	The union of human and environment in a way that they consider the environment familiar and make connection with confidence (Bentley et al, 2015: 293).
Physical	Permeability	Spaces that are accessible to people and give them the right to choose (Bentley et al, 2015: 6).
	Variety	A place with variety in use which includes different kinds of buildings with varied and different forms (Bentley et al, 2015: 59).
	Readability	The quality that makes the environment comprehensible (lynch, 2014: 221).
	Flexibility	Places which are used for different aims (Bentley et al, 2015: 157).
	Visual Proportions	People interpret the environment according to its meanings. If the interpreted meanings support its responsiveness, the environment has this quality (Bentley et al, 2015: 227).
	Environmental Component	Creating environmental peace and considering environmental and climatical factors (lynch, 2015: 253).

5. Research Methodology

According to the nature, subject and objectives of this paper, the research methodology is established based on the survey type and is also an applied research. Since in this research, the questionnaire were used to proved hypotheses, the required data are gathered through library and field methods.

The components are gathered based on the studies and revision of the views of the scholars in different fields

about liveliness. In order to prove the hypotheses of the article the questions of the questionnaire were formulated, based on the definitions of components, as the tool of gathering data, which they were confirmed using Cronbach's alpha test. The calculated alpha value in this article is 0.869 which assures the required degree of reliability. Therefore, the description and testing of the relationships of variables is scientifically valid. The hypothesis of the paper was evaluated using a statistical population of 10 university professors and experts in this

field. After collecting the comments, the analysis of the collected data was accomplished using the SPSS software and through the Friedman rank test. By identifying the average ranking of liveliness components, the most effective set of indicators was determined and the hypothesis was tested.

6. Analysis of Data

Based on the analysis of the questionnaires given to the professors and experts and the analytic Table 4, which illustrates the ranking and average of physical factors, It can be concluded that the variety, readability, visual proportions, and permeability factors in Freedman’s Test are in the same level. Meanwhile, the environmental and flexibility factors are in the next levels. The frequency of each physical factor is shown in figure 3.

Table 4
Freedman’s Test Rating for physical factors (Source: authors)

Descriptive Statistics	N	Mean	Std. Deviation	Minimum	Maximum	Mean Rank
Variety	10	11.0000	2.00000	7.00	15.00	4.00
Readability	10	11.0000	2.00000	9.00	15.00	4.00
Environmental c	10	8.0000	1.00000	7.00	10.00	1.00
Visual p	10	11.0000	2.00000	8.00	15.00	4.00
Permeability	10	11.0000	1.05935	9.00	13.00	4.00
Flexibility	10	8.0000	1.00000	6.00	10.00	1.00

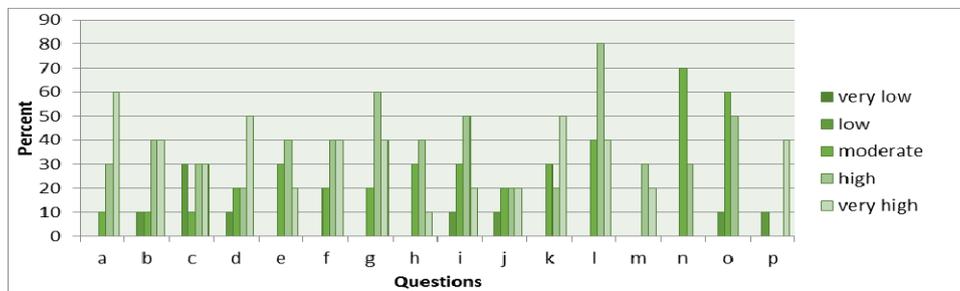


Fig. 3. Physical factors graph (Source: authors)

The analytic Table 5 shows the effective mental factors on liveliness such as: sense of belonging, security, memorability, sensory richness, in which the average of memorable factor is more than the others. Also, in Freedman’s Rating Test, sense of belonging, being

memorable, and sensory richness factors have the same level of effect and after that, the security factor is influential. Figure 3 shows the frequency of each mental factor according to the questions.

Table 5
Rating and analytical statistic of mental factors in Freedman’s Test (Source: author)

	N	Mean	Std. Deviation	Minimum	Maximum	Mean Rank
degree of Belonging	10	7.0000	.00000	6.00	9.00	2.00
Security	10	7.0000	1.00000	6.00	10.00	1.00
Memorability	10	8.0000	1.00000	5.00	10.00	2.00
Sensory r	10	7.0000	1.00000	4.00	9.00	2.00

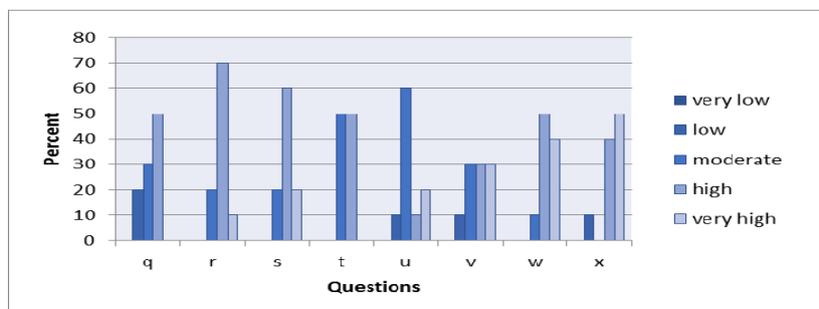


Fig. 4. Mental factors graph (Source: authors)

Based on the comparison of the two classifications and analyses shown in Table 6, it can be concluded from

professors and experts’ answers that the effects of mental factors of the communal space are significant than the

physical factors. This rating, which is obtained from Freedman's Test, is shown in following table.

Table 6
Rating of Freedman's Test for factors classifying (Source:

	N	Mean	Std. Deviation	Minimum	Maximum	Mean Rank
Mental	10	62.0000	8.00000	49.00	76.00	2.00
Physical	10	30.0000	4.00000	21.00	35.00	1.00

7. Conclusions

The deficiency of appropriate lively spaces for the presence of individuals and the need to create such spaces, necessitates the identification and investigation of the most effective components of liveliness in the communal spaces. Since most of the investigations about liveliness have been carried out in the urban field and its effects have not been studied in the field of architecture as much, the characteristics and criteria of lively spaces were investigated and gathered. Accordingly, the effective factors on the enhancement of liveliness were derived from the concepts presented by experts and the orists of various fields with consideration towards the obtained theoretical model from this research.

Based on the gathered concepts, two categories were presented by the autor; physical and mental components. By investigating the stated indicators, it can be deduced that the components of sensory richness, sense of belonging, security and memorability are defined using mental and emotional effects of the space on the audience. If the environmental components, visual proportions, readability, variety, permeability and flexibility are more effective on the physical form of the building, they affect the quality of the built space. By analyzing the questionnaires, it is concluded that mental components are more effective than physical components in space liveliness. A space that has psychological security, a familiar, comfortable, informal, and public environment, which involve people's direct participation, can provide a variety of sensory experiences to its users. Consequently, provoking the positive emotions of the users, leads to their reappearance in the space, which is by itself the reason for the liveliness of the space.

The results of this research in the field of architecture shows that using the concept of liveliness and its solutions, enervation and reiteration can be largely removed from the communal and cultural spaces and replaced by liveliness and dynamism. A built space that has the characteristics of the expressed components, can create a lively and dynamic atmosphere; a space which in addition to attracting people and creating a suitable environment for interactions, is also effective in developing a city's economy or metropolitan area.

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