

The Effect of the Built Environment on the Human Psyche Promote Relaxation

Hazhir Rasoulpour*, Farzin Charehjoo

Department of Architecture, Sanandaj Branch, Islamic Azad University, Sanandaj, Iran

Abstract The improvement of human psyche and help to achieve psyche calmness is undoubtedly one of the most important roles of the built environment in manifestations of designing environment. The present study examines role of the build environment and recognizes environmental factors affecting the promotion of calmness of human psyche and defines the environment by benefiting from library studies and evaluation of previews data and opinions of experts in the area of environmental psychology and studies its relationship with human psyche. This study in addition to introduce some factors such as environmental capabilities, architecture manageability, interestedness in place and dependence to place as a factor related to the environment and mutually affecting human psyche, identified the factors influencing the promotion of calmness of human psyche and provided their results in the form of a general conclusion.

Keywords The built environment, Human psyche and behaviour, Calmness of human psyche, Urban designing

1. Introduction

The origin of considering to psyche and soul probably goes back times farther than recorded history. In fact, the interest in understanding invisible dimension of human can be traced back to the oldest curios minds. Human being has always wondered about his behaviour and thoughts about the human nature and behaviour have filled many religious and philosophical books. In the fourth and fifth century BC, Plato, Aristotle and other Greek scientists dealt with the issues that psychologists today are involving in them, issues such as memory, learning, motivation, perception, dreaming, and irrational behaviour (Schulz, 1991: 19). Aristotle introduced psyche as one of his first discussions and if one philosopher be worthy of initiator in psychology in the ancient world, undoubtedly, he is Aristotle. He is a person that stated the detailed and regular discussion of basic issues in psychology for the first time (Miziak & Sexton, 1992:23). Although the literal meaning of psyche is soul, it has another meaning and application in psychology and refers to visible and tangible manifestations of nervous system work that includes all the cognitive elements like (intelligence, memory, perception, etc.), feelings and emotions like (fear and anger, happiness and sadness, etc.), action and reaction like (conduct, behaviour, movements, etc.) that of course, all of these elements affected by normal changes and morbid body, as well as affected by

environmental factors and space and time conditions (Davoodian, 1997: 155). Accordingly, human behaviour and psyche are affected by his surrounding environment, studying and defining environmental psychology is important. Environmental psychology deals with the relationship between human and physical environment. Specially, social psychology has played an important role in developing environmental psychology by the primary and strong impact of Kurt Lewin and his students. Today, environmental psychology is studying a range of topics, but all that topics are based on empirical researches. More than any other psychologists, environmental psychologists' studies include solving human's problems in real environments (Mc Andrew, 2008:30). The basic issue of understanding the role of the build environment in people life is to understand the meaning of what is the meaning of «environment». «Surrounding environment» is the main criterion of environment definition (Gibson, 1966; Ittelson 1973). Therefore, each define, describe or explain of nature of environment application should be based on something in surrounding environment. The word environment (Mohit in Persian) has many applications that it is difficult understanding its meaning. Geographers define it as land and weather. Psychologists define it as people and their individual characteristic. Sociologists define it as social organizations and processors. Architects define the buildings, open spaces and landscapes as environment. Each of these categories is linked to purposes that are expected from the environment (Porteous T1977). Any built environment has a set of capabilities for human activities and aesthetic experiences. This is the environment that influences human psyche by effecting on human behavior in specific range

* Corresponding author:

hrasolpor@yahoo.com (Hazhir Rasoulpour)

Published online at <http://journal.sapub.org/arch>

Copyright © 2017 Scientific & Academic Publishing. All Rights Reserved

and time. Accordingly, studying the Effect of the Built Environment Role on Promoting Calmness level of Human Psyche is a noteworthy point.

2. Importance of the Study

Architects, designers of environment and landscape and urban designers used physical environment for referring non-social and non-cultural aspects of environment. Definition of the buildings should be comprehensive. Therefore, these definitions are not precise. In contrast, the terrestrial environment is only considered as the nature of Earth and its processes. Understanding this process is important because with the exception of basic discoveries Earth's outer space and on the surface of moon, human life environment is the environment of Earth. The build environment should be adapted to the terrestrial environment. All forms of life are formed in specific geographical areas. There are attractions everywhere, but distribution of elements such as hills, valleys, trees and lawn, seas and lakes are different. Some areas are more fertile than other areas. In each local environment, each of these features meets various needs and therefore, greatly affects human behavior. Some aspects of the environment control human behavior (Lang, 2004:88).

Earth's environment includes elements of solid, liquid and gas. The relative hardness and durability of Earth's environment allow animals and human to move from one place to another and find their directions carefully (or lost). Earth's elements can be recombined by human and some animals and converted to other objects (Same). Today, modern man spends most of his time outside the house and in urban open spaces on the way of home to work and vice versa. This has led to use house only for physical rest. With these situations of missions of architecture, designing and replacing a location in open space for the calmness of human psyche or in other words, designing urban spaces are commensurate with the human psyche. According to the important role of environment in human life and finally its effect on human psyche, it makes more necessary the importance of the research about identifying the factors affecting environment and the role of built environment on Promoting Calmness level of Human Psyche. The results of this study can be used in urban designing help the relevant entities (municipalities and consulting firms of designing), social entities (social and cultural research centers) and despite involving architecture science with the problems of sociologists and psychologists, it can be important in the field of urbanization culture and behavior of citizens.

2.1. Research Guidelines

In this study, two main questions are raised:

First: what is the built environment? And how does it effect on human psyche?

And second, how does the built environment help to promote calmness level of human psyche by affecting human

psyche?

2.2. The Research Method

The method of research is adopted from documentary studies and uses more the judgment and comparative results, architectural conclusion of documents and the results of the researches with analytical expression. In this study first by referring to some relevant references with environmental design, it is discussed identifying the features of built environment. Then, environmental influences on human psyche and its role in making appropriate mental features are examined and finally, the results obtained from the researches and previous written documents as the components of built environment affecting the promotion of the calmness of human psyche are summarized and concluded.

3. Environment

There is a relationship between every living creature and its surrounding, though it is formed innate but its nature is more adaptive and only in some cases human reaction is instinctive. This means that people should learn the concept of things in relation to his environment, where is the place of everything? And how he should behave in the face of everything? During the time and by increasing experiences, a huge network of information massing in our mind is created and finally we will be able to recognize all objects.

This recognition gives us the power to control their environment even without everything being directly exposed to our perception at any moment. By the early seventeenth century, paintings and sculptures were created for specific locations. This is a relatively new thought that a painting can be moved from one place to another (Greuther, 2011: 129). In our imagination everything is always expressed in relation to the specific environment. For example, we always imagine a book on screen of individual memories in a library or on a desk, not in a full glass of water or in a refrigerator. This property takes a stronger state about building. We always see Eiffel Tower next to Seine River in Paris, not on the top of mountain in Switzerland or in a bowl of soup. Architecture not only in reality is connected to the environment, but also it is as the same in our memories world (same).

The architecture environment is formed by a surface of materials with colourful tones of textures, brightness and different degrees of transparency and spaces among them. These factors are one of the essential criteria of designing. The built environment is a set of adaptabilities that a man makes it with cultural-geographical environments. Organizing the environment effects on the mutual relationships between people and geographical environment, in addition, it changes heat and light, sound and smell and individual's mechanical contacts. It is affected by the changes of social-cultural environment of people to some extent. With any changes in the built environment, there is

the possibility of the change of world capability (Lang, 2004: 93).

The built type of environment or in other words, architecture is a set of more or less complex spatial systems that effect on each other, overlap each other, interact with each other or compete with each other. Such combinations of spaces can be seen everywhere (Greuther, 2011: 188).

3.1. Environmental Psychology

Proshanski (1990) believes environmental psychology is a field that deals with the interactions and relations between people and their environment and he pointed out every physical environment is social environment and it sometimes is impossible separating these two aspects from environment. After all, environmental psychology with the content of building, natural and social environment and by emphasizing on people interactions (as it can be seen in the large groups or communities) is known in the environment (Mc Andrew, 1999: 2). Therefore, environmental psychology is a knowledge that connect psychology to environmental sciences, because on one hand psychology focuses on the individual and his personal characteristics and it has less attention to outside the individual's mind and on the other hand, environmental sciences need to understand human's mental features as his plans' addressee. In this case, ecological psychology makes a shift paradigm from emphasizing on person to emphasizing on environment that leads to the explanation of the theory of behavioural subcase.

Behavioural subcase is as units of environment that a person experiences them in his everyday life and he placed within them by repeating and doing certain behaviours. In fact, they are different states that a person involves in them during his everyday life and in each of them he has proper behaviour to that, so that, his behaviour changes with transition from one situation to another. This basic unit of environment consists of an element that their relations can be identified and analysed (Golrokh, 2012: 2-3). Usually, in environmental psychology emphasize is on how behaviour, emotions and feeling of wellbeing are affected by physical environment. Studies emphasized on how man-made environments such as buildings and cities effect on behaviour, especially when these construction environments lead to congestion or as Milgram (1970) stated lead to sensory overload. In recent years, studies on environmental psychology have been increased in a considerable form by more emphasizing on how natural environments effect on human, more studying on the human effects on physical environment and their interactions with the risks of artificial and natural environment (Mc Andrew, 2008:2). There have been increasing efforts to environmental psychology enters the field of problems that development designers of countries are facing to them. Before such efforts have done, researchers should achieve a full knowledge of cultural, economical, and political factors involved in the problems of countries. As a result, the common collaboration of

connection between environmental psychologists of the United States and their counterparts in other countries is growing. Recent examples can be referred to the cooperation between environmental psychology plan at Arizona University and Lymly University in Peru and a similar project between architecture and urban planning school at Wisikansi-Milwaukee University and Gadjadara University in Indonesia (Hardy, 1989; cited in Mc Andrew, 2008: 11).

3.2. Cultural Environment

In a culture all people not behave the same way. Always, there are acceptable deviations from cultural norms. Therefore, all members of a particular culture do not refer to the same things in environment. All situations do not understood by people and all situations that are understood are not exploited. Environment is rich in terms of behavioral capabilities. Things used in a society can be as a feature of that culture and its individual values and needs (Lang, 2004: 91).

3.3. Built Environment

The basic issue of understanding the role of the built environment in human life is to understand the meaning of environment. The surrounding space is the main criterion of the definition of environment. The environment has a potential power to meet man's experiences and behaviors. Information of environment are obtained through the cognitive process that they are motivated by mental schemas and directed by human needs. These schemas are partly both innate and learnable and make the connection between cognition and perception. Schemas not only guide the cognitive process, but also they guide emotional reactions (affection) and actions (spatial behavior). In contrast these processes and reactions affect mental schemas as a result of understood behavior. Human feelings and actions are made by capabilities of natural environment, and cultural environment and human inner characteristics are limited (Gibson, 1966).

3.4. Environment Affordances

Environment is a set of abilities or in other words, it is the organized Affordance. The word is from English word Affordance that is stated in 1979 by James Gibson (Lang, 1987; Heft, 1988; Heft, 1981). Environmental capabilities or affordances of anything, according to Gibson, are a set of physical features that make them useful for a particular creature. In other words, an object or a place has some features that make its performance meets human and animal needs (Gibson, 1979). If the environment performance does not match with the human mental patterns, that environment does not have performance affordance and causes to make stress. Lack of competence or affordance is arise for various reason, such as confusion, sudden cognitive changes, wrong cognitive factors, uncertain feedbacks, ambiguous signs, plurality of signs, and lack of compatibility of designers' and

beneficiaries' mental patterns with space. Tangible examples of environment affordance have been proposed by the researchers including the ability to climb and down stairs in accordance with human dimensions (Warren, 1984), the ability of a surface in relation to sitting (Mark, 1987; Mark et al., 1990), being impassible and passable obstacles (Pufall & Dunbar, 1992), ramp surfaces affordance to go up and down (Adolph, 1995; Adolph et al., 1990). There is a close relationship between two concepts of environment competence and understanding. It means that if the plan and its components have environmental affordance in necessary level, the environment is understood by people. It will be the impact of non-understanding environment on human, making stress and unfavorable mental states including confusion, anger or even aggression or frustration (Norman, 1989).

4. Architectural Controllability

In general, when people have the ability to change and adjust their environment, they have control over that environment. The following concepts are closely related to the concept of control:

Space constraints, flexibility of spatial layout, privacy, territory, proper perspective, depth, being open the surrounding space of building on the site, visibility, responsiveness, control over climate and lighting.

Inadequate spatial resources are expressed both about space density and about the volume of space. If spatial resources are insufficient, the amount of spaces available to change in order to achieve maximum satisfaction and providing optimum needs are reduced. This means that control is dropped on the environment and reducing the environmental control will be coupled with stress (Glass & Singer, 1972). One of the main concepts of flexibility is the degree of openness of surrounding, mobility of dividers and semi-mobile furniture. If the spatial arrangements are inflexible and unchangeable, the amount of individual's control over the environment is significantly reduced (Sommer, 1969). Environmental responsiveness is another component in this field that refers to transparency and respond speed that person receives when he works in a particular environment or with a particular object. The important point about responding is difference and distinction of responses. Clear and separate actions in the responsive environment create unique responses about the results of any action. In addition to the significance of differences and separability of responses in the amount of environment responsiveness, duration of non-responding, it means the latent phase and time of responses appearance, are also important. This means that as the mentioned delay is longer, environmental responses will be evaluated weaker and the individual will have the sense of helplessness because of the sense of lack of control over the environment. For this reason, non-responsibility of the environments is one of the main factors in development of making stress and

helplessness in people, especially in children (Cohen, et al., 1986).

The lack of balance between desirable privacy and obtained privacy in environment leads to make stress (Altman, 1975). If an individual or group can make their desirable privacy in the built environment, they have the ability to control social interactions. The mentioned point is the most important factor in feeling the concept of control in internal environments by person (Evans & McCoy, 1998). Archea refers to depth as one of the control components and deep spaces provide the privacy (Archea, 1977). Long-term experiences of uncontrollable environment can make the sense of helplessness and ultimately lead to the emergence of mental illnesses (Evans, 2003; Evans & Stecher, 2004). When a man in space understands the needs for change according to their needs, then with the limits of his authority faces to change the situations in order to meet his needs, he will have emotions and psychological reactions, respectively, stress, anger and aggression, helplessness and eventually disappointment with the progress of time (Evans & McCoy, 1998).

According to what was said about culture and environmental influences on it, it can be concluded that architecture is the expression of one nation's culture and architecture and culture have mutual influence on each other. As a culture is involved in providing a magnificent architecture, as the same size architecture has the crucial role in the development of the nation's culture. So that, architecture has brought the culture of urbanization and making sense of responsibility to its neighbors and the cooperation paths by designing the apartments and coming plans of urbanizations in different regions of the world (Author).

Thus, the role of architecture and the built environments in promotion of the calmness level of human psyche cannot be ignored, but how this role is involved in making this sense and will be its cause?

Urban settlements before modernism, public spaces such as urban squares and markets were as an arena for social communications and in fact, they were considered as the places of social interaction of a large number of people that made possible these interactions (Madanipour, 2005). In addition, open spaces help people in making the sense of trust and confidence and cause to increase the sense of solidarity and belonging in people. In fact, these spaces merely are for the passive presence (Pakzad, 2010). With the distinction between public space and urban space, only those spaces that have the ability to make social interaction and communication are assessed in higher degree and as the urban spaces.

For the calmness of human psyche and the promotion of its level, the task of architecture is clear according to what was stated. Architecture should create a sense of interestedness in spaces among citizens by providing elegant and efficient designs.

5. Interestedness in Place

The term interestedness in place refers to emotional impact of place where people emotionally and culturally are attracted. Sensory, emotional and internal effect of place on human is the center of think of interestedness in place, because humans can attract to an object, house, building, neighborhood or a natural subbase. In fact, interestedness in place is a symbolic relationship with place that is formed by individuals as a particular place or land by giving common emotional and sensory cultural meanings and it is the foundation of perception way of group or individual from place and way of his relationship with it (Low & Altman, 1992: 5). Interestedness in place is a dimension of whole sense of place and positive emotional interestedness that develops between person and place (Stedman, 2003: 674). This term is between individual's emotions toward the geographical location that emotionally binds individual to that location, in fact, it is a positive experience of the place (Rubinsfelin & Parmelee, 1992: 139) and it is the results of positive beliefs and emotions that individual creates in the process of interaction with the place and giving meaning to it (Miligan, 1998: 1). This is in the process of interestedness in place that space is changed to place for the individual because a group or an individual gives meaning in communicating with it (Rubinsfelin & Parmelee, 1992: 139) and individuals develop their relationship with others and place in this process.

Interestedness in place is resulted from the activities and interactions between human-place and human-human in a specific location (Alfman, 1992; Low & Relph, 1976) and deals with a special place with the mutual effect of emotions, knowledge, beliefs and behaviors (Proshansky et al., 1983: 155). However, Ahrenzfien considers it as the relationship among place, individual, social knowledge and his beliefs (Ahrenzfien, 1992: 113). In addition, there is a direct relationship individual's interestedness rate in place and his consideration to it. This means that by increasing individual's interestedness in place, individual's care and attention level increases (Manor & Mesch, 1998: 509).

On the other hand, at the same time that interestedness in place depends on is resulted from person's emotional relationships with place based on himself and his internal interactions when confronted with place, it also depends on the degree of social belonging (Kyle et al., 2004: 216). The term as a synonym for terms such as social interestedness and a sense of social belonging and sense of place are used. Shomakher and his colleagues define this term as emotional interestedness between the individual and place that social groups, physical desirability, individual's personality and location received from his place of living have a role in that (Shomakher & Taylor, 1983: 119). Interestedness in place is made due to individual's interest, knowledge, and experience to the place based on various individual, group and cultural features and social relationships between them (Low & Altman, 1992: 2). In fact, this is formed based on cognitive, emotional and behavioral interactions among individuals,

groups and social-physical places, consciously and unconsciously, over the time (Brown & Berkins, 1992) and it is established among emotional relationships between individual and place, based on the manner of judgments, preferences and the recognition of the place (Riley, 1992: 23).

Bonaiuto and his colleagues define interestedness in place as emotional belonging to a special place and changing individual as a part of place identity and they claimed that this is created in the framework of social and psychological process between the person and place and its result is to have feeling and interestedness in space (Bonaiuto, 1999: 332). Jacobs in this regard in addition to mention to the interestedness in place as profound human trait, he says that people in facing to some places they expressed "I'm belonging it" and thereby they give it the concept home (Jacobs, 1995: 109).

6. Forms and Dimensions of Interestedness

As it was mentioned in the definitions, interestedness in place refers to the emotional and sensory relationship between individual and place. Although this term implies on a subjective concept and intuitive relationship, several studies were conducted with the aim of assessing people's interestedness in various place that they tried to bring quantity for the concept. Researches show that interestedness in place has different forms and dimensions that different researchers have different references to it. This means people referred to different dimensions in explaining places that they have interestedness in them and their reason.

For example, Taylor defined interestedness in place with the following dimensions:

- **Physical Interestedness:** to have origin that refers to the history of place and time of familiarity to it.
- **Social Interestedness:** Domestic and local constraints or individuals' social affiliations or groups in space (Taylor, et al., 1988).
- Low and Altman that are the most theorists of this field, defined interestedness in place based on the following dimensions:
- **Particular type of place:** it means the meaning importance of place sociologically that at the same time makes emotional interestedness in it (Tuan, 1977: 23).
 - Place Identity
 - Place Inwardness (Relph, 1976: 44)
 - Type of Place
 - To have origin in place
 - Environmental Imagination
 - Collective Sense
 - Identification with name (Low & Altman, 1992: 1-12).

In general, there are two dominant views in explaining the dimensions of interestedness in place:

A: the first view:

As it was mentioned in interestedness theory, a person interested in something when on the one hand he can meet his needs and expectation through it and on the other hand, he has evaluated it harmony with the mental patterns made from "self". According to this theory, the first view considers interestedness in place consists of two functional and emotional dimensions as below:

- Functional Dimension:

This dimension refers to provide individual's needs and goals based on place quality in responding to users' needs comparing to other existing similar places that are belong to the previous experiences of individual (Warzech & Lime, 2001), way of access to place and activity patterns in it (Vaske & Korbin, 2001: 18).

- Emotional Dimension:

This dimension is in relationship with human sensory interaction, place and its role in personal identity (William & Roggenbuck, 1989; Schreyer et al, 1981; Stokols & Shumakher, 1981) and refers to a dimension of "self" that is the identity of person in relation to physical place (Proshansky, 1978: 155). This type of attraction is the motivation of presence and spending time within it (Scherl, 1989) and relies on individual's sensory links with a specific place (such as the presence of certain elements in its place or history) (Warzech & Lime, 2001: 32) and over time and repeated references to it are formed. This dimension in addition to create a sense of belonging and giving meaning to individual's life (Tuan, 1977) causes to show responsive and committed behaviors to the location and it can promote environmental behaviors (Vaske & Korbin, 2001: 16). This dimension is studied as a social belonging based on place meaning and according to individual's common experiences and memories with others (Hidalgo & Hernandez, 2001; Low & Altman, 1992; Keyle et al, 2004; Williams et al, 1992).

B: Second View

In this view, interestedness in place is defined with two dimensions of interestedness in place and place identity (Williams et al, 1992; Bricker & Kerstetter, 2001).

- Interestedness in Place

Interestedness in place is defined with three dimensions which are mentioned below:

- a) Capacity to respond to individual's needs or in other words opportunities that a place provides for meeting his needs and goals (Stokols & Shumakher, 1981: 88-441) that is mentioned to the presence or the possibility of participating in certain activities in place (Bricker & Kerstetter, 2001; Hammitt et al, 2004).
- b) The emotional impact in relation to place: positive or negative feelings towards a place (Rosenburg & Hovland, 1960: 1).

c) Individual's previous experiences of place based on:

- Number of person's previous experiences of similar places.
- Number of presence in specific places.
- Standing rate in place.

In fact, interestedness in place is a functional part of interestedness in place that reflects the relationship between person and place (Stokols & Shumakher, 1981) and it promotes continuing relationship between the individual and specific place based on its ability to respond to his activities and goals (Williams & Vaske, 2003, 832). This dimension can be described and evaluated in the following sentences:

- The best plays to do activities that I enjoy it.
- Activity where I do is the most important activity among others.
- I do not replace another place to do that activity.
- I feel satisfied when I see this place more than seeing other places.
- I feel better in the same places.

This dimension is also dependent on demographic characteristics, presence motivation, way of understanding place, evaluation of place management and type of activity in place (Harmon, 2006; 5-150).

7. Conclusions

This study aimed to identify the environmental factors affecting human psyche has been done and finally, based on the achievements of this research it was tried to identify and introduce factors affecting the promotion of calmness level of human psyche. For this purpose, a study has been done based on the previous and researches on the environment, environmental psychology, capabilities of environment and how handling architecture, interestedness in place and factors affecting it about this issue.

Whit the studies that were mentioned, experts in the areas of social interactions urban planning and environmental psychologists introduces factors affecting interestedness in place as a factor of improving human mental stress and they believe that man lives in space and this the place effects on human psyche by forming in space. Environmental psychologists emphasize on architecture handling and consider human behavior as reflection of his mental oozing from his surroundings. Environmental designers consider depth as one of the factors causing privacy and introduce privacy as one of the interestedness in place factors and ultimately, as one of the components affecting human psyche. The conducted studies count three factors of ability of place responding to individuals' needs, emotional effects in relationship with place and individual's previous experiences rate of place as the dimensions of interestedness in place and with these conditions it increases way of individual's previous experiencing of environment and increases his interestedness in environment and make a sense of belonging to the place. Individual's participating in designing an environment is one of the factors affecting the

sense of belonging to place. These factors increase individual's interaction improvement and keep individual continuously in a familiar and controllable environment that the sense of individual's ability to control surrounding environment puts them in a relatively mental calm and it will bring individual's mental calmness by repeating his presence in that place.

REFERENCES

- [1] Stokols, D., and Shumaker, S.A. (1981), 'People in places: A transactional view of settings', In J. Harvey (Eds.), *Cognition, Social behavior, and the environment*, Hillsdale, Erlbaum, pp.441-488.
- [2] Myzyak, Henrik and Sexton, Vyrjynyaastavt, history and psychology school, translated by Ahmad Rezwani, Mashhad, Razavi Publications, pp. 23. 1992.
- [3] Davydyan, Haratvn; 1997; mental health from the perspective of monotheistic religions, Qom, Nawide Islam publish, pp. 155.
- [4] Mac Andrew, Francis-T; 2008; *Environmental Psychology*, translated by Gholam Reza Mahmoudi, Zrbaf publications, pp. 30 .
- [5] Gibson, James J. *The Environment as Source of Stimulation* In *The Senses Considered as Perceptual Systems*. Boston K Houghton Mifflin, 1966, PP.7
- [6] Porteous, J. Douglas 'Environments' In *Environment and Behavior*. Reading, Mass: Addison- Wesley, 1977, PP.133.
- [7] Lang, John, *The creation of architectural theory (the role of behavioral science in environmental design)*, translated by Alireza Ainyfar, Second Edition, Tehran, Tehran University publish, 2004; pp.88-91-93.
- [8] Greuther, Jörg, *aesthetic in architecture*, the translation of the Jahan Pakzad, Mr. Abdul. R-Homayon, Tehran, Beheshti University publish, 2011; pp. 129-188.
- [9] Mac Andrew, Francis-T; 2008; *Environmental Psychology*, translated by Gholam Reza Mahmoudi, Zrbaf publications, pp.2-11-30.
- [10] Golrokh, Shmyn; *behavioral setting*, the first edition, Tehran, Arman Shahr publish, 2012; pp. 2-3.
- [11] Gibson, James J. *The Environment as Source of Stimulation* In *The Senses Considered as Perceptual Systems*. Boston K Houghton Mifflin, 1966, PP.7.
- [12] Lang, J. 1987. *Creating Architectural Theory: The Role of Behavioral Sciences in Environmental Design*. New York: Van Nostrand Reinhold.
- [13] Gibson, J. J. 1979. *The Ecological Approach to Visual Perception*. Boston: Hughtonmiff Lin.
- [14] Warren, W. H. *Perceiving Affordances: Visual Guidance of Stair Climbing*. *Journal of Experimental Psychology: Human Perception and Performance*, 1984; vole, 5, pp. 10.
- [15] Mark, D. S. 1987. *Eye Height-Scaled Information about Affordances: A Study of Sitting and Stair Climbing*. *Journal of Experimental Psychology: Human Perception and Performance*, 13- 683-703.
- [16] Mark, D. S., Balliett, J. A., Craver, K. D., Douglas, S. D., Fox, T. 1990. *What an Actor Must Do in order to Perceive: the Affordance for Sitting*. *Ecological Psychology*, 2- 325-366
- [17] Pufall, P. & Dunbar, C. 1992. *Perceiving Weather or Not the World Affords Stepping on to an Over: A Developmental Study*. *Ecological Psychology*, 4- 17-38.
- [18] Adolph, K. E. 1995. *Psychophysical Assessment of Toddler's Ability to Cope with Slopes*. *Journal of Experimental Psychology: Human Perception and Performance*, 21- 734-750.
- [19] Adolph, K. E., Gibson, E. J. & Eppler, M. A. 1990. *Perceiving Affordances of Slopes: The Ups And Downs of Toddlers Lcomotion*. Emory Cognition Project, Report# 165, Atlanta, GA: Emory University.
- [20] Norman, D. 1989. *The psychology of Everyday Things*. New York: Basic.
- [21] Glass, D. C. & Singer, J. E. 1972. *Urban Stress*. New York: Academic Press.
- [22] Sommer, R. 1969. *Personal Space*. Englewood Cliffs, NJ: Prentice-Hall.
- [23] Cohen, S., Evans, G. W., Stokols, D. & Krantz, D. S. 1986. *Behavior, Health, and Environmental Stress*. New York: Plenum.
- [24] Altman, I. 1975. *The Environment and Social Behavior: Privacy, Personal Space, Territory, Crowding*. Brooks: Cole Publishing Company.
- [25] Evans, G. W. & McCoy, J. M. 1998. *When Buildings Don't Work: The Role of Architecture in Human Health*. *Journal of Environmental Physiology*.
- [26] Archea, J. 1977. *The Place of Architectural Factors in Behavioral Theories of Privacy*. *Journal of Social Issues*, 33(3), pp. 116-137.
- [27] Evans, G. W. 2003. *The Built Environment and Mental Health*. *Journal of Urban Health: Bulletin of the New York Academy of Medicine*, 80(4), pp. 536-555.
- [28] Evans, G. W., Rachel S. 2004. *Motivational Consequences of Environmental Stress*. *Journal of Environmental Psychology*, 24(2), pp. 143-165.
- [29] Madanipour, A., 2005, *the design of urban space (insight on the process of social and spatial)*, processing enterprises and urban planning, Tehran.
- [30] Pakzad, Jahan, 2009, *articles on architecture and urban design concepts*, publications martyr, Tehran.
- [31] Low, S.M., and Altman, I. 1992, 'Place attachment: a conceptual inquiry', In Low, S.M. and Altman, I. (Eds.) *Place Attachment*, New York, Plenum Press, pp. 12- 1-12.
- [32] Stedman, R. C. 'Is it really a social construction? The contribution of physical environment to Sense of place', *Society and Natural Resources*, 2003, 16, pp.671-685.
- [33] Rubinstein, R.L and Parmelee, P.A. 1992, 'Attachment to place and representation of the life course by the elderly', In I. Altman and S. M. Low (Eds.), *Place Attachment*, New York,

Plenum Press, pp.139.

- [34] Milligan, M.J. 1998, 'Interactional past and potential: the social construction of place attachment', *Symbolic Interaction*, 21:1, pp. 1-33.
- [35] Altman, I. 1975. *The Environment and Social Behavior: Privacy, Personal Space, Territory, Crowding*. Brooks: Cole Publishing Company.
- [36] Proshansky, H.M. 1978, 'The City and Self-Identity', *Environment and Behavior*, 10:2, pp.147-169.
- [37] Ahrentzen, Sherry. B. 1992, 'Home as a workplace in the lives of women', In I. Altman & S. M. Low, Eds. *Place Attachment*, New York, Plenum, pp.113-138.
- [38] Mesch, G.S. and Manor, O. 1998, 'Social ties, environmental perception, and local attachment', *Environment and Behavior*, 30:4, pp. 504-519.
- [39] Shumaker, S.A., and Taylor, R.B. 1983, 'Toward a clarification of people-place relationships: A model of attachment to place', In N. R. Feimer and E. S. Geller (Eds.), *Environmental Psychology: Directions and perspectives*, New York, Praeger, pp.119-251.
- [40] Riley, R. 1992, 'Attachment to the Ordinary Landscape' In I. Altman and S. M. Low (Eds.), *Place Attachment*, New York, Plenum Press, pp. 23.
- [41] Bonaiuto, M., Aiello, A., Perugini, M., Bonnes, M. and Ercolani, A.P. 1999, 'Multidimensional Environment quality and neighbourhood attachment', *Urban Environment*, 19, pp. 331-352.
- [42] Jacobs, M. 1995, *Sustainability and community: Environment, economic rationalism and sense of place*, *Australian Planner*, 32 (2), pp. 109 - 115.
- [43] Taylor, R.B., Gottfredson, S.D. and Brower, B. 1985, 'Attachment to place: Discriminant validity, and impacts of disorder and diversity', *American Journal of Community Psychology*, 13, pp. 525-542.
- [44] Tuan, Y.F. 1977, *Space and place: The perspective of experience*, University of Minnesota Press, Minneapolis, pp.23.
- [45] Relph, E. 1976, *Place and placelessness*, London, Pion Limited, pp.44.
- [46] Williams, D.R., and Roggenbuck, J.W. 1989, *Measuring place attachment: Some preliminary results*, In L.H. McAvoy and D. Howard (Eds.), *Leisure Research Symposium*, National Recreation and Park Association, Arlington, 32.
- [47] Scherl, L.M. 1989, 'Self in wilderness: Understanding the psychological benefits of individual-wilderness interaction through self-control', *Leisure Sciences*, 11, pp.123-135.
- [48] Stokols, D., and Shumaker, S.A. 1981, 'People in places: A transactional view of settings', In J. Harvey (Eds.), *Cognition, Social behavior, and the environment*, Hillsdale, Erlbaum, pp.441-488.
- [49] Warzecha, C. A., and Lime, D.W. 2001, 'Place attachment in Canyonlands National Park: Visitors' assessment of setting attributes on the Colorado and Green Rivers', *Journal of Park and Recreation Administration*, 19:1, pp. 59-78.
- [50] Vaske, J.J., and Kobrin, K.C. 2001, 'Place attachment and environmentally responsible behavior', *The Journal of Environmental Education*, 32:4, pp.16-21.
- [51] Williams, D.R., and Roggenbuck, J.W. 1989, *Measuring place attachment: Some preliminary results*, In L.H. McAvoy and D. Howard (Eds.), *Leisure Research Symposium*, National Recreation and Park Association, Arlington, 32.
- [52] Stokols, D., and Shumaker, S.A. 1981, 'People in places: A transactional view of settings', In J. Harvey (Eds.), *Cognition, Social behavior, and the environment*, Hillsdale, Erlbaum, pp.441-488.
- [53] Hidalgo, M. C. & Hernandez, B. 2001, *Place attachment: Conceptual and empirical questions*, *Journal of environmental Psychology*, 21, pp. 273-281.
- [54] Kyle, G., Graefe, A., Manning, R. and Bacon, J. 2004, 'Effects of place attachment on users' perceptions of social and environmental conditions in a natural setting', *Journal of Environmental Psychology*, 24, pp.213-225.
- [55] Bricker, K.S. and Kerstetter, D.L. 2000, 'Level of specialization and place attachment: An exploratory study of whitewater recreationists', *Leisure Sciences*, 22, pp. 233-257.
- [56] Rosenberg, M.J., and Hovland, C.I. 1960, 'Cognitive, affective, and behavioral components of attitudes', In C.I. Hovland and M.J. Rosenberg, (Eds.), *Attitude Organization and Change: An Analysis of Consistency among Attitude Components*, New Haven, Yale University Press, pp.1-14.
- [57] Harmon, D. 2006, 'People, Places, and Parks: Proceedings of the 2005 George Wright Society', *Conference on Parks, Protected Areas, and Cultural Sites*, Hancock, Michigan, USA.