Sense of Belonging in Research Building

1Anahita Yazdanpour and 2Hamed Moztarzadeh

1Department of Architecture, Yasouj Architect Science Branch, Islamic Azad University, Yasouj, Iran
2Department of Architecture, Shiraz Branch, Islamic Azad University, Shiraz, Iran

ABSTRACT

Architecture belongs to a class of art, facing with some complex issues such as: environmental spaces, which designing some of them like: urban, public, cultural and religious spaces in the best possible way, regardless of some knowledge and architectural related expertise, does not simply come to reality. Studying the way in which, the physical environment affects the human perceptions and actions, indicates that physical characteristics of the environment, influences human's perceptions and behaviors, by creating the meanings and providing particular activities. It is also important in establishing the spirit of place and inducting the sense of place. This can be a significant factor in coordination between the persons and the environment and leads to better utilization of the environment, user's higher satisfaction and eventually their sense of belonging to environment and their persistence there. This sense known as a major factor in transforming a place into a place with specific behavior characteristics for persons and results in a feeling of comfort in an environment. The physical environment is also an effective factor in sense of place and sense of belonging. Assuming that creating a sense of belonging to place in research centers increases the tendency of staying there and raises the efficiency of research activities, in this study, the questionnaire is being provided, after studying the theoretical literature concerning to the sense of place and belonging to the place, by its creating factor using library sources and papers. The ultimate analysis was done by SPSS software. The obtained result indicates the impact of various factors on creating sense of belonging to environment and longer staying there.

INTRODUCTION

In the 70's, various sciences including geography, sociology, psychology and architecture attempted to study the relationship between human, environment and its effect on human's behavior. Environmental Behavior Studies [EBS] considered as one of the most important branches of science. The science investigates analyses and evaluates the environmental effects on users' perception and behavior [1]. Environmental planners can produce better results by considering design, understanding the factors that influence human's behavior and how to achieve their perception of the environment. It seems that people react toward the environment by the evidence in terms of the meaning. It may be argued that environmental assessment is more an effective issue and an effective covering reply than an analysis of specific aspects and it is more a hidden subject than a clear one, which is often influenced by mental image and ideas" [1]. In order to use the distinction between perceptual and associative aspects of the environment [2] in human and environment studies, the emphasis is more on the conceptual aspects and they are more discussed. Different reactions of planners and public exposure to the environment can be interpreted as a sign to show that designers' tend to use perceptual words to react to the environment. However most people and consumers react to the words, associated with the environment [2]. Today, the concept of sense of place has been dedicated to architecture and urban design in most of the studies. "If we think of space as an abstract concept, the location is a part of the space occupied by people or things, including the value and meaning. The people and environment interact constantly and this is their differences" [3].

Places have different qualities. Places, in which we have more sense of belonging, may be our room, house, apartment, neighborhood, city or our country [4], a desirable place is a place in which people have a sense of
satisfaction and it is create by the physical and social factors helping to achieve a sense of belonging to place. The citizens’ belief about a suitable place and their points of view about its consistency elements are in a straight relationship [5]. This research intends to answer the following questions:

a) What is the sense of place and sense of belonging?

b) What are different levels of consistency elements of a sense of place?

c) What are the features of a desirable research environment from the researchers’ point of view?

The Research Hypotheses:

Hypothesis research is discussed under the title "How creating a sense of belonging to a place in research centers spaces using physical factors increases the tendency to stay in the center and boosts the efficiency of research activities". Therefore, by studying and analyzing the views of theorists about the concept of a sense of belonging to places, the framework of constructive components of sense of place in an appropriate research, is being discussed. Then by using an analytic method, it is determined how the use of physical factors such as light, color, furniture and plants lead to create perceptual and cognitive factors that results in a sense of belonging to place in a research center and helps a person’s longer survival, in the environment. The questionnaire prepared by the researchers and distributed among the architects to provide an analytical model of the data using SPSS software, in order to study the sense of belonging to place and staying in the research centers. Figure 1 demonstrates the process of proving the Hypothesis and forming the final theory.

Fig. 1: Proven Process Diagram Hypothesis

MATERIALS AND METHODS

The main approach of study is analytic and is based on the literature survey as well as research and documentaries. The research aims to identify and explain the physical factors in creating a sense of place and belonging to a place. So, after examining researchers’ views on sense of place and sense of belonging to place along with the analysis of the characteristics of a good research environment from their perspective, a framework of elements and components creating a sense of place and desirable environment is provided. Therefore in order to determine a desirable research area by using physical factors that leads to perceptual and cognitive elements, the questionnaires are provided. It is used to investigate the effect of sense of place and the durability in a place by using the physical parameters such as furniture, color, lighting and plants. The statistical society of this questionnaire is consisted of the educated, researchers, who have utilized research centers. The questionnaire was elaborated into two categories:

a) The first group of questions is expressed generally and deals with the ideas and imaginations of researchers about satisfaction rate and investigates the impact of study in the social and a group of private environments.

b) The second group of questions is about the effects of using physical factors such as color, light, furniture and plants according to their form, position and type.

These two groups of questions stay in a total correlation. The data obtained from questionnaires are assumed by SPSS software. In general terms, we can say that the approaches used this in study, are: "Studies and Documents", "Data Analysis", "Qualitative Analysis" and the ultimately "interpretive approach".

Place:

Place is the major element of its inhabitants’ identity. Human can define himself through realizing the place [6]. Thus, this can be interpreted as meaning that place is where we have an entire perception of the universe and our presence [4]. Susanne Langer (1953) talks about the architecture of places with the following suggestions: A place imprinted by human’s life plan should seem organic, such as form of a life. A place where
a house occupies on the ground or in other words, it’s placed in real space, despite burning or being destroyed or being lost, will remain in the same place. But the atmosphere created by an architect, looks like an illusion, because it comes to life as a result of sensible descriptions, originated from observation and sometimes it is called mental space. These types of places will disappear, if the house is damaged [7]. From phenomenological point of view, the place is something more than an abstract place. Place, is a totality of the real stuffs containing: material, shape, texture and color. The collection of these elements together, defines the environmental character of place. Place is a context for activities and has a cognitive identity that encompasses diverse social worlds and a history joining past, present and the future together [4].

Sense of place:

The term "sense of place" is formed by combining two words. But the term "sense" and "place" in "sense of place" often means: affection, kindness, judgment, and overall experience of a place or its ability to create a specific feeling or a sense of belonging in individuals [8]. "Sense of place" theory is debatable with two approaches of the" phenomenological" and "environmental psychology" and various theorists have made speeches about it. From the perspective of environmental psychology, the humans need sensory, emotional and spiritual experiences to their environment. These needs can be realized through a close interaction and identifying the kind of place, where they live. The researchers show that the environment, more above physical elements includes: messages, meanings and codes that people due to the roles, expectations, motivations and other factors, decode, understand and judge [8].

Falahat defines a sense of place in his thesis "Sense of place, is defined as a sense of subjective perception of the environment and a more or less conscious feeling of their environment, that puts the person in the relationship with the environment so that people's understandings and feelings associate with the semantic context of the environment and becomes a part of it. This sense is a major factor that changes an area to a place with emotional and behavioral characteristics, especially for certain people. The sense of place not only makes man feel comfortable in an environment, but also support the cultural notions that people concern about. Social and cultural relations in a specific location can help people recall the past experiences and access to their identity" [9].

Sense of belonging to the place:

Sociologists and particularly anthropologists have always emphasized that the place, location and land are very important to people, because they have a very high ability to make an identity. Sense of belonging primarily means to be particular and to stand apart to be constant, remain stable and belong to the collection [10]. Belonging to a place is a higher level of sense of place, which plays a decisive role to benefit and sustain the human's presence in the place. It is based on a sense of place, which is beyond the awareness of the settlement there. This sense results in linking the person to the place, which he finds himself as a part of and is based on his experience of signs, meanings, functions and personalities, which considers a role for the place in his mind and the place becomes respectable for him [11]. From the phenomenology's perspective, sense of place defines as connecting to a place through comprehending the symbols and daily activities. This feeling can be created in a private living place, then spreads and deepens overtime. [4] The individual and social values have a great influence on the sense of place [4]. Not only sense of place leads to harmony and proper function of the architecture, but also it is a major factor to the safety, and emotional perception of people. It also benefits the individual's identity and their sense of belonging to a place [4].

Belonging to place means that people define themselves due to the place, in which they were born and grown up. This relationship generally known as a sense of place, that affects people in a very profound and lasting way and reinforces the memory of place, identity and the human's power. In fact, Sense of belonging to place is a higher level of sense of place that plays an important role in order to help human to take advantage of every opportunity and sustain in place [9]. Figure 2 shows sense of place and its effective factors from the view point of Falahah Zadeh.

Fig. 2: Sense of place and its impact factors [4]
In psychology, a "place belonging" is defined as cognitive relationship of a person with the environment or a specific space and in terms of identity, "place belonging" is known as a person's belonging and identity relationship of the social environment, in which he lives in. In fact belonging to place is a symbolic relationship with the place, which contains a common, sentimental, and cultural meaning to create a specific space. Therefore, attachment to place is more than an emotional and cognitive experience and includes cultural beliefs of people to the place, too [12].

In table 1, Shamai determines the three main steps of belonging and commitment to the place in the seven levels for sense of place. These levels of sense of place, indicate the usage of sense of place including: "being indifference" to "the feelings of devotion" towards the places [4].

### Table 1: Levels of sense of place [4]

| Different levels of "Sense of place" | Being indifference toward the place | This level is usually not considered as sense of place in literature, but can be used to measure sense of place. | Belonging to the place | In this level, the person is aware of not only the names and symbols, but also he has a sense of shared destinies to the place. The symbols are respected and where it occurs to the place, is important to him | Attachment to the place | The person has a complex feeling to place, and the place is an axis of individuality. His common experiences and identity combined with symbols and meanings identify the place. This case emphasizes on the uniqueness of the places and its difference from other places. | Unifying with the aims of the place | This level represents the continuity and mixing the person with the needs of place. In this case, the person realizes and accords himself with these needs and obeys them. There is also a sense of enthusiasm, love, support and devotion toward the place. | Being in the place | This level attends to the active role of the individual in society, which is a result of the commitment to the place. In contrast to all the previous levels, which have a theoretical basis, this level is understood from the real behavior of a person. | Sacrificing for the place | This level is the highest level, the person has the deepest commitment to the place and has Great devotion for the attitudes, values, freedoms and prosperity in different situations. There is a readiness here to abandon the individual and common interests in order to gain the greater ones toward the places. |

### RESULTS AND DISCUSSIONS

**Constituent elements of a sense of place:**

Figure 3 shows that the factors forming the sense of place are categorized into two parts:

a) Perceptual and cognitive elements;

b) Physical elements.

![Fig. 3: Constituent elements of a sense of place](image)

The physical factors of environment affect the person's feelings and behaviors by providing specific activities and meanings and are effective in promoting the spirit of place and inducting sense of place. Cognition and Emotion towards the place are obtained through meaning perception, symbols, form and semantic aesthetic of the space and are being identified by it. In figure 4, Fritz Steel mentions the most important physical factors affecting perception and sense of place, such as: size of location, restriction degree, contrast, scale, proportion, human scale, distance, texture, color, smell, sound and visual diversity [11]. He also believes that features such as: identity, history, fiction and fantasy, mystery, joy, surprise, security, vitality, passion and memories lead in an intensive relationship toward the place [4].
Fig. 4: Constituent elements of sense of places according to Fritz Steel.

According to Salvesen, sense of place occurs by the interaction of three elements: location, landscape, and personal interconnectedness that each of them alone is not enough to create a sense of place. Various factors such as impatience, monotony of buildings and advent of the digital age, can be counted as a threat for sense of place. He believes that his physical characteristics, ownership, authenticity, residents and comforts and nature such as: water, plants, sky, sun, private and common spaces are components of a place, which are effective in creating a sense of place [13].

The basis of creating a sense of place is feeling and perception. When the objectivity of the place makes a special meaning, the person has also a special feeling to it and based on this sense, feels a relationship between the environment and himself. Establishing this emotional connection, internalize it and becomes something more than a selected collection of the environmental data. According to Lynch place is also a factor that links human and the place and creates unity. The space must have a perceptual identity and also have to be visible, identifiable and memorable in order to create a sense of place. Such sense of place can also bring a sense of belonging [14].

Research Space Features:

Nowadays, architects have to emphasis more on people-centered approaches in their plans and designs. Designing a new space for research centers is necessary for the people. In other words, it's about creating an atmosphere, in which clients can interact and exchange information with a set of technologies and services needed for their use. These are the people, who shape the place, provide services and use them. Above all, users of research centers should be the focus of all these processes. As Dowlin says "The magic of libraries and research centers in the study, is to link the thoughts and ideas together". Successful libraries in the 21st century will be able to establish this link" [15]. Mc Donald suggests some characteristics for a desirable research environment. He believes that an ideal research center must have: applied features, reconcilability, accessibility, diversity, influence, being suitable in term of environment, security, safety, efficiency, information technology, attraction and beauty [16]. Figure 5 shows the characteristics of the research centers process is desirable from the viewpoint of McDonald's.

Fig. 5: the characteristics of the favorable research according to Mc Donald.
Role of the sense of place and attachment in research centers:

In this study, some questions based on the theories and views of Fritz Steel, Mc Donald and salvesen have been collected to provide a questionnaire in statistical population of 150 educated persons [undergraduate to Ph.D]. The questionnaires are divided in two categories of questions, which stay somehow in a correlation. This statistics according to diagram 1 and 2 obtained from the first set of data about studying in public or private places indicate that most people are willing to study in the social public environments. As these places are much more acceptable and interesting for researchers, make them learn more effective, because they can gather in a place and talk about the things. Thus, it helps them understand the things more easily in the public places. It causes the researchers to have a more sense of place and ultimately leads them to stay more in the place. On the other hand, the researchers want to have a safe place without any bothering in order to have better focus. Such sense of security and peace helps the sense of belonging and staying more in place.

Diagram 1: Privacy places for study.

Diagram 2: Public places for study (sense of belonging)

Diversity, functionality, adaptability and beauty of furniture are factors that help staying in the place and create sense of belonging for the individuals toward the environment. Based on the results from Figure 3, 4 and 5, most of researchers believe that efficient and appropriate furniture has been the most important factors for staying in the place. They also believe that adaptability and variety of furniture, for discussion rooms or private reading rooms has been very significant. These people have the opinion that type of furniture used for the pubic study rooms, should be in such a way, so that they can easily communicate with their audience and exchange the information, while gathering in public room. They also believe that the furniture in the private study rooms should have privacy and security.

Diagram 3: importance of furniture.
Diagram 4: Reconcilability of furniture.

Diagram 5: comfort and efficiency of furniture (Sense of belonging)

The analysis of figures 6, 7 and 8, indicates that many researchers have agreed that study areas should have access to green space and plants. These people believe that plants make a sense of vitality and freshness in the research areas. Such places can help relieving the person's tiredness. Some other believe that green spaces is cause of people's gathering, which help them having social interactions, dialogue and discussion. This kind of relationships with the places creates a sense of belonging and unity with the place.

Diagram 6: Place studying with plants

Diagram 7: accessibility to plants

Diagram 8: Plants and reduce tiredness (Sense of belonging)
Color is the most important factor that helps a person having sense of belonging to place. The results of chart of 9, 10 and 11 indicate that most people believe the warm colors as symbols of calmness and safety in the workplace, while they find cool colors boring and dull. On the other hand, statistics imply using warm and cool colors in the environment, creates a sense of conflict, and contrast and most of people are in favor of this sensory conflict. It also helps a person to stay longer in the places and creates a sense of belonging for him in the environment.

Diagram 9: Effect of warm and cool color.

Diagram 10: Effect of warm color.

Diagram 11: Effect of cool color (Sense of belonging)

According to diagram 12 and 13 in this study, more than half of the researchers have the idea that natural light in the research areas develops a sense of vitality and security and it is also more efficient. As the researchers' minds are constantly busy during the day and long hours of study make them tired, the natural light, due to its energy-emitting characteristic, returns them a sense of vitality and freshness. Studies indicate that artificial light during study is acceptable for researchers, but it cannot be effective, while they are on the rest and refreshment.

Diagram 12: Effect of artificial lights
Diagram 13: Effect of natural light (Sense of belonging)

Conclusions:

Sense of place is a complex conception of human emotions toward the environment and comes to existence as a result of the human's adaptability with the place and using it. It means that sense of place is not predetermined, but it is created by human's interaction with every day's life. Due to the human's cognition of the place, which is influenced by his activities and the physical environment, the clarity of visual form as well as connection to the environment leads him to have a sense of belonging to that area. This study tries to prove the hypothesis of: "How creating a sense of belonging to a place in research centers, by using physical factors, increases the tendency of staying there and the efficiency of research activities. After scrutinizing the theoretical literature, a framework resulted by the components of sense of place in a research center is provided and according to it a questionnaire is prepared. The data have been analyzed by SPSS software. The results of creating a sense of belonging, using physical factors, in the research area are as follows:

The set of questions have been classified in a correlated way. It can be interpreted, that most researchers agree to study in group, with efficient and adaptive furniture and they find it effective on creating sense of belonging. On the other hand, the analysis indicates that researchers need to the study in private as they desire more security, calmness and concentration. Plants can also be effective on the researcher's sense of belonging to the environment, as they gather in these places and discuss with each other, while they get tired. It causes a longer stay in place [figures 14, 15 and 18]. Other efficient physical factors are color and light. According to the statistics, most of researchers believe that the warm colors have a greater effect in the research centers. On the other hand, statistics indicate the role of natural and artificial light in creating a sense of belonging in persons and the researchers agree with it, too [Figures 16, 17].

Diagram 14: Public study;

Diagram 15: The furniture of study rooms;
By scrutinizing the results of this study: It can be concluded that the sense of belonging to a place, depends on self-concept of the physical environment factors (furniture, colors, light, plants, privacies, etc). And these factors will affect the person's residence in the research centers, having shared experience and memories, social activities, security and calmness, which is effective in creating a sense of belonging and person's unifying with the research environment.

REFERENCES

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