



An investigation of the relationship between sense of place and place attachment among dormitory students

S. A. Yazdanfar^{1*}, A. A. Heidari², F. Nekooimehr³

Abstract

Today, there are many concepts such as a sense of place and attachment to place presented in architecture and urban literature in the field of environmental studies. Meanwhile, relationship between the two is not much explained. This study defines the concept of sense of place and attachment to place and the factors influencing them followed by providing a four-dimensional model derived from social factors influencing the two concepts as the study theoretical model. This four-dimensional model was tested in case studies of Eram and Ghods dormitories of Shiraz University. In this study, depth interviews and questionnaires were used to collect data for process of testing. Spss software was used to analyze and interpret the survey results. After research questionnaires were completed, the data were analyzed via the software through appropriate statistical methods at descriptive and inferential levels. At descriptive level, relative frequency and cumulative distributions were used. At inferential level, taking into account the nature of the variables, correlation coefficient, regression and comparison of means were used. Finally, the paper presents hypothesis tests and discussion of the results. Given the variable measurement level, Pearson correlation coefficient test was used to support or reject hypotheses.

Obtained results show that there is a strong relationship between sense of place and attachment to place. The findings also suggest that physical factors of the environment are important to create a sense of place and time as well as attachment to place. Moreover, time factor has lowest degree of importance in creating a sense of place compared with the creation of sense of attachment to the place. This factor is the most important after physical factors.

Keywords: Place, Sense of place, Attachment to place, Physical factors, Time, Student dormitory.

1. Introduction

Student dormitories are among the areas that many people, especially during the period of their study, live there which are in cities other than their dwelling place. Dormitory is a place where people live for limited period of time (at least several years) and then are forced to leave there after completing their course of study. These people in dormitories experience a new life that have not had such an experience in their home environment before. Usually, the physical structure and functional accommodation of dormitory for these people is different with that of home. Accordingly, the dormitory environment seemed a good place where people show their different feelings ranging in different time of arrival, length of stay and the time of graduation.

These centers require facilities for providing services to students. According to acceptance of non-traditional students in the majority of higher education institutions, proper facilities including a perfect accommodation for these students are essential. This space is not only a shelter for the students but also should provide required space for their scientific, intellectual and characteristic development. It seems that designers comprehensive understanding of concepts such as a sense of place and attachment may influence human understanding and his interact with the environment and thereby creates a more appropriate place for development of his different aspects of human existence.

This study is an attempt to find the relationship between the two concepts of sense of place and attachment to place. For this purpose, various definitions and factors affecting them are defined and a research model is obtained to investigate and confirm the relationship between the two concepts. This study conducted to test two case studies of Eram dormitory and Ghods dormitory accommodation for female students of Shiraz University.

* Corresponding author: ????????????????

¹ Assistant Professor of Architecture, Iran University of Science & Technology, Tehran, Iran

² PhD Candidate in Architectural Department, Iran University of Science & Technology, Tehran, Iran

³ Master of Architecture, Asalooieh International Payamnooruniversity, Asalooieh, Iran

2. Literature Review

This section examines the overall definitions of place, sense of place and attachment to place and their influencing factors. Results of this section helps to obtain a theoretical model.

2.1. Semantic dimensions of place

Place is where concrete manifestation of life-world can be observed which forms spatial and temporal stability of the environment life (Schulz,2002: 31). Place is a space which have meaning, so place is defined as space where social relations are characterized. Rappaport defines place as the one of four elements defining a space which in combination with meaning, time and communications forms the human environment (Rappaport,2005).

In many related literatures often the place concept emphasis on the sense of belonging or emotional attachment which defined with terms such as rootedness, attachment, identity and so on. Lynch defines place identity simply as its uniqueness compared with other places (Lynch,1993). Relph defines place identity as separate address for each place. He states: physical characteristics, meanings and functions are considered as three main basis of place identity. It should be mentioned that human interaction with these three elements forms the sense of place (Relph,1976).

Belonging to a place is the most important concept in the sense of place. This concept is meaningful along with a positive sense of place or love of place which leads to positive memory of a place (Seaman, 2008). Steele defines belonging to a place beyond emotional experiences and it is include cultural beliefs and activities that makes a contact between human and environment (Cross, 2001). Tuan believed that sense of belonging to a place is more than just experiencing it cognitively and emotionally, rather includes related cultural beliefs of the people living in a place. He also believed that such relation occurs throughout life and long-term experience of place.

Tuan defines respect to a place as a strong chain between an individual and place while place attachment is commitment to the aesthetic, tactile and emotional environment. (Tuan, 1980). Sense of respect to a place is one of the characteristics of a place that distinguishes it from other places which is called intelligence or spirit of the place.

2.2. Sense of place

In phenomenological approach, sense of place is the place truth which is used more in the non-material features and characteristics with a meaning close to the spirit of the place. It means that some places are so attractive that give individuals a indescribable feeling which makes them lively, vibrant and eager to return to them. Tuan used the term *Topophilia* instead of sense of place and considered it as a lovely and effective relationship between people and place in the form of aesthetic, sensory, emotional feelings (Tuan, 1980).

The term sense of place has vast and varied implications in the scientific, sociological, cultural and psychological areas. Falahat believes that sense of place means individuals perception and more or less conscious feelings of the environment that puts the person in internal relation to the environment so that the understanding and feelings are bound with the meaningful context (Falahat, 2006). Recent researches indicate that environment in addition to the physical elements consists messages, meaning and codes which are decoded by people based on their expectations, motivation and other factors and according to this make judgments about them. This general sense obtained after perception and judgment in relation to the specific environment in individuals is named sense of place. This sense makes coordination and better utilization of the individual and the environment, consumer satisfaction, place attachment and ultimately their continual presence in the place (Relph, 1976).

The concept of sense of place on one hand rooted in the subjective experience (eg, memories, traditions, history, culture and community) and the other hand is affected by objective and external area conditions (such as landscape, smell, sound, etc.) which causes different reminiscent of a place (Falahat, 2006). Therefore, sense of place is a complex concept of human attachment to environment which is created with human adaptation and application of the place. It means that sense of place is not something predetermined but is created by human daily interaction with places.

2.2.1. Factors affecting sense of place

According to the different perspectives in sense of place which mentioned above, sense of place has both descriptive and emotional aspects of the experience of the environment. This means that the concept of sense of place is both psychological and physical. According to Steele, sense of place is the particular experience of a person in a particular setting. Factors that lead to a sense of place would be divided into two general categories: cognitive - perceptual and physical factors (Steele, 1981:35). In this regard, cognitive-perceptual factors include concepts which are decoded by the person after his perception. Therefore, a sense of place can not only be called as an emotional sense to a place rather it is a cognitive structure that bind a person to the concepts. Therefore, it can be concluded that there are different senses among different people based on their experiences, motivations, past mentality background and physical characteristics of environment. These factors influence their sense of place.

In another study by Jorgensen (2001), based on the theory of "attitude", three dimensions are considered for place. Individual feelings associated with places represents emotional aspect, his understanding of the place physics represents cognitive aspects and his behavior in one place represents behavioral aspect (Jorgensen, 2001). These dimensions are somehow corresponding to Canter three-dimensional sense of place, so the cognitive aspects is corresponded to form, behavioral aspect is corresponded to function emotional aspects is associated with individual

perceptions (Hashemnezhad, et al, 2013). Based on Canter view, place is a part of the natural or built environment with specified conceptual or material ranges which is extracted from relationship between the three concepts of human behavior, physical characteristics and concepts (Canter, 1977).

This literature review shows that physical properties not only cause distinction of different environments but also affects the meanings that people perceive from their environment. Steele believed that the most important physical factors affecting place perception are factors such as location, size, scale, components, texture, decoration, color, odor, noise, temperature variation and visual variety. He also considers features such as identity, history, fiction, mystery, memories, fun, secrets, goodness, security and vitality as factors influencing the concentrated relationship with place (Steele, 1981).

By comparison of the two models of Steele (1981) and Canter (1977), it can be concluded that the form and function factors in the Canter model are correspondent with steele physical factors while meaning in the Canter model is correspondent with Steele cognitive- perceptual factors which in turn includes parameters such as culture, identity, history, fun, pleasant, security, vitality, and memories.

3. Place Attachment

Attachment to place is a symbolic relationship that is created by individuals towards a place which gives a common emotional and cultural meaning to a particular area and it is considered as a basis for development of individual and group understanding of environment (Low & Altman, 1992: 5). Place attachment is an aspect of overall sense of place that develops between people and places (Stedman, 2003). This aspect is the result of positive feelings and beliefs that give meaning to place (Rubinstein & Par melee, 1992). During this process, an individual develops his relationship with others and place. There is a direct relationship between individual and his attachment to special place. This relationship is based on individual- place and his activities interactions in a specific place. (Ralph, 1976; Low & Altman, 1992). Attachment to a place is created by interest, knowledge and individual experience in relation to place and based on cultural characteristics and social ties between people (Low & Altman, 1992). In fact, it is based on cognitive, emotional and behavioral interaction between individuals, groups and physical- social place formed consciously and unconsciously over time. It is created in emotional connection between people and place based on judgment methods, preferences and understanding of places (Riley, 1992).

3.1. Factors affecting place attachment

According to literature review in place attachment, effective factors in development of place attachment can be classified in terms of the following topics:

1. Physical Factors

There is many studies that emphasized on physical factor in place attachment. Stedman studies on the role of the physical component in the attachment to place indicate its direct role in the place satisfaction (Stedman, 2003). Context of place, available services, facilities, its location in urban areas, its relation to surrounding and many other properties, are among factors mentioned in the studies (Bonaiuto et al, 1999).

Results indicate that physical dimensions affect both place attachment and sense of place. Based on the theoretical framework and the results presented, it can be concluded that physical dimensions have the greatest impact on the sense of place and place attachment. This demonstrates the crucial role of the physical design on formation of dormitory students' early emotions and their positive feelings regarding the place. This emphasizes the importance of the dormitory environment's physical dimension in the design process.

2. Social factors

Basically, environment psychology is not only related to the physical aspect of environment but also its social aspect is considered too (Bonnes & Secchiaroli, 1995). Positive relationship between individual and physical place and his emotional satisfaction are related to available social relationships in the place, so that social interactions in the place make it possible to create a meaning of place. Some researchers considered the attachment to a place based on public participation in place, amount of employment in social networks and cultural exchanges (Marcus, 1995).

3. Cultural Factors

All members of society with their special culture share the same attachment to a particular place (Low, 1992 & Hummon, 1992). Attachment to place is related to activities performed by individuals in the form of their cultural requirements (Low & Altman, 1992).

4. Individual Factors

Attachment to place varies from person to person (Tuan, 1979). People chose places based on their conscious preferences obtained by their individual characteristics attached to them. Individuality is also important in the development of social relationships. This is called mental characteristics of primary trends (Riley, 1992).

5. Memories and experiences

Attachment to place usually happens after a strong or long term attachment to the place experience in which place obtains a broad sense for individual (Tuan, 1974; Kaplan, 1995). In this regard, Tuan emphasized a factor as rootedness in place which means unity of individual with place (Tuan, 1980). Riley in his study on attachment to places found that attachment to place is the result of memories of growth period and relationship that takes place in one place. He believed that we remember an ideal location where remember real favorable experience events and place is a part of our experience that can be a symbol of that experience (Riley, 1992: 19).

6. Satisfaction of the place

Emotional relationship between individual and place depends on his satisfaction of place and his method of

evaluation (Bonnes & Secchiaroli, 1995). The amount of this relation depends on the the individual's perception of place and extent of his satisfaction, place quality and its security (including economic, social, and physical security). It occur when the human requirements and expectations are met in the place. Therefore, one of the most important aspects that should be considered in this regard is the amount of individuals satisfaction of those places. whatever individuals needs and expectations of the place increased, the likelihood of a more favorable emotional develops (Fisher et al, 19 85). satisfaction factor also is dependent on factors such as: facilities, location and function proportionality, consistency, visual characteristics, management, place economic value, social context of place, social communication and background characteristics (Bonaito et al, 1999).

7. Activity agents

One of the most impressive features of place which is involved in promoting attachment to places is individual-place activities and interactions (Rubistain & Parmelee, 1992; Relph, 1976; Low & Altman, 1992). In fact, it is rooted in how people interact with physical and social space in the form of cognitive, behavioral, and emotional interactions which leads to attachment to the place. It means that the kinds of activities in a place lead to obtaining the place meaning which in turn is the basis of attachment to place (Relph, 1976; Freid, 1963; Brown, 19 92; Low & Altman, 1992) . Studies show that attachment to places will increase by continuing events or activities in the place (Low & Altman, 1992).

8. Time factor

Time factor, or length of residence, plays an important role in creating attachment to place. This issue is confirmed by many researchers (Bonaiuto et al, 1999). The time factor in adults and children is considered as a

determining factor in the degree of attachment to place and it can be studied both in the process and the level of attachment to a place (Low & Alt man, 1992).

4. Theoretical Framework

What examined so far was different models of sense of place, place attachment and various factors influencing these concepts. To obtain a theoretical model for this study, first, criteria for measuring sense of place and place attachment were analyzed and discussed in Figure 1. Next, as shown in Figure 1, the Steele model and Canter model was extracted from the sense of place. Finally, in the theoretical model of this study, the eight dimensions of place attachment were combined with three dimensions of sense of place obtained from overlap of Counter and Steel model. The resulting four dimensions form the theoretical model of this study. Thus the form dimension and physical dimensions from the sense of place with physical features from place attachment were classified in a group titled "physical dimensions ". The function dimension from the sense of place with activity dimension from place attachment were classified as "functional dimensions". Meaning from the sense of place with social, cultural and individual dimensions as well as memories, experiences and satisfaction from place attachment were classified as "perceptual - cognitive dimensions". The "time dimension" from place attachment that has no corresponding dimension from the sense of place was also entered in the theoretical model separately. Therefore, from dimensions influencing the sense of place and place attachment, four dimensions, i.e. physical dimensions, functional dimensions, perceptual-cognitive dimensions and time dimension, constitute the theoretical model of this study (Figure 2).

Table 1 Measures of dimensions effective in the sense of place and attachment to place (Source: authors)

Sense of place	Measurement criteria	
	Steele Model	Canter Model
Physical dimensions	size, scale, diversity, distance, texture, color, smell, sound, temperature, decorations	-
Perceptual and cognitive dimensions	cultural, social, fun, pleasantness, safety, liveliness, memories and experiences	-
Form dimensions	-	size, scale, proportions, decorations, diversity, distance, texture, color, smell, sound, temperature
Functional dimensions	-	human behavior and activities
Meaning	-	cultural, social, fun, pleasantness, safety, liveliness, memories and experiences
Place attachment	Measurement criteria	
1 - Physical dimensions	Stedman's studies on the role of place attachment stress its direct role in satisfaction and its indirect role in place attachment.	
2 - Social dimensions	The positive relationship between person and physical place, and his emotional satisfaction are associated with social relations present in the place.	
3- Individual dimensions	The intensity of place attachment varies from person to person. People select places and attach to them based on conscious preference which are the result of their individual characteristics.	

4- Cultural dimensions	Members of similar groups, families, communities and cultures share attachment to particular places.
5 - Activity dimensions	These are rooted in how people interact with physical and social space in the form of cognitive, behavioral, emotional, and semantic interactions resulting from place attachment.
6- satisfaction with place	Emotional relationship between person and a place depends on his satisfaction with and evaluation of the place. The amount of this relationship depends on the individual's perception of and satisfaction with the place.
7 - memories and experiences	Place attachment arises from memories of growing periods and the communication that happens in a place.
8- time	The time or duration of residence, plays a role in increasing place attachment.

Table 2 Obtaining four-dimensional framework of factors effective on sense of place and attachment to place

	All factors	Sense of place	Place attachment	Conceptual framework
1	Form	*		Physical factors
2	Physical properties		*	
3	Function	*		Functional factors
4	Activity		*	
5	Meaning	*		Perceptual – cognitive factors
6	Cultural		*	
7	Individual		*	
8	Memories and experiences		*	
9	Satisfaction		*	Time
10	Time		*	

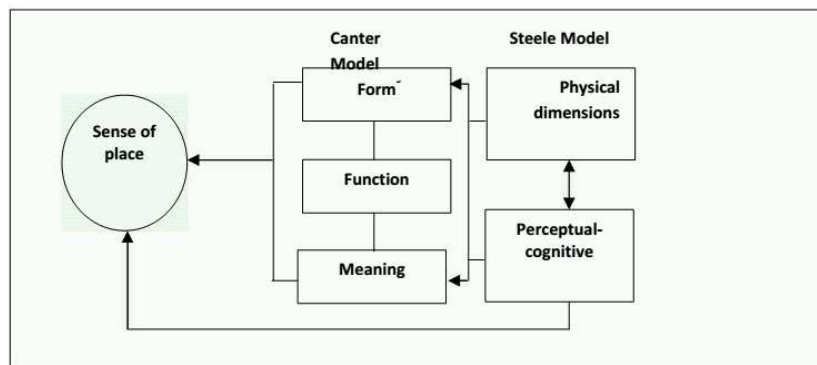


Fig. 1. Steele and Canter models of dimensions affecting the sense of place (Source: The authors)

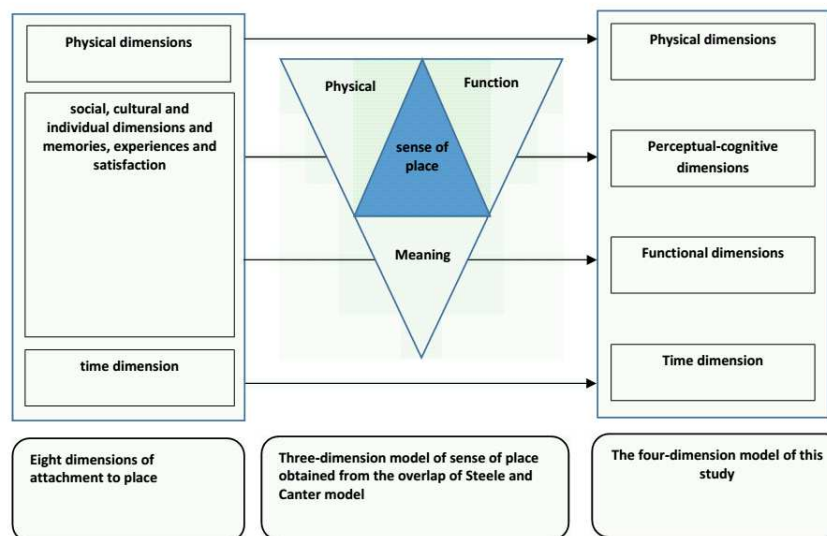


Fig. 2. The four-dimension theoretical framework of this study obtained from synthesizing dimensions affecting the sense of place and place attachment (Source: authors)

5. Methodology

Before explaining the research method, it is necessary to discuss about the case studies. Pardis Eram Complex, famous as Eram dormitory, is located on a hill near the



Fig. 1 & 2. Shiraz Eram Dormitory

Ghods dormitory is also another dormitory belong to Eram Shiraz University located at the end of Eram Blvd near the Daneshjoo square in the urban context of the city. This 11- story dormitory was built in which the sixth and ninth floors assigned to accommodation of graduate and undergraduate students.



Fig. 3. Ghods dormitory in Shiraz

In this study, questionnaires were distributed among students in both dormitories. After completing the questionnaires, SPSS WIN17 software was used for data processing by appropriate descriptive and deductive statistical methods. At descriptive level, absolute, relative, and cumulative frequency distribution methods were used. At deductive level, correlation coefficient, regression and mean comparison testing were used regarding the nature of variables.

One of the major issues in social research is how to determine number of participant. To determine, first

campus of the University of Shiraz on a very large area of high ground above the town overlooking Is located. Minoru Yamasaki, designer of this collection, is designer and architects of New York Trade Center too.

accuracy and confidence level of sample generalization must be specified. 5% confidence level is usually considered in the social sciences. In this study, the "Cochrane" participant calculation formula is used as follows:

$N =$ Population

$T =$ 95% confidence level equal to $1/96$

$d =$ potential efficiency half of the confidence distance

Confidence interval (p) in this study was 10%.

Therefore, the potential efficiency of 5% calculated.

$$1 - n = \frac{\frac{t^2 p q}{d^2}}{1 + \frac{1}{N} \left(\frac{t^2 p q}{d^2} - 1 \right)}$$

6. Participant Frequency

The population included 5000 dormitory students. Using Cochrane formula, 154 questionnaires were randomly administered to the students of both dormitories. In this study, only students living in dormitories are studied. Of these sample, 77 were in the Eram dormitory and 77 were in Ghods dormitory. Education level of the study population included 3 student at degree level, 128 student at undergraduate level and 23 student at postgraduate level. Collected data indicates frequency range of the studied students is at undergraduate level. - Frequency distribution of the study population included 53 student in first academic year, 35 students in the second year, 28 in third year and 38 in the fourth year. So, most students are in first year of their study at university.

Table 2 Frequency table of Participant Frequency

Frequency	Levels			Academic year				Total
	Associate degree	Undergraduate	Postgraduate	1	2	3	4	
Eram	0	64	13	21	20	16	20	77
Ghods	3	64	10	32	15	12	18	77

7. Discussion

Research hypotheses analysis

The main hypothesis of this study is to find the relationship between sense of place and place attachment which is presented as hypotheses No.1 in the table (3). According to the early investigations in literature review, two factors of time and physical factors considered more

important of other four factors. Therefore, their effects on sense of place and place attachment are more specifically examined in the form of hypotheses 2 to 5 (Table 3). Accordingly, the Pearson correlation coefficient and significance coefficient were analyzed separately for each four factors and due to lack of time, more hypotheses about other factors of conceptual framework are not analyzed.

Table 3 Pearson Test and significance level in the study hypotheses

Hypotheses	Sig.	Pearson test
1- There is a significant relationship between sense of place and place attachment.	0.000	0.958
2- There is a significant relationship between physical dimensions and place attachment.	0.000	0.89
3- There is a significant relationship between time and sense of place.	0.040	0.197
4- There is a significant relationship between physical dimensions and sense of place.	0.000	0.936
5- There is a significant relationship between time and place attachment.	0.040	0.716

Hypothesis (1): This hypothesis attempts to find a relationship between the two main variables of a sense of place and place attachment. For temporarily reject or confirm of the hypothesis and by considering the measurement level, Pearson correlation coefficient are used as statistical test. In the Pearson test, $-1 \leq r \leq +1$ can be observed. Whatever (r) or obtained coefficient correlation of the test is closer to +1, a stronger relationship will be indicated and weaker correlation can be observed in the opposite direction. Pearson test indicates strength and weakness of this relation. According to high correlation coefficient of 0.958 in this hypothesis close to 1, a strong relationship prevails between the concepts. Level of significance or (sig) in this respect should be less than or equal to 0.05, otherwise the relationship is not significant. this hypothesis with a significance level of 0.000 is confirmed. Since the significance level is less than 0.05, the related hypothesis is confirmed. Thus it can be stated that there is a very strong relationship between sense of place and place attachment.

Hypothesis (2): This hypothesis seeks to explain the relationship between physical factors and place attachment. According to high correlation coefficient of 0.89 in this hypothesis close to +1, a strong relationship prevails between the concepts. This hypothesis with a significance level of 0.000 is confirmed. Since the significance level is less than 0.05, the related hypothesis is confirmed. Thus it can be stated that there is a very strong relationship between physical factors and attachment to place

Hypothesis (3): This hypothesis is aimed at finding time factor in the sense of place. The correlation coefficient between the two variables is 0.197, which is very low level. However, the significance level of 0.040 has been approved. Since the significance level is less than 0.05, the related hypothesis is confirmed. Thus it can be stated that there is a very strong relationship between time factor and sense of place.

Hypothesis (4): This hypothesis seeks to explain the relationship between physical factors and the sense of place. According to high correlation coefficient of 0.936 in this hypothesis, significance level of 0.000 is confirmed.

Therefore, the related hypothesis is confirmed. Thus it can be stated that there is a very strong relationship between physical factors and sense of place.

Hypothesis (5): This hypothesis seeks to explain the relationship between time factor and place attachment. High correlation coefficient of 0.8716 in this hypothesis and significance level of 0.040 is confirmed. Since the significance level is less than 0.05, the related hypothesis is confirmed. Thus it can be stated that there is a very strong relationship between time factor and place attachment.

Above analysis and interpretation of the hypotheses indicate that there is a strong relationship between two main variables of sense of place and place attachment. According to literature review, sense of place is a kind of individual's sense to a place created by individual interaction with that place. It must be mentioned physical factors, activities, and meanings associated with this place are factors that are influential in shaping a sense of place. These factors are put together in the process of individual-place interaction. On the other hand, literature review of place attachment also explains the fact that attachment to place is a positive emotional connection with the place. This is based on previous experiences of life, behavioral, cognitive, social, emotional and individual structures. So people create their behavioral, cognitive, emotional and social model based on this relationship and classify their new experiences accordingly to guide the motivation for the behavior and activities of a person in relation to their "self" design. When "self" is creating, the individual needs and expectations are also established. When expectations are met by the object or subject, a sense of peace and security can be obtained and he will continue to meet his needs objectively and subjectively. The result of this process is interests and passion for life with others. The obtained results show that place attachment is one of the subsets of sense of a place. Thus, the person's sense of place can be considered an overall feeling of the place and attachment to place is a positive feeling that a person will get from the place.

In the next step, the relations of the four parameters in - model of the research on place attachment and sense of place are examined separately. As mentioned above, there

is a strong significant relationship between physical factors and attachment to place (what is seen in hypothesis 2). It is due to a person lives in direct contact with the physical and physiological factors such as his residence (form, color, light, texture, perspective ...) and pays so much attention to these factors to enhance the quality of life.

There is a significant relationship between time factor and sense of place While the correlation of these two variables on each other intensity is weak. (What is seen in hypothesis 3). whether the intensity of the relationship

between the factors of time and place attachment is at higher level (hypothesis 5). This is because if a person's sense of place considered as his overall sense to the place, place attachment is a positive feeling which grows over time and individual becomes interested in the place. That is why people who live in a place become accustomed to their dwelling over time and all the factors that will affect their lives becomes important to them. This causes their interest to the place.

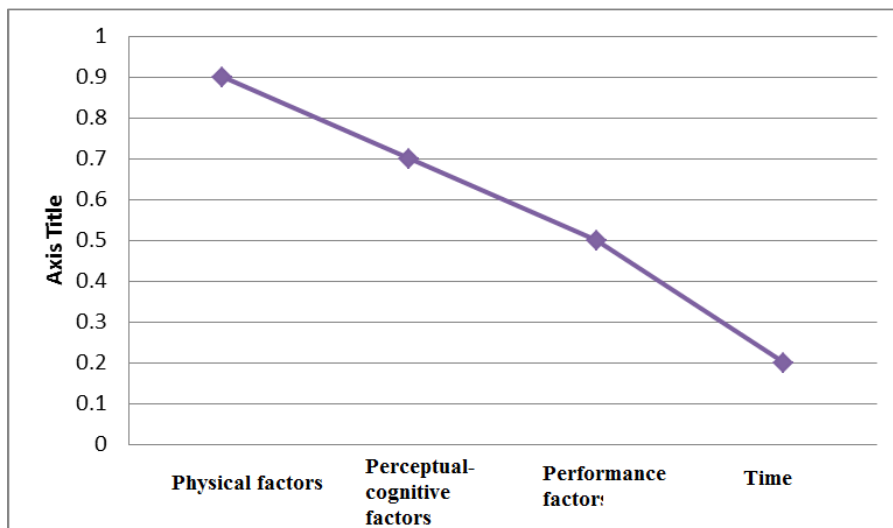


Diagram 1. Correlation coefficient and significance level of parameters affecting sense of place
 X Axis: influencing parameters
 Y Axis: Correlation coefficient and significance level

Fig. 4. Evaluation of correlation coefficient and significance level of the parameters affecting the sense of place

What can be observed in the Diagram 1 is the effect of four factors of the theoretical framework on the sense of place. This diagram represents the four factors of the theoretical framework along the (x) axis ,Pearson correlation coefficient (correlation coefficient) and the significance level of these parameters in (y) axis. According to this diagram, it can be concluded that

physical factors are the most influential parameters on the sense of place that students in dormitory considered them as most important factors. Time factor contains the lowest correlation coefficient and significance level which indicates that the time factor has the minimal impact on the sense of place.

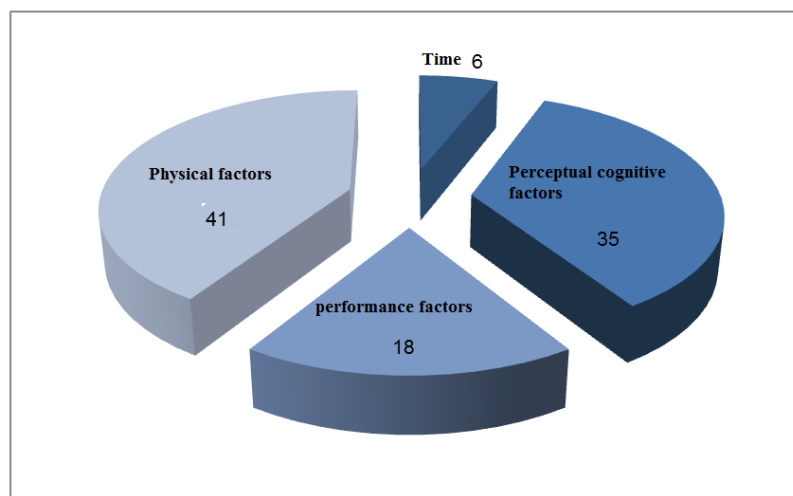
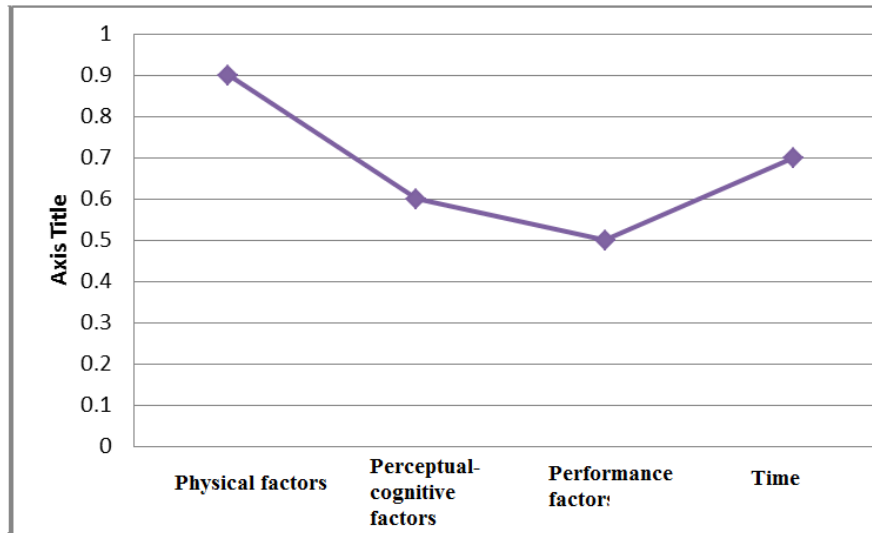


Diagram 2. The effect of four factors of the theoretical framework on the sense of place

What can be observed in the Diagram 3 is the effect of four factors mentioned in the conceptual framework on place attachment. Four factors of conceptual framework is represented along the (x) axis and the significance level of these parameters in (y) axis. Purpose of researcher is to

evaluate the relationship between the internal variables and their amount. It can be inferred from this diagram that physical parameters are the most influential factors affecting place attachment after which time factor has the greatest impact on it.



X Axis: influencing parameters

Y Axis: Correlation coefficient and significance level

Diagram 3. Evaluation of correlation coefficient and significance level of the parameters affecting attachment to place

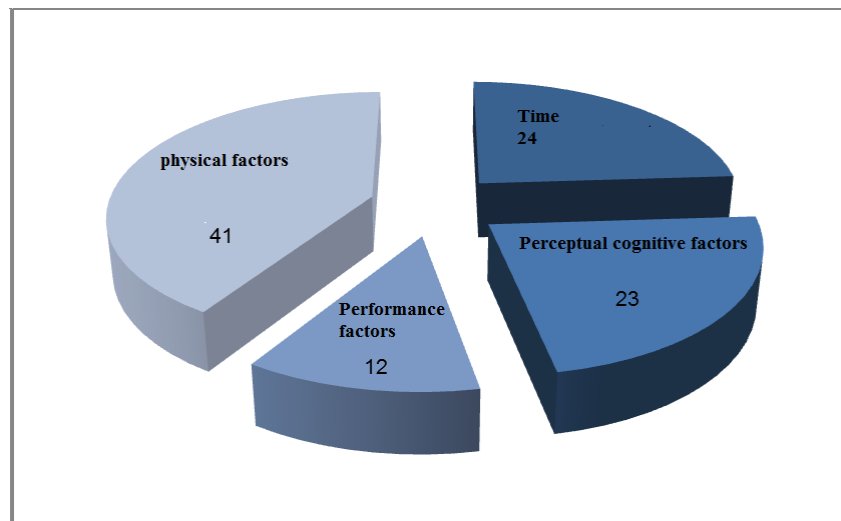


Diagram 4. The effect of four factors of the theoretical framework on attachment to place

8. Conclusion

According to literature review, a sense of place is generally regarded as a holistic concept in the form of which individuals perceive the place and attend meaning to it. Understanding of various aspects of forming a sense of place and understanding how people show tendency to it is useful to assess general attachment of individual to a place. Place attachment is related to emotional and functional relationship between individual and place investigated in environmental psychology.

According to what mentioned above, the purpose of

this study is to explain the definition of a sense of place attachment and the factors affecting them, and compare the relationship between the two concepts. During this study, the opinions of the two samples students living in dormitories (Shiraz University Dormitories: Eram and Ghods) through in-depth interviews and a questionnaire are used to analyze and interpret the results.

The results indicate that there is a significant relationship between the sense of place and Place attachment. According to the interviews, a sense of place is the overall and primary feeling of an individual to a place that may change to Place attachment over time if to be positive. But in the case of negative sense of place, it

becomes a feeling of disgust to places. Therefore, place attachment is followed by the sense of place and is considered as its subset.

The other part of this study investigated factors affecting the sense of place and place attachment. The results indicate that among the four factors presented in the theoretical framework, the physical factors have had the greatest impact on both the sense of place and place attachment. This indicates the important role of physical environment on the formation of initial feeling and positive impression of place on the people. Another obtained result in this study is investigation of the time factor related to sense of place and place attachment. This study demonstrated that time factor, compared with the sense of place, has the lowest correlation while in relation to place attachment, after the physical factor, is the most important one. Obviously, in the initial encounter with the places, the time factor is not very important and individual receives greater perception from the physical environment based of which a mental image of the place will be created. However, the more time a person associated with that place, more feel compounded to that place and therefore more attachment to place may be shaped.

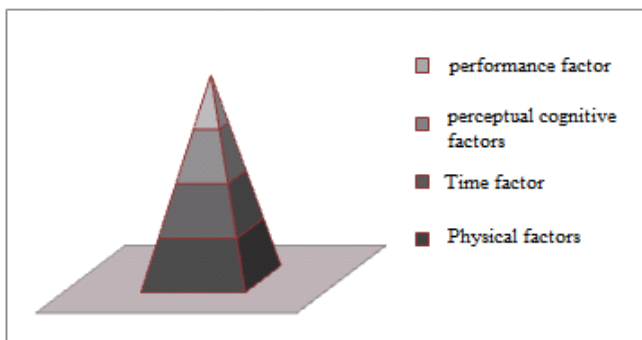


Diagram 5. the effects of the four factors on the sense of place

Diagram 5 shows the effects of the four factors on the sense of place. The base of the pyramid shows the highest effect on the sense of place and the top shows the least effect on the sense of place. As can be observed, the most important factor (physical factor) is highlighted at the base of the pyramid. Other factors (cognitive perceptual factor, performance factor, time factors) stand next in terms of effects as shown in colors with different intensities.

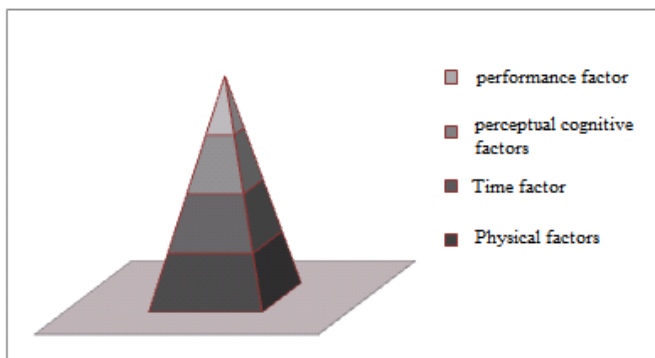


Diagram 6. the effects of the four factors on attachment to place

Diagram 6 shows the effects of the four factors on attachment to place. The purpose is to investigate the relationship between internal factors and their size of effects. The base of the pyramid shows the highest effect on attachment to place and the top shows the least effect on attachment to place. As can be observed, the most important factor (physical factor) is highlighted at the base of the pyramid. Other factors (cognitive perceptual factor, performance factor, time factors) stand next in terms of effects as shown in colors with different intensities.

According to interviews with dormitory students, physical dimensions – which they classified as general and specific- were among their high-priority needs. According to their answers to the questions during the interview, they paid attention to form and shape of their dormitory building and expressed their imagery of form and shape of their residences. They even commented on design details of their dorm rooms including light, color, texture of walls, external dimensions, view, landscape, furniture, beds, wardrobes and furniture materials. For example, one of the things that the majority of respondents commented on was the material of their rooms' furniture. They preferred wooden bed materials of metal. In some cases they preferred warmer colors for their room and the majority of them were dissatisfied with the artificial light and complained about lack of natural light. In some cases, students were dissatisfied with the texture of their rooms which was Kenitex. Equipment used in the rooms, service spaces on the site and the functions and relationships between these spaces and the dorm were other dimensions referred to by students in interviews. These can play an effective role in the design of such facilities. Finally, based on what the student stated in their interviews and their views about their satisfaction with the space, design guidelines related to student dormitories can be developed.

The results indicate that physical factors have a significant effect on both the sense of place and attachment to place. Therefore, the physical design of the environment has a crucial role in formation of people's initial sense and positive feelings in dealing with the environment. This highlights the importance of the environment's physical dimension in the design process. Therefore, architects and urban planners should give priority to physical factors including (form, light, color, view, etc.) in their design of spaces for student dormitories. This can lead to the users' positive view towards the environment and increases student's sense of place and involvement with their living place over time.

References

- [1] Bonaiuto M, Aiello A, Perugini M, Bones M, Ercolani AP. Multidimensional perception of residential environment quality and neighborhood attachment in the urban environment, *Journal of Environmental Psychology*, 1999, Vol. 19, pp. 332-352.
- [2] Bonnes M, Secchiaroli G. *Environmental Psychology, A Psycho-Social Introduction*, London, Sage Publication, 1995.
- [3] Brown BB, Perkins DD. Disruptions in Place Attachment, In I Altman, SM Low (Eds.), *Human*

- Behavior and Environments: Advances in Theory and Research. Place Attachment, New York, Plenum Press, 1992, Vol. 12, pp. 279-304.
- [4] Canter D. The Psychology of Place, London, Architectural Press, 1977b.
- [5] Cross JE. What is Sense of Place, Research on Place & Space Website Retrieved 12 Mar. 2003, 20 Feb. 2003, 2011.
- [6] Falahat MS. The concept of sense of place and its constituent elements, Journal of Fine Arts, Tehran, 2006, No. 26, pp. 57-66.
- [7] Fisher S, Murray K, Frazer A. Homesickness, health and efficiency in first year students, Journal of Environmental Psychology, 1985, No. 2, Vol. 5, pp. 181-195
- [8] Hashemnezhad H, Heidari AA, Mohamadhosseini P. Sense of place and place attachment (a comparative study), International Journal of Architecture and Urban Development, 2013, No. 1, Vol. 3, pp. 5-12.
- [9] Hummon DM, Community Attachment: Local Sentiment and Sense of place, Plenum, New York, 1992.
- [10] Jorgensen B, Stedman R. Sense of place as an attachment: Lakeshore owners attitudes toward their properties, Journal of Environmental Psychology, 2001, Vol. 21, pp. 233-248.
- [11] Kaplan S. The restorative benefits of nature: Toward an integrated framework, Journal of Environmental Psychology, 1995, Vol. 15, pp. 169-182.
- [12] Low SM. Symbolic Ties that Bind. In I. Altman, SM Low (Eds.), Place Attachment, New York, Plenum Press, 1992, pp. 165-185.
- [13] Low SM, Altman I. Place Attachment: A Conceptual Inquiry. In I. Altman, SM Low (Eds.), Place Attachment, New York, Plenum Press, 1992, pp. 1-12.
- [14] Lynch K. The Image of City, translated by Mozayeni M, Tehran University publications, Tehran, 1993.
- [15] Marcus CC. House as a Mirror of Self: Exploring the Deeper Meaning of Home, Berkeley, CA, Conari Press, 1995.
- [16] Norberg-Schulz Christian. Architecture: Presence, Language, Place, translated by Ahmadian, Seyed Alireza, Institute of Architecture Publications, Tehran, 2002.
- [17] Rappaport Amos. The Meaning of the Built Environment: A Nonverbal Communication Approach, translated by Habib Farah, Urban Processing and Planning publications, Tehran, 2005.
- [18] Rubinstein RL, Parmelee PA. Attachment to Place and Representation of Life Course by the Elderly, New York, Plenum Press, 1992, Vol. 12.
- [19] Relph E. Place and Placelessness, London, Pion, 1976.
- [20] Riley R. Attachment to the ordinary landscape. In I Altman and S Low (Eds.), Place attachment, Plenum Press, New York, 1992, pp. 13-36.
- [21] Seamon D. Place, Place Identity, and Phenomenology: A Triadic Interpretation Based on JG Bennett's Systematics, David Seaman, 2008.
- [22] Steele F. The Sense of Place, Boston, CBI Publishing Company, 1981.
- [23] Stedman (2003), Redden (1993), Sense of Place and Place- Based Introductory.
- [24] Tuan YF. Topophilia: A study of Environmental Perception, Attitudes and values, New York, Columbia University Press, 1974.
- [25] Tuan YF. Space and place: humanistic perspective, In: Philosophy in Geography, S Gale and G Olson (Eds). D Reidel, Dordrecht, 1979, pp. 387-427.
- [26] Tuan YF. Rootedness Versus Sense of Place, Landscape, 1980, Vol. 24, pp. 3-8.