



# Promoting the Sense of Place Attachment through Enplaning the Meaning of Place in the Open Space of Aseman-e-Tabriz Residential Complex\*

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**ABSTRACT:** The meaning of place and, consequently, the quality of relationship between people and places has become significant due to the current ever rising identity crises and the breakdown of meaning as a result of various phenomena such as globalization. Since the open space has lost its value and since the open space design is not considered in residential complexes, the close relationship between residents and the environment has been degraded and the sense of place attachment is forgotten in design. Therefore, this research seeks to define the effective components of place meaning, place attachment and the quality of residents and open space interaction in residential complexes. In this regard, the main question is how the components of physical environment (objective) and psychological environment (subjective) relate and counterbalance; and also, which component of place attachment has the most effect factor on open space design in residential complexes. To achieve the abovementioned goal, this research is configured in three phases: explaining, scrutinizing and evaluating the findings. This paper is an applied research conducted through analytical-descriptive methodology. The data were collected in two ways: documentary-library and field-survey; and were processed through questionnaires, descriptive statistics and inferential statistics, using SPSS software and linear regression. Eventually, the data were evaluated and analyzed regarding the impact rate of each component of the triple indicators of place attachment in the residential complexes in three general categories: meaning, emotional and functional aspects. The data were used in six components of open space, including the pedestrian access, driveway access, playing space, green space, urban furniture and sitting space. The results show that place attachment components have the highest impact on green space and the playing space, pedestrian access, furniture, driveway access and then the sitting space are the most effective factors respectively; it can be mentioned that place attachment indicators interrelate directly.

**Keywords:** Meaning, Open Space, Place Attachment, Aseman-e-Tabriz Residential Complex.

## INTRODUCTION

The interaction of the emotional, cognitive and behavioral human needs and the living space, which is called "Place Attachment" is one of the most important dimensions of the human and place relationship (Pirbabaee, Gharabaglou, & Alinam, 2015, p. 47).

Place attachment is a multifaceted conception which includes many aspects of a person feeling – such as the bond between the place and the behavior, affection and cognition (e.g., Cuba & Hummon, 1993; Fullilove, 1996; Giuliani, 2003; Hildalgo & Hernandez, 2001; Manzo,

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2003, 2005; Mesch & Manor, 1998; Riley, 1992). It is an interplay of affection and emotions, knowledge and beliefs, and behaviors and actions which is in relation with a place (Altman & Low, 1992; Proshansky, Fabian, & Kaminoff, 1983). This should be considered by architects, designers and urban planners. To achieve this goal, space creators should perceive human behavior in different environments accurately in order to be able to strengthen the relation between human and place (Waxman, 2004). Nowadays, residential environments are not so desirable; in fact, public ones are the leftovers of constructed spaces. Therefore, taking into account that open spaces are places for social interactions and consequently, increased presence of people, they can increase social security and finally responsibility of the residents (Ghazizadeh, 2011). Thus, open spaces in residential complexes have to be designed appropriately for being used as a collective shared courtyard. Moreover, environment psychology should be attended necessarily during planning and design of open space for a modern residential complex. Perhaps, there were much to mention in traditional architecture of Iran; but, nowadays, passing through streets and avenues of your hometown, you notice that you cannot find your authentic meaning and identity (Saphian, Ansari, Ghafari, & Masoud, 2011, p. 124). As Schulz emphasizes on losing meaning, he compares the old and new places and says: "Although there is still a kind of public order in new places; a bird

can feel the order more than human and human beings in city center cannot feel the place" (Schulz, 2009, p. 272). There are different images of different places in human memory and emotions affect human's perceptions of an environment and his/her mental image (Habibi, 2008). Also, human is the most important element of space that should have a human scale to be suitable for use (Tavassoli & Bonyadi, 1990, p. 29). Therefore, despite the thinkers' emphasis on losing the meaning of place in new studies, the recent research in this field indicate that the absence of this quality is observable in modern residential places.

In general, losing the imagination of place and place attachment can be the dominant feature of the current crisis. Currently, residential areas have changed to places with no spirit and have ultimately become a shelter for living.

In this research, we tried to identify place meaning indicators in organizing open space of residential complexes as an applicable base for evaluating, examining and also providing strategies for increasing place attachment. Thus, the main goal of this research is to study the effective parameters of place meaning in open spaces of residential complexes to promote the sense of place attachment; Aseman-e-Tabriz residential complex has been selected as a case for study and evaluation. Accordingly, the subject and conceptual framework of this article is scrutinized in Fig. 1.

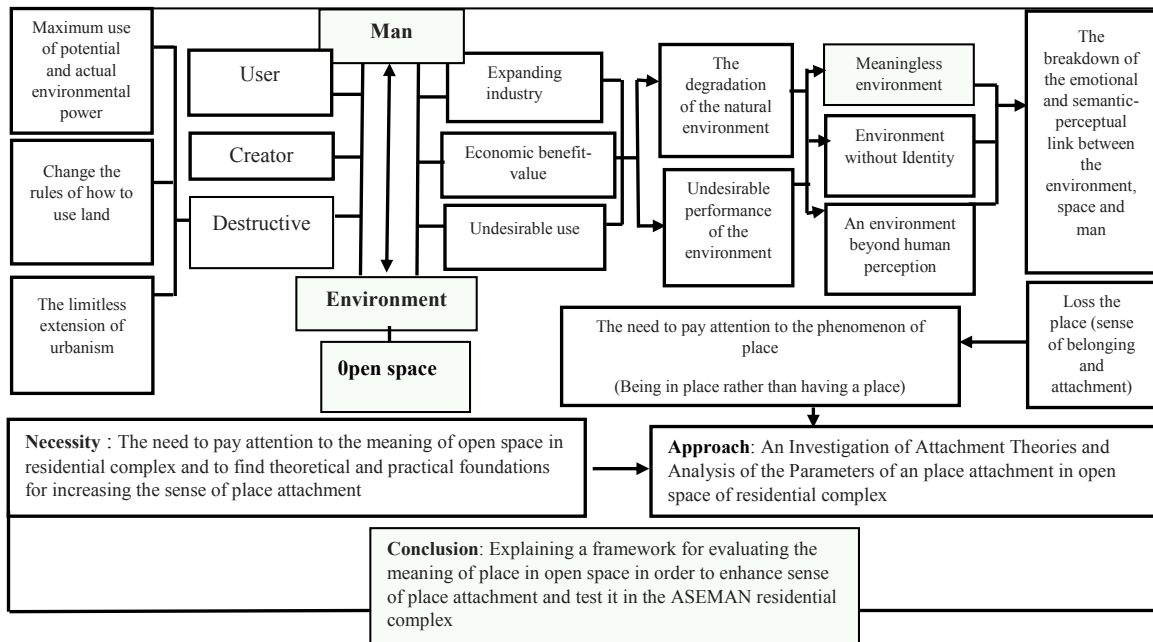


Fig. 1. The Statement of Problem



## LITERATURE REVIEW

Understanding the place attachment is important in sustaining the attraction and meaning of place (Ujang & Zakariya, 2015, p. 374). The relationships between people and place are seemingly complex and evolve both space and time (Chow & Healey, 2008). Place plays a great role throughout human history. It has been a significant factor in day-to-day experience. There are different concepts used to define people's relations with place: including sense of place (Relph, 1976; Steel, 1981; Tuan, 1977), place attachment (Hidalgo & Hernandez, 2001), place identity (Proshansky, 1978; Twigger – Ross & Uzzell, 1996), place dependence (Jorgensen & Stedman, 2001) and community attachment (Trentelman, 2009). Among these concepts, place attachment and place identity were the most general ones.

Place is where we have a perfect understanding of the existence and life (Habibi, 2008). Ali Madanipur (2000) defines place as a part of the space with a sense of value and meaning. Afsharnaderi (1999) imagines that a place is resulted from the interaction of three components: a. human behavior, b. definitions and c. physical features (Mahmoodinejad, 2008). Shcoltz states: "It is a feature of architecture to alter an area into place; that is to act out the potentiality of the environment" (Raeesi, 2012).

In the field of phenomenology, Heidegger (1889 – 1976) proposed that dwelling, expresses a meaningful relationship between man and the environment; a relationship that grows from to increase identity, which then, leads to an emotional attachment to a place (Heidegger, 1971). Schulz (1926 –2000) defined various types of dwelling; all of which refer to the concept of attachment to physical, emotional and social environments (Schulz, 1984). In 1979 Lynch proposed that a clear subjective image of a place is the main attribute of the place identity. Schulz and Ralph examined deep emotional and perceptual links between man and place (Habibi, 2008). Place attachment has been researched quite broadly, and so has been defined in a variety of ways (Scannel & Gifford, 2010). There are different concepts used to define people relations with places: place attachment, place satisfaction, place identity, place dependence, sense of place, community attachment, sense of community. The studies on place attachment are classified into three context including place identity, natural environment context and community context. The personal context includes place identity, place dependence and rootedness. The natural environment context includes connectedness to nature, environmental identity and affinity to nature. The community context

includes neighborhood attachment, belongingness and familiarity (Christopher & Raymond, 2010). Scannel and Gifford (2010) synthesized various definitions of the concept into a three – dimensional, person – process – place organizing framework. The personal dimension of place attachment refers to its individually or collectively determined meanings. The psychological dimension includes the affective, cognitive, and behavioral components of attachment (Scannel & Gifford, 2010).

Place attachment relates to the affective aspects of environmental meaning (Altman & Low, 1992). It is embedded in the affective bond or link between people or individuals and particular places (Hidalgo & Hernandez, 2001). Place attachment was evident in the functional bonding between people and places described as place dependence (Stokol & shoemaker, 1981). As Kyle et al. who have studied the place attachment in recreational environments, for example in climbing mountains, regard its suitability with social and environmental conditions perception by climbers (Kyle, Graefe, Manning, & Bacon, 2004); alike Tabrizi's dissertation on the effect of technological modernization on creating sense of placelessness in Navvab Project of Tehran (Tabrizi, 2003). The results of the mentioned research show that planning based on interests and participatory planning is very effective on creating and empowering a sense of place. In spite of remarkable studies about evaluating place concepts, research on examining and evaluating place attachment in residential complexes and contexts is very few.

## RESEARCH OBJECTIVES

The primary objective of the present study is to explore the self-reported psychological benefits of place attachment using a context analysis. The secondary objective is to examine the variations of these experienced psychological benefits according to demographic characteristics, the type of place of attachment and its geographical scale, with investigation of attachment theories and analyzing the parameters of place attachment in open space of residential complexes.

## METHOD

This paper focuses on the affective values of the places expressed about the place, memory, sense of pride and belonging. The findings will be applicable to the studied areas which cover the open space in Aseman-e-Tabriz residential complex. The findings are discussed in the light of the socio-cultural characteristics of the



users and the established place attachment. Taking into account that this paper is an applied research which was accomplished using a descriptive-analytical methodology and case study, the data were collected by using combined methods. First, the qualitative method, “documentary-library”, was applied to derive the components that affect the open space attachment in residential complexes; second, the quantitative method, “field-survey”, was applied to collect data using questionnaires based on Likert scale. After measuring the validity of indicators, the final test was taken considering the amount of Cronbach’s alpha (more than 0.7) and the results showed that the indicators and the questionnaire totally were reliable. Open space was taken as the independent variable and place attachment by the residents was taken as dependent variable to achieve the relationship between these variables and explain the effect of open space on increasing place attachment in residential complexes. Finally, after collecting data, using SPSS software and linear regression test, the effective factors of independent variable were analyzed.

## THEORETICAL FRAMEWORK

### *The Meaning of Place and Place Identity*

Place means “being” and “room”. “Being” by itself means “the existence” and “having existence”; it can also refer to “survival” and “living”. One of the other meanings of being is “situating” and “happening” (Dehkhoda, 1994). A place is a result of the relationship of human and his/her mental imaginations, and environmental characteristics. The concept, on the one hand, is rooted in the subjective experiences such as memories, traditions, history, culture, and society.

In General, place is a space which take meaning in cultural, individual and social process. In fact, people change space to the concept of place based on their social borders, feeling and emotions. Gieryan explains place in three characters as; geographical location, physical parameters and identity which are composed of meaning and value. According to Ralph and Canter, the place is composed of three components: the formal characters, the activities, and the meanings (Hashemnezhad & Heidari, 2013, p. 6). Shculz states: “It is a feature of architecture to alter an area into place; that is to act out the potentiality of the environment” (Raeesi, 2012). On the other hand, the sense of place is a complicated concept of the human feeling and attachment towards the environment that is produced due to the adaptation and use of place

by the human. It means that the sense of place is not a predetermined concept; but, results from the human interaction with the environment (Falihat, 2006).

Identity refers to “some way of describing or conceptualizing the self, which may incorporate personal roles and attributes, membership in social groups or categories, and connections to geographical locations” (Devine – Wright & Clayton, 2010, p. 267). Arising from Proshansky’s work (Proshansky, 1978; Proshansky et al., 1983), the concept of place identity was considered as an individual’s strong emotional attachment to a particular place or an environmental setting (Proshansky et al., 1983, p. 57) described the place identity as “physical world socialization of the self”, or the self – definitions that were derived from places. Not only was place identity supported by the physical dimensions of the place, but also the social environment associated with it (Twigger – Ross & Uzzell, 1996).

Therefore, taking into account that place attachment as a concept is realized after perceiving the meaning of place and the relationship between human and place, studying the concept of place attachment, its dimensions and indicators, and its relation with open space concept in a residential complex is necessary in fulfilling the main aim of the research.

### *The Concept of Place Attachment*

For some time, researchers faced difficulties during the study of place attachment due to diversity of approaches available at theoretical as well as empirical level. There were no agreements regarding its name, definition or the best methodological approach. We can find many similar terms such as community attachment (Kasarda & Janowitz, 1974), sense of community (Sarason, 1974), place attachment (Gerson, Stueve & Fishcher, 1977), place identity (Proshansky, 1978), place dependence (Stokols & Shumaker, 1981), sense of place (Hummon, 1992), etc. It is often difficult to tell whether we are talking about the same concept with a different name or different concepts. On occasions, we see that one of the terms is used as a generic concept which embraces others (for example, for Lalli, (1992), place attachment is a component of place identity). On other occasions, some authors use these term without distinction as if they were synonyms (Brown & Werner, 1985, talk of attachment and identity without differentiating them)”(Hidalgo & Hernandez, 2001, p. 274).

This terminological and conceptual confusion has seriously blocked advances within this field as many authors have pointed out (Giuliani & Feldman, 1993;

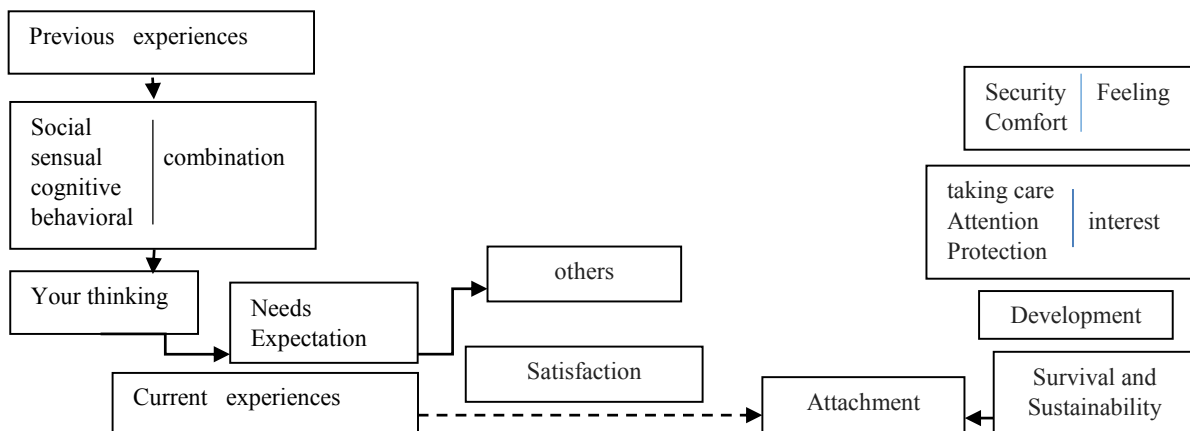


Lalli, 1992; Unger & Wandersman, 1985). Currently, there seems to exist a certain consensus in the using the term place attachment: In General, place attachment is defined as an affective bond or link between people and specific places. For example, for Shumaker and Taylor (1983) it is “a positive affective bond or association between individuals and their residential environment” (p. 233). Hummon (1992) considers it “as emotional involvement with places” (p. 25), and Low (1992) defines it as “an individual’s cognitive or emotional connection to a particular setting on milieu” (p. 165).

These definitions maybe appropriate to describe this special feeling toward certain places, but they have the drawback of being too ambiguous and do not allow differentiating attachment from other closely-related concepts, for example, residential satisfaction, which has been defined as “the positive or negative feeling that the occupants have for where they live” (Weideman & Anderson, 1985, p. 156). For this reason, further delineation is necessary. Towards this aim, we fall back on what we understand to be the main characteristic of the concept of attachment; the desire to maintain closeness to the object of attachment (Ainsworth & Bell, 1970; Bowlby, 1969, 1973, 1980). As we know, attachment

theory was first investigated in the domain of parent-infant relationships. The “emotion-laden target-specific bond” that develops between a person and a specific object (person or thing) is defined as attachment (Bowlby, 1979).

Based on this research, attachment has four properties: creating a trusted base, safe haven, tendency to keep closeness and separation sadness. Generally, attachment to something, like an object, a place, a person or other matters of a person’s daily life, consists of a person’s previous experiences through life and his/her behavioral, cognitive, sensory and social structures. As people make a behavioral, cognitive, sensory and social design of “self” based on these structures, they perceive, organize and categorize all experiences and confront with new subjects on the basis of this design and memorization. Therefore, during making “self”, needs and expectations are made as well. When a thing or subject fulfills these needs, a person feels comfort and safety and keeps on fulfilling needs objectively and subjectively. Accordingly, a person protects this attraction stating his/her own feelings; (Fig. 2) the result is attachment and keeping of passion for life and steady targeted behavior (Marris, 1996., & Hashas, 2003).

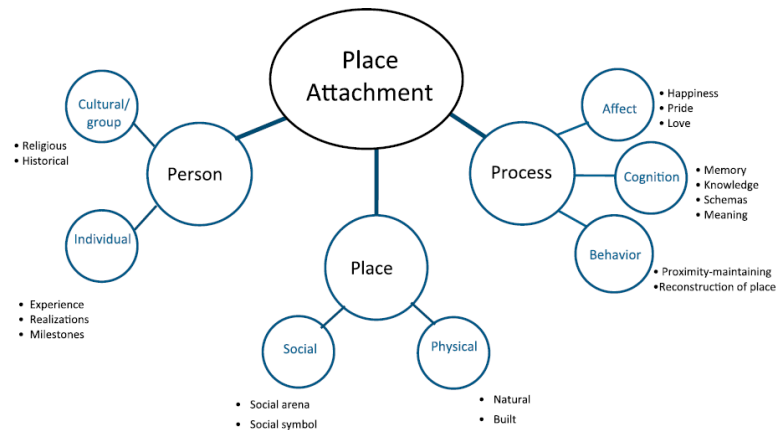


**Fig. 2. Attachment Theory**  
(based on Hashas, 2003, p. 5)

According to recent studies, place attachment patterns (three-dimensional patterns) emphasize more on perception of social themes of linkage to place, environment and natural elements through creating attachment to place (Hildago & Hernandez, 2001; Raymond, Brown & weber, 2010). Gustafson introduces three dimensions: self, others and environment, as the dimensions of belonging and place attachment, in his

pattern (Gustafson, 2006). Also, Raymond et al introduce personal, social and natural themes as the main themes of place attachment (Raymond et al., 2010).

Scannell and Gifford, have provided a framework of place attachment. This framework proposes that place attachment is a multidimensional concept with person, psychological process, and place dimensions (Fig. 3).



**Fig. 3. The Tripartite Model of Place Attachment**  
(Scannell & Gifford, 2010, p. 2)

The PPP framework structures the plethora of place attachment definitions into a simple, three-dimensional framework. Previous frameworks and models have also attempted to define place attachment; for instance, Fulliloves (1996) conceptualization is exclusive to the psychological process dimension. The models proposed by Woldoff (2002) and Hunter (1978) depict place attachment as a mainly social phenomenon, in which place facilitates socialites, and is expressed through community action or informal neighboring. However, other conceptualizations show that place attachment is often directed toward physical features of the place, and it can be expressed through a variety of behavioral modalities. Sense of community (e.g., Mc Millan & Chavis, 1986) is another concept that details the nature of social attachments; nevertheless, it is not always place-bound (i.e., for communities of interest). It departs from a model that focuses on person–environment transactions. Some models of place attachment have been more inclusive, such as that of Shumaker and Taylor (1983), which defined place attachment as a multidimensional bond between people and their residential environments. The next important multidimensional model of place attachment is proposed by Low and Altman (1992). It suggests that place attachment consists of different places, actors, and psychological processes. The proposed person–process–place framework of place attachment is built upon previous frameworks and models by incorporating classic and recent empirical findings from a variety of theoretical perspective. It, thus, serves as a portrait of place attachment research up to date. As Blalock (1969) advised, the first step toward construction of testable theories is to scrutinize the current literature, identify key variables, and reduce them into an organized classification system when they are many. The PPP framework performs in this way. It

connects and integrates the many constructs within its three dimensions. Therefore, it presents an encompassing, yet simplified view of person–place bonding that is both accessible to those new to the place attachment concept and comprehensive to those already familiar with it. It should stimulate new research by identifying gaps in previous studies, aid in the development of assessment tools, and categorize different types of place attachment for planning purposes and related conflict resolution strategies.

Meanwhile, designers should psychologically perceive changes of urban context affected by universal cultures and constructed forms to take into account the dimensions of place attachment in her/his own designs and plans (Sajjadzadeh, 2013). Therefore, the effective indicators (Fig. 4) of place attachment may be categorized as follows:

**Meaning Indicator:** Meaning relates to psychological and perceptual aspects of environmental experience and in this framework, place attachment is defined as connection point for a person and the environment. (Hernandez, 2001, p. 121) Accordingly, environments having more awareness and cognition are more meaningful than environments with less personal perception and cognition. Stedman's studies show that symbolic meanings of place play an important role in place attachment (Stedman, 2003, p. 682). Taking into account that place attachment is a result of social interactions realized in the place; the importance of social relationships in the place is magnified.

**Functional Indicator:** Functional dimension of place attachment was defined as potential of a place in fulfilling the needs and goals of a person by Scannell and Schumacher in 1981 (Livingston, Bailey, & Kearns, 2008, p. 11). This indicator is based on the quality of place for responding to the needs of users compared with



other similar places and depends on previous experiences of person, the way of accessing the place and its activity patterns (Williams & Vaske, 2003, p. 18) Therefore, initial levels of place attachment will be created through continuous relationship between people and place, its capacity for fulfilling goals of users and the possibility of its precious activities. Current activity of a place is a part of the effective factors on the degree and rate of linking between people and place in the framework of place attachment as Altman describes (Pakzad, 2007, p. 319).

**Emotional Indicator:** This indicator encompasses that emotions and feelings of people in a specific place, including ideas, memories, values, preferences, concepts and the person’s behavioral and experimental ideals about environment (Pourjafar, Izadi, & Khabiri, 2013, p.47).

### Open Space in a Residential Complex

The term of open space was probably first used in 1833 (Turner, 1992). The first definitions of open space in the 20th century was a result of an assumption: the space is a “vacancy” and whatever remains, an imaginable “full” mass (Simeoforidis, 1993). According to definitions, the open space is a space surrounded by building masses and natural elements which are occupied by people to do definite or even indefinite affairs of daily life (Germeraad, 1992, p. 97). The main role of open space in a residential complex is to moderate building and human densities and also, to arrange proper levels to provide the necessary frame for activities which cannot be done in a closed space. Although the function of such spaces is one of the most important urban plans, their qualitative and quantitative development is not considered important because of high price of land and especially utilitarian attitude against it (Mohammadzadeh, 2011).

The most contemporary research on this subject show that in recent planning, the absence of an open

space is replaced with a smaller space like a balcony or terrace, while open space should be an integral part of today’s modern residential buildings (Ghazizadeh, 2011; Saiedlue, Hosseini, & Yazdanfar, 2015).

Generally, categorizing the main and effective factors of physical design of residential complexes leads to detecting three main scales (Eynifar, 2000, p. 110): the first scale is outer link of residential complexes with adjacent environments; the second scale includes the internal relations of complexes and their relations with outside of residential units; the third scale takes into account the relations and proportion of internal spaces of residential units and their harmony with culture and traditions of residents. Taking into account that this research focuses on the open space in residential complexes, the second scale will be studied. Hence, the current activities of open space of a residential complex are classified in three groups: obligatory, optional and social. Also, the qualities of public domain may be classified in four components: physical, functional, social and meaning. The qualities of each component of public sphere are presented in Table 1. Meaning qualities are resulted from the interaction of physical, functional and social qualities and provide an image and perception of public sphere for human. On the other hand, when there is a useful balance between the needs of the users and their environment, dependence on place is enforced and continued (according to Fig. 5.). Meeting the needs (Mental and material) and supplying the functions are considered as a result of the interaction between human and place (Toghyani & Shabani, 2015, p. 10). By creating open space, we can make urban environment and life space more flexible and by correct use of the flexibility approach, the exhausted souls of today’s buildings could be improved and the original meaning of place could be regenerated in houses and apartments.

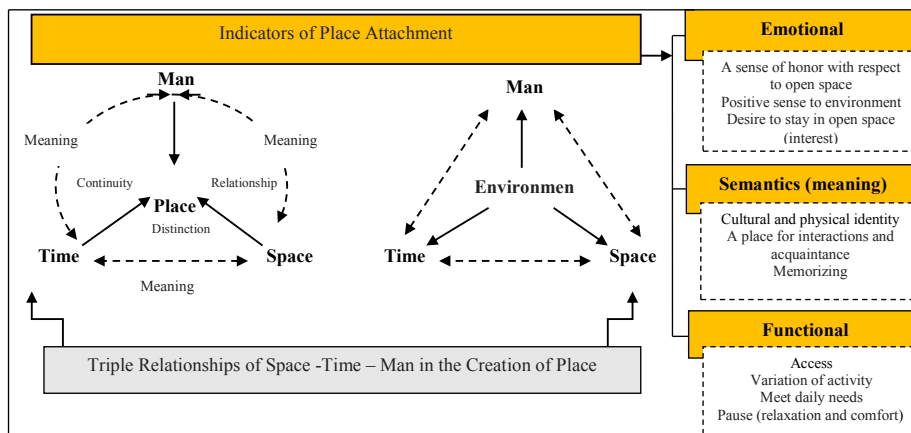


Fig. 4. Indicators of Place Attachment and Triple Relationships of Space-Time-Person in the Creation of Place

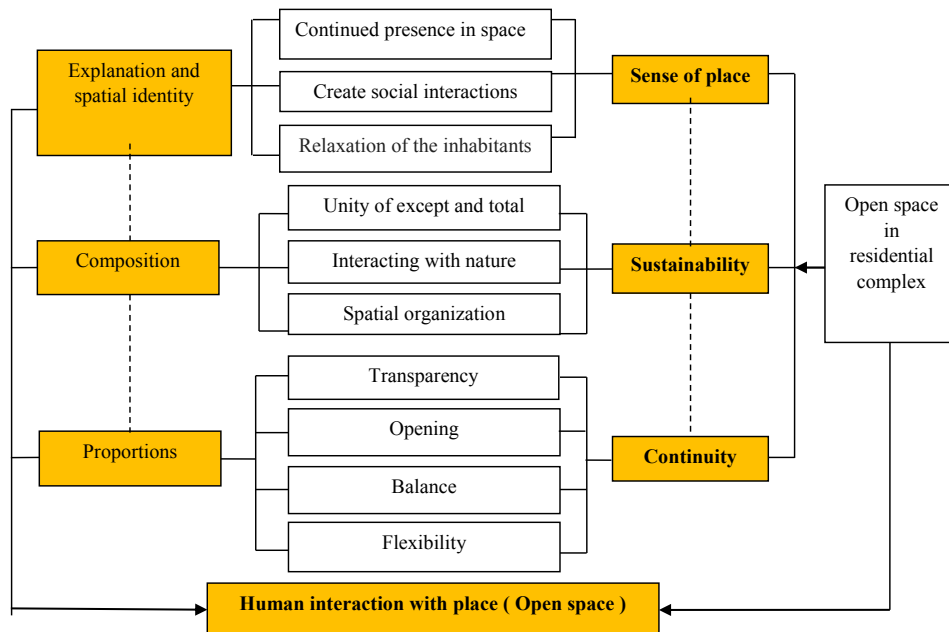


Fig .5. The Connection between Place Meaning and Open Space in Residential Complexes

Table 1. Productive Qualities of Public Places with an Emphasis on Open Space of Residential Complexes

Social Component	Functional Component	Physical Component
Social affiliation, safety and security, all inclusiveness Flexibility and adaptability Behavioral center, nightlife	Mixing performance and activity, facilitating access Functional diversity, tourism, functional convergence	Fitness, Enclosure, climate comfort, permeability, physical transformation Background and identity Transparency, richness and physical diversity
Semantic Component		
Sense of time, sensory richness, identity	Sense of belonging, collective memories, sense of place	Biomedical ability, readability, visualization, vitality

(Zekavat & Dehgan, 2016, p. 219)

According to the studies and in order to functionalize and expand the mentioned measures in the field of urban design and planning, the effective components of place meaning in open space of residential complexes are

categorized in three groups: meaning, emotional and functional; their measurement index is provided in Table 2.

Table 2. A Framework for the Assessment Effective Components on Place Attachment in Open Space of Residential Complex

Effective Indicators on the Sense of Place Attachment		
Functional Index	Emotional Index	Semantic Index
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Measurement Metrics	Measurement Metrics	Measurement Metrics
Dependency, satisfaction, comfort, attachment, diversity of activities, meeting daily needs	Sense of affection, emotional sense, love, sense of pride, interest, pride, sensitivity	Identity and cultural communication, physical and cultural proportions, interactions, memories
Manage the Creation of Place to Realize the Place Attachment		
Interaction between Man and place	Continuity with place	Participation in the design process of place





## STUDY AREA

Case of study should be selected purposefully to be able to provide deep and rich information and to respond questions mentioned in the research. So, it is necessary to continue with strategy of theory-driven and operational sampling (Patton, 2001). A residential complex in the case study of this research refers to complexes which are constructed by a design team, in a harmonic way and have more than five floors. They should have two properties. The boundaries of residential complex should be separated from urban environment (definitive boundaries) and based on categorization of residential complexes. The complex should comply with measures of height and adjacency of open and closed places at the same time. To realize this purpose, "Aseman-e-Tabriz" which is located at south east of Tabriz was selected. From east it is limited to Elgoli district; from north it is limited to 45-meter Boulevard of Basmenj which is one of the main roads in the area; from west it is limited to Sina 35-meter Street; from south it is limited to Aseman 24-meter Street. The area of land is 79000 square meters; infrastructure is 19000 square meters; the residential complex has 928 units in 18 floors and 16 towers.



**Fig. 6. Aseman-e-Tabriz Residential Complex**

To evaluate the provided framework, first, questions were asked in the frame of three indicators of attachment (meaning, emotional and functional) and open space of residential complex, taking into account Likert scale of design; then they were tested. As meaning indicators, factors like proportions, physical and cultural identity, a place for interactions and introductions between people and memory creation were measured. As emotional indicators, components like positive feeling, emotional sense, being interested to stay in the place, and a sense of pride were evaluated. Finally, as open space of residential complexes, components like pavements, roadways, play space of children, green space, urban furniture and sitting space were studied and evaluated.

## *Discussion and Findings*

As mentioned in research background, open spaces of residential complexes, or more accurately, outer environments, have a decisive role in promoting quality of habitability and desirability of residential designs through facilitating activities in three themes: obligatory, optional and social; which finally increase place attachment. In this research, based on analytical strategy and data evaluation, the relative frequency and absolute frequency, the impact rate of each parameter of the triple indicators (meaning, emotional and functional) and six components of open space of residential complex were studied including: pavements, roadways, play space of children, green space and sitting space. Findings show that physical organization and structure and also, activities affect people's assumption from open space of residential complex and in fact, place identity and continuance is a result of creating emotional and social concepts. Also, social and cultural relations and personal experiences has led to promoting emotional attachment and has created a sense of attachment to open space of residential complex, named "Aseman-e-Tabriz".

### *Evaluating Emotional Indicator*

Results state a relationship between place distinctions and emotional attachment in open space of Aseman-e-Tabriz residential complex. This residential complex has vast green space and gathering space is in the center of complex; these two properties make this complex distinct from other residential complexes in Tabriz and has created a sense of attachment to place. People who were asked the questions and residents of this complex state that they were proud of open space of complex and had a sense of belonging. The rate of attachment had a direct relationship with duration of their residence there, i.e. people who had resided more, had more emotional attachment since they were acquainted to space.

### *Evaluating Functional Indicator*

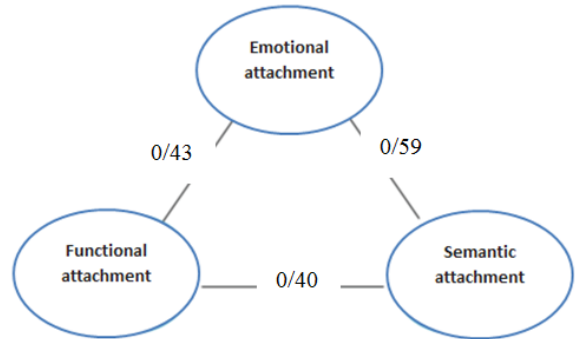
Having diverse spatial and functional qualities has empowered the sense of attachment in residents; as residents, the open spaces of the complex are enjoyable places where people feel safe and satisfied. Green space with decorative flowers and diverse cultural, athletic and commercial activities have promoted the interaction of residents and place attachment. In other words, open space is not just a passage; it relates residents. The results show that there is a significant correlation between functional diversity of space, access ways, places of sitting and rest and spaces for daily shopping.



**Evaluating Meaning Indicator**

Spaces for gathering residents, children’s playground, appropriate view to the environment and meeting and repetitive interactions show that continual experience of place along with continual mental perceptions provide a background for creating attachment, personal conceptualization and group conceptualization in the open space of the complex.

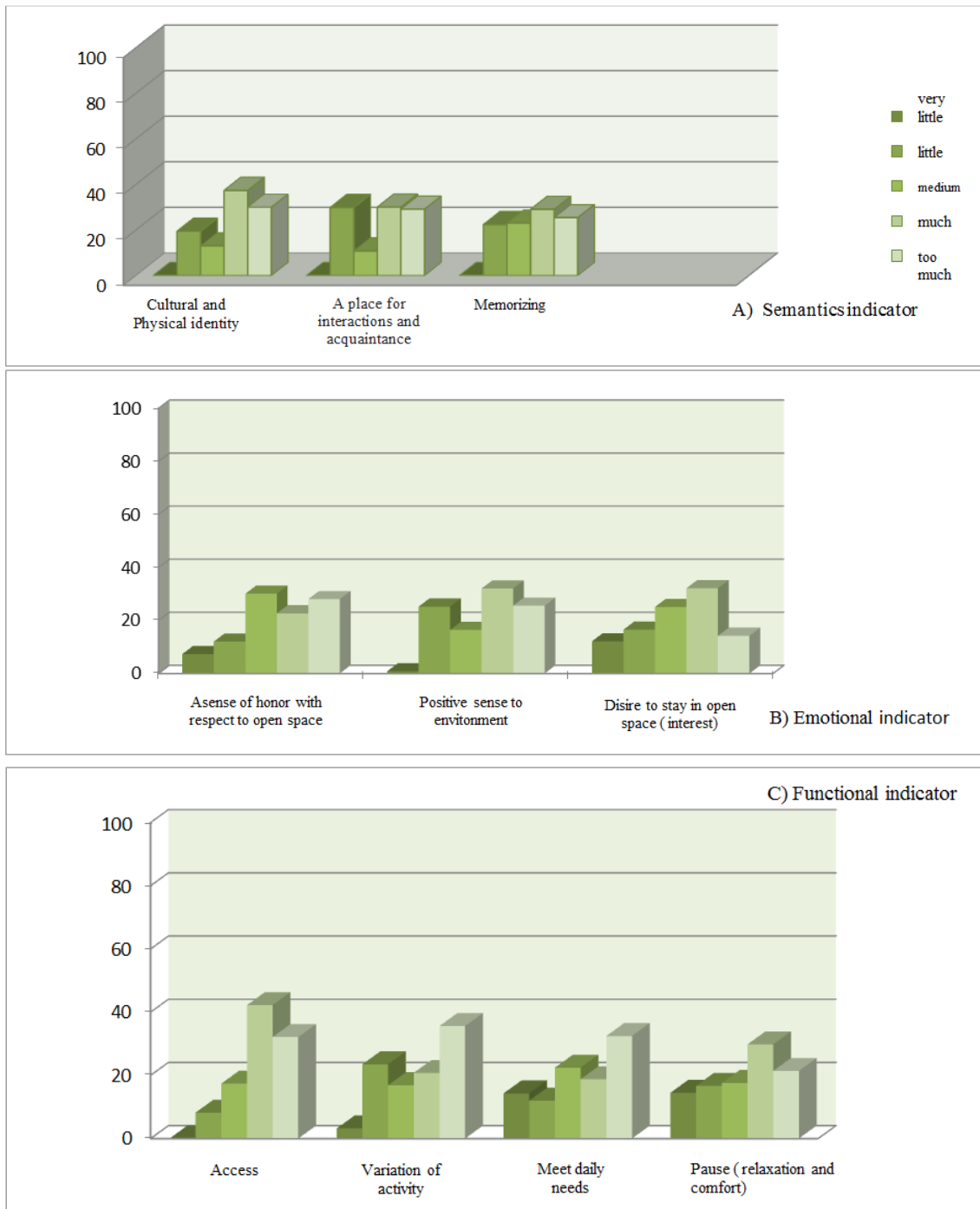
Findings of inferential statistics and evaluation of indicators based on Spearman correlation and alpha coefficient of 0.01 show a significant correlation between emotional, meaning and functional attachment and also, the three indicators interrelate directly. The effects and relationship between indicators of attachment to open space of Aseman-e\_Tabriz Complex is presented in Fig. 7.



**Fig. 7. Relationship between Attachment Indicators to the Open Space Based on Spearman Correlation Coefficient in ASEMAN Residential Complex of Tabriz**

**Table 3. Correlation Test of Dependent and Independent Variables with the Help of Software and Linear Regression**

Percentage Distribution of Dependent Variable (Place Attachment) in Open Space of Aseman-e-Tabriz Residential Complex										
Significance factor	Percentage distribution						Component	Indicator		
	Total	Too much	much	medium	little	very little				
0.028 0.062 0.092	100 100 100	28.02 25.56 14.20	22.64 32.04 32.15	30.04 16.4 25.05	12 25.2 16.5	7.3 0.8 12.1	A sense of honor with respect to open space Positive sense to environment Desire to stay in open space (interest)	Emotional	The dependent variable (attachment to open space)	
0.051 0.165 0.028	100 100 100	30.01 29.14 25.43	37.41 30.08 29.07	13.01 10.82 23	19.5 29.9 22.4	0.07 0.06 0.1	Cultural and physical identity A place for interactions and acquaintance Memorizing	Semantics		
0.043 0.144 0.185 0.064	100 100 100 100	32.12 35.6 32.45 21.4	42.2 20.8 18.8 29.8	17.37 16.9 22.43 17.6	8.21 23.5 12.02 16.7	0.1 3.2 14.3 14.5	Access Variation of activity Meet daily needs Pause (relaxation and comfort)	Functional		
Linear Regression- Investigating the Effect of Independent Variable (Open Space ) on Dependent Variable (Sense of Place Attachment) in Aseman-e-Tabriz Residential Complex										
R2	R	T	Beta factor	Component						
0.53	0.702	15.261 11.835 4.301 3.412 13.835 12.835	0.405 0.311 0.119 0.103 0.352 0.211	Green space Footpath Riding path Sitting space Game space Urban furniture						
										independent variable



**Fig. 8. (A, B, C). Percentage Distribution of Dependent Variable (Place Attachment) Based on Three Indicators (Semantics, Emotional, Functional) in Open Space of Aseman-e-Tabriz Residential Complex**



## CONCLUSION

This article discusses place attachment with the attitude of increasing quality of residential complexes through identifying effective parameters of place meaning in open space of residential complexes. Based on this matter and taking into account that sampling strategy was theory-driven and operational, residential complex of “Aseman-e-Tabriz” was mentioned as case study, 100 residents were selected randomly to create statistical society. In the first stage, a framework based on the three-dimensional patterns was identified with the subject of “place attachment and its effective indicators”; at the second stage, the factors of meaning indicator like physical and cultural identity, a place for interaction and introduction of people and memorizing were analyzed and evaluated to assess the case study. The results show that the meaning and concepts in open space of the complex depends on personal and group experiences and is affected of continual presence in open space, interaction of residents and spatial properties intensely. Evaluating

emotional indicator, its components, including: positive feeling to place, emotional sense, interest to staying in place and sense of pride were measured and the results show that a sense of pride is the more effective factor in increasing the emotional attachment to place. For functional indicator, its components, including: access ways, diversity of activities, fulfilling daily requirements, comfort and rest were measured and the results show that access ways and fulfilling requirements of residents through activities of open space are important factors in increasing place attachment.

Also, the results show that other indicators of place attachment are green space, playing space, pavements, urban furniture, roadways and finally sitting space respectively. Yet, there is a direct relationship between “meaning”, “functional” and “emotional” components. In the following, some of suggested strategies are provided in the framework of open space measures under three items: emotional, functional and meaning which affect the promotion and continuation of attachment to open space in residential complexes. (Table 4).

**Table 4. Suggested Solutions**

Semantics	Functional	Emotional		Indicator
			Component	
A place for interactions and acquaintance Cultural and physical identity Memorizing	Access Variation of activity Meet daily needs Pause (relaxation and comfort)	A sense of honor with respect to open space Positive sense to environment Desire to stay in open space (interest)		Place ↓
↓	↓	↓	Approach	
- There is a connection between the complex and the nearby site to meet the needs. - Designing Public spaces for holding national rites and identity	-Attention to the needs of the disabled and the elderly on the pavement. - Providing easy access to the spaces with changing the floor. - Using variation in the details of flooring	- Creating pavement that are the stimulants of the human senses, with the help of water element and the color to enhance the desire to stay and enjoy the place		Footpath
-Minimizing the traffic of cars inside the site in order to create the opportunity to meet and interact with residents.	-Reducing riding paths -Availability and legibility of the riding paths.	-Separation of the riding path and pedestrian indifferent levels, green space, element..., to create a sense of security.		Riding path
-Making urban furniture fit as a symbol Cultural residents of the complex. - Creation of urban furniture in a residential complex which is memorable for residents.	-Formic and physical diversity to creating charm and dependency.	- Design of furniture by the water, use of symbolic furniture.		Furniture



<p>- The existence of local parks on a small scale in the site can make the environment more dynamic. This will help the addressees during the movement. they will have different views that will be effective in the presence of residents.</p>	<p>- The use of evergreen trees on the front of undesirable wind for shading and wind control. - Maximum use of water and vegetation cover possibility of favorable wind penetration in two directions.</p>	<p>- Using diverse vegetation in open space Integrated to create a sense of happiness - Integration of outdoor space with green space, with tree - planting can create a flower garden and a flower and plant pool It makes people feel good.</p>	<p>Green space</p>
<p>- Creating game spaces for interaction between children and teens and young people.</p>	<p>- Residents should be able to monitor children's playground and public spaces - Providing the necessary lighting for children's playground, especially at night.</p>	<p>-Considering all age groups in the design of the game space.</p>	<p>Game space</p>
<p>- Ability to accept various activities (Spaces for dialogue, reading, Social interactions, etc.) of the residents. Spaces for sitting for daily visits.</p>	<p>- Integration of open space with rest space.</p>	<p>- Designing the front of the house that feels free. Instilling personalization into residents.</p>	<p>Sitting space</p>



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