Original Article

Meaningful perception of place: The most effective dimensions and factors

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Abstract   The basis of the present study is to evaluate the process of meaningful perception of place, and to analyze the effectiveness of each factor influencing this process. It will also investigate the effects of various perceptional dimensions (including cognitive, affective, interpretative and evaluative dimensions) on the manner of perceiving different levels of place meaning. Arg Street in Mashhad city was selected as the study area and both the qualitative and quantitative methods were adopted. Techniques of semi-structured interview, and coding and hermeneutic methods were used to analyze the relation among different levels of place meaning and the effective factors and dimensions of environmental perception. Findings demonstrate that certain perceptional dimensions may have more effect on perception of particular levels of place meaning. The results indicate that 'cognitive dimension' is the most influential dimension in perception of the primitive level of place meaning, while 'affective', 'interpretative' and 'evaluative' dimensions play the most significant role in perception of the extreme levels of place meaning. Moreover, this research suggests a need for further studies exploring practical methods in our contemporary urban design projects, which can involve the perception of people with the most effective dimensions.
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Introduction

According to theoretical approaches, the concept of place can be considered the center of human experiences based on the types of perception. These human perceptions are influenced by different factors such as personal or social imaginations, expectations, and behaviors. In addition, the effects of various perceptional dimensions would lead to perceiving particular levels of place meaning. The emphasis of this study is on the effectiveness of different perceptional factors and dimensions on the process of meaningful perception. This study will analyze the interrelations among different concepts such as place, meanings of place, and environmental perception. It focuses on the following research questions:

- How do the perceptional factors and dimensions affect the process of perception?

- What perceptional factors and dimensions have the largest effect on the process of meaningful perception?

The theoretical framework of this research will be investigated on Arg Street of Mashhad city, Iran. The purpose of selecting the Arg Street as the study area is because of its historical background. This area plays a significant role in creating urban identity for Mashhad city and forming the image of city and collective memories of citizens. According to the methodology of this research which is based on the both qualitative and quantitative research, semi-structured interviews will be used to explore the experiences of participants and the manner through which they perceive the meanings of place. On the basis of this methodology, the participants' quotes will be interpreted by coding and hermeneutic techniques in order to extract the meanings which are behind them. Furthermore, all relations among different levels of place meaning,

factors, and dimensions of environmental perceptions will be analyzed.

Literature Review

● *Defining the Concept of Place*

The main conceptualization of place as a particular location that has acquired a set of meanings and attachments began in the 1970s. It was the works of Martin Heidegger (1889–1976) that proved to be particularly influential on the work of humanistic geographers who developed the notion of place in the 1970s. Heidegger (1993) believes that human existence is existence in the world. This idea of being in the world was developed in his notion of dwelling and describes the way we exist in the world and make it meaningful. Since then, different theoretical approaches associate the concept of place with human nature and existence, and the manner of this existence is very crucial in each of these approaches.

Phenomenologists such as Norberg Schulz emphasize the subject of 'human being's existence' in explaining the concept of place. In Schulz's (1975) approach, place is beyond an abstract location; it is composed of real things, and its components are materials, substances, patterns and colors. The collection of these elements defines an environmental character, which can be considered 'the nature of place'. He believes that human beings experience the meaningful occurrences in place. Moreover, Relph (1976) introduces places as the most important focus for human being's experiences. He argues that the main meaning of place, or, in other words, the nature of place has not originated from its ordinary environments, activities or communities. Although, all of these components are common and even essential aspects of place, the nature of places is based on the type of knowledge of place and perception which defines place.

Relying on a critical approach, Massey (1991, 1994, 2004) explains the uniqueness of place with a range of features and attributes. She defines four attributes relating to place as follows:

(1) *Place as process* which is absolutely not static because it is formed out of social interrelations that are dynamic.
(2) *Place as defined by the outside* which emphasizes that opposition of insideness and outsideness must not be considered in defining a place. This attribute expresses that place includes relations which stretch beyond and one must

consider the outside as part of the inside. Therefore, the particularity of place is through the interconnection to that 'beyond'.
(3) *Place as site of multiple identities and histories* which expresses that the identities of place are unfixed and multiple because places are full of contrast and internal oppositions among the past, present and future events.
(4) *A uniqueness of place defined by its interactions* which explains that the uniqueness of place is not because of its history, and that in fact, it is because of the attributes such as globalization, economies, cultures, relationships and social communications, which continuously regenerated.

Massey emphasizes multiplicity, diversity, and also dynamic social relations in place, which can connect the local aspects of place to the global ones (Massey, 1991, 1994, 2004). Moreover, there are other theories which have emphasized the social aspects of place (Gieryn, 2000; Halfacree, 2006; Collinge and Gibney, 2010), internal conflicts, multiplicity, diversity in relation with the concept of place and which have considered the place not as an introverted area with boundaries but as an area that can be defined by the outside (Collinge and Gibney, 2010).

Analyzing the concept of place from the positivistic approach also includes considering the nature of place. This indicates that the difference among the public evaluations of places cannot only be attributed to the difference in places, but also to the difference among people. We can conclude that public evaluation emphasizes the people's 'conceptual systems' (Canter, 1977, pp. 105–113). In this approach, place is not independent of human beings; it is a constructed part of a natural space that results from interrelations among three factors: human behaviors, conceptions and physical parameters (Canter, 1977); therefore, place signifies different human conceptual structures and indicates that people can reorganize a special place in different manners by altering their concentration upon each of these mentioned factors. In this regard, Canter (1977) introduces a three-component model that consists of 'physical attributes', 'activities' and 'conceptions'.

● *Classification of Place Meaning*

The idea of meaning has been central to notions of place since the 1970s. This concept has derived from a mentality that produces a stimulus in the observer when he or she compares that mentality with his or her own experiences (Rapoport, 1990). Perception of

place meanings establishes a mutual relation between people and place, or, in the other words, between mankind and the world's meaning. In fact, people are not able to understand the meanings without the assistance of the world they live in. They have significant role in attributing meanings and values to place (Brown and Brabyn, 2012, p. 84) through their social and cultural backgrounds and also through their experiences in the world (Shamai and Ilatov, 2004).

In the phenomenological approach, Norberg Schulz (1988) presents a clear image that shows human identity is dependent on having meaningful places. Also based on Relph's (1976) theory, places are the natural focus of meanings.

On the other hand, critics express social preferences for creating meanings to form active relations between human beings and the environment (Dovey, 1999). In this regard, Dovey (1999) argues that all the meanings are formed based on social relationships and it is also possible for certain meanings to be affected by other subjects like economic and commercial factors, power, and policy. The importance of social-dynamic relations in forming place meanings is also emphasized by several other theorists (for example, Massey, 1994; Fried, 2000; Moser *et al*, 2002; Uzzell *et al*, 2002; Pretty *et al*, 2003; Lewicka, 2005, 2010) which believe that all the efforts made to protect the identity of place are in line with protecting the meanings of social relationships.

The positivistic approach is based on identifying the effective components and factors in the process of perceiving place meanings. This approach mainly offers multi-dimensional models. Among these models, we can exemplify the ones that are based on experiential researches offered by Sixsmith and Gustafson. The model offered by Sixsmith (1986) is based on three components, namely personal, social and physical, and the one offered by Gustafson (2001) is based on three components including self, others and environment. These models demonstrate that interactions between related components affect the creation of place meanings.

Furthermore, different classifications are offered for levels and types of place meaning. One of them is proposed by Gibson (1950, 1966) and has six levels of meaning. In his opinion, levels of meaning consist of ' primitive concrete meaning' (indicating obvious physical features), 'use-meaning' (related to satisfaction of needs), 'meaning of instruments, devices, constructions and machines', ' values or emotional meaning', ' meaning exemplified in signs' and ' symbolic meaning'. There is another classification for environmental meanings, featuring 'denotative' and 'connotative' levels. Through offering such a classification, Eco (1968) has considered denotative meaning as the major meaning of an object, symbol or construction, while he has viewed the connotative meaning as the secondary function with a symbolic nature beyond the denotative one. He has argued that the connotative meaning is an implication of abstract features or traits that could be associated and transferred via a denotative meaning.

Comparative analysis of these various classifications indicates that some levels and concepts are corresponding in different theories and all the mentioned classifications can be considered in two general levels, namely 'denotative' and 'connotative'.

Table 1 indicates various classifications of place meaning into these two types of meanings.

Table 1: Classification of levels and types of place meanings

Theorist in the field of place meaning	Denotative meanings	Connotative meanings
Gibson (1950)	Primitive concrete meanings	Use meaning; Meaning of instruments, devices, constructions and machines; Values or emotional meaning; Meaning exemplified in signs; and Symbolic meaning
Morris (1971)	The first level (referring to outside factor)	The second level (emphasizing on the observer's mind)
Bourdieu (1977)	The first level (including physical attributes of phenomena)	The second level (including symbolic meanings of phenomena)
Barthes (1992)	The first level (offering information)	The second and third levels (including symbolic meanings)
Rapoport (1977, 1990)	Low level (including every day and instrumental meanings)	Middle level (related to identity, status, wealth and power) and High level (related to cultural schemata, worldviews, philosophical systems)

Note: Consideration of all the mentioned classifications in two general levels including denotative and connotative meanings.
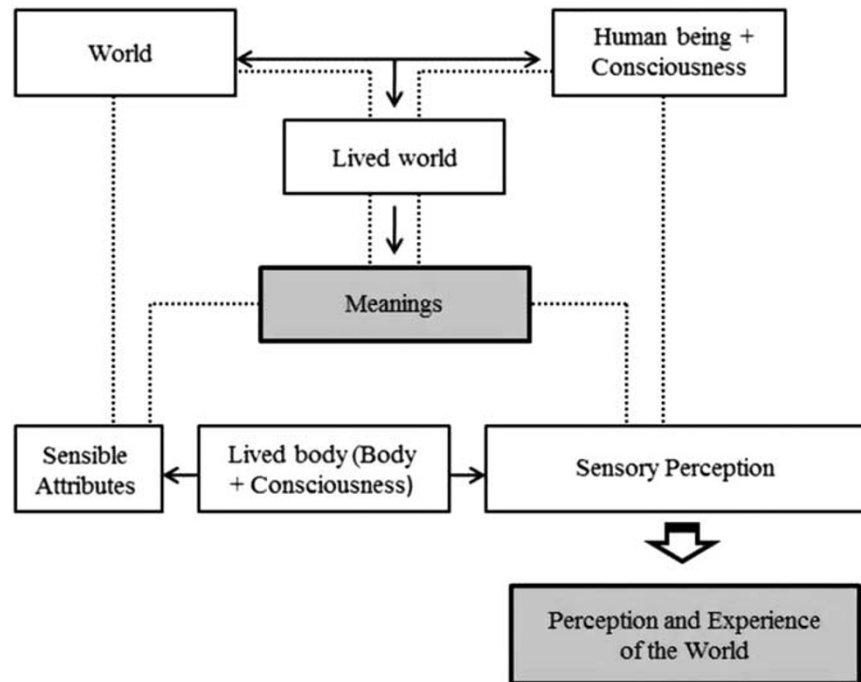
Figure 1: The circular structure of human being's experience and perception in the world based on the Merleau-Ponty's approach.

Thus, the fact that meaning is inside the object or place or attributed to place by people depends very much on different levels of meanings. One can consider meaning at primitive levels as being more dependent on the phenomenon than culture or values, while at extreme levels, meanings have mostly close relations with people and the ways of their interpretations.

The mentioned theories about place and meanings indicate the significant role of perception. This perception can be mentioned as 'meaningful perception' as it is based on the range of experiences that creates meaning in people's minds. The meaningful perception of place offers people the opportunity for being affected by different perceptional dimensions and perceiving various levels of place meanings.

● *Dimensions and Modes of Environmental Perception*

The link between environmental perception and the concept of place is focused by some researches (Jorgensen and Stedman, 2001; Cheng *et al*, 2003; Manzo, 2003, 2005; Stedman, 2003; Fe' lonneau, 2004). These researches consider the significant role of people's evaluations and experiences in perceiving the meanings of place.

One of the main phenomenological approaches to the concept of perception is offered by Merleau-Ponty (1998). He argues that sensory and bodily experiences and perceptions have both inside and outside aspects in the human mind and there is a mutual relation between a human being and his environment. According to his approach, objects are identifiable by their sensible attributes. Thereupon, sensory and bodily experiences are the initial steps of human experience in the world, and human body is a threshold for entering the world. Merleau-Ponty (1998) denominates human body as a 'Lived Body' and believes that the world and human consciousness are interrelated. This makes it impossible for human beings to realize the meaning of subjects without understanding the world they live in; therefore, perception is a general structure that leads to understanding the world. Figure 1 indicates the circular structure of human being's experience and perception in the world based on the Merleau-Ponty's approach.

However, the subject of perception from a critical approach is discovering the existing meanings and trying to identify whether the meaning which is understood by a human being exists in place or in the observer's mind. It considers the differences among messages that are sent by designers and planners, and the ones received by people. A gap can be identified between the meanings understood by designers and people (Knox-pinch, 2000).

One of the main theories about place perception demonstrates the existence of different dimensions of environmental perceptions. It is offered by Ittelson (1978) and consists of four dimensions including cognitive, affective, interpretative and evaluative dimension. Table 2 indicates these dimensions.

On the other hand, Appleyard (1976) offers three perceptional modes which consist of responsive, operational and inferential modes. Table 3 shows his classification on perceptional modes.

According to the analysis of the two mentioned theories, the similarities and correspondence between the attributes of proposed dimensions and modes can be found out. These similarities and correspondence are indicated in Figure 2.

Based to the abovementioned figure, inferential mode corresponds with three dimensions including, interpretative, evaluative and cognitive dimensions (because of the similarities, in some of their attributes such as environmental recognition, perceiving and evaluating the environmental meanings). The responsive mode is in accordance with the affective dimension (because of including

Table 2: Dimensions of environmental perception according to Ittelson's theory

Various dimensions of environmental perception according to Ittelson's theory (1978)	Involves
Cognitive Dimension	Thinking, Organizing and keeping Information
Affective Dimension	Emotions and Feelings which have Mutual Effects with Environmental Perception
Interpretative Dimension	Interpreting the Meanings which have Derived from the Environment
Evaluative Dimension	Values and Preferences and the Determination of 'Good' or 'Bad'

Table 3: Human perceptional modes according to Appleyard's theory

| Human perceptional modes according to Appleyrad's theory (1976)	Involves
Responsive Mode	Emotional Responses to the Environment
Operational Mode	Environment as a Setting for Human Activities and Behaviors in His Daily Life
Inferential Mode	Seeking Information and Meanings in the City to Carve out Personal and Community Identities and Defining the Sense of Place
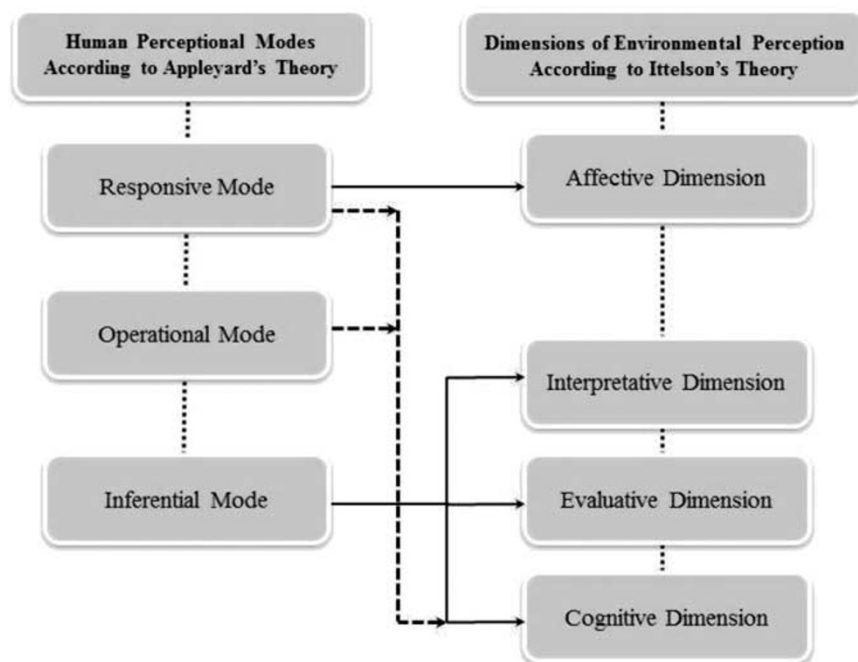
Figure 2: Analyzing the similarities and correspondence between Appleyard and Ittelson's theory.

the emotional relations between human beings and environment). Also, the responsive mode is consistent with the cognitive dimension (based on organizing the environmental information). However, operational mode is related to the cognitive dimension due to its association with human activities and organizing the environmental information.

Similarities between these dimensions and modes indicate the special role of affective relation between human beings and environment as well as the importance of organizing the environmental information and interpreting its meanings in the process of perception.

Gifford (1997) has offered a classification of the effective factors in the environmental perceptions, which includes 'personal', 'social' and 'physical' factors. Personal factors (in the form of personal attributes like education, gender, culture and personal experience), social factors (in the form of social contexts) and physical factors (as basis for environmental perception) can be effective in human environmental perception.

According to the attributes and characteristics of these factors, they would be in correspondence with the perceptional dimensions and modes offered by Ittelson and Appleyard. Personal factor includes some attributes such as education,

gender, culture and personal experience, which connects this factor to all of the perceptional dimensions. Physical factor is associated with the cognitive dimension based on organization of information about physical attributes, and social factor is related to evaluative and interpretative dimensions (because of the effects of social concepts upon the ways of evaluations and interpretations of environment by human beings). The results of analysis in Figure 3 shows that inferential mode, which is in correspondence with all the effective factors, plays an important role in creating meaningful perception of place.

Research Method

Study area

The considered urban place in this article is Arg Street located in downtown Mashhad, Iran. The main reason for considering this street as the study area of this research is that it is one of the main areas with historical background that creates urban identity for Mashhad city. At the beginning of this century, the old castle of Mashhad city was located in this area. Then, during the first quarter of the current century this area faced
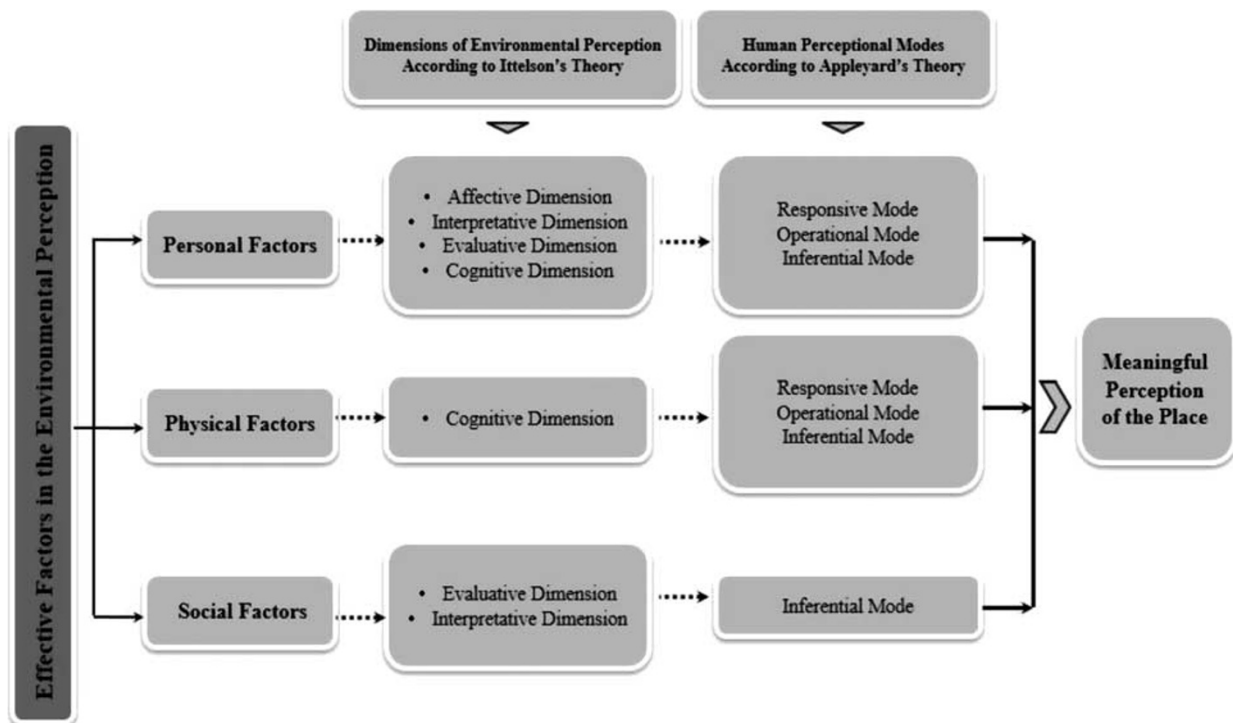

Figure 3: Analyzing the effective factors in environmental perception and their relations with perceptional dimensions and modes offered by Appleyard and Ittelson.

great changes. The urban texture was formed around the old castle, and the Arg Street was constructed in front of the castle. After a few years, the old castle was replaced by a building that was used as the city bank. Gradually, many other buildings were built along this street and created a city center consisting of various urban activities and functions. This street was known as one of the liveliest urban spaces in the city. Today, all these buildings are old and represent the past architectural patterns. Indeed, because of this historical background, this area plays a significant role in creating the image of city and collective memories of citizens. However, further studies can be done in other places such as the both historical areas located in central district of Mashhad city, and new developed districts of the city in order to investigate different manners of citizens' perceptions and experiences.

The location of study area in Mashhad city and the most significant Buildings and places on this street are indicated in Figures 4 and 5.

Location of images in Figure 5 can be distinguished by the numbers mentioned under every images. These numbers are based on the related legend.

Participant's selection

For this study, three groups of participants, including residents, tradesfolk and passersby were considered to be interviewed. These groups of participants were selected from a wide age range and of both genders. They had different levels of education, housing status, working hours and frequency of presence in Arg Street. The main purpose for considering different groups of participants was to analyze diverse manners of perceptions among participants. There was a total sum of 90 participants who were classified into three mentioned groups with 30 participants contributing to each of them. (Table 4)
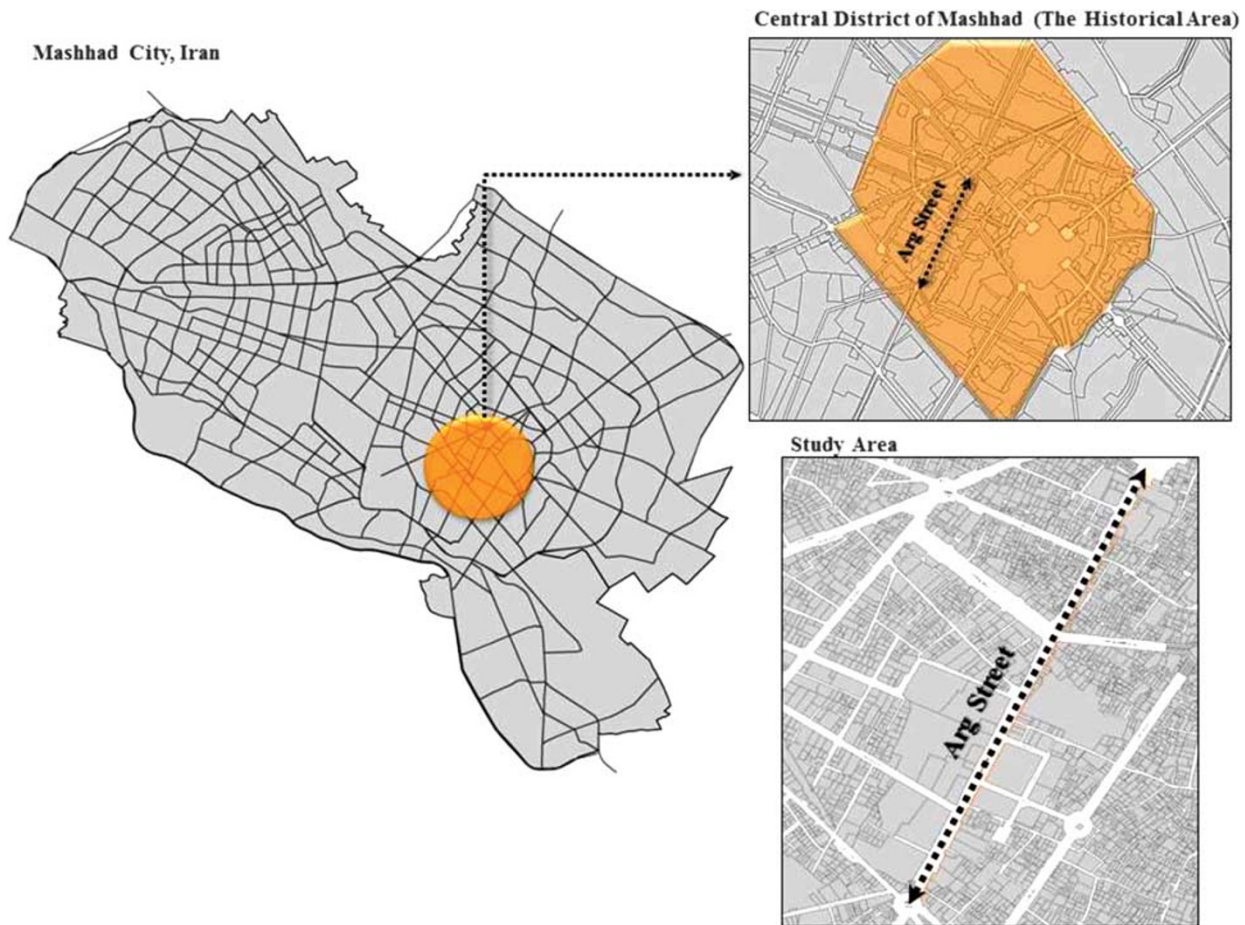

Figure 4: The location of study area in Mashhad city.

Figure 5: The significant buildings and places on Arg street. 1. Sarab neighborhood. 2. Khosravi street. 3. Modares street. 4. The four stories building (The tallest building in the city during the first quarter of current century). 5. Pakistan embassy. 6. Janat mall. 7. Meli garden. 8. Department of finance. 9. Pars hotel. 10. Meli bank. 11. Sabt street. 12. Malek house.

Methodology

The methodology of this study was based on the both qualitative and quantitative research, using semi-structured interviews in which all relations among different levels of place meaning, factors, and dimensions of environmental perceptions were taken into consideration. During the process of data collection, methodologies of several contemporary studies on this field of investigation (for example,Lynch, 1960; Gustafson, 2001; Manzo, 2005; Dovey *et al*, 2005; Davison, 2008; Dovey, 2009; Morgan, 2010), were used in order to analyze the images and perceptions of participants. These related studies are based on

the use of qualitative methods in order to deeply explore the spectrum of place meanings or characters that participants assign to places, as well as experiences through which these meanings are created. The semi-structured interviews were used in these studies to ask the participants to describe memorable places, explain what these places mean to them and how they characterize the mentioned places. However, in this study, there was an attempt not to repeat the negligence and omissions that occurred in previous related researches. Therefore, the actual participants' responses, dynamic nature of perception, considering the meanings of place along with the concept of identity, and considering the

Table 4: Demographic descriptors of selected participants

	n
Groups of participants	**90**
Passersby	30
Tradesfolk	30
Residents	30
Gender	
Male	45
Female	45
Age	
20–30	20
30–50	40
Over 50	30
Education	
High School Diploma	12
Bachelor Degree	47
Master Degree	29
Post Masters Training	2
Housing status of residents	
Rent	6
Own	24
Working hours for tradesfolk	
Full-Time	21
Part-Time	9
Frequency of presence in Arg street for passersby	
Daily	1
Weekly	7
Monthly	9
More than a month	13
N=90	

diverse mental images and perceptions, were taken into account in the methodology of this research.

According to the research methodology, participants were asked to mention the first and most significant places on the Arg street that came to their minds, describe the distinctive elements of mentioned places, and express main reasons for remembering them. Participants were also asked to describe their experiences, emotions, and evaluations about this street. On the basis of the theoretical framework of this study, there were several analytical criteria to test the main concepts of the study among the participants. The following criteria were considered for measuring and analyzing the results:

- Different levels of place meaning (generally classified into four levels including primitive concrete meaning, use-meaning, values or emotional meaning and symbolic meaning)
- Effective factors in the environmental perception (physical, personal, and socio-cultural factors)
- Dimensions of environmental perception (cognitive, affective, interpretative and evaluative dimensions).

In order to have more proper interviews, questions were divided into several subdivisions (levels of place meaning, effective factors in the

Table 5: Sample questions from the semi-structured interview instrument

General questions (all groups of participants)

1. What are the first places, buildings or elements on this street that come to your mind?
2. Why do you remember and mention these places, buildings or elements? Can you explain the manner of your relation with them?
3. Why do you think that these places are important to you? Are they important because of your economic and social needs, or because of their buildings and physical attributes? Are they important because of their historical backgrounds, or because of your feelings, emotions and memories about them?
4. Do you like this street more than the other streets of the city? Do you prefer to visit this street rather than the other ones?
5. Do you think that this street differs from the other streets in Mashhad? Can you mention some of these differences?
6. Do you feel familiar with the atmosphere of this street and consider yourself close to it or not?
7. Do you feel relaxed and safe when you are in this street? Do you feel free or under control?
8. Do you believe some affiliation with other people on this street or not?
9. What do you know about the historical background of this area?
10. Which one mostly attracts your attention? The buildings, people who are present on the street and their activities, or your own feelings and memories about this street?

Particular questions (Only for residents and tradesfolk)

1. Why do you decide to live in this neighborhood/ work on this Street?
2. Do you have any social relationship with other people in the neighborhood or tradesfolk in this area?
3. Do you prefer to live/work in this area in future in spite of the opportunities to live/work in other areas?
4. Which one would you miss more if you changed the place of your home/work: This Street and its related places and spaces, or people you know?

environmental perception, and perceptional dimensions) and each of them tested one of the main concepts of the study among the participants. The questions of interviews investigated the experiences of participants and the manner through which they perceive the meanings of place. The classified questions were as follows: (Table 5)

- Questions of interview that were related general image of this street in participants' minds: 1, 2, 9
- Particular questions of interview that were related to place meaning: 3, 10, 11, 13
- Particular questions of interview that were related to factors of environmental perception: 3, 5, 8, 10, 12, 14.
- Particular questions of interview that were related to dimensions of environmental: 4, 5, 6, 7.

The collected data from the quotes of participants were classified using the 'coding' technique typical of a grounded theory approach (Strauss and Corbin, 1990), and interpreted by the technique of hermeneutic. There are several related studies, which used the technique of interpreting the quotes of the respondents in order to explore the meanings which are behind the participants' quotes (for example, Gustafson, 2001; Manzo, 2005; Gunderson and Watson, 2007; Davison, 2008; Dovey, 2009; Morgan, 2010).

The mentioned codes in this methodology were the three analytical criteria (**i.** Levels of place meaning, **ii.** Effective factors in environmental perception, and **iii.** Perceptional dimensions). The aim of this research in using the coding and hermeneutic method was to extract these three criteria and meanings which were behind the participants' quotes as well as becoming able to analyze them. This methodology provided an opportunity to convert qualitative data to quantitative ones and prepare them for statistical analysis.

The first step was to interview participants. Each interview was tape-recorded with the permission of the participants. Tables were then created that organized the data question by question across all 90 participants, with responses from each of them in a separate table. These tables facilitated the comparison of data across participants. In this step, participants' quotes were interpreted by hermeneutic method in order to extract the terms or phrases that represent the perceived meanings and effective perceptional factors and dimensions. These

extracted terms/phrases were specified by numbers and the related analysis on each of them can also be tracked by the same specific numbers in mentioned tables. The analysis tried to explore analytical codes that could be interpreted and extracted from the specified terms or phrases. The second part of the tables indicates the process of interpreting participants' quotes. Here is an example of mentioned analysis.

Interpreting a quote such as

I like their (1) architectural patterns and they remind me of their (2) valuable historical backgrounds

led to extracting two particular phrases 'architectural patterns' and 'valuable historical backgrounds'. The former phrase focused on the physical attributes and showed some kinds of information organization about these attributes in the participant's mind. The influence of information organization demonstrated significant role of 'cognitive dimension', which finally resulted in perceiving 'primitive concrete meaning' in the participant's mind.

The latter phrase focused on social-historical values and showed a manner of evaluation on building's background; Therefore, the significant role of 'evaluative dimension' could be recognized, which finally resulted in perceiving 'values or emotional meaning' in the participant's mind.

In the second step, quantitative and statistical analyzes were done on the outputs of the previous step. Here, the percentage of those participants who perceived each of the analytical codes was calculated.

Then in the third step, which was the most important part of this research, the answers of the participants were analyzed in order to investigate the relations among the three analytical criteria (analytical codes) in the participants' perceptions. It investigated the mutual effects of place meaning, perceptional factors and dimensions.

Owing to the large number of participants ($n=90$), it is not possible to fully represent the entire analysis; therefore, in order to clarify and express this methodology, three abstract samples of the analysis (from three groups of participants) are presented as follows. The following tables indicate the analysis that has been done in the first step of the research methodology. (Tables 6, 7 and 8)

Research Results

Findings of the first step of research methodology demonstrate the richness and complexity of participants' relationship to a range of places on the Arg Street, both residential and non-residential places, and a variety of places emerged as significant. However, different groups of participants had different manners of perception and experiences about these significant places. The differences among their experiences were grounded in the manner of their relation with places. Residents had the strongest relation with both residential and non-residential places based on the longtime of their residence and strong relation with the other people, while passersby and tradesfolk had weaker relation with the mentioned places and other people on this street.

Furthermore, the second step of the research method shows statistical analysis which has been done on the outputs of the first step. The percentage of participants who perceived each of the analytical codes was calculated as follows:

The manner of passersby's perception

Passersby mostly mentioned buildings and their physical attributes. They also referred to this street monthly or even less frequent just in order to do some activities such as shopping or financial tasks. For example a passerby explained that:

> I like the architectural patterns of the old buildings and they remind me of their valuable historical backgrounds. I used to buy my requirements from the malls on this street when I was younger, but I do not like to shop here anymore, because the products do not have good quality and they are out of fashion. (Figure 6)

Such accounts indicate that 90 per cent of passersby perceived 'primitive concrete meaning' and all of them also perceived 'use-meaning'. Indeed, lack of strong value related to this street led to the perception of primitive levels of meaning for passersby. Perception of all the passersby were associated with physical and socio-cultural factors. Interpretation of the quotes showed that 'cognitive', 'affective' and 'evaluative' dimensions had the main influence on the passersby's perception. (Table 9)

The manner of tradesfolk's perception

The majority of tradesfolk emphasized their jobs and relationships with other people because of their similar careers. Sixty per cent of tradesfolk perceived levels of 'values or emotional meaning' and all of them also perceived 'use meaning' which were deeper levels of place meanings in comparison with the ones perceived by passersby. (Figure 7)

Their deeper perception was due to their stronger connections with the place based on their socio-economic activities. All tradesfolk perceived the mentioned levels of meaning through personal and socio-cultural factors. In conclusion, interpretation of tradesfolk's quotes indicated the influence of 'cognitive' and 'evaluative' dimensions on their perception. (Table 10)

The manner of residents' perception

Residents mostly mentioned their interpretations of the social conditions, expressed their social relationships with the other people and explained their memories, feeling and emotions. Although, the physical attributes of buildings were valuable for them, they emphasized social relationship with their neighbors. For instance a resident described that:

> The old houses on this street reminds me of the difficulties of women's lives in the past with lack of many facilities in these kinds of houses … I feel insecure whenever I pass along the Pakistan embassy, because I remember the insecurities in the political situation of this country … I have many memories of the Meli garden from when I was young. I still spend some time in this garden every day, sitting and gabbing with some of my neighbours … I know all of the tradesfolk on this street and some of them are even my family friends. Most of them inherit their jobs from their fathers and the family job is very common among them. I suppose that they consider their family jobs as their family reputation … I've lived in this area for about 30 years. This street is different from the other streets and very special to me, because I consider it my home. (Figure 8)

Such accounts indicate that residents mainly interpreted and evaluated their experiences; therefore, all

Table 6: A sample of analyzing and interpreting the quotes of passersby (The first step of research methodology)

Participant's information: Interviewee's group: Passersby
Gender: Female ■ male ☐
Age: 30

Number of interview's question	Participant's quotes	Interpretation and extraction of analytical codes from the participant's quotes[a]		
		Levels of place meaning	Effective factor in environmental perception	Effective perceptional dimension
1,2,3	*Pars Hotel and Malek House*: 'I like their (1) architectural patterns and they remind me of their (2) valuable historical backgrounds'.	(1): Primitive Concrete Meaning	Physical Factor	Organizing information about physical attributes (**Cognitive Dimension**)
		(2): Values or Emotional Meaning	Socio-Cultural Factor	Evaluating backgrounds of buildings (**Evaluative Dimension**)
	Shops which are located along the Arg Street: 'I do not like to buy any of these shops' products, because I believe that (1) they do not have a good quality'.	(1): Values or Emotional Meaning	Personal Factor	Evaluating the products' qualities (**Evaluative Dimension**)
	Janat Mall: 'I used to (1) buy my requirements from this mall when I was younger, but I do not like to shop here anymore, because (2) the products are out of fashion'.	(1): Use Meaning	Personal Factor	Evaluating the products' qualities (**Evaluative Dimension**)
		(2): Values or Emotional Meaning	Socio-Cultural Factor	
	Meli Garden: 'This garden has a (1) historical background (approximately more than a century)'. 'I have (2) heard from my parents that many people used to go to this garden to meet other people and spend time with them in the past'.	(1): Values or Emotional Meaning	Socio-Cultural Factor	Evaluating background of the garden (**Evaluative Dimension**)
		(2): Use Meaning & Values or Emotional Meaning	Socio-Cultural Factor	Organizing information about the garden in the past (**Cognitive Dimension**) & Evaluating the past function of the garden (**Evaluative Dimension**)
4, 5	'I think this street is different from the other ones in our city because of its (1) historical background, but I do not prefer to (2) spend my time here, walking or shopping things, because (3) these places are not modern and fashionable'.	(1): Values or Emotional Meaning	Socio-Cultural Factor	Evaluating background and present situations of the street (**Evaluative Dimension**)
		(2): Use Meaning	Personal Factor	
		(3): Values or Emotional Meaning	Socio-Cultural Factor	
6, 7, 8	'I do not feel familiar with these places, because I feel that (1) they relate to the past but not the present time'. 'Also I do not feel close to the people who are here, and some places such as places along the shops make me (2) feel under control, because old people sit there and watch the passersby all day long'.	(1) & (2): Values or Emotional Meaning	Socio-Cultural Factor	Express emotions and feelings (**Affective Dimension**) & Evaluating social conditions (**Evaluative Dimension**)
9	'I have heard from my parents that (1) there was a castle in this area many years ago'.	(1): Primitive Concrete Meaning	Physical Factor	Organizing information about physical attributes (**Cognitive Dimension**)
10	'I'm mostly attracted by (1) the buildings and their architectural values'.	(1): Primitive Concrete Meaning	Physical Factor	Organizing information about physical attributes (**Cognitive Dimension**) & Evaluating backgrounds of buildings (**Evaluative Dimension**)

Mentioned Places and Reasons for their Significance

[a]Participants' quotes were interpreted by hermeneutic method in order to extract the terms or phrases which represent the perceived meanings and effective perceptional factors and dimensions.

Table 7: A sample of analyzing and interpreting the quotes of residents (The first step of research methodology)

Participant's information: Interviewee's group: Residents
  Gender: Female ▇ *male* ☐ *Age: 55*

Number of interview's question	Participant's quotes	Interpretation and extraction of analytical codes from the participant's quotes[a]		
		Levels of place meaning	*Effective factor in environmental perception*	*Effective perceptional dimension*
1,2,3	**Mentioned Places and Reasons for their Significance** *Malek House*: 'I believe that its (1) architectural features are very valuable.''It is necessary for the government to protect these kinds of buildings, but it also reminds me of (2) the difficulties of women's lives in the past with lack of many facilities in these kinds of houses.'	(1): Primitive Concrete Meaning	Physical Factor	Organizing information about physical attributes (**Cognitive Dimension**)
		(2): Values or Emotional Meaning	Personal Factor Socio-Cultural Factor	Interpreting the manner of life in the past (**Interpretative Dimension**) & Evaluating social conditions (**Evaluative Dimension**)
	Pakistan Embassy: 'I think that this site is extremely inaccessible for public because of the (1) long and solid walls surrounding it.(2) I feel insecure whenever I pass along this site, because I remember the (3) insecurities in the political situation of this country'.	(1): Primitive Concrete Meaning	Physical Factor	Organizing information about physical attributes (**Cognitive Dimension**)
		(2): Values or Emotional Meaning	Personal Factor	Evaluating social situation (**Evaluative Dimension**) &
		(3): Symbolic Meaning	Socio-Cultural Factor	Interpreting political conditions (**Interpretative Dimension**)
	Meli Garden: 'I have (1) many memories of this garden from when I was young. I still spend some time in this garden every day, (2) sitting and gabbing with some of my neighbors'.	(1): Values or Emotional Meaning	Personal Factor	Express emotions and feelings (**Affective Dimension**)
		(2): Values or Emotional Meaning	Socio-Cultural Factor	
	Shops which are located along the Arg Street: 'I know all of the tradesfolk on this street and (1) some of them are even my family friends.''Most of the tradesfolk on this street inherit their jobs from their fathers and the (2) family job is very common among them. I suppose that they consider their family jobs as their family reputation'.	(1): Values or Emotional Meaning	Socio-Cultural Factor	Express emotions and feelings (**Affective Dimension**)
		(2): Symbolic Meaning	Socio-Cultural Factor	Interpreting the job situation (**Interpretative Dimension**)
4, 5, 11	'I've lived in this area for about 30 years. This street is different from the other streets and very special to me, because (1) I consider it my home'.	(1): Symbolic Meaning	Personal Factor	Interpreting the role of this area (**Interpretative Dimension**) & Evaluating the street by personal attitudes (**Evaluative Dimension**)
6, 7, 8, 12	'I know all the neighbors and most of the tradesfolk on this street. I have a very (1) close relationship with them, because I've known them for a long time.' 'When I am here, (2) I feel that I am at Home'.	(1): Values or Emotional Meaning	Socio-Cultural Factor	Express emotions and feelings (**Affective Dimension**)
		(2): Symbolic Meaning	Personal Factor	Interpreting the role of this area (**Interpretative Dimension**)
9	'I know its historical background and I have seen many of the changes that have happened on this street during this 30 years. I can still remember (1) the structure of the earlier buildings'.	(1): Primitive Concrete Meaning	Physical Factor	Organizing information about physical attributes (**Cognitive Dimension**)
10	'I have (1) many memories of this street, because I've live here for 30 years. The people of this neighbor are also especial for me and (2) I spend a few hours of the day to meet them'.	(1): Values or Emotional Meaning	Personal Factor	Express emotions and feelings (**Affective Dimension**)
		(2): Values or Emotional Meaning	Socio-Cultural Factor	
13, 14	'It is like my home and I have gotten used to everything on this street. I prefer this area to any other place in the city. I (1) have gotten used to both the place and the people who live here'.	(1): Values or Emotional Meaning	Physical Factor Socio-Cultural Factor	Express emotions and feelings (**Affective Dimension**)

[a]Participants' quotes were interpreted by hermeneutic method in order to extract the terms or phrases which represent the perceived meanings and effective perceptional factors and dimensions.

Table 8: A Sample of analyzing and interpreting the quotes of tradesfolk (The first step of research methodology)

Participant's information: Interviewee's group: Tradesfolk gender: Female ■ male □ Age: 41

Number of interview's question	*Participant's quotes*	*Interpretation and extraction of analytical codes from the participant's quotes[a]*		
		Levels of place meaning	*Effective factor in environmental perception*	*Effective perceptional dimension*
1,2,3	**Mentioned Places and Reasons for their Significance** *Shops which are located along the Arg Street*: 'I have a shop on this street and (1) I work here. I spend about 12 hours a day here'.	(1): Use Meaning	Personal Factor	Organizing information about the job (**Cognitive Dimension**)
	Meli Bank: 'I do a lot of my (1) financial- business in this bank'.	(1): Use Meaning	Personal Factor	Organizing information about the role of bank (**Cognitive Dimension**)
	Janat Mall: 'I know most of the tradesfolk who work there. Sometimes (1) we do business with one another'.	(1): Use Meaning	Socio-Cultural Factor	Organizing information about the job cooperation (**Cognitive Dimension**)
4, 5, 11	'I choose to work here because (1) the rate of rent on this street is suitable for me, but if I had better financial situation I would have chosen (2) a more newly built and fashionable commercial block. (3) Customers prefer to do their shopping on those commercial blocks, because they are more fashionable'.	(1): Use Meaning (2): Primitive Concrete Meaning (3): Values or Emotional Meaning	Personal Factor Physical Factor Socio-Cultural Factor	Evaluating financial conditions (**Evaluative Dimension**) Evaluating physical and social attitudes (**Evaluative Dimension**)
6, 7, 8, 12	'I feel some kinds of affiliation with other people who work here because all of us have the same situation in our career and sometimes we (1) assist one other when some of us have problems'.	(1): Values or Emotional Meaning	Socio-Cultural Factor	Evaluating social situation (**Evaluative Dimension**)
9	'The historical background of this area does not have any relation to my career, because (1) I began my work on this street about a year ago. So my career does not have any background and (2) residents do not know me very well, but there are many tradesfolk on this street who have begun their work 20–30 years ago'.	(1): Use Meaning (2): Values or Emotional Meaning	Personal Factor Socio-Cultural Factor	Evaluating situation of the career (**Evaluative Dimension**)
10	'Basically (1) I have interaction with other people because of my career, so people are important to me'.	(1): Use Meaning	Socio-Cultural Factor	Organizing information about the job cooperation (**Cognitive Dimension**)
13, 14	'I will definitely change my job setting if my financial situation improves, but (1) I will miss some of the tradesfolk'.	(1): Values or Emotional Meaning	Socio-Cultural Factor	Evaluating financial conditions (**Evaluative Dimension**)

[a]Participants' quotes were interpreted by hermeneutic method in order to extract the terms or phrases which represent the perceived meanings and effective perceptional factors and dimensions.
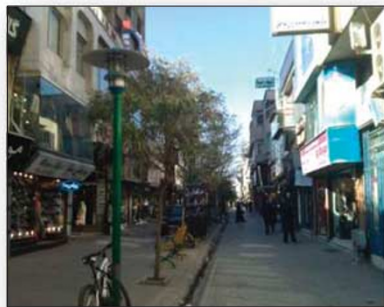
Malek House

Pars Hotel

Figure 6: The most significant places for passersby.

Janat Mall

Meli Bank

Figure 7: The most significant places for tradesfolk.

Meli Garden

Pakistan Embassy

Figure 8: The most significant places for residents.

of the residents perceived 'values or emotional meaning' and 90 per cent of them also perceived 'use meaning'. Some of the residents mentioned the family job as the symbol of reputation for tradesfolk and also mentioned their neighborhood as their home. This means that 20 per cent of residents perceived 'symbolic meaning', while the percentage of other participants in perception of this level of meaning was less than 10 per cent.

Residents perceived extreme levels of place meaning due to their close, personal, and social connections with this street and other residents and tradesfolk. Perception of these levels of meanings was mainly achieved through personal and socio-cultural factors. Results indicated that the perception of residents was affected by 'affective', 'interpretative', and 'evaluative' dimensions. (Table 11)

Table 9: Statistical analysis on the manner of passersby's perception (The second step of research methodology)

Group of participants	Levels of place meaning	Percentage of participants[a] (%)	Effective factors in the environmental perception	Percentage of participants[b] (%)	Citation of the most effective perceptional dimension
Passersby	*Primitive Concrete Meaning*	**90**	Physical Factor	100	Cognitive Dimension Affective Dimension Evaluative Dimension
	Use Meaning	**100**	Socio-Cultural Factor	100	
	Values or Emotional Meaning	70	Personal Factor	86	
			Personal and Socio-Cultural Factor	57	
	Symbolic Meaning	10	Personal and Socio-Cultural Factor	100	

[a]The third column indicates percentage of participants who perceived each particular level of meaning.
[b]The fifth column indicates percentage of participants whose perception was associated with each of the effective factors. This percentage was based on the perception of related level of meaning.
Note 1. The absolute value of percentages corresponds to 100%.
Note 2. The analyses indicate that there were several levels of meaning and effective factors which simultaneously had influence on the perception of each participants; therefore, the sum of percentages in the third and fifth columns of this table is more than 100%.

Table 10: Statistical analysis on the manner of tradesfolk's perception (The second step of research methodology)

Group of participants	Levels of place meaning	Percentage of participants[a] (%)	Effective factors in the environmental perception	Percentage of participants[b] (%)	Citation of the most effective perceptional dimension
Tradesfolk	Primitive Concrete Meaning	20	Physical Factor	100	Cognitive Dimension Evaluative Dimension
	Use Meaning	**100**	Socio-Cultural Factor	100	
	Values or Emotional Meaning	**60**	Personal Factor	17	
			Personal and Socio-Cultural Factor	83	
	Symbolic Meaning	—	Personal and Socio-Cultural Factor	—	

[a]The third column indicates percentage of participants who perceived each particular level of meaning.
[b]The fifth column indicates percentage of participants whose perception was associated with each of the effective factors. This percentage was based on the perception of related level of meaning.
Note 1. The absolute value of percentages corresponds to 100%.
Note 2. The analyses indicate that there were several levels of meaning and effective factors which simultaneously had influence on the perception of each participants; therefore, the sum of percentages in the third and fifth columns of this table is more than 100%.

Table 11: Statistical analysis on the manner of residents' perception (The second step of research methodology)

Group of participants	Levels of place meaning	Percentage of participants[a] (%)	Effective factors in the environmental perception	Percentage of participants[b] (%)	Citation of the most effective perceptional dimension
Residents	Primitive Concrete Meaning	20	Physical Factor	100	Affective Dimension Interpretative Dimension Evaluative Dimension
	Use Meaning	**90**	Socio-Cultural Factor	100	
	Values or Emotional Meaning	**100**	Personal Factor	30	
			Personal and Socio-Cultural Factor	70	
	Symbolic Meaning	20	Personal and Socio-Cultural Factor	100	

[a]The third column indicates percentage of participants who perceived each particular level of meaning.
[b]The fifth column indicates percentage of participants whose perception was associated with each of the effective factors. This percentage was based on the perception of related level of meaning.
Note 1. The absolute value of percentages corresponds to 100%.
Note 2. The analyses indicate that there were several levels of meaning and effective factors which simultaneously had influence on the perception of each participants; therefore, the sum of percentages in the third and fifth columns of this table is more than 100%.

Conclusions

The third step of the research methodology provided the opportunity to revise the theoretical framework of this study and make the proper conclusion. This step investigated the relations among the three analytical criteria (analytical codes) that were mentioned in participants' quotes. Here, the results from all three groups of participants were put together in order to consider the mentioned relations in a major structure.

According to the analyzes, we can conclude that the perception of every level of place meaning is affected by a particular perceptional factor and dimension. The 'primitive concrete meaning' is mainly perceived through physical factor and this process is done by organizing information about the physical attributes. This means that 'cognitive dimension', which is based on organizing information about different subjects, has the most effective role in the perception of 'primitive concrete meaning'. The level of 'use meaning' is mainly perceived through the socio-cultural factor. This process is done by organizing information about the activities and uses as well as evaluating different subjects and situations. According to this process, 'cognitive' and 'evaluative' dimensions are the most effective ones in perception of 'use meaning'. On the other hand, the levels of 'Values or emotional meaning' and 'symbolic meaning' are mainly perceived through personal and socio-cultural factors. The perception of these levels of

meaning is achievable by the influence of emotions and feelings as well as interpreting and evaluating situations and events; therefore, 'affective', 'interpretative' and 'evaluative' dimensions can be mentioned as the most effective perceptional dimensions in the perception of the two extreme levels of place meaning.

Figure 9 illustrates the theoretical framework of this study. It indicates relations among levels of place meaning and the most effective perceptional factors and dimensions in perceiving these levels of meaning. This theoretical framework is the revision of the relations between perceptional factors and dimensions which were analyzed in Figure 3.

In conclusion, while the perception of place meaning moves from level of 'primitive concrete meaning' toward 'symbolic meaning', the most effective perceptional dimensions gradually convert from 'cognitive' to 'evaluative' dimensions. Therefore, 'cognitive dimension' is the most influential dimension in the perception of the primitive levels of place meaning, while 'affective', 'interpretative' and 'evaluative' dimensions are the most effective ones in the perception of the extreme levels.

Implications

The theoretical framework of this study indicates the significant role of perceptional factors and
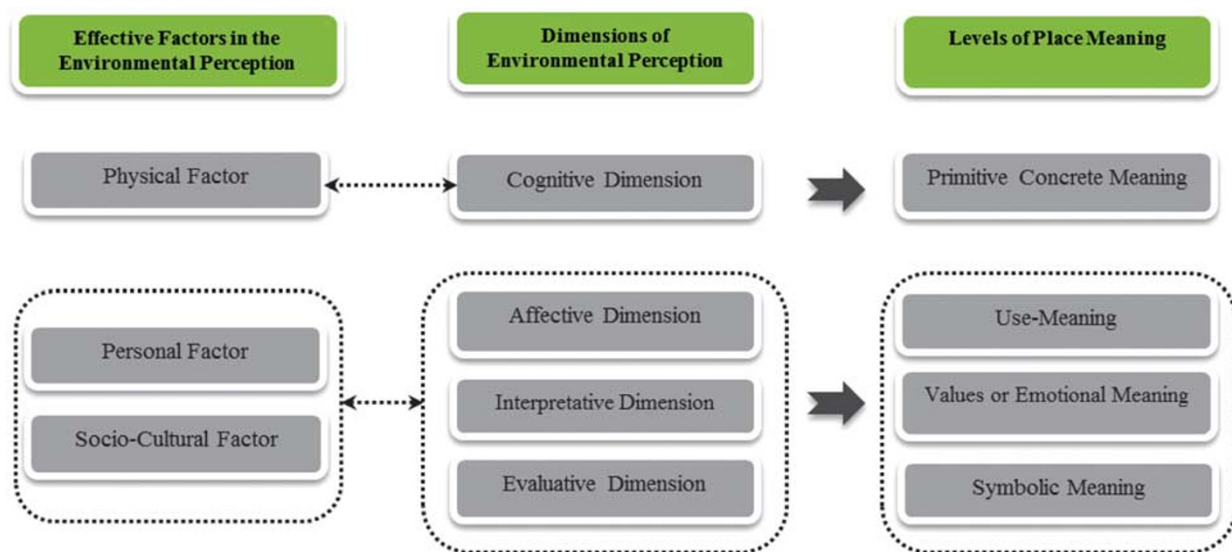

Figure 9: Theoretical framework regarding to the perception of different levels of place meaning and the most effective perceptional factors and dimensions.

dimensions in the process of perceiving the meanings of place. It is important to emphasize the role of these dimensions and factors in both the process and the outputs of our contemporary urban design projects. It provides an opportunity to improve the environmental perception in urban places which is one of the main objectives of urban projects. It is an opportunity to create places that can attract people and make strong relation with them.

The results of this study shows that there are different manners of relations between people and place. People who have stronger personal and social connection with place such as residents mostly interpret and evaluate the place, while the people who have weaker connection with place, such as passersby, are mainly involved with organizing the information about the place. It is necessary to find a practical method in order to involve the perception of people with the most important dimensions, particularly the 'affective', 'interpretative' and 'evaluative' ones. As a result of this, perception of extreme levels of place meaning will be possible for a wide range of people, even for people who do not have strong and deep personal, emotional and social connection with place. Exploring these practical methods which emphasize the role of 'affective', 'interpretative' and 'evaluative' dimensions requires further researches. These researches can also develop the theoretical framework of the present study in the future.

References

Appleyard, D. (1976) *Planning a Pluralistic City*. The MIT press.

Barthes, R. (1992) Essais Critiques, Vol. 3: L' obvie et L'obtus. Paris: Seuil.

Bourdieu, P. (1977) *Outline of a Theory of Practice*. Cambridge: Cambridge University Press.

Brown, G. and Brabyn, L. (2012) The extrapolation of social landscape values to a national level in New Zealand using landscape character classification. *Applied Geography* 35(1–2): 84–94.

Canter, D. (1977) *A Psychology of Place*. London: Architectural Press.

Cheng, A.S., Kruger, L.E. and Daniels, S.E. (2003) Place as an integrating concept in natural resource politics: Propositions for a social science research agenda. *Society and Natural Resources* 16(2): 87–104.

Collinge, C. and Gibney, J. (2010) Connecting place, policy and leadership. *Policy Studies* 31(4): 379–391.

Davison, G. (2008) Changing places: The cost of actualizing the imagined. *Multi: The RIT Journal of Plurality and Diversity in Design* 1(2): 7–30.

Dovey, K. (1999) *Framing Places: Mediating Power in Build Form*. London: Routledge.

Dovey, K. (2009) A test of character: Regulating place-identity in inner-city Melbourne. *Urban Studies* 46(12): 2595–2615.

Dovey, K., Woodcock, I. and Wood, S. (2005) What is urban character? The case of Camberwell. In: *Second State of Australian Cities Conference*. Brisbane: Griffith University.

Eco, U. (1968) Function and sign: Semiotics of architecture. In: M. Gottdiener and A. Lagopoulos (eds.) *The City and the Sign :An Introduction to Urban Semiotics*. New York: Columbia University press.

Fe' lonneau, M.L. (2004) Love and loathing of the city: Urbanophilia and urbanophobia, topological identity and perceived incivilities. *Journal of Environmental Psychology* 24(1): 43–52.

Fried, M. (2000) Continuities and discontinuities of place. *Journal of Environmental Psychology* 20(3): 193–205.

Gibson, J. (1950) *The Perception of the Visual World*. Boston, MA: Houghton Mifflin.

Gibson, J. (1966) *The Senses Considered as Perceptual Systems*. Boston, MA: Houghton Mifflin.

Gieryn, T.F. (2000) A space for place in sociology. *Annual Review of Sociology* 26(1): 463–496.

Gifford, R. (1997) *Personal Space, Environmental Psychology Principles and Practice*. The University of California: Allyn and Bocon.

Gunderson, K. and Watson, A. (2007) Understanding place meanings on the bitterroot national forest, Montana. *Society and Natural Resources* 20(8): 705–721.

Gustafson, P. (2001) Meaning of place: Everyday experience and theoretical conceptualizations. *Journal of Environmental Psychology* 21(1): 5–16.

Halfacree, K. (2006) Rural space: Constructing a three-fold architecture. In: P. Cloke, T. Marsden and P.H. Mooney (eds.) *Handbook of Rural Studies*. London: Sage, pp. 44–62.

Heidegger, M. (1993) Building, dwelling, thinking. In: D. Ferrell Krell (ed.) *Basic Writings*. London: Routledge.

Ittelson, W.H. (1978) Environmental perception and urban experience. *Environment and Behavior* 10(2): 193–213.

Jorgensen, B.S. and Stedman, R.C. (2001) Sense of place as an attitude: Lakeshore owners' attitudes toward their properties. *Journal of Environmental Psychology* 21(3): 233–248.

Knox, P. and Pinch, S. (2000) *Urban Social Geography: An Introduction*. Harlow, UK: Prentice Hall.

Lewicka, M. (2005) Ways to make people active: The role of place attachment, cultural capital, and neighbourhood ties. *Journal of Environmental Psychology* 25(4): 381–395.

Lewicka, M. (2010) What makes neighbourhood different from home and city? Effects of place scale on place attachment. *Journal of Environmental Psychology* 30(1): 35–51.

Lynch, K. (1960) *The Image of the City*. Cambridge: MIT Press.

Manzo, L.C. (2003) Relationships to non-residential places: Towards a reconceptualization of attachment to place. *Journal of Environmental Psychology* 23(1): 47–61.

Manzo, L.C. (2005) For better or worse: Exploring multiple dimensions of place meaning. *Journal of Environmental Psychology* 25(1): 67–86.

Massey, D. (1991) A global sense of place. *Marixm Today* 24–29.

Massey, D. (1994) *Space, Place and Gender*. Minnesota: University Press.

Massey, D. (2004) Geographies of responsibility. *Geografiska Annaler* 86(1): 5–18.

Merleau-Ponty, M. (1998) *Phenomenology of Perception*. Translated by C. Smith. London and New York: Routledge.

Morgan, P. (2010) Towards a developmental theory of place attachment. *Journal of Environmental Psychology* 30(1): 11–22.

Morris, C.W. (1971) *Writings on the General Theory of Signs*. Den Haag, The Netherlands: Mouton.

Moser, G., Ratiu, E. and Fleury-Bahi, G. (2002) Appropriation and interpersonal relationships: From dwelling to city

through the neighborhood. *Environment and Behavior* 34(1): 122–136.

Norberg Schulz, C. (1975) *Meaning in Western Architecture*. New York: Rizzoli.

Norberg Schulz, C. (1988) *Architecture: Meaning and Place*. Michigan: Rizzoli International Publications.

Pretty, G., Chipuer, H. and Bramston, P. (2003) Sense of place amongst adolescents and adults in two rural Australian towns: The discriminating features of place attachment, sense of community and place dependence in relation to place identity. *Journal of Environmental Psychology* 23(3): 273–287.

Rapoport, A. (1977) *Human Aspect of Urban Form: Towards a Man – Environment Approach to Urban Form and Design*. Great Britain: A. Wheaton & Co. Exeter.

Rapoport, A. (1990) *The Meaning of the Build Environment: A Nonverbal Communication Approach*. University of Arizona Press.

Relph, E. (1976) *Place and Placelessness*. London: Pion.

Shamai, S. and Ilatov, Z. (2004) Measuring sense of place: Methodological aspects. *Tijdschrift voor Economische en Sociale Geografie* 96(5): 467–476.

Sixsmith, J. (1986) The meaning of home: An exploratory study of environmental experience. *Journal of Environmental Psychology* 6(4): 281–298.

Stedman, R.C. (2003) Is it really just a social construction? The contribution of the physical environment to sense of place. *Society and Natural Resources* 16(8): 671–685.

Strauss, A. and Corbin, J. (1990) *Basics of Qualitative Research*. Newbury Park, CA: Sage.

Uzzell, D., Pol, E. and Badenas, D. (2002) Place identification, social cohesion, and environmental sustainability. *Environment and Behavior* 34(1): 26–53.