



# Home Perception in Iranian Housing Architecture

Ali Akbar Heidari<sup>1</sup> and Saeed Gandomkar<sup>2</sup><sup>1</sup>People member of technical and engineering department of yasouj university, Yasouj, Iran.<sup>2</sup>Department of architecture and urban design, Yasooj Branch , Islamic Azad University, Yasooj , Iran.

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### ABSTRACT

Perceiving an environment is the first step linking people to a place. The emergence of this perception which is achieved through a mental and sensory process depends on several factors. In this study, different theories regarding the perception of the environment are investigated as the research objectives. The aim of this study is to measure the individuals' perception paradigm of traditional housing style in Iran compared to modern housing style. Thus, it compares the perception of citizens of the two housing styles. The traditional style consists of a group of traditional houses from Zand and Qajar era in Shiraz while the modern style consists of modern houses in the same city. Accordingly, after a review of literature, the theoretical framework of the research was developed and a questionnaire and interviews were prepared during a month period. Finally, the quantitative data was analyzed with the help of SPSS Software and the qualitative data was analyzed based on the interviews. The results showed that there is a significant difference among different dimensions of home perception, including cognitive, emotional, interpretive and evaluative perception in both traditional and modern Iranian houses. In this relation, essential items such as stimulating the sense of smell in the yard, injecting the smell of humidity and soil, making physical and emotional bonds with residents show the conceptual differences between the traditional and modern houses in Iran.

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### Introduction

The concept of perception has a vast range of dimensions and meanings. Thus, presenting detailed definition of it is problematic. In today's psychology, perception is a mental process responsible for the selection and organization of sensory information and giving meaning to them. In other words, the phenomenon of perception is a subjective mental process through which sensory experiences get meaningful and human being can understand the relationships and meanings of objects. This process is so quick in the human beings' mind that it seems to be conducted in parallel with feeling. Various factors interfere with this process, such as the individual's sensory experiences, concepts and assumptions, motivation and the situation in which perception happens. Therefore, we can study perception when the sensory variables are constant to distinguish a certain response among the set of processes (Irvani & Khodapanahi, 2009).

The reality is that to convert a special objectivity to subjectivity and use it as our assessment criteria and behavior, it is necessary to pass from an intermediate stage which is the perception stage. In perception stage, the information received is recognized, then the related items are integrated and the integrated items are classified into based on the former or new mental concepts.

In the course of passing this process, we realize that the information that our sensory organs collected in the feeling step is "what".

According to the definition presented for the concept of perception, the following questions arose:

1. What is the individuals' perception of Iranian home in the traditional style in comparison with the modern style?
2. Whether addressing this issue could lead to the creation of successful housing complexes or not?
3. Whether the citizens who live in these spaces have a positive view towards the design and construction of the residential collections or not?

The answer to these questions can clarify the need to address this issue. In the present study, there is an attempt to prepare the contexts for practical use of architectural perception in constructing appropriate houses in Iran.

### 2. Background and Theoretical Foundations

#### 2.1. The Concept of Home

In the view of Nordberg-Schultz, residence is assumed to be the establishment of a meaningful link between the human beings and the environment. This link is the result of trying to find identity and have a sense of belonging to the house. In this way, a human being can become aware of himself when residing in a house and consequently establishing his existence in the world (Schultz, 1381).

Rapaport views home as an entity with multi-dimensional performance and argues, Home is more than a physical structure; it is an institution with multi-dimensional performance. Since the construction of house is a cultural matter, its shape and organization is also influenced by the culture around it. Since the far past, home was more than

a shelter for human beings and the spiritual and religious aspects in all stages of construction of a house to reside in it are fully evident. In his opinion, the factor of culture in the human understanding of the universe and life, including religious beliefs, social structure of clans and families, lifestyles and social relations between people, plays an important role in housing and spatial divisions (Rapoport, 1969: 47).

Therefore, a residential unit is a complex phenomenon that no single definition can sufficiently describe it, but all the definitions agree on a single issue, that human beings with different views and ideas respond to different physical environments. Typically, the responses differ in different sites, because they are affected by various factors such as the environment, people's worldview, economic situation and social culture.

## 2.2. Iranian Home

Iranian architecture has always been a mirror of the Iranian people and their aspirations and there are undoubtedly indestructible and immortal values in its formation. The common denominator the Iranian architecture is the existence of human beings on the earth and his own worldview. Mining the concepts and characteristics of Iranian architecture is impossible without deepening social, cultural, religious and literary issues. Hence, studying the Iranian housing and finding the traditional housing characteristics can undoubtedly bring us to recognize them (Abdollahzadeh & Azhmand, 2010).



Figure 1. Basiri's house.



Figure 2. Tohidi house.



Figure 3. Zinat-al Moluk's House.

One of the most important concepts forming the Iranian homes is the concept of "family". In Iran, family is an institution that is more powerful and stable than other social institutions (Abdollahzadeh & Azhmand, 2010). The important features of the Iranian house are the type and level

of social relations, the use of space and time, the type of family relationships and the way of life (Pourdeihimi, 2011).

## 2.3. Perception

Perception is the process of receiving information from the environment and is an active and purposeful issue (Lang, 1987). It reflects direct responses of our senses towards the structures or forms (Nasar, 2011). Two main elements are involved in perception. An objective issue which should be perceived and a mental perceptive. Space is not purely an objective issue out of mind or something purely subjective with no objectivity and regardless of quality (Grutter, 2006). The personal experience also affects perception through assessing the situation. Even the insignificant difference in familiarity can affect human beings' perception. For example, observers who have been in a room for half an hour see it smaller than when they entered it (Gifford, 1997). To shape and sometimes define perception, many factors are involved. According to Robbins (2007), these factors include:

1. The perceptive subject, 2. The perceived object, 3. The content of the situation in question

Some personal characteristics, such as attitude, motivation, interest, past experience and expectations affect the type perception. A single factor by itself is not what an observer perceives. Factors affecting perception include personal factors, cultural factors and physical factors (Gifford, 1997).

Different doctrines have tried to explain the human's perception of space. The most important doctrines which have had a profound effect on the environmental and designing theories are arranged in the following Table:

Visual symptoms have special meaning to people since they have learned to act so, but they are not trained in a social vacuum. Each community group share a large part in formal and informal trainings. Therefore, all the members of a group have a tendency to achieve similar subjective interpretations of a specific place. However, the members of different social groups may have different interpretations of one place (Arnheim, 1977). Some of the factors affecting the perception are personal factors such as education, gender, training and experience (Gifford, 1997), just like the difference in perception between men and women. Bentley considered the environmental differences in the experiences of different groups as well as the differences in the aims and objectives of different groups as the reason for the differences in their interpretation of a place. The average men in the streets are not worried about their psychological need as the architects and others attribute to them (Arnheim, 1977)

## 2.4 Theoretical Framework

To organize and connect these areas and achieve a framework for this study, Ittelson's (1978) view was used as the basis for the theoretical framework in this study. Ittelson (1978) has identified four diverse aspects of understanding believing that these four dimensions act simultaneously (Carmona et al, 2003):

➤ Cognitive dimension includes thinking about environmental stimuli, organizing and saving. In fact, this helps to make the environment meaningful for individuals.

➤ Emotional dimension includes feelings affecting the individual's perception of the environment and mutually, the perception also affects the individual's feelings.

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**Table 1. Doctrines with deep effects on the environmental perception theories, resource: (Heidari et al., 2014).**

Doctrines	Theorists	Theoretical foundations
Gestalt psychology	Kohler (1938) Wertheimer (1938) Koffka (1935) Arnheim (1960)	It focuses on the perceptual patterns and homomorphy of the environmental perceptions and experiences with the formation of the nervous system in human minds. Solving processes and perception are mostly prominent in Gestalt Psychology. They believed that perception is not a combination of unorganized elements which are consecutively significant concepts in the mind, but is coherent whole made of a board or a gestalt.
Compromising Psychology (Exchange)	Ittelson (1960)	This doctrine considers human experience and his interaction with the environment as the basis and studies perception as a 'compromising' process between the observer and the environment.
Ecological Psychology (optical)	Gibson (1966)	Gibson considers environment and ecology as the foundation of all data. He believed that the environmental data is perceived directly without the need for processing power of the human brain and only through "environmental lights" and by the human senses which work as a "system". He considers perception as the result of order and locating in the environment and believes that perception leads to action.

Interpretive dimension includes concepts that are obtained from the environment. The interpretive dimension relies on the individual's memories and mental reserves to compare and interpret the environmental stimuli.

➤ Evaluation dimension includes values and preferences distinguishing good and bad. The mental image of the environment is the result of a process in which individuals' personal experiences of the environment along with his value system plays a major role as a filter for understanding the environmental stimuli.

### 3. Research Methodology

The purpose of this research is to measure the individuals' perception paradigms of the traditional housing style in Iran in comparison with the modern style. The present study is an applied research with the purpose of improving the quality of visual environment. In terms of data collection, it is descriptive and in terms of data type, it is qualitative. In the present study, the existing documents and images have been reviewed, and questionnaires and interviews have been used. The research location is in Shiraz, a city in Iran and the samples are three traditional houses, Basiri, Tohidi and Zinat-al Moluk's houses. The reason for selecting the samples is the visual and architectural value of the samples listed in the Iranian architecture.

In this study, after preliminary stages and specifying targets and assumptions, library studies were conducted about the concepts of perception and architecture of the Iranian houses, especially in Shiraz. During these studies, different theories about how different people perceive the spaces were collected, reviewed and evaluated. It seemed that a closed questionnaire could fulfill the researchers' goals. However, during the study, it was concluded that in addition to the questionnaire, an open interview is required to ask the citizens to express their perception of the samples studied. The participants were 162 individuals from different social groups who were questioned about the samples during a month of the study. The citizens' different comments were analyzed, evaluated, categorized and concluded with the contribution of the environmental psychology theorists' ideas. The results obtained can be used as recommendations to be applied in present and future house designs.

### 4. Results and discotion

When the participants expressed their ideas regarding the studied samples, their comments were categorized in different categories, set in a Table and prioritized to help the data analysis and description.

### 4.1. Descriptive Statistics

To obtain adequate and comprehensive statistics, it was tried to distribute the questionnaires proportionally between both genders. According to Figure 1, the distribution was appropriate in terms of gender in this study. The participants in this study also were from four educational groups with A.S., B.A., M.A. and Ph.D. degrees. Figure 2 shows more details in this regard. The questioned individuals were from three job categories, officials of historic buildings, architects and architecture students, and other people who were there as tourists. Figure 3 shows graphically the share of each group mentioned in responding to the questions of this study.

To determine the significance of the difference between the indices mentioned in the theoretical framework, multivariate analysis of variance (MANOVA) and univariate analysis of variance (ANOVA) were used and are presented below.

Examination of the assumptions of the multivariate analysis of variance:

Before examining the results of the research regarding the hypotheses, the homogeneity of the variance of the dependent variables in the groups studied was examined by Levine test and the normality of the data was examined by Kolmogorov-Smirnov test ( $p > 0/05$ ). The results of these tests are presented in Table 2.

**Table 2. Kolmogorov-Smirnov test results for data normality in perceptual variables.**

Variables	Value	Degree of freedom (df)	Significance (p)
Cognitive perception	0.109	104	0.20
Emotional perception	0.112	104	0.18
Interpretive perception	0.102	104	0.21
Evaluative perception	0.107	104	0.19

The results of Table 2 show that the normality hypothesis is confirmed for all variables. Because if the significance (Sig) is larger than 0.05, the normality assumption is confirmed. Thus, the assumption of normality of the data is confirmed.

Homogeneity of the variances:

According to Table 3, the Levin test results are not significant, but shows that the variances of the dependent variables at different levels of the independent variable are equal since if Sig is larger than 0.05, the assumption of equality is confirmed.

**Table 3. Levin test results for variances homogeneity in research variables.**

Variables	Value	Degree of freedom 1 (df)	Degree of freedom 2 (df)	Significance (p)
Cognitive perception	2.07	1	88	0.09
Emotional perception	1.97	1	88	0.11
Interpretive perception	3.21	1	88	0.07
Evaluative perception	2.21	1	88	0.08

Thus, this assumption is confirmed. Table 4 shows the results of multivariate analysis of variance to compare with the scores of the variables in the groups studied.

**Table 4. Multivariate variance analysis results for comparison of the average of perceptual variables.**

Statistical indices Tests	Value	Ratio (F)	Degree of freedom (df)	Error (df)	Significance (p)
Pillai's Trace	0.55	36.26	3	86	0.001
Wilks' Lambda	0.44	36.26	3	86	0.001
Hotelling's Trace	1.26	36.26	3	86	0.001
Roy's Largest Root	1.26	36.26	3	86	0.001

As shown in Table 4, the F observed between the scores of the three samples studied is significant at least in terms of one of the variables of cognitive perception, emotional perception, interpretive perception and evaluative perception ( $F = 36.26$ ,  $Sig = 0.001$ ). Thus, the hypothesis is significant at ( $p < 0.001$ ) and confirmed. To spot the differences, ANOVA was conducted in the context of MANOVA on the variables. Table 5 shows the results of ANOVA in the context of MANOVA for comparing the average of variables.

**Table 5. Univariate variance analysis results in the context of MANOVA on the scores of the groups studied.**

Dependent variables	Sum of squares (SS)	Degree of freedom (df)	Mean of squares (MS)	Ratio (F)	Significance (p)
Cognitive perception	364.01	1	364.01	15.72	0.001
Emotional perception	1672.71	1	1672.71	49.15	0.001
Interpretive perception	1537.60	1	1537.60	92.83	0.001
Evaluative perception	1343.38	1	1452.65	39/38	0.001

According to Table 5, the F observed between the groups is equal to 15.27 for cognitive perception which is significant at the p level ( $p < 0.001$ ). Thus, the hypothesis of the existence of a significant difference in the cognitive perception of the two styles studied is confirmed. The F observed between the groups is equal to 49.15 for emotional perception which is significant at the p level ( $p < 0.001$ ). Thus, the hypothesis of the existence of a significant difference in the emotional perception of the two styles studied is confirmed. The F observed between the groups is equal to 92.83 for interpretive perception which is significant at the p level ( $p < 0.001$ ). Thus, the hypothesis of the existence of a significant difference in the interpretive perception of the two styles studied is confirmed.

The F observed between the groups is equal to 38.38 for evaluative perception which is significant at the p level ( $p < 0.001$ ). Thus, the hypothesis of the existence of a significant difference in the evaluative perception of the two styles studied is confirmed.

## 5. Conclusion

Field observations, interviews and record of the individuals and groups' ideas showed that all the cognitive, emotional, interpretive and evaluative indices have significant differences in perceiving the concept of house in the two styles studied.

Rate	Dimension	In traditional Iranian house	In modern Iranian house
1	Cognitive	Using and displaying water in different forms	Water has no symbolic place
2	Interpretive	Using colors in various objects like in carpets	Lack of variation in using colors and overusing brown and white colors
3	Evaluative	Contrasting equivalent, complementary and contrastive colors	Contrasting equivalent and complementary colors
4	Interpretive	Playing with light and providing diversity	Lack of playing with light and supplying light merely for visibility
5	Interpretive	Compatibility of outdoor and indoor spaces	Compatibility of outdoor and indoor spaces
6	Emotional	Injecting moisture and soil odor	-
7	Cognitive	Creating cool pleasant air	Using instable electronic systems
8	Interpretive	Discriminating the outside world and the inside of the house	Breaking the chain of entrance and walls
9	Interpretive	Closing annoying views	Creating annoying views through building high apartments
10	Interpretive	Creating closeness and attracting focus	Reducing closeness
11	Emotional	Instilling a sense of calm to the audience	Increasing sense of confusion
12	Cognitive	Extending width rather than height	Extending height rather than width
13	Evaluative	Using golden proportions	Lack of using golden proportions
14	Cognitive	Using flowers in the indoor and outdoor spaces	Using simple shapes and forms
15	Emotional	Creating a sense of intimacy between individuals and places	Companionship of individual and place is only based on requirements
16	Emotional	Stimulating the sense of smell through perfuming the yard	-
17	Cognitive	Creating shade	Neighboring buildings provide shade
18	Cognitive	Avoiding annoying wind and dust	Houses are exposed to wind
19	Interpretive	Stimulating the sense of touch	Lack of stimulating the sense of touch
20	Evaluative	Establishing order, balance and visual symmetry	Establishing the simplest form of order, balance and symmetry
21	Cognitive	Using natural and rough textures on the walls	Using polished stone textures and composites
22	Emotional	Creating physical and spiritual bonds with residents	Reducing physical and spiritual bonds with residents
23	Emotional	Creating a sense of identity to house	Identity to house is one of the social dimensions of house
24	Evaluative	Exciting the audience's sense of seeing	Creating sight attractions with expensive and luxury views
25	Interpretive	Efficiency of the space along with its perfection and beauty	Efficiency in proportion to the lack of space

However, for more clarification, the results of the present study obtained with the consideration of the theoretical frameworks, literature related to the concept of perception and the respondents' responses in the interviews are presented in four categories in Table 6. The Table contents show the people's perception of the traditional houses, which are sometimes linked with the national characteristics and sometimes with the religious characteristics of the Iranian people. Factors presented in Table 6 included more cases but the point is that the most important ones are considered as the focus of this study. Addressing these issues in the construction of modern houses can once again restore the quality of traditional Iranian house and give the citizens a new spirit and enhance their life quality.

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