# An Investigation of Iranian Apartments in Tabriz with Reference to Their Space and Function Relations

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#### **Abstract**

This research attempts to study different interpretations concerning the life quality of the houses built in three areas of Tabriz, Iran, which was identified the dissatisfaction cause of interior architectural designing at the time of purchase or during the use of house. Studies show that paying attention to the culture and economy of the individuals has direct relation with the issue of satisfaction. In the Ferdous alley of Tabriz we observe more satisfaction than Roshdye town where satisfaction level is more than the Mehr complex of Tabriz. But this isn't an indicator of the resident's satisfaction and a remediable percentage of them would like to have fundamental changes. So it can be said that culture, customs, expectations of house and family economy are main principles of architectural designing. As examined here about the housing in Tabriz, but unfortunately has been less considered main principles of architectural designing. Conducting primary research, prior designing will help more to inhibit the problem to happen.

Key words: Interior architecture, Design, Habitation, Satisfaction

#### INTRODUCTION

Iranian architecture which was first shaped in the plateau of Iran and then in the influential domain of Iranian culture, such as other architectures that are originated in the local culture, has focused on the climate and left valuable structures until the Qajar era. home objectifies the human actions, it includes the features of all aspects of the architecture (Furuyama, 2006). In 1996 "Habitation" was one of the controversial topics discussed in the last session of UIA entitled as the "Architecture of the societies, today and future" in Barcelona. In Iran, this point of view "habitation" can be used. The research illustrated that the house should be matched with the life style needs including

1 "The act of living in a place" or "a place where someone lives"



Month of Submission: 06-2017
Month of Peer Review: 06-2017
Month of Acceptance: 07-2017
Month of Publishing: 07-2017

solutions for the changes appeared in the family and flexible designs which express a certain way of life. So, the people living in these houses may add or remove a room or wall and changes interior design to meet their needs (Sohrab, 2015). In the early of 20th century, Iran was gradually exposed to consumerism and excess consumption. Iran had great confrontation with the western world when the acceptances of the western cultural patterns were emphasized. This research focuses on the most important part of life "house" to find the cause of owner changes on the interior physical space at the time of purchase or during the use of the house. Moreover, can help to identify the causes of dissatisfaction of interior architectural designing, focusing on the culture, economy of the spaces, users are of those first principles of designing but unfortunately has been less considered as examined here about the housing in three area of Tabriz.

#### **Statement of Problem**

All physical space changes in the home can be helped to respond to habits, culture and customs expectations of house. This research focuses in a way that the obtained results can meet the house owner's needs. However, this thesis will help the architect to prevent the dissatisfaction of that problem house users to happen. More in by

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conducting primary research before designing to architect for inhibit.

#### **Purpose and Research Question**

This thesis is focuses on different interpretations concerning to study the quality and the life of the houses built in three area of Tabriz, Iran, which are only considered quantitatively.

The most important question in this quest is identification the cause dissatisfaction of interior architectural designing and changes in the interior physical space at the time of purchase or during use the house to respond to habits, culture and customs expectations of house.

#### Methodology

The methodology used in this research is quantitative and qualitative methods. Quantitative case study method includes literature survey and qualitative method as face to face interviews. The research is performed on the quality and quantity of built houses system in three different areas of Tabriz, Iran. Residents in the three areas are different the habits, size, economically, socially and culturally, which fully described in the following sections (Roshdye town, Ferdous alley, Mehr complex).

This research investigates an issue that is guided by theoretical assumption and explains causal explanations of the specific cases: Architectural technology, construction material, interior layout of physical spaces, orientation, life requirements and placement. The research is performed based on quality and quantity of built houses system in three different areas by using different cases (units of analysis) of existing residential buildings in Tabriz, Iran. The experimental case study is uses each of object for analysis and three variable: effect of quality of the built houses on comfortable and usable these new buildings and to evaluate the given changes economically.

The research is based on relevant literature related to the research question and consists of official documents, published statistics, written books, scientific articles, statistics and public documents. The thesis is to a large degree based on secondary sources, which includes a risk biases and subjectivity in the materials, although, by using a high level of consistency the research bias is reduced.

## CURRENT SITUATION AND STUDIES ABOUT MODERN PARTMENT LIVING

#### **Culture of Living**

Culture is the common justified solutions a society to meet any kind of real or unreal need. (Rajaei, 2015). In other words, culture is what the people live with. The culture of its people (Khordad news, 2014). Culture includes art, literature, science, creation, philosophy and religion (Lucas, 1953). Culture possesses many elements, which are meaningfully current in the society and pass exactly through the self-conscious and unconscious awareness of community.

About Iranian culture and architecture and its relation with the Iranian lifestyle; The Iranian designs, introspection and tendency toward the yard, the garden cavities, vestibule and pergola which surrounds bedchamber has been as a part of Iranian logic since long ago (Pirnia, 2013). Iranian architecture which was first shaped in the plateau of Iran and then in the influential domain of Iranian culture, has focused one the climate and left valuable structures until the Qajar era. One of the qualities of old house in the most, cities of Iran is their big space. Their architecture style is made of two interior and exterior part. The used colors in decorating the buildings have been effected by the hot and dry climate characteristics the materials used in the buildings, as well as the structural abilities and focusing on the economic affairs and providing the materials from the near places, have exploited the environmental energy in the best way. The arched structures in these buildings indicate the relation between the climate and architecture. Even in the decorated drawings, the sun called as shamseh and the sun cycle can be seen as the most important factor of climate. Being homogeneous with the nature and using its permanent energies as light and wind and its main elements as water, soil and plants has been properly focused in the past architecture. Iranian architecture has reacted to the nature and climate in an architecture way (Pirnia, 2013).

#### Culture of living in Iran and Iranian architecture

The architecture in Iran has had a history of 6000 years old. the social and architectural attitude was the main factor of unity and homogeneity in the past of Iranian architecture. While talking about tradition, we refer to stable principles rooted in the heaven and to their application over the time (Amini, 1989).

Today, the information modeling of the buildings has provided new opportunities about the application of this kind of architecture in the modern building and decreased designing challenges and its usage.

Iranian culture means the collection of sciences, beliefs, principles and values that govern the Iranians, social and private lifestyle.

The Role of the Culture in Shaping the Houses of Tabriz The culture factor is one of the effective factors on the structure form. The need to private can be shown in the related spaces, limited to or separate from each other's. According to the tradition and customs, the buildings are mode based upon the interior space or are the so-called introverted and this is not apparently affected by the climate, location or the region, but is resulted by the social and cultural factors, which can be seen in both cities and villages. This combination and structure, which exist in Tabriz, cause a Kind of regions, separation. (Rapaport, 1929).

### The Role of the Climate in Shaping the Houses of Tabriz

Tabriz is located in northwest of Iran in East Azerbaijan province between Eynali and Sahand mountains in a fertile area in shore of Aji River and Ghuri River. The local area is earthquake-prone. Tabriz has a semi-arid climate with regular seasons (Köppen BSk). Tabriz, with hot and dry summers and very cold winters, is the capital of East-Azerbaijan province in Iran. because of the establishment of new industries, it is rapidly growing, and as a result is facing urbanization and in need for more land for new residential development. The morphology of the city has been an impetus for high air pollution. The vernacular architecture of Tabriz is one of the best examples of sustainable architecture.

#### The Lifestyle

In the field of cultural studies, the lifestyle refers to the collection of the person's pattern of actions and behaviors, which are directed at the social life meaning and its normal dimensions and indicates the quality of his/her, believes and actions, organization (Giddens, 1991).

#### How modernity enters into Iran

The development of industry in England and Europe caused wealth improvise. Marketing and supplying the first materials were the vital requirements of the Europe new industry, these events caused the colonizer governments to focus on the eastern countries, especially Iran.

In Iran, the first relations with the west were following the economic and commercial relations. Modernity and reformation this happened in the time of first and second Pahlavi kings. They gradually distributed the modernity principles as emphasizing on hedonism, consumerism, and freedom (Asefi, 1973; Azad, 2001). Although modernity was first accepted in the forms of industry and technology and economic modernization, importing, the belief foundation of modernity was add also admitted in the frame of cultural modernity by the different groups in Iran and changed its life atmosphere.

#### Modernity and the lifestyle change in Iran

In the era of Qajar and Pahlavi kings, one of the important results of modernity has been the expanding of the western lifestyle, which is rooted. Modernity can be seen in the structural dimension of Iranian families, because the processes as urbanization and industrialization have replaced the traditional living with the modern one.

#### **Architecture Relationship with Lifestyle**

According to George Michael, the architecture is something beyond the history of form and style; it is actually the achievement of cultural and environmental factors in which the people lifestyle is hidden (Groube et al, 2002). Phillip Jonson says, "we should have the courage of swimming against the water flow" (Memarian, 2008). So architecture has great effect on human's lifestyle and their relationship and so on the community culture (Memarian, 2008).

In the old architecture of Iran, the house architecture was based on special principles and pattern of the scheme. While today the main attention of the people who are involved in providing housing is on quantity factors especially economical ones (Memarian, 2008).

#### Houses life style of Iranian family

The house is a place where a person dwells, relaxes and takes it as a shelter and his/her privacy. the lifestyle is dependent on the field classification and having a private space. The field classification, the quality, and the place of the quests reception is an indicator of conscious and unconscious attempt to reflect the family collective identity to the others (Tuan, 1977).

#### The Effect of Traditional Houses on the Current Houses

The first houses mode in Qajar era, which were obeying the pattern of Iranian old houses, possessed interior and exterior parts. Near the Pahlavi era, this pattern lost its importance and completely disappeared in the first Pahlavi King time when the houses accepted extroverted manifestation that is permanently continuing (Hayeri, 2009).

The form of housing which the people since have noticed long ago is the single family home. In the 19th century, this form was mainly made up of one floor and a yard. By increasing the population and entering the different kinds of European houses as two-floor houses with balcony and multi-flat apartments new housing morphology was appeared. The residential are generally smaller now and the culture of apartment living was increased. In general, these changes have resulted in basic differences between traditional houses and modern residential units. In the following, the obvious differences are summarized (Hayeri, 2009):

The special designing should improve, the social-mental relations or at least it should not make any disturbances to anybody (Grutter, 2010).

The culture relation with the built environment and behavior. The mutual effect of environment and behavior (EBS)<sup>2</sup> has been the topic of many researches. According to Report, anthropology has great effect on the environmental- behavior relation and the role of the culture as an effective factor on human's behavior is of great importance. The kinds of environmental behavior relation are the shown in the following:

Environment → Behavior → Environment

Environment  $\leftarrow \rightarrow$  Behavior

(The types of environmental-behavior relation in EBS by Rapaport, 2005)

Therefore, it can be said that the culture has an important role in all of the three diagrams in a way that there is a direct relation between the culture and environment (Rapaport, 2005).

#### The Residents, Satisfaction Level from Their Houses

Most people tend to have those things, which are unable to get. Therefore, they should search these needs from those fields that have less tendency. When we achieve what we have tendency and desire to get it, we feel satisfaction although this satisfaction may cover different range (Ge & Hoka, 2006).

One satisfying aspect of life is satisfaction of the residential environment and as a result, the residential satisfaction. The residential satisfaction is one of the issues in the residential buildings domain, which has been more studied, because it has been proved that it makes a part of the whole life satisfaction (Ge & Hoka, 2006).

In fact, the life satisfaction is closely dependent on the residential satisfaction. There is a deep relation between the residential environment choice and satisfaction. (Ge & Hoka, 2006). In order to clarify the preferences variety of the urban housing and different demands, understanding and studying the residential environments is necessary (Ge & Hoka, 2006).

The residential satisfaction is considered as a behavior predictor factor and is an important criterion in describing the residents, Life quality. "Amerigo" has provided a conceptual frame in which he attempts in standing the interactions between the individual and his/her residential environment (Amerigo & Aragones, 1997). This approach shows the study of the dynamic interaction between the person and his/her residential environment and analyzes

Environment-Behavior Studies

the various cognitive, emotional and behavioral processes, which happen in the given interaction. Based on this model, the objective characteristics of the residential environment are evaluated by the individual, are changed into subjective characteristic, and are upgraded to a special level of the satisfaction. So the subjective characteristics are affected by the personal characteristics. This phase includes the individual social and population subjective characteristics and also the major pattern of the residential quality and is a mail element in which the individual is compared to his/her real and ideal residential environment.

#### **Technology**

Identifying and determining the amount of exploiting the technological knowledge by a society is of those important factories in analyzing the given society. By studying the history of Iran architecture, we can conclude that its architects were pioneers in using new forms and materials (Jaferi et al., 2013).

Across the world, new technological approaches by producing concrete, steel, various building materials and changing structural systems have caused a special form in the architecture. The house has also been affected by each historical period of technology, as today due to the technological development, the relation and division in the public and private sections, day and night and, wet and dry spaces have been closed to each other (Jaferi et al., 2013)

This causes the quality decrease of spares and their lack of pleasance and quality. While studying the Iranian traditional housed, which are based on the local technology, indicates that using local technology can produce different qualities all across the different parts of the house based on their special usage. One of the ways to return the given qualities, which have been ignored, is to refer to those construction techniques and methods, which have focused on details and materials to be suitable, matched together through which a proper quality in the modern hones can be obtained. These qualities have been manifested in the Iranian local architecture, which can be used in designing the present houses (Jaferi et al., 2013).

#### RESEARCH AND METHODOLOGY

#### Reason for Choosing Tabriz, Iran

The social and architectural attitude was the main factor of unity and homogeneity in the past of Iranian architecture, Because the culture concerns the governing and dynamic principles which encircles the science and wisdom, politeness and tact, no architect has talking deprived of the ancients, inheritance. According to the tradition and

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customs, the buildings are mode based upon the interior space or are the so-called introverted and this is not apparently affected by the climate, location or the region, but is resulted by the social and cultural factors, which can be seen in both cities and villages. This combination and structure, which exist in Tabriz, cause a kind of regions, separation.

#### **Research Areas in Tabriz**

This research was conducted in those areas of Tabriz, Iran, where the residents are economically, socially and culturally different (Ferdous alley, Roshdye town, Mehr complex) are as the following (Figures 1-2).

Based on the field studies in the Roshdye town, which is a preplanned town and has a designed plane site, three major types of residential context have been identified as the following.

#### Statistical Analysis and Sampling the Research Community

According to the topic of the research, the statistical community will be made of all modern residential environment. Three residential parts of Ferdous alley, Roshdye town and Mehr houses were chosen as representatives of Whole Tabriz residential centers and in which some building ware randomly selected to have precise studying. The statistics of the number of

the Families and residential units have been planned as the following table (see Table 1). So the sample community is the number of the units in other words the number of the inhabitant families that are 78 ones. In the following, after Preparing the questionnaire and collecting data through questionnaire and interview, they will be analyzed.

#### THE RESEARCH RESULTS

#### **Data Analysis**

The first part of questionnaire, as said before, is related to individual elements which have effective role on residents, tranquility in their residential environment. They

Alleys	Explanation	Figure
Ferdous Alley	Ferdous alley, in terms of economic, social and cultural are at a high level. this area is located in the northern side of El Goli Park (Shah Goli Park). This alley has five 10-meter streets and one 18-meter street	
Roshdye Town	Roshdye town, in terms of economic, social and cultural are at an average level. This area is located in the north eastern part of Tabriz which is famous for its modern architecture and beauty	

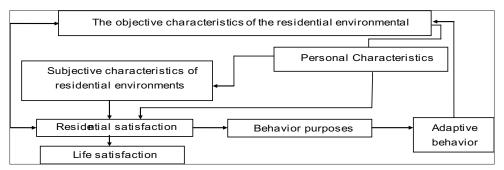


Figure 1: The objective characteristics of the residential environmental (Amerigo & Aragones, 1997, p. 47-48)



Figure 2: Area location in map of Tabriz (Google Map, 2015)

Types of residential	Explanation	Figure
Villa house	The yard is on one side and the building is on another one The yard is located in southwestern and the building is northeaster of the construction In some construction the building is at the northwestern and the yard in the southeastern In some the constructions the yard is centrally located	
Apartments with 4-8 floors	The internal spare division in each flat The apartments facing the south exploit the extreme light and heat of sun The apartments facing the north get less and small and fewer opening Southern front flats exploit the extreme degree of the climate conditions	
	The opening parts like the ones used in the greenhouse are used in the northern part of the building	Apartment facades facing the south
Towers	The spatial configuration of the towers is nearly like the apartments	Apartment facades facing the north
Towers	and there are no differences except the density of the residential units  The height difference and being empty of the towers surrounding due to the related construction regulation  The type of skeleton is reinforced concrete  The roof is regarding the climate conditions	
	The roof is constructed with materials that has the cooling and heating factors in the cold regions These are resistant against the earthquake The materials used on the towers are exposed concrete with dark colors (as red and dark gray) that cause more energy absorption and Travertine stone of Azarshahr which has more Lifelong and resistance against the natural factors as excessive cold and heat in the regions with had climate across the world The heating system is the Centre Powerhouse with a steam boiler The cooling system is made of absorption chillers with air conditioner	The tallest and the most density tower in Roshdye town
Mehr omplex	The new town of Sahand is one of the new cities of eastern Azerbaijan. This town is located in the north western part of Oskou city. The goal of establishing this city was to solve the overpopulation problem of Tabriz. the new city of Sahand was built in four phases. Mehr complex are located in phases 3 and 4. It can be said this area, in terms of economic, social and cultural are at a low level	

include: gender, age, education, ownership, family number, residence time, changes that have been made and etc.,

#### Gender

It should be noted that much percentage of woman what changes to be made in their houses.

Houses	Ferdous	Roshdye town	Mehr
Dissatisfication	33%	52%	89%

#### Education

The charts below provide table of education in different regions is given. It can be seen in Tables 2-4.

#### **Environmental Factors**

The second part of the questions in the questionnaire are related to the environmental factors. In the following, each answer of questions is individually being studied.

The residential context of Mehr complex

The above statistics and numbers show, the residents of Ferdous alley are more satisfied, in the conducted interviews and the field perception, it can be said that the materials used in the houses of the Ferdous alley are more suitable, so the residents have been less obliged to change the used materials and they have been dissatisfied in just fewer cases. While the residents of Roshdye town house

Table 1: The statistics of the number of the families and residential units

Area being studied	Type of building	Number of the floors	Number of units	Number of unit in each floor	Number of the empty units
Roshdye	A	4	16	4	0
•	В	5	10	2	0
	С	2	1	1	0
Ferdous alley	Α	2	1	1	0
•	В	5	5	5	0
	С	5	5	5	1
Mehr complex	Α	5	40	8	16
Total		28	78		

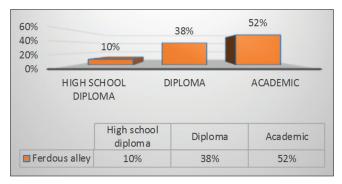


Table 2: Education level in Ferdous alley

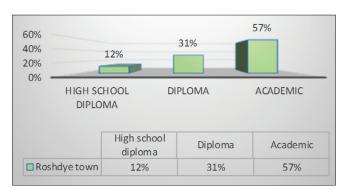


Table 3: Education level in Roshdye town

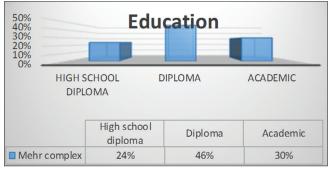


Table 4: Education level in Mehr complex

have been less satisfied by the materials have being used. As we saw in the section about changes, there are more changes in the section of flooring. The residents of this region are less satisfied by the heating and cooling installations. The residents in the Mehr complex have more complaints about the highly expenses of the changes. By referring to the section of the changes, we can notice this fact. The cases which have caused dissatisfaction. Can be referred to as improper floor covering of the spaces (ceramic), using single-glazed windows with low quality materials, lack of suitable heating installation, lock of cooling installation and etc., in general, Mehr housing id cheap and has been preceded for the less-income families, so they should have high qualities to cause them save the expenses.

#### **CONCLUSION**

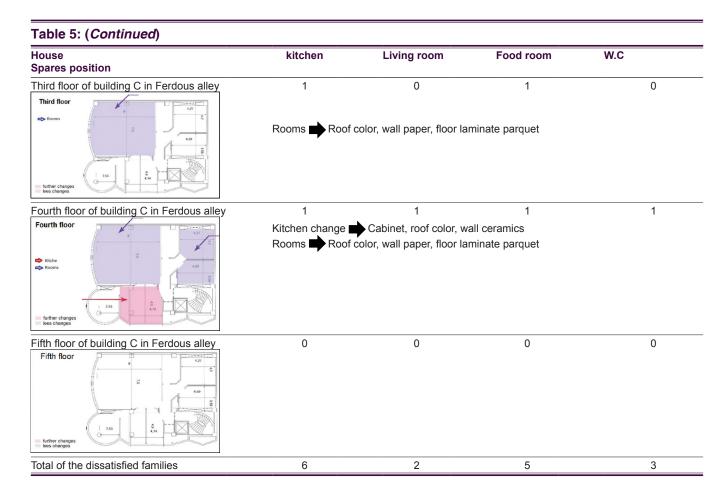
- A. In the research place, Ferdous alley, Roshdye town, Mehr houses, based on a survey and interviews with the houses owners, it was identified that the owners house made more changes in their houses based on their culture, lifestyle, facilities and technology during their residents that be classified according to the following points:
- B. All of the three regions, the greatest rate of the dissatisfaction rates is lake of the flexibility in the interior architecture match with residents, culture and lifestyle and the applied materials without suitable quality and modern technology, which has caused the families to spend their income on the changes.
- C. In all of the three regions, the changes have been made to get the last technologies.
- D. Whereas construction, poor quality of the used material causes changes after a little time.

Due to the being aware of the type of the usage of each room in each of three regions in advance, the houses, to some extent, have been changed in comparing to their first designing. It can be said that the interior designing, the place of the balcony and other cases are functionally different in the houses across the three regions because there has been long time between their designing and construction. so architecturally a house should meet its residents 'new needs in different conditions (Tables 5-8).

Finally, the house designing should meet the residents as a permanent one that can be refined in future. Because

House Spares position	kitchen	Living room	Food room	W.C
First floor of building A in Ferdous alley	1	0	0	0
Oto parking  Kitche  Rooms  10.45  First floor  Control of the changes less changes  First floor  Control of the changes less changes  First floor  Second floor	Kitchen change Terrace Conv	Change to residential use Cabinet, roof color, waverted by glass balcony color, wall paper, floor land	all ceramics, floor stone losed space	
First floor of building B in Ferdous alley	1	0	0	1
First floor  Terrace  Room  Rooms  Inther changes  Terrace	Terrace Conv	Cabinet, roof color, wa verted by glass balcony c color, wall paper, floor lan	losed space	
Second floor of building B in Ferdous	0	0	1	1
Second floor  Farace  Noons  Farace  Rooms  Former  Fo		verted by glass balcony c color, wall paper, floor la		
Third floor of building B in Ferdous alley	1	1	0	0
Third floor  State  Record  Tourier charges  See charges		Cabinet, roof color, wa color, wall paper, floor lan		
Fourth floor of building B in Ferdous alley	0	0	0	0
Fourth floor  Indian chappes  Indian chappes				
First floor of building C in Ferdous alley	1	0	1	0
First floor Rooms  238	Rooms Roof	color, wall paper, floor la	minate parquet	
further changes lees changes				
Second floor of building C in Ferdous alley Second floor  Firence Rooms	0	0	1	0

(Contd...)



the designing should be planned in a way that can be added, cut or changed, and be able to meet the residents' different needs that totally can be classified according to the following points:

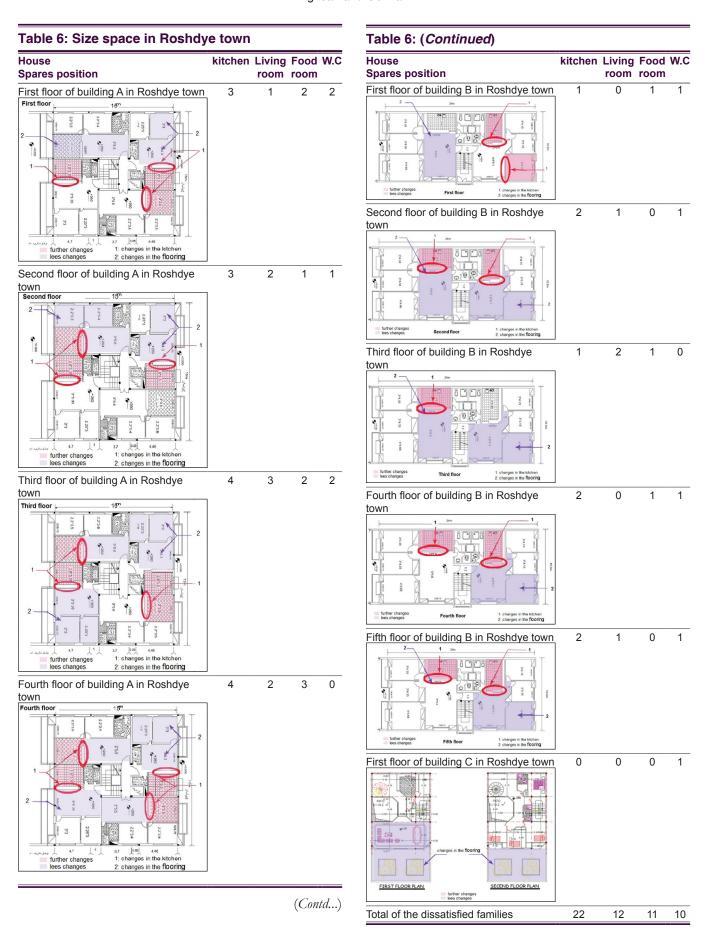
- In those societies, social life and urbanization dates back to long age, a stabilized culture can be observed. The architecture of the humans' residential place is based on their culture, lifestyle and perception and also on their residential place geographical features. In general, a house interior architecture displays understanding and believes, which should be considered while designing his/her residential place.
- According to the modern views, building a house using the current technology doesn't represent the suitable characteristics of the house environment, but the comfort should be considered in all of the aspects and the whole spaces and subspaces being matched with the residents' lifestyle.
- The main areas of the interior designing and the conceptions related to the satisfaction, variability in the field of the house has been provided across the research by designing the fixed parts of a building and services spaces, through which a house should provide chances for the changing need inside itself and for its users' interpretation over the time.

- All of the cases being studied in this research as the culture and lifestyle, inside space, interior architecture designing and the materials used to meet the residents' satisfaction from the inside physical space are of great importance as the fixed elements, which earlier paying attention to them in designing provides much satisfaction in the following spaces organizing.

When being different is known as a right, it can cause varieties in the locations. If the house becomes a permanent changeable product, the residents can reflect their own culture by bringing new conceptions into their living place. As a result, the cultural differences can be protected in this modern world. Being satisfied by a person from his/her living place and be able to change is so important that Le Corbusier, in the early of the 20<sup>th</sup> century, said that: if everybody has a house to live in and be satisfied by it, so there will be no reasons for the human beings to fight with each other.

The information and discussion presented in this research can be used as a background to more research regarding the satisfaction of the house design. Research in the following fields can be further considered:

- This subject can harm the family economy and the



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Table 7: Ideal residential enviror	ıment

Answer of question 1	Roshdye town	Mehr complex	Ferdous alley	All of the complex
Average	3.73	1.82	4.31	3.29
Score from 100	74.6%	36.4%	86.2%	65.73%

Table 8: Satisfied from the spatial relations

Answer of question 2	Roshdye town	Mehr complex	Ferdous alley	All of the complex
Average	3.72	4.23	1.81	3.25
Score from 100	74.4%	84.6%	36.2%	65.07%

- country's economy therefore a different research to show the formal policies can be studied.
- Study the effect of psychology on the satisfaction process as life and human satisfaction.
- Estimating the research model in the other materials such as light, size of windows and est. of built houses by the "Exploratory" and "Experimental" technique.

#### **ACKNOWLEDGMENT**

Present manuscript was summarized from MS.C thesis of first author, Cankaya University – 2016.

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How to cite this article: Aghsan AMR, Gökhan C. An Investigation of Iranian Apartments in Tabriz with Reference to Their Space and Function Relations. Int J Sci Stud 2017;5(4):694-704.

Source of Support: Nil, Conflict of Interest: None declared.