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Comparative Study of the Impact of Location on the Constructive Components of Housing Quality in the Mind of the Residents (Case Study: Shahrak-e-Gharb Neighborhood and Monirieh Neighborhood)

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ABSTRACT: Following the growing urbanization, choosing and providing housing has become one of the most important issues for planners as well as people. Developing a comprehensive program of housing needs complete identification and deep analysis of widespread dimensions of housing and factors affecting them. In the meantime, addressing housing indices, as the key planning tool forming its main thrust, can be the most critical step of planning. By conducting research on identifying and analyzing different housing indicators, the effectiveness of housing programs can be greatly increased. However, among the policies and plans that have been made due to the overcoming of economic factors and the lack of clarification of the good housing index, the qualitative indicators of housing have remained somewhat diminished relative to its quantitative dimension, and planners have more focused on providing housing. This research seeks to find and compare the angles of understanding and evaluating the residents' viewpoints on the desired housing, and ultimately, address the impact of location on the mental valuation of residents about the constructive components of housing quality. The research method is descriptive-analytical and in order to achieve the desired goals, the qualitative indicators of desirable housing are surveyed from residents' point of view in Shahrak-e-Gharb and Monirieh neighborhoods of Tehran. In the formulation of the questionnaire, 48 items are developed in two areas of the residential unit and residential environment, of which only 13 indicators have a significant difference between the two neighborhoods indicating that the spatial domain has no effect on residents' valuation of housing quality indices and also the average values given to the items show the great importance of the quality of housing for citizens.

Keywords: *Housing, Resident, Housing Quality, Housing Quality indicator*

INTRODUCTION

Housing provision is one of the most important issues in the country, it is important as a necessity in society, and it is very decisive and determinative. Therefore, the constitution of the Islamic Republic of Iran (Articles 31 and 34) has also considered it as a necessity and the government is obliged to provide appropriate conditions for providing adequate housing for all segments of society. The housing sector in the Islamic Republic of Iran has always been one of the most sensitive, problematic and impetuous sectors that has been aggravated since the 1970s (Verasati & Saghae, 2005, 44).

The need for housing and the adoption of appropriate solutions for production in accordance with its needs is one of the major problems in major cities. The need for housing in history has always been a concern for societies and has led to the creation of different patterns of residence in the light of historical, climatic and technological conditions, and the innovative and diverse methods of shelter production. The need for housing has two quantitative and qualitative dimensions. In

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the quantitative dimension, the need for housing involves the identification of phenomena and issues that raise the issue of the lack of shelter and the amount of access to it. In examining the quantitative dimension of housing, in fact, the degree of response to the need for housing is considered without considering its quality. In the qualitative dimension, there are issues and phenomena that are known as homelessness, bad housing, and tight housing, and what is important is the type and form of the need. In the study of qualitative dimension of housing, indicators are introduced that include: 1) Favorable housing form 2) Housing strength 3) Housing security 4) Accessibility and the appropriate distance of residents to the facilities and physical services of the neighborhood 5) Access to nature and green open spaces 6) Provision of equipment and facilities (infrastructure) required for housing. 7) Neighboring housing with compatible applications.

Indicators of favorable housing, both quantitative and qualitative, should be considered by the housing planners; however, it is found that the qualitative indices in housing planning are largely obscene, while paying attention to these indicators can have a significant impact on raising the quality of urban life and, ultimately, the residents' satisfaction.

According to the conditions of the current situation in the area of housing, people are bound to choose a shelter that is closer to their budget and interests. In the meantime, a group of people consider closeness to work, service, city center, or kinship as the criterion for choosing their place of residence. Another group of people also consider the cultural level of the place of residence, its position in the minds of people, and its social class, and sometimes the architectural and physical characteristics lead to the choice of property. All of these are factors that play a significant role in choosing a property. In order to apply these indicators in the emergence of housing, it should be considered that it is directly related to the specific characteristics of each residential area. For example, the issue that what facilities and to what extent are required in relation to residential areas needs emphasis on population density and structure, percentage of substructures, slope, area and extent of physical environment, role and function of the area, network of roads and the like in addition to the standards and basic foundations of determining the criteria based on the design and planning system of the environment in terms of the characteristics of the neighborhood face. In this regard, the present research seeks to ascertain whether there is a difference in mental values of citizens about the quality of housing in the two neighborhoods, due to differences in spatial characteristics. In response to the research question, first, it should be known that what housing is, and what the constructive factors affecting the quality of desirable housing are. Then, two neighborhoods of Shahrak-e-Gharb and Monirieh in Tehran, which significantly differ in terms of spatial and social characteristics, are selected as case studies.

MATERIALS AND METHODS

The Concept of Housing

Housing refers to the place where people live. In the definition of the Statistical Center of Iran, "dwelling is a place, space or environment that has one or several households living in it and has a way to one or more entrance (thoroughfare or private road)" (Statistical Center of Iran, 1996). In this definition, the shelter role of housing and access to it has been mentioned. Housing tailored to the needs is the right of every Iranian citizen and household. In the second session of the Human Settlements in 1996, which was held in Istanbul, adequate housing was defined as "adequate shelter does not only mean that there is a roof over the head of every person, proper shelter means proper comfort, proper environment, physical access and proper security, property security, sustainability and durability, lighting, ventilation, heating system, suitable infrastructure, such as water supply, proper sanitation and education, waste removal, environmental quality, proper hygiene factors, appropriate and available location for work and facilities, all of which should be met in accordance with people's solvency" (Dalalpoor, 2000). In addition to meeting the needs of people in housing, Human Life Summit declares that the goal is not just to provide shelter, but also it should have qualifications that are called as the housing quality in this study.

In scientific literature, and consequently in this study, housing is not merely a building used as a home. Housing covers a generality of topics such as civil engineering, architecture and urban planning, social sciences, economics, demography, etc. The concept of housing, in addition to the physical location, also includes the entire residential environment, which includes all the essential services and facilities needed for a better living of the family and employment plans, education and hygiene of individuals. In fact, the definition and general concept of housing is not a residential unit or a home, but rather the entire residential environment. In other words, housing is something more than a physical shelter and should have all the necessary services and facilities for a better human life. Therefore, housing includes the building unit and its surroundings. On the other hand, there are three domains for defining the housing quality index; a residential unit can be either detached or part of a complex of flats, high-rise buildings or residential complexes. Therefore, when it comes to housing, in addition to the residential unit and residential environment (neighborhood), the building qualities in which the unit is located also affects the quality of residence.

Component of Housing Quality

The history of qualitative attitude to housing goes back to the very far past. When Vitruvius came up with the context of the ideas of the Greek philosophers, including Plato and Aristotle, developed a theory of architecture. In his book "The Ten Books on Architecture", Vitruvius states that: I have set certain rules that you can judge the quality of the buildings you have built so far, as well as those that are to be built by studying them; Vitruvius adopts architecture based on three principles of firmitas, utilitas, and venustas. In other words, his definition of architecture was a desirable, stable, durable, useful and beautiful building.

From the 1960s on urban housing issues, the discussion of

property value and scientific attitudes towards property advisory services made the qualitative indicators of housing somewhat important in scientific papers. In housing demand patterns, in general, utility appraisal of housing demand is divided into two major groups. The first group, known as homogenization, assumes housing as a homogeneous service or commodity and examines its demand. In this case, the abundance features of housing are neglected and the demand function of consumers is measured only from the price or market value of the residential unit. The second group considers housing as a heterogeneous and multidimensional commodity and attempts to estimate the effect of each of its properties on housing prices, which is known as the hedonic price pattern (Mohammadzadeh et al., 2011). The base of the hedonic price pattern comes from the factors that the residential unit is characterized by. The function of the hedonic price in the housing sector is influenced by the three groups of variables: the first group includes the physical or structural factors of residential units, which in fact measures its physical properties. The second group is known as access factors, which includes the availability of residential units. The third group consists of environmental factors that represent the living conditions of the residential unit (Mohammadzadeh et al., 2011).

In the residential satisfaction approach, the housing category has a compound nature and represents the individual's satisfaction with the residential unit, neighborhood and residential area (Onibokun, 1976), and is often used to assess the perceptions and feelings of residents from their residential unit and their living environment. Finally, this concept is considered as an important sign of positive perceptions of residents about their "quality of life" (Campbell, et al., 1976). The concept of residential satisfaction is closely related to concepts such as standard of living, well-being, quality of place, and quality of life associated with health and quality of life. In fact, these concepts are overlapping and sometimes synonymous. A residential unit itself does not alone determine residential satisfaction, but it is rather the only part or sub-system of a more general system that is residential space. Residents are connected through the process of interconnecting the various components of this environment that affect their satisfaction, that is, the concept of residential satisfaction from residents' perspective is important in assessing the success of housing and urban projects (Ghiyaei etal., 2013). Studies show that the level of satisfaction with a residential environment indicates that satisfaction of each person is different in different personal, social, economic, cultural and physical contexts (Van Poll, 1997). Individual factors affecting satisfaction include demographic factors, personality, values, expectations, comparison with other settlements and hope for the future (Gifford, 1997). Satisfaction with the housing environment

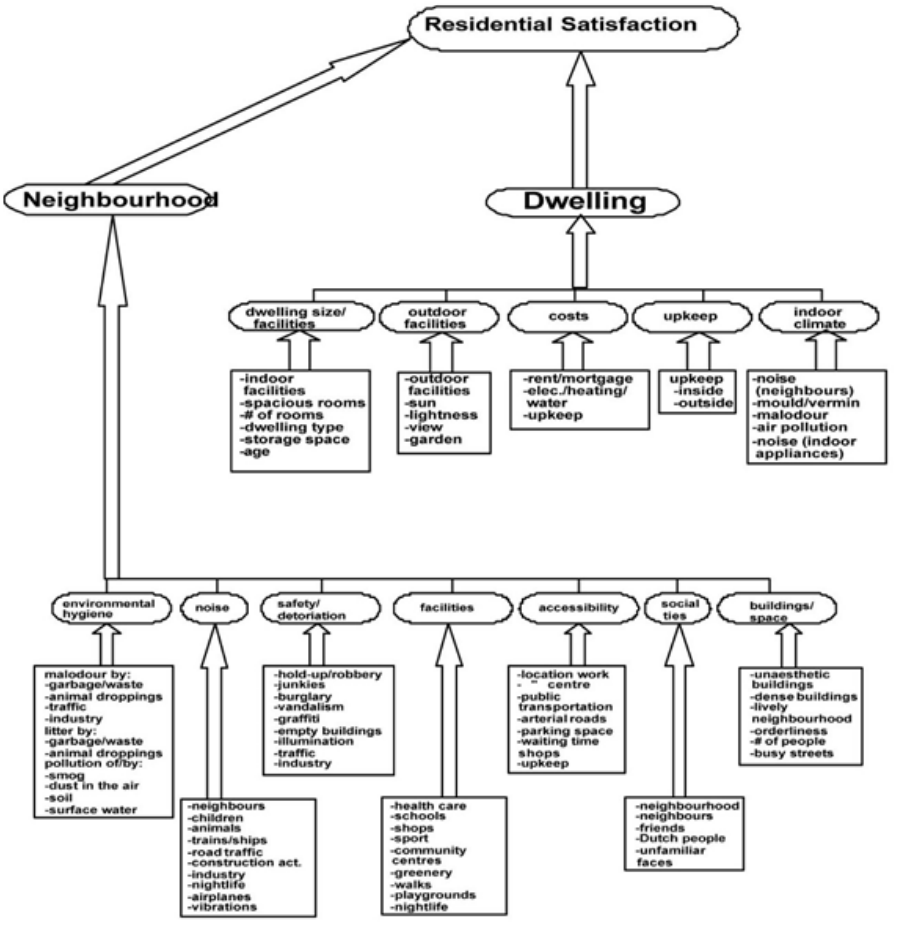

Fig1. Experimental model of residential environment quality. (van pol, 1997)

depends on the degree of satisfaction in the two criteria of dwelling and neighborhood units directly, and its personal, cultural and social characteristics indirectly.

Van Poll has considered criteria such as view and landscape, physical characteristics, neighborhood relationships, traffic levels, sense of location, density, and access. Satisfaction is often used to assess the perceptions and feelings of the inhabitants of the residential unit and its environment. Satisfaction with the residential environment directly depends on the satisfaction with the two components of residential units and neighborhoods, and indirectly depends on the individual, cultural, social characteristics and other characteristics of the audience (Fig.1). Marans and Rogers model of standard metropolitan statistical area (1975) is the first theoretical model of neighborhood satisfaction. They consider the satisfaction of the living environment subject to person's perception and evaluation from environmental characteristics such as cleanliness, neighborhood security and personal characteristics such as gender, age, and social class. One of the aspects of environmental satisfaction is the fact that people's lives in different residential environments involve different levels of satisfaction, such that residents of different environments, according to the types of homes and places they live in, feel satisfied.

In his book Housing Design Quality, Matthew Carmona (2001) explores the benchmarks affecting the development of new neighborhoods in the UK with a qualitative and urban look. He points out that today design of a quality environment is important and refers to the role of designers in raising the standards of design. Dimensions of housing design from the perspective of Carmona include spatial dimension, morphological dimension, contextual dimension, visual dimension, perceptual dimension, social dimension, functional dimension, dimension of stability (Carmona, 2001).

Recent work on the quality of housing is Graham Towers' book titled "Introduction on Urban Housing", which addresses the issue of climate change and sustainable development and the impact the environment has had on this change. In this regard, there are two issues: on the one hand, the need to build houses that have the least damage to the environment, and the replacement of fossil fuels, and, on the other hand, changing the household size and the need for new homes (houses for single-cell families). Towers introduces 7 criteria for housing quality planning. Habibi and Ahari (2004) reported on the study of the dimensions of quality of housing in Iran. In this report, a part of the qualitative aspects of housing has been studied and researched based on existing figures. Based on the study, the capabilities, advantages, bottlenecks and constraints of the housing sector development have been analyzed in terms of qualitative aspects, based on which the main orientations in the development of the housing sector have been determined in terms of qualitative dimensions.

Azizi (2004) studied the different dimensions of the indicators and measured the housing indices in three general economic (such as the ratio of cost of housing to household income), socio-cultural (such as household density in the residential unit, density of individuals in the room) and physical (Such as housing pattern, structural and residential density) fields.

"Assessing the quality of housing and its impact on health, safety and sustainability" (2010) is an appropriate guide for the creation and development of tools for assessing the quality of housing that is associated with practical measures and their impact on health and safety and sustainability (with particular reference to New Zealand and the United Kingdom). This article explains some of the major issues that the housing quality assessment tools are facing. And how housing quality information can support individuals, organizations and private sectors to improve the health, safety and sustainability of housing. In this paper, although the emphasis is on the stability and standardization of measuring instruments for quality of housing by factors such as security, it emphasizes the need for localization of this system based on native conditions, such as culture and climate (Keall etal., 2010).

In 1996, a qualitative measurement system was developed in England. The Housing Quality Index (HQI) system is an evaluation tool and tool for evaluating the overall housing scheme based on quality rather than just price. This system evaluates the quality of residential plans based on the three main categories of location, design and implementation. The housing quality index system can be used both for social housing and for other types of housing to improve residential plans (Habibi & Ahari, 2004). In this way, there are ten indicators that measure quality. These indicators include: 1) location; 2)site – visual impact, layout and landscapingsite – open space; 4)site – routes and movement; 5)unit – size: 6) unit – layout; 7)unit – noise, light, services and adaptability; 8) unit – accessibility within the unit 9)unit – sustainability & 10) external environment.

It is important that the design of housing takes into account how people want to use their home and the surroundings in which it is placed. For this reason, the indicators look not only at the home and its design in detail (indicators 5 to 9), but also the home's context and surroundings (indicators 1 to 4 and 10). (Homes and Communities Agency, 2011)

Research Methodology

The present study is applied in terms of its objective and its results are used to meet the needs and solve the problems. Based on the time of data collection, it is a survey that seeks to solve the housing problems in the present. Questionnaires and interviews are used to collect information and data. The research is a qualitative-quantitative research.

Data collection methods in this research include all types of questions (interviews, questionnaires), field studies, observation, comparison, study, and review of resources, and so on. The statistical population includes residents of Shahrak-e-Gharb and Monirieh neighborhoods in Tehran. A logical and rational analysis is used to analyze qualitative research data. In this case, information analysis is conducted through deductive reasoning and inductive reasoning. The research instrument for this test is a questionnaire.

Regarding the research objectives that seek to achieve the

constructive indicators of housing quality, and its hypothesis that looks at the investigation of the impact of location on the importance of criteria among people in neighborhoods, it is necessary to construct an analytical model. This analytical model, based on a hierarchical structure, has to reach the index from the subject and then the index is being tested based on the observation. Therefore, in this section, the definitions and explanations of the components and, further, the indices required for testing the final hypothesis are discussed. The selection and development of these indicators is generally different from society to society and is strongly influenced by socio-cultural, economic, environmental and political structures governing society. Therefore, this research provides only a model for the qualitative characteristics of housing in which constructive components of housing quality is provided. These indicators should first be measured in the local community, and then the required laws and regulations are presented on a localized basis. The presence of people in the process of preparing these indicators is very important and the use of public participation techniques to extract these indicators and their importance are used in this sample.

Based on the studies done for the desired properties of housing, dimensions and criteria can be defined in three areas of residential unit, residential building, and environment (neighborhood). In this study, two areas of the unit and the residential building are considered due to the spatial domain of urban design and planning (Fig. 2)

The diagram of the conceptual model of research is shown in the following figure:

Given the theoretical foundations for comprehensive coverage of the housing problem, what is in the world of theoretical literature and global experiences about desirable housing can be expressed in four main qualities. Attention to human needs at any time and place will affect the environment. Hence, a high-quality housing can (1) meet human needs, (2) provide access to life's needs, and then (3) provide security so that (4) the beauty of the residential environment can be enjoyed and try to promote it. Of course, each of the above mentioned

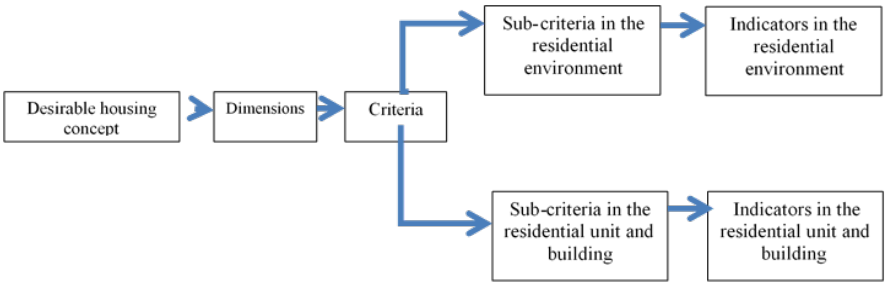

Fig 2: Diagram of the Conceptual Model of Research.

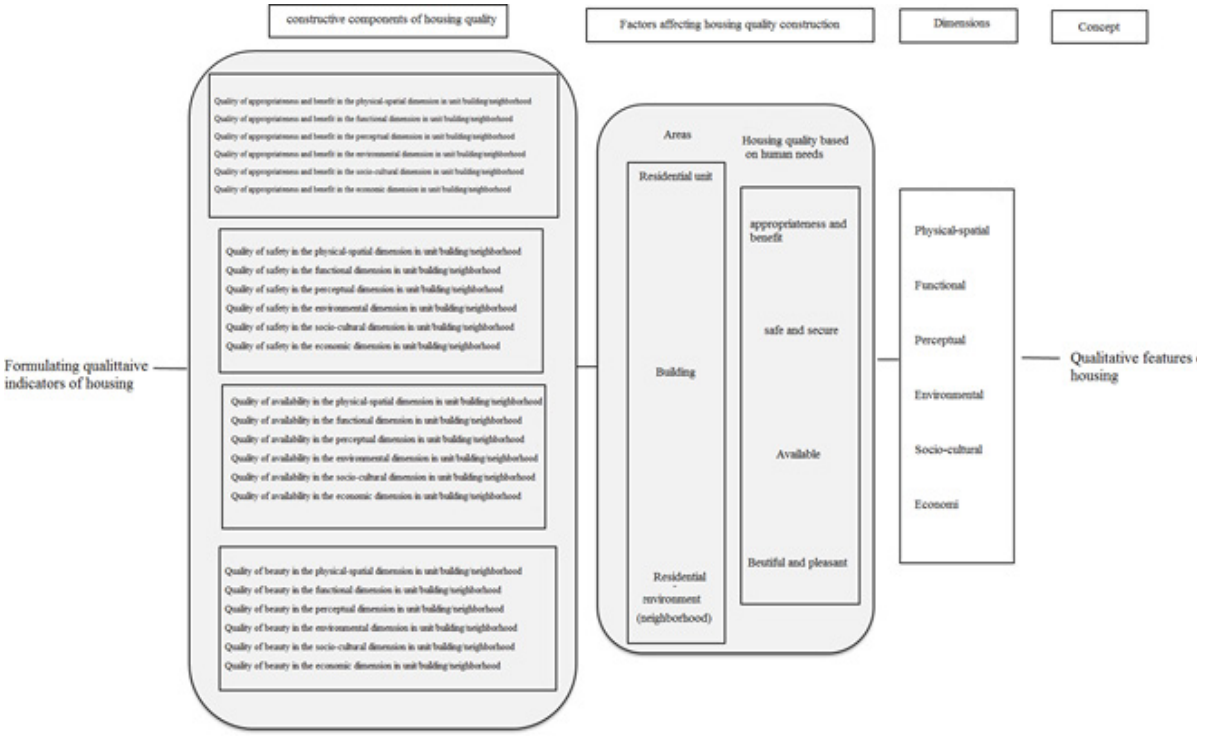

Fig. 3: The proposed theoretical framework for the development of housing quality indicators.

qualities can produce the quality of housing components in a variety of dimensions. Accordingly, six dimensions of the physical-spatial, functional, perceptual, environmental, socio-cultural, and economic are presented.

Based on the thematic literature, the viewpoints of the thinkers, articles and researches, a spectrum of views was extracted. In two general respects, one group considered the quality of housing as dimensional, and the other group directly expressed the qualities for housing, which often formed on the basis of human needs. So, in a summing-up, a measurement model was used to formulate indices, in which the proposed dimensions of housing were influenced by the human needs in the dimension of housing, which is expressed in terms of qualities that constitute the constructive components of the housing. In other words, a matrix of dimensions and qualities can be used to explain the quality of housing components. Then these components can be categorized in the spatial realm of residential environment, building and residential units. (Fig.3)

Descriptive Comparison of two Neighborhoods of Shahrak-e-Gharb and Monirieh

Shahrak-e-Gharb is located in the north of Tehran and the neighborhood of Monirieh is in the center of Tehran. Shahrak-e-Gharb is a neighborhood that has been formed over the period from the 1960s to 1970s to accommodate a particular stratum of society (affluent), in which specific construction rules have been stipulated and also designed in such a way that there are all types of housing pattern from low to high density in specified areas (Fig. 4) and with required services and per capita. The prominent characteristics of this neighborhood are the availability of suitable passages and open spaces and green spaces that provide peace for the residents of the neighborhood.

Fig 4. Physical pattern and density of Shahrak-e-Gharb. (separation of high density areas from low density, different housing patterns) (Sorece: Tehran Municipality, 2016)

The pattern of access in this neighborhood is different from the whole of Tehran. It is a looped network that follows the hierarchy of access bringing calm and light traffic to the neighborhood so that traffic does not cross it, which is unlike the traversal network. Passage of the vital arteries of Tehran including highways from the positive points of this area provides residents with quick and easy access.

Monirieh neighborhood, which is located in the central and old part and close to the Tehran market, is an organic neighborhood that has been gradually formed over time and has lost its old face and indigenous inhabitants due to modernizations in recent years leading to a heterogeneous face of texture. In this process of change, the structure of the street and skeleton of this texture has not changed. The inappropriate width of the inner streets of the texture and increaseds density has made parking as one of the main problems of the texture (Fig.5).

Fig 5. Iran's Earth Street (Peace). (Sorece: Tehran Municipality, 2016)

Nowadays, where the width of the passage allows, it is seen that a car has been parked. This is the reason why the residents and children do not have the necessary safety to be present in the texture. The neighborhood has a high density of construction and population so that the average household size is higher than Tehran's average. The texture is a fine-grained area, with an average area of less than 100 square meters. On the other hand, due to its proximity to the market and its reputation as the center of sports equipment, vitality, crowding and security are its promising features. In the table below, the comparison between the two neighborhoods is briefly summarized: (Table1)

In addition to descriptive data such as gender and education, the questionnaire has questioned type of housing pattern (villa, apartment, high rise, residential complex) and the reasons for choosing the current property and the type of property in the future. Then, for measuring the desired housing indices from the residents' point of view, 48 questions, 24 questions in the scale of residential environment (neighborhood) and 24 questions in the scale of the residential unit and building were formulated.

The statistical sample is a limited number of statistical population that represents the main characteristics of population (Azar & Momeni, 2006). The population of Shahrak-e-Gharb neighborhood is estimated to be 33141 in 2012 and 24202 in Monirie. To determine the sample size, if the population size is determined, one of the most common and most appropriate methods is the determination of the sample size by the Cochran method. In this method, the error value is considered in the range of [.01, .05]. According to the above calculations, the sample size was 379 for Shahrak-e-Gharb neighborhood and the sample size was 378 for the Monirie neighborhood.

RESULTS AND DISCUSSION

The data of the questionnaire and the results of t-test indicate that, in terms of inhabitants, all indicators and, therefore, all of the components and dimensions, including the aesthetic components (all of which are marked in red), have a significant

Fig.6: Alleys in Monirieh neighborhood and its inappropriate width. (Sorece: Tehran Municipality,2016)

Table 1. Descriptive comparative table of two neighborhoods of Shahrak-e-Gharb and Monirieh.

	Shahrak-e-Gharb	Monirie
Population	33141	24202
Total area (m²)	4402258	987579
Dominant pattern of housing	Villa	apartment
Texture pattern	Looped and hierarchical network	Traversal -Hierarchy
The state of the streets	It has a good width, clean pavement and green space on both sides	-
Average plot area	square meters 500	Under 100 square meters

importance in the minds of the inhabitants. However, items of the social-cultural access in the residential environment (marked with yellow color) has been of lower importance in the minds of residents.

To test or reject the hypothesis, Independent-Sample T Test was used. In this method, if the Sig. values are greater than .05, the top row numbers are used. Otherwise, lower row numbers will be used (Levene test). Then, Sig (2-tailed) values should be used for the test. Now, if the values of this statistic are greater than .05, then the independent samples do not show significant differences with each other and if it is less than this value, there is a significant difference in that index in the samples. Accordingly, of the 48 items, 13 had significant differences in the two neighborhoods.

Accordingly, the explanatory items of the following components have a significant difference in the mental values of the residents. In order to better understand these differences, the following two graphs can be used to compare the mean of items in residential unit and residential environment in two neighborhoods.

Functional beauty and pleasantness in the building and residential unit;

Functional security in buildings and residential units;

Functional appropriateness and benefit in buildings and residential units;

Economic beauty and pleasantness in the building and residential unit;

Socio-cultural beauty and pleasantness in the building and residential unit;

Security and safety in the environmental dimension in the building and residential unit;

Perceptual security in the building and residential unit;

Perceptual appropriateness and benefit in the building and residential unit;

Security in the socio-cultural dimension in the building and residential unit;

Physical access in residential environment;

Perceptual beauty and pleasantness in the residential environment;

Physical beauty and pleasantness in the residential environment;

Perceptual appropriateness and benefit in the residential environment.

As can be seen, in the following diagram, the physical access and physical appearance and perceptual proportions in the residential environment show a significant difference between the two neighborhoods.(Fig.7)

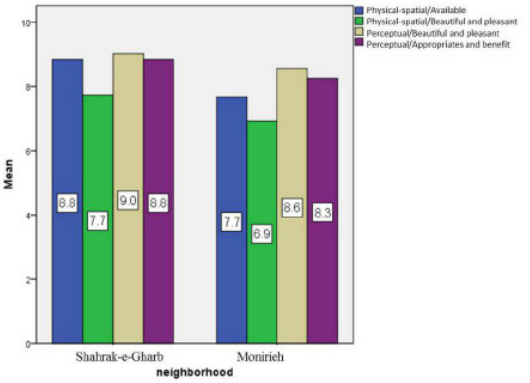

Fig. 7: items with a significant difference in the scale of the residential environment in the two neighborhoods.

In the second diagram, cultural security and cultural aesthetics and perceptual security have a significant difference in the two neighborhoods.(Fig.8)

However, at the level of qualities, the test was carried out and the result showed that none of the qualities of appropriateness,

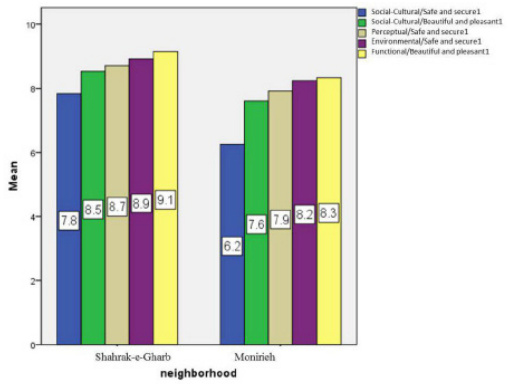

Fig. 8: items with a significant difference in the residential unit scale in the two neighborhoods

beauty and pleasantness, security and appropriateness have a significant difference between the two neighborhoods.

Therefore, the hypothesis can be expressed as follows: There are no significant differences in the level of dimensions and components in the viewpoints of residents of the studied samples, but there are significant differences in the quality of housing at the level of the indicators.

CONCLUSION

Based on the thematic literature, the viewpoints of the thinkers, articles and researches, a spectrum of views was extracted. In two general respects, one group considered the quality of housing as dimensional, and the other group directly expressed the qualities for housing, which often formed on the basis of human needs. So, in a summing-up, a measurement model was used to formulate indices, in which the proposed dimensions of housing were influenced by the human needs in the dimension of housing, which is expressed in terms of qualities that constitute the constructive components of the housing. In other words, a matrix of dimensions and qualities can be used to explain the quality of housing components.

The results of the analysis showed that in most case studies, the majority of housing quality has a high mental priority for residents. Also, the hypothesis testing results showed that all components and dimensions of housing had no significant difference between the two neighborhoods and there were only differences between the subjective values of the two neighborhoods. Now, based on the results, we can summarize the suggestions:

The average value given to the items indicates the high importance of the quality of housing for the citizens, and this points out more attention from authorities and specialists.

By examining the results of the hypothesis testing, the obtained values indicate that of the 13 variables that have a significant difference in the two neighborhoods, 9 variables are related to the internal residential environment, i.e. building and residential unit, and 4 variables are related to the residential environment. In other words, the opinions of the residents of the two neighborhoods are different in relation to the values of the internal factors of the quality of housing, and there is more agreement about the external residential environment or residential neighborhood. This leads us to the fact that urban management, in the context of its tasks, which focuses more on the residential environment than on residential units, will make residents more satisfied if more robust integrated enforcement actions are taken to improve the quality of the residential environment.

-A review of the mean mental values in the two neighborhoods indicates that residents of Shahrak-e-Gharb have a higher sensitivity to the quality of the housing and have a higher significance. This can be the subject of future research to determine the impact of socioeconomic factors on mental values formed on the quality of housing.

REFRENSES

Azar, A., & Momeni, M.(2006). *Statistics and its application in management.* Tehran: Samt.

Azizi, M. M.(2004). Position of Housing Indicators in the Housing Planning Process. *Honar-ha-ye-ziba,* 17, 31-42.

Campbell, A., Converse, P. E., & Rodgers, W. L. (1976). *The quality of American life: Perceptions, evaluations, and satisfactions.* Russell Sage Foundation.

Carmona, M. (2001). *Housing Design Quality: through policy, guidance and review.* London.

Dalalpoor, M. R. (2000). *Planning for Housing.* Tehran: Samt.

Ghiyaei, M. H., ; Azimi, Sh., & Shahabian, p. (2013). Evaluating the Degree of Relation of Residential Satisfaction with House, Neighbor Unit and Neighborhood Variables (Case Study: Farabi Physicians' Residential Complex). *Hoviatshahr*, 7 (15), 49-60.

Gifford, R. (1997). *Environmental Psychology: Principles and Practices*. (2nd ed.) Boston: Allyn & Bacon.

Habibi, M., & Ahari, Z. (2004). *Investigating the Quality Dimensions of Housing in Iran.* Tehran: Ministry of Housing and Urban Development.

Homes and Communities Agency. (2011). *Housing Quality Indicators* (HQI), From https://www.gov.uk/guidance/housing-quality-indicators

Keall, M., Baker, M. G., Howden-Chapman, P., Cunningham, M., & Ormandy, D. (2010). Assessing housing quality and its impact on health, safety and sustainability. *Journal of Epidemiology & Community Health,* jech-2009.

Marans, R., & Rodgers, W. (1975). *Toward an understanding of community satisfaction. In A. Hawley & V. Rock (Eds.*), Metropolitan American in contemporary perspective. New York: Sage Publications& Halstead Press.

Mohammadzadeh, P., Mansouri, M., & koohi leilan, B. (2011). Analysis and Estimation of Housing Prices in Tabriz. *Quartery journal of economical modeling,* 6(18), 21-38.

Onibokun, A. G. (1976). Social system correlates of residential satisfaction. Environment and Behavior, 8 (3), 323-44.

Tehran Municipality. (2016). *Map of Tehran*. Retrieved From www.map.tehran.ir

Van Poll, R. (1997), *The perceived quality of the urban residential environment***.** A Multi-attribute evaluation. Ph-thesis, Groningen: University of Groningen.

Verasati, H., & Saghae, M. (2005). Problems in the housing sector in Iran. *Housing and rural environment,* 112, 44-60.