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Investigating the Change of Human Needs in Housing Based on the Subjective Quality of Residents and Changing Needs Over Time*

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***Abstract:* -** Knowing the basic human needs in the environmental psychology sciences can increase the quality of housing architecture design. Today's housing is designed based on human response to shelter, and this issue can be answered quantitatively, but qualitatively, due to changes in lifestyle and technological progress, they will not answer the needs of residential residents over time. Paying attention to the change of human needs in the previous decades and even in the future will lead to the necessity of a modern model towards the goals of housing quality from the perspective of the human mind and psychological response in housing design. In the current research, the main goal is to investigate the change of human needs in housing; Therefore, in this direction, from the interpretation of paying attention to the basic human needs in the last three decades of architecture, the principles proposed by Abraham Maslow can be fundamentally used to measure the quality of responding to architectural needs. The research is descriptive-analytical and the survey research method is done using SPSS22 tool and finally, the results are obtained using Delphi data analysis software. Analysis has been extracted according to statistical tables. In this way, it is aimed to extract the process of changes in the city's housing pattern. The results obtained by the city of Tehran into three periods of traditional, traditional-contemporary and contemporary house division indicated the existence of a significant difference in the response rate of housing patterns to the basic needs of people and quality of life during periods of time.

Keywords: Human needs, life style, Mental quality, Habitation, Residential.

Introduction

One of the most important and fundamental human rights and needs is housing, according to most people [1].

It is essential for establishing a community and promotes coherence within it [2]. The United Nations' (UN) housing standards cover areas like security of tenancy, accessibility to services, materials, facilities, and infrastructure, affordability, habitability, accessibility, location, and cultural adequacy [3, 4]. All potential environmental changes that could have an impact on a house's performance must be taken into account during the design and planning stages in order for it to comply with all of these requirements [5]. The level of providing human needs in an environment depends on the level of attention paid to the human psyche, values, lifestyle and perception in the society, and vice versa, that is, the pattern dominates the life in the buildings, it cannot be separated from the spaces where they occur [6]. Designing environments and structures in accordance with the principles of inclusive design (ID) has emerged as a top priority [7].

To attain a secure and fair space for humankind [8] requires tending to not as it were essential needs, least livelihoods, and necessities, but moreover riches, luxuries, and most extreme livelihoods [9, 10]. Within the dialect of Di Giulio and Fuchs (2014), we must seek after the thought of a feasible “consumption corridor” (CC) between least benchmarks, permitting each person to live a palatable life, and most extreme guidelines, guaranteeing a

restrain on each individual's utilize of normal and social assets in order to ensure a good life for others within the show and within the future [11]. Put this way, the legitimization for the floor and the ceiling contrasts: the floor is determined from a social thought of prosperity and the ceiling is inferred from an environmental rule of planetary maintainability. Be that as it may, this qualification is qualified by two auxiliary contentions. To begin with, limiting intemperate utilization can really upgrade eudemonic, and conceivably hedonic, highlights of prosperity. Moment, least utilization bundles will also [11]. Housing is frequently cited as an imperative social determinant of wellbeing, perceiving the run of ways in which a need of lodging, or destitute quality lodging, can contrarily influence wellbeing and prosperity [12]. In any case, the causal pathways from lodging to wellbeing are inalienably complex, as with all the social determinants of wellbeing, so numerous of these pathways are not one or the other completely conceptualised, nor experimentally caught on [13].

The housing has continuously been the foremost vital issue in human beings' lives. Having dependable, secure and comfortable shield moreover has been among the human wishes. This this respect, human wished having a house utilizing diverse procedures and advances and endeavored to move forward the creation and improvement forms. Intemperate urban populace development driven to the improvement of mass private complexes as an elective to conventional lodging in metropolitans.

The quickened dynamic development of the cities and development of populace and taking after that, increment building the houses large part of private complexes conflicting basically undesirable and conflicting development in expansion to the subjective see to the auxiliary components have been brought about in results.

The part of lodging as a social determinant of wellbeing is well-established, but the causal pathways are ineffectively caught on past the coordinate impacts of physical lodging abandons. For low-income, helpless family units there are specific challenges in making a sense of domestic in an unused occupancy which may have significant impacts on wellbeing and prosperity. This ponder looks at the part of these fewer substantial perspectives of the lodging encounter.

The purpose of this paper is to develop an empirical theoretical framework to explain some of the possible causal pathways between less tangible aspects of the housing experience and health and well-being for all age groups in housing. This is based on the subjective experience of housing, from the perspective of human needs in any period of housing, by addressing human needs in residential spaces, looking for practical patterns.

Research literature

Human needs

Different academic fields and schools of thought provide very different interpretations, definitions, and strategies with regard to the idea of basic human needs [14-17].

Maslow's (1943) hierarchy of needs is one of the most widely used methods for organizing human need systems. According to Maslow's theory of human motivation, there are three different categories of needs: basic needs (including needs for physical survival and safety), psychological needs (including needs for esteem, love, and belonging), and self-actualization needs. These needs are arranged in a hierarchy [16].

The needs of people are a component of each person's underlying behavioral motivation, according to Maslow's theory of human motivation. Maslow developed a theory with a hierarchy of five needs categories that is frequently depicted as a pyramid, with basic physiological needs like breathing, water, food, sleep, shelter, and reproduction forming the base of the pyramid because meeting these needs is crucial for human survival. Health, employment, resources, and property are included in the second category, "the need for safety and security," which is followed by the third category, "the need for love and belonging," which includes friendship, family, intimacy, and a sense of connection. The fourth category is the need for self-esteem, which includes assurance, a sense of accomplishment, respect for others, and respect from others. Self-actualization, the fifth and final category at the top of the pyramid, includes creativity, spontaneity, lack of prejudice, morality, and problem-solving skills. The hierarchy explains how people acquire motivations and behaviors in order to advance and prosper as people. In

"Maslow's hierarchy of needs", living requirements include multi-level issues, such as physiology, safety, social interaction, respect, and self-realization [16].

Maslow's Hierarchy of Needs

One of the foremost psychologists of the 20th century is acknowledged to be Abraham Maslow (1908–1970) [18]. His work is cited in introductory psychology textbooks the most frequently (number 14) [19].

He was one of the pioneers of the humanistic psychology movement, which seeks to understand the good in people. The humanistic viewpoint assumes that everyone has a natural desire to develop personally and that the ultimate purpose of life is to reach one's full potential and become everything that one is capable of being. This voice was new to the scientific conversation at the turn of the twentieth century. Psychoanalysis, which primarily focused on abnormal psychological processes and problematic behaviours, and behaviourism, which sought to reduce human functioning to straightforward input-output mechanisms, were the two dominant paradigms in psychology at the time. Maslow was more interested in understanding positive behaviour and what it is that makes people happy than these approaches were. He invested decades of research into this constructive behaviour, and the current positive psychology movement is built on his scientific legacy [20]. His theory contends that all human activity is (directly or indirectly) motivated by innate needs, which can be physiological (such as the need for water and oxygen) or psychological (such as the need for love and independence). Maslow's theory was inspired by the question, "What motivates humans?". The Hierarchy of Needs is how the motivational theory came to be [21].

His hierarchy of needs, which is frequently depicted as a pyramid (Figure 1), is at the centre of Maslow's motivational theory. Five categories make up the hierarchy, from physiological needs at the bottom to safety needs, social needs, esteem (or ego) needs, and finally self-actualization needs. In a nutshell, Maslow argued that after meeting their biological needs, humans should seek order and predictability in their lives, a sense of personal worth and importance, love and affection from significant others, and finally, a sense that they are evolving into their ideal selves. A more thorough breakdown of the five need categories is provided in Figure 1.

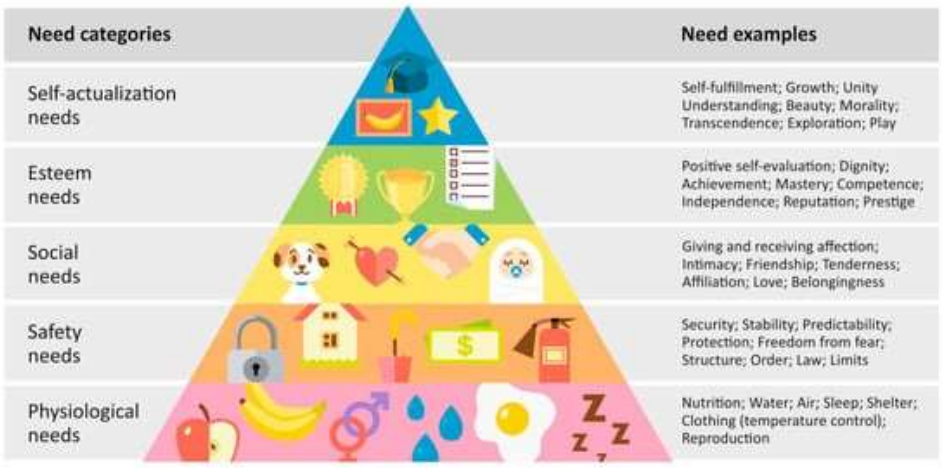

Figure 1: Hierarchy of human needs [22]

The four lower categories are what Maslow referred to as "deficit needs," which refers to needs that, if unmet, will have a negative impact on a person's physical and psychological health. They are activated by deprivation, so as long as they are satisfied, they will remain dormant. For instance, when we are surrounded by loved ones, our social needs won't drive our behaviour. However, relocating to a new country is likely to reawaken social needs, which in turn inspire us to start new relationships. In contrast, deprivation does not activate the highest category of needs, those related to self-actualization. Maslow referred to them as "growth needs" (or "being needs") because they are innate human desires to develop as a person rather than needs that result from a deficiency. Once satisfied, they'll still be there, and once engaged, they might even get stronger.

While the need categories are essentially universal (and shared by people of all ages and backgrounds), how they manifest in day-to-day life varies greatly from person to person, depending on age, personality, context, and culture. Consider the need for safety. It could appear as the need for a kind caregiver for a three-year-old, a supportive peer group for a teenager, a stable job for an adult, and so forth [23, 24].

Maslow drew attention to the fact that the self-actualization category, in particular, is expressed as highly individual actions. According to him, "it may take the form of the desire to be the perfect mother in one person, in another it may be expressed through athletics, in a third it may be expressed through painting pictures or in inventions" [16, 25].

Basic needs and their relation to well-being and subjective perspective

In addition, because most behaviour is driven by several needs at once, there is no one-to-one correlation between human needs and behaviour. For instance, eating dinner with a friend can meet your needs for self-actualization, social interaction, and physiological fulfilment all at once.

Additionally, across all world regions, Tay and Diener's study [26] discovered a significant correlation between need satisfaction and subjective well-being. This bolsters the notion that in order to be happy, all basic needs must be met. People who report higher overall need satisfaction also report higher well-being, and need fulfilment has been shown to predict well-being outcomes both generally and daily [27], with daily fluctuations in need fulfilment predicting daily fluctuations in well-being. When a need is satisfied, each one contributes in some way to overall well-being, and one need cannot make up for another's lack of satisfaction by being "over-satisfied.". A person's wellbeing is influenced by all needs on their own. It does not necessarily follow that one's need for social support decreases just because one has abundant food and safety, for instance.

Human needs in architecture design

Recognizing the environment and engineering is as it were conceivable by understanding human exercises in encompassing world and the most objective of engineering can be making the human thoughts in a basic form. Human plan is the most premise of the maintainable planning which explores presence of all composing components of the worldwide life framework [28]. This guideline profoundly stems from the require for securing components of the existential framework’s chains and on which the human beings' maintainability and survival depend. The foremost fundamental part of the design is to form and build situations in which the security, wellbeing, physical comfort, mental wellbeing and residents' proficiency are maintainable [29]. Maintainable advancement chooses to create imperative changes in human and nature connection understanding; but the arrangements given in this line with respect to the engineering and built situations are mechanical arrangements.

Shift in housing type

In addition to the necessity of designing for adaptation, it is crucial that adaptation plans for buildings meet the needs of the users, as opposed to the one-size-fits-all design for adaptability that is currently the most popular strategy [30].

In some cases, even though the design complies with established standards, it may not be completely suitable for the building's eventual occupants [31].

There are clever developments or environmentally friendly practices in the field of building technology that can be applied to a particular element of a home (e. g. windows, walls, façades, and roofs). Although these technologies are cutting-edge, there isn't enough research on user-oriented mechanisms (a tailored fit to a user's preference) [32].

Case Study (Survey of housing in Tehran)

Traditional

Qajar period architecture

Architectural features of Qajar houses: a central room, a porch with two equal columns, small rooms around the central room in a simple and detailed manner, plans drawn along the building, creating a wide view through the windows, creating an underground with a beautiful design and covering Multi-layered bricks, ponds, wind deflectors to cool the space, creation of column heads and columns in the entrances, porches, creation of two-way stairs in the main axis of the building, variety of styles and opening of spaces, sloping roof and gable, a mixture of Iranian and European architecture. Decorations include old mirrors with intricate and delicate plasterwork, European-style marble columns and capitals, wall paintings with different themes, English and French landscaping with lawns, rectangular square ponds and ponds, decorating the interior spaces. and outside.

Traditional – Contemporary

Pahlavi era architecture

The meaning of this type of architecture is that the architects mainly used the elements and details of ancient Iranian architecture in parts of the building, especially in facades or decorations, but they designed the interior of the building based on new needs. One of the most prominent examples of this type of architecture in Tehran is the Shahrbani Palace building. The capitals of this building are modeled on the architecture of the Achaemenid period, and its stairs are reminiscent of the architecture of Apadana Palace.

Extroversion is one of the characteristics of the architecture of the Pahlavi era, and this makes the architecture of the Pahlavi era different from its predecessor, which was the Qajar era. The houses of the Pahlavi period, while being modern, had separate spaces by means of corridors and even communication spaces, these houses showed themselves in the facade by means of a terrace.

Contemporary

The design and construction method of today's common residence: today's house construction standards are completely independent of the issue of Iranian life culture and preserving the elements and spaces of Iranian identity. and the mood and life habits of Iranians, it is only the design criteria compiled by government organizations and institutions that must be followed for the whole city and all urban areas and every neighborhood with every culture, economy and lifestyle, to all the principles of non-Iranian house building. have the same model in the whole city.

In the examination of the residential plans of several common examples of today's housing in several urban areas in Tehran, it is clear that the spatial arrangement that was imposed on the modern Iranian housing from the Qajar era onwards evolved with the development of western models in the form of integrated designs. Western spaces, western tools and equipment shaped the living spaces of Iranians and were absorbed in the form of fixed design principles, and everyone inevitably conformed to this style and trend and adapted themselves to this lifestyle.

A fixed pattern that defined the spaces separately and divided them into two types of main spaces and sub spaces. The main spaces of the Iranian home are the living room and bedrooms and the secondary spaces of the Iranian home are defined as the spaces that include the kitchen, corridors, and sanitary spaces. The Iranian house can be formed by keeping the dimensions and area of these defined spaces to a minimum, and the only problem is What should be considered for these spaces is the observance of the minimum dimensions and observance of the lighting of these spaces, even if they are small.

Methodology

The inquiry about the strategy of a case considers based on the introduction of the specified criteria. that will be developed and reviewed according to the research criteria [33].

The research method based on these cases is step by step:

1. Problem statement

2. Expression of research hypotheses

3. Collection of research theories and components

4. Analysis of research findings using quantitative and coding methods. (Table 1)

Table 1: Comparison of two methods and table. Source: Authors

Research Methods	Research base	Data	Method
Qualitative	focuses on question or aim	Review of experiences thoughts Community	Noun – coding
Quantitative	specific hypotheses	Questionnaire Data Coding Computational software Analysis software	Use of numerical data in research results

The strategy of the show inquire about is subjective and quantitative. The subjective strategy of the display consider has been analysed based on the discoveries and scholarly sources to look at the hypothetical establishments and to recognize the speculations and essential components of study. The sources of logical articles and writings in Researchgate.net, Academia.edu, and Google Researcher have been used to reach the essential inquire about criteria. In the moment organize, the utilize of quantitative inquire about strategies has been utilized to demonstrate the speculations and give arrangements for the purposes. This inquire about was based on a quantitative technique (survey) for exactness, ideological compatibility, legitimacy, unwavering quality and introduction of objective information agreeing to hypothetical establishments. The three characteristics of numerical estimation are unwavering quality and validity, measure.

Findings

The architecture of Tehran city is based on three different periods that were mentioned in the previous texts.

Achieving Tehran's housing patterns and examining human needs and the importance of which spaces in housing in different periods and the evolution of these changes from the past to the present can be divided into the following three periods:

1. Traditional houses: these buildings date back to the Qajar period.

2. Traditional-contemporary houses: these houses belong to the Pahlavi period.

3. Contemporary or modern houses: the houses are completely western style.

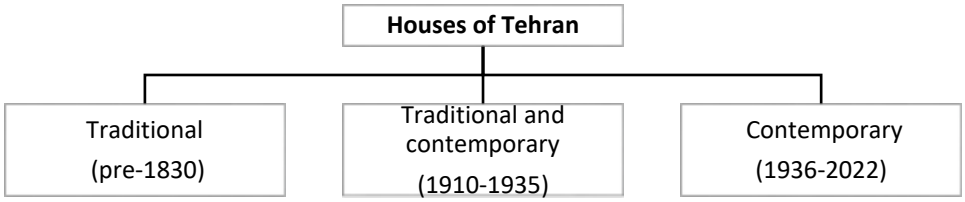

Figure 2: Time division of houses in Tehran .(author)

Figure 2: The evolution and form of plans in three periods .(author)

Era	Traditional	Traditional and contemporary	Contemporary
Houses			
Historical periods	House of Vosogh ol dolleh in 1833	Timurtash house 1932	House of Farhang 1973
Valuing spaces			
Definitions	.1Entrance .2Partition space .3Private spaces (bedrooms or private halls) .4Public spaces (living room and kitchen) .5semi-public or semi-private spaces (terrace-yard)		

In the division of time, we can refer to 5 spaces, which are functionally and based on human needs, these three periods can be mentioned in terms of space and time. With the initial investigation, it can be seen that the entrance spaces have changed and become smaller and the interior spaces of the house have been valued in the contemporary era. Therefore, according to the pattern of the plans and their layout, we can point to patterns that have changed since then.

The First Step

The present study uses SPSS statistical software to analyse this and review the results of the questionnaire and all the results of this research have been extracted from SPSS 21 software.

The Second Step

Evaluation of the proof of the three main research factors has been done with a lot of homogeneities and also using research tools.

In the first stage of the test, there is no difference between the relationship between the components of the research and the number **P** is equal to **0.001** and based on these three main areas of research, they can have a clear and meaningful relationship with each other. (Table 2)

Table 2: Evaluation of Analysis Characteristics Factors Based on Model (CCBQ). Source: Authors

Correlations

		Number	Human needs	Quality of Life
Number	Pearson Correlation	1	.019	-.021
	Sig. (2-tailed)		.854	.839
	N	100	100	100
Human needs	Pearson Correlation	.019	1	.707**
	Sig. (2-tailed)	.854		.000
	N	100	100	100
Quality of Life	Pearson Correlation	-.021	.707**	1
	Sig. (2-tailed)	.839	.000	
	N	100	100	100
Sustainable Development	Pearson Correlation	-.106	.537**	.545**
	Sig. (2-tailed)	.293	.000	.000
	N	100	100	100

Correlation matrix was examined in order to check the correlation between three items. Based on this, the numerical relationship between coding for sustainability and human needs and quality of life, obtaining the number 1 in all cases, indicates the establishment of a meaningful numerical relationship between the variables. (Table 3)

Table 3: Examining the matrix of the correlation coefficient of the secondary and main factors and the total score. Source: Authors

Canonical Correlations

	Correlation	Eigenvalue	Wilks Statistic	F	Num D. F	Denom D.F.	Sig.
1	.139	.020	.981	.633	3.000	96.000	.596

Correlations[a]

		Number	Human needs	Quality of Life
Number	Pearson Correlation	1	.019	-.021
	Sig. (2-tailed)		.854	.839
Human needs	Pearson Correlation	.019	1	.707
	Sig. (2-tailed)	.854		.000
Quality of Life	Pearson Correlation	-.021	.707	1
	Sig. (2-tailed)	.839	.000	
Sustainable Development	Pearson Correlation	-.106	.537	.545
	Sig. (2-tailed)	.293	.000	.000

Friedman-test

In quantitative research, the Friedman-test can be described as a non-parametric one, which is examined based on the analogy of several categories at the desired levels. In the present study, the Friedman-test was based on the answers to the questions that were analysed in the field of variables. (Table 4)

Table 4: Friedman test to identify the level of important parameters and use those parameters in the conclusion. Source: Authors

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum	Percentiles 25th
Number	100	50.50	29.011	1	100	25.25
Human needs	100	3.05	1.077	1	5	2.00
Quality of Life	100	2.61	1.127	1	5	2.00
Sustainable Development	100	2.63	1.012	1	5	2.00

Suggestions based on the findings of the research

In Spss software, the correlation analysis between the questions of attachment to home and the questions related to the first, second and third needs of Maslow's model was carried out in order to measure the most important and influential factors among the intervening factors in providing the basic needs at home. Analysis, the most important factors affecting the basic human needs in housing were prioritized, which are described in the following order.

Priority of effective factors in physical needs:

1- Absence of troublesome problems, such as damage in some parts of the house where you live.

2- Absence of noise and crowding outside, which can be heard from inside the house and cause problems.

3- Sufficient spaces in the house for the daily activities of family members at home (including the number and size of rooms, the dimensions and form of the guest reception area and kitchen, the number and size of sanitary facilities and bathrooms, parking, elevators, etc.)

4-Proper and quick resolution in the event of malfunctioning problems of elevators and facilities and the like.

5-Having thermal comfort in hot summers or cold winters.

6-Maintenance of streets and passages around the house, such as maintenance, cleaning.

7 - Suitable purchase options.

8- Sufficient natural light in the house.

Priority of effective factors in safety needs:

1-Feeling of security from home.

2- The possibility of getting help in the event of an accident or insecurity (from agencies such as the police or neighbours, etc.)

3- The ease of movement or play of old people or children on the way around the house.

4- Information about the activities of nearby buildings and centres around the place of residence

5-No worries about thieves and strangers entering the house.

6- How to enter the space of the street or alley and its connection with the axis of riding and walking.

7- The view from the window of the house to the street and the entrances of the house or the children's playground.

8- Absence of traffic and the presence of strangers and unknown people around the house.

9- The route to the house is straight and easy to reach.

10-No conflict between the levels inside the house or formal issues of the building for children or elderly people.

11-Security in terms of house or car theft in the neighbourhood.

Priority of effective factors in the needs of sense of belonging:

1-Satisfaction with the manners and social behaviour of the neighbours.

2- Suitability of the functional space of the house.

3- Predicting places for neighbours to interact.

4-Communication with neighbours (that is, except for building issues, talking and spending time)

5-Elements in the house or building of the house or yard, etc., that remember personal interests in the past.

6- Conditions of use for leisure time and enjoying the yard (or similar public spaces).

Discussion

The main result of this research is to examine the evolution of housing patterns from the point of view of the level of attention to the basic human needs in the city of Tehran, which can pave the way to achieve the pattern

Contemporary housing and identity design in this city, and in this way, to increase Tehran's sense of belonging to its homes.

The comparative comparison of the analyzed factors shows that the spaces of Tehran's house undergo changes both in the physical field and in providing the basic needs of a family over time.

It has been Tehran. Under the cover of meeting basic human needs in environmental psychology, it is considered one of the important features of housing. Housing should be able to respond to the individual's needs according to the environment of the region and solve the problems caused by it. The needs proposed by Abraham Maslow can be a criterion for measuring the response level of spaces to basic human needs.

The conducted studies indicate that the level of attention paid by the housing patterns of Tehran to providing basic individual needs in Tehran has declined over time and has reached its lowest level among the studied periods in today's housing pattern. A significant and meaningful gap can be observed between the transition from the traditional-contemporary era to the modern era, in terms of covering the needs. From the summary of the obtained results, it can be claimed that the traditional housing model has been able to provide the basic needs of the residents of Tehran more than other periods. Among the reasons for the lack of attention of the modern housing model to the basic needs, the following can be listed: In the traditional housing model, there are spaces with positive functions that have been forgotten over time. Spaces such as entrances, dividing spaces, and courtyards are some of the things that are lacking in the lives of the people of Tehran. Ignoring some spaces in today's period is due to the change in the lifestyle in the region, which has gradually turned into a machine scale. In today's society, we are witnessing a change in the nature of the functions of spaces. The changes made in the communication details of the spaces, the shape and pattern of the pan, the changes in the location and way of entering the space, the lighting and the functioning of the space and finally the physical adaptation of the house to the lifestyle of the people of Tehran, indicate that the quality of the spaces in terms of providing the needs Individual fundamentals in the city of Tehran are on the decline .It has caused a change in people's way of life.

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