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In the Name of God

Dear Readers,

I, on behalf of the editorial board, am proud to present this issue of the *International Journal of Applied Arts Studies (IJAPAS)* under the sponsorship of the Islamic Azad University, Yazd Branch. We were driven to found the *IJAPAS* by a noticeable lack of journals, in the Islamic Republic of Iran in particular, devoted to architecture, urban design, urban planning, architectural conservation and restoration, painting, art history, graphic, digital arts, fashion design, performing art, industrial design, aesthetics and semantics. Although the academic world is increasingly driven by cross-disciplinary visions and models, we seek multi-disciplinary views, an attempt to inform researchers, graduate students, and professionals about the trends, ideas and innovations being put forward in applied arts. To this end, in addition to standard articles, in every volume of the *IJAPAS* we hope to provide a special issue related to a respective field with innovation.

We are also sending out a call for papers related to *Applied Arts* to appear in the next issue of *IJAPAS* in Aug – Sept 2023.

Finally, I should mention that we are committed to a speedy refereeing process for every article submitted to us. We effort to reply to all papers submitted within five weeks' time with a response about acceptance or rejection. We also do not require formatting for submissions in our style until *after* the paper has been accepted by us for publication.

I would like to thank our Editorial Board for their work so far in helping to establish the *IJAPAS*. And, finally, I would like to extend my deepest gratitude to Dr. Ali Bolor, the assistant editor of the *IJAPAS*, for all of his hard work to ensure the timely completion of the issue.

I am delighted to invite you to visit us at www.ijapas.org.

Sincerely,



Dr. Abolfazl Davodi Roknabadi

Editor-in-Chief

International Journal of Applied Arts Studies (IJAPAS)

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Examining the Role of Vitality Components of Commercial Centers in Different Ages (Case Example: Commercial Centers of Tehran)

Fahimeh Shabani^a, Hamid Majedi^{b*}, Raziye Labibzadeh^c

^a*Department of Architecture, Faculty of Civil Engineering, Architecture and Art, Science and Research Branch, Islamic Azad University, Tehran, Iran*

^b*Department of Urban Planning, Faculty of Civil Engineering, Architecture and Art, Science and Research Branch, Islamic Azad University, Tehran, Iran*

^c*Department of Architecture, Faculty of Civil Engineering, Architecture and Art, Science and Research Branch, Islamic Azad University, Tehran, Iran*

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Research Article

Abstract

Commercial centers can be seen as the evolved form of Iran's traditional markets, which have evolved day by day with the passage of time. These places, despite the presence of diverse spaces, target specific groups, and spatial vitality is created for specific groups in the space. Persuasion in the space of commercial centers invites certain age groups to the space. This research has been done with the aim of extracting differences between the components of vitality in different ages of commercial centers. The research method is a combination of nested type and in the first qualitative stage, interviews with thinkers using the Delphi technique were used to identify the components, and from the results obtained from this stage, a questionnaire is compiled and provided to space users, for example in the quantitative stage, using Morgan's table, 384 people are selected. In the quantitative stage, SPSS and SIGMAPLOT software are used for data analysis: the results show that in the age group of 20 to 40 years, the highest factor share is related to the activity components are safety and continuity with the values of (1.000), (0.958) and (0.929). The lowest factor contribution is related to the revitalization of place and the sense of place with the value of (0.333). In the age group of 40 to 60 years, the largest factor share is related to recreation and entertainment with a value of (0.254), in the age group of 60 to 80 years, the largest factor share is related to comfort and access with values of (1.000) and access is (0.921), comfort and the lowest

* Corresponding author. Tel: +98- 09121114998.

E-mail address: majedi_h@yahoo.com

contributing factors are related to the components of revitalization of place and sense of place, recreation and entertainment (0.246).

Keywords: Different Ages; Commercial Centers of Tehran; Vitality; Combined Method

1. Introduction

Happiness and vitality are one of the most important psychological needs of greens, who become listless and tend to die due to the lack of happiness. Happiness increases awareness, creativity and activity. Facilitates social relations and preserves health and increases people's lifespan. A happy person is a healthy, cultured, extroverted, religious and optimistic person as a result of paying attention to the fact that architecture in space builds the city and people feel better from being outside the home space (Williams and Roggenbuck, 1989). Bring the two disciplines of architecture and urban planning are interwoven and both are mutually related to each other. So, if in the construction of a building, architects pay attention to the issue of shaping the public space at the same time as building design. The issue of lack of identity and the lack of public and desirable spaces for spending time in cities, which is a hot topic in contemporary architecture circles today, will be resolved to some extent. In this regard, we can mention the role of architectural buildings in the qualitative structure of urban space in Islamic architecture and urban planning (Porter, 2003). The combination of mass and space and the power of architectural buildings in the construction of urban space in traditional cities has caused the disappearance of the clear boundary line between architecture and urban space. In this way, Maari buildings contribute to the formation and maintenance of urban spaces by donating a part of their space to the urban space and paying attention to the border between themselves and the city. However, vitality has become a term that is gaining more and more fans day by day. In fact, vitality has become a versatile term that is used to justify and confirm the desirability and principle of environmental quality both inside and outside an architectural space. This research aims to investigate the effect of vitality components in Different ages are in commercial centers and it is trying to answer the question that which of the components of life change at different ages?

2. Theoretical Foundation

2.1. Environmental Vitality

Environmental vitality at the micro level gives the concept of diversity of activities in the public arena and its compatibility with the space in the military framework of behavioral camps (Golkar, 2009: 66). If we use Jan Gehl's activity classification, we can call lively environments in which voluntary and social activities flow in a relatively wide range of time (Gehl, 1996).

Environmental vitality has the ability to solve problems, as well as the ability to progress and prosper, and in fact, continuous and continuous changes (Falah Monshadi, 2013: 50). Environmental vitality refers to a system that provides for the physical, social, and mental health and personal development of all its inhabitants. It is also related to spaces that provide and reflect sensory and cultural richness. Environmental vitality is a raw energy and force that must be focused and directed towards a goal to reach it and achieve vitality. Creativity and efficiency are catalysts for environmental vitality. It is through innovation that sustainability, self-sufficiency and efficiency are created and have long-term benefits for settlements. Efficiency is considered with long-term self-sufficiency, stability, adaptability and long-term self-regeneration (Yazdi et al., 2013: 14).

In order to create environmental vitality, it is not enough to prepare rules and regulations, and we must deal with ways to create continuous and stable vitality, increasing and increasing satisfaction, as well as people's daily experience of living in an area (Stokols, 1981).

In general, there are three different types of perception of the existential state of environmental vitality, and certainly, the acceptance of each of the three points of view will have its own requirements for architects and designers.

In the first view, environmental vitality is basically an attribute and quality that exists in the essence of the physical and architectural environment and exists independently of the observer. This view is known as "environmental deterrence" and based on that; a suitable physical environment inevitably leads to environmental vitality (Golkar, 2009).

In the second point of view, environmental vitality is a subjective and taste category that is completely created by the observer and has nothing to do with the structure and characteristics of the artificial environment. This point of view is known as "Environmental Possibilism" and based on it, the geometry of the environment is considered unimportant and only the psychological characteristics and socio-economic status of the observer are considered, which classify an environment as a lively environment and another environment as a depressed environment (Golkar, 2009).

In the third perspective, environmental vitality is a perceptual-cognitive phenomenon that is formed during the trade-off process between physical and perceptible characteristics of the environment on the one hand and cultural patterns and codes, mental abilities, previous experiences and goals of the observer on the other hand. Since the 1990s, this perspective emphasizes the issue of human experiences and defines and evaluates environmental vitality in relation to human experience and perception. According to this perspective, which is known as "probabilism or interactive approach", first the environment exposes its physical characteristics and attributes to the observer's senses and then the observer makes various perceptions from that environment and finally evaluates it. and makes a judgment and attaches the attribute of vitality to the environment; Therefore, the topic of environmental vitality practically requires that the issue of quality, which is usually marginalized due to the dominance and noise of quantitative issues, becomes the main concern and the first goal of all architects and designers. Therefore, "quality-oriented decision-making" processes should be replaced by "quantitative-oriented processes" (Golkar, 2009).

2.2. Spatial Component of Environmental Vitality

Spatial dimension of environmental vitality, by considering spatial criteria in environmental design, we can expect to create a responsive and people-friendly. Functional components, on the one hand, include providing movement and easy and appropriate access to the environment, and on the other hand, include other functions such as passive entertainment, watching people and various ceremonies, eating and talking, reading newspapers, meeting friends, etc. is to guarantee the liveliness and richness of spatial experience (Golkar, 2009) according to this definition, the evaluation criteria of spatial liveliness in the environment are as follows:

1. Penetration: the more the block has access to the network, the greater the permeability (Bentley et al., 1985: 157).
2. Diversity: refers to a set of functions that a place offers.
3. Legibility of activity patterns: the ease of putting the spatial organization of any place in mind by people
4. Flexibility: places that can be used for a variety of purposes, in comparison with places that are designed for specific and limited use, offer more choice to users (Bentley et al., 1985: 157).

5. Variety: Accessible and accessible places are considered valuable when they can offer a variety of experiences, and when there is variety, it increases the audience's right to choose.

6. Hierarchy: Many aspects of the design require visual mastery. In more complex combinations, it is necessary to use hierarchies to establish the order of the parts with the whole. Functional hierarchies are found in entrances, corridors, routes and other communication networks, according to their importance. These hierarchies create a visual pattern (Simon, 2017: 202).

7. Visual fit: the extent or size that the form and capacity of the spaces are consistent with the behavioral patterns of the people and people tend to communicate or participate in the interaction, as enriching the experience of each person from the space, according to the tastes and behavioral patterns of each person. A person is formed (Lynch, 1981: 118-119).

8. Distinction/Similarity: It means distinction from others and similarity with self (Mir Moqtadai, 2018: 37).

9. Continuity/transformation: in the sense of connection with the past and non-discontinuity (continuity of meaning and self-values) in the aim of innovation and creativity according to the conditions of the time (staying the same but not staying the same).

10. Unity/plurality: It means the connection between different parts, so that together they create a whole.

11. Symbols and signs: the study of how the physical environment affects human perception and activities shows that the physical characteristics of the environment affect people's feelings and behavior by creating meanings and providing specific activities, and are effective in inducing a sense of place (Foroghi, 2011) Symbols and signs are potential means to convey meaning (Madnipour, 2000).

According to Stokols, prominent places have distinct and distinct personality, and environmental personality is made of tangible things that have materials, shape, texture, color, scale, variety, perspective and prominence (Stokols, 1981). Fritz Still considers the most important factors of environmental vitality effective in the perception and sense of place to be the size of the place, degree of enclosure, contrast, scale, proportion, human scale, texture, color and visual variety. In terms of cross environmental vitality, it includes factors such as legibility, ability to perceive the place, identity and personality (in the semantic field) and visual richness, spatial physical quality, visual gathering of people such as playgrounds, places to eat; defining entrances and access to space proportions (in the field of aesthetics) and accessibility, flexibility of the place, comfort, invitingness of the place. (In the functional area).

According to Lang, what causes the environmental vitality are:

Suitable physical opportunities to sit, pause and reflect more in the space; focal spaces for the visually and physically; Anticipating functional elements along with its aesthetic dimensions; appropriate spatial ways and communications and guiding people in the space, legibility and spatial clarity; Vehicle access control and pedestrian security; Definition of bodies and identity of walls; predicting absorbing activities; attention to the climate; Taking advantage of all senses and using natural elements.

Socio-cultural components of environmental vitality:

Residential spaces, like any phenomenon in the world, have form and content; Neither form can be imagined without content nor content without form. Content is the subject, meaning and concept that lies in a phenomenon and has a dual nature; objective and mental. The subjective and objective aspects of the content of a phenomenon are not next to each other, but are mixed together. In fact, apart from their physical existence, residential complexes also have a mental perspective that is tied to the visual quality attributed to them. Lynch (1981) believes that we should not look at spaces

only based on our imagination, but through the imagination of others (Rawdrad and Mahmoudi, 2014: 54). Therefore, the aesthetic element of a work is not only in its body and form, but also in its content. Performance is usually the benefit of a phenomenon for humans, but the meaning, the value of the concept and the message (whether intellectual or emotional) is a phenomenon (Pakzad, 2009: 96). Every space has meaning and content that includes different aspects; Meaning can make the audience understand the culture, religion, history, customs, symbols, performance, behavior, beauty, purity, etc. of a nation. These meanings can make the space memorable, alive and sensually rich.

According to this definition, the evaluation criteria of semantic vitality in the environment are the following

1. Social and cultural context: In order for an environment to be semantically appropriate, it is necessary to be in harmony with the values, beliefs and symbolic systems shared by people with which they give meaning to their environment (Rapoport, 1977).

2. Sensory richness: the variety of sensory experiences that bring pleasure to users. Elements must be visible in order to play a role in improving sensory richness (Bentley et al., 1985: 157). In the design, decisions should be made that increase the understanding and sensory experiences of the visitors and arouse their pleasure, such as a sense of belonging and a memorable experience.

3. Pleasantness: increasing the pleasantness of the space through personal experience resulting from paying attention to the details in the visual image (Bentley et al., 1985) and increasing the sense of belonging and social interactions.

4. Belonging: It comes from designs that make people feel a sense of belonging to the places where they work and live and leave a mark of themselves there (Bentley et al., 1985: 157).

5. Monitoring (participation) while using places, people should have the ability to create and manage access to spaces and activities (same). In other words, people should feel that a part of the environment belongs to them, and the environment should encourage and support the participation of citizens.

Porta and René refer to the factors of the environmental life space, socially, the process of being in the space and getting involved in its events, and they also emphasize the spatial reflection and physical manifestation of this process. What has been emphasized more than any index is the furniture and its arrangement for sitting, pausing and reflecting on the space. Furniture means comfort in pausing and reflecting on the space. The length of time that people spend in urban space is a function and indicator of the level of comfort, convenience and variety of furniture. It is also suggested that permeability exists in both physical and visual dimensions. Buildings with small size blocks that have high permeability (Porta and Renne, 2005: 53).

Porta and Rene have presented the results of their research in the field of environmental design to increase social interactions in 10 proposals:

Access routes should be designed as narrow as possible. Avoid separating buildings from the environment (especially institutional buildings); Avoiding the retreat of buildings; building small buildings instead of big buildings; Designing retail on the ground floor of buildings, if possible, avoiding placing a large number of parking lots; Porch design, back-to-back arches, short fences, curved canopies and the like and anything that gives the space a soft face are suggested. Avoid blank walls (no windows), large trash cans. Placing trees across the sidewalks. In most cases, trees are one of the best tools to transform the space into a friendly and livable environment, placing places to sit. According to Stephen Carr, public spaces should be meaningful, democratic and responsive in the sense that the design and management of the space should be in a way that meets the needs of its users. He also considers the five basic needs of people that must be answered in the

public arena: 1) comfort, 2) comfort, 3) passive participation with the environment, 4) active participation, 5) exploration.

2.3. Physical Components of Environmental Vitality

Bodily vitality means the traits and characteristics that distinguish the building body from others and reveal its similarity with the self. These attributes should be such that the body is evolving and evolving in order to preserve the continuity of time and ultimately lead to the emergence of a whole. The physical dimension of environmental vitality is conceptually synonymous with the term "personality" and "sense of place" (Mir Moqtadai, 2018: 29).

According to Kevin Lynch, if the design of the built environment is to be useful, it must be able to improve the quality of human life by improving the quality of the physical environment (Golkar, 2009: 43) and if there are no symbols or signs of the past in the environment and body of the building. If it does not have it, the vitality of the environment becomes dim (Falah Manshadi and Habibi, 2013: 51). In terms of vitality, there is an environment in spaces that have a specific and distinct personality, and the personality of an environment is made of tangible things that have materials, shape, texture, color, scale, variety, perspective and prominence.

The combination of mass and space, determining the height, the amount of retreat and the percentage of the land that is covered by the building, according to the environment and the characteristics and facilities of each space, while paying attention to the view, the continuity of the lines, the shapes and the composition of the body, the external effect, including color, texture, etc., is different (Tavasoli, 1983: 97).

The criteria for evaluating the physical dimension of vitality in the environment are:

1. Physical context: contextualism is the link between architecture and urban planning in a certain context. In fact, the most pleasant spaces have continuity and rhythm created by buildings (Yazdani and Marvotti, 2013).

2. Legibility (in physical form): Legibility is a quality that provides the basis for a place to be understood and can affect how and easily people understand the opportunities and situations that the environment offers them (Lynch, 1981: 178). According to Lynch's opinion, with the help of road, edge, node, sign and neighborhood (area) elements, readability can be created in the environment.

3. Permanence: It means that which has the power of life and life in it and will survive. In the definition of durability, the first thing that comes to mind is the concept of staying for a long time. For a scientific and physical expression of life and permanence in the plan and view and in general the body of the building, Alexander states fifteen factors, which are: different scales, strong centers, borders, alternating repetition, definite space, good shape, local symmetry, Deep coherence and ambiguity, contrast, gradation, heterogeneity, echo, empty space, simplicity and inner peace, inseparability.

4. Image: Lynch introduces the analysis of the mental image as important in the book *Simai Shahr* (Pakzad, 2009: 108).

Morphology is the factor that distinguishes one space from another, and this factor shows the individuality and physical identity of the space; Therefore, the facade of a residential complex is one of the most prominent features of the city, which is always visible to the observer and evokes memories, and these memories evoke a sense of belonging to the place and ultimately creating environmental vitality for the residents.

2.4. Functional Components of Environmental Vitality

One of the very important features of environmental vitality in public spaces is the variety of different functions together. It is obvious that it is very necessary to pay attention to the facilities and limitations of the space as well as their different location and appropriateness of the activities, and in line with this necessity and creating factors of dynamism and mobility in public spaces, pay attention to those spaces that cause this dynamism, becomes important.

Economic development and attracting economic capital are the necessary condition for increasing the vitality of the environment, the prosperity of existing small businesses, and the active presence of citizens in public spaces. This presence of citizens is realized by creating an opportunity to sell goods and economic exchanges, which leads to the development of the local economy, that is, small businesses.

This dimension refers to the fulfillment of individual needs and goals (Williams and Roggenbuck, 1989; Stokols, 1981) based on the quality of the place in responding to the needs of users compared to other similar places, depending on the person's previous experiences, how to access the place and activity patterns in it (Williams and Vaske, 2003: 838). Also, with the help of space design, to a certain extent, the number of people who use the public space, the duration of the activities and the type of space activities can be affected. institution Yan Gol states that he divides all the activities that take place in the public space into three categories. Essential, optional and social activities. The first two activities are the background for the occurrence of social activities. All types of activities include basic activities. These activities include walking, sitting, standing, seeing and watching, listening and speaking. These activities almost cover a part of all other activities. To carry out any of the basic activities, public arenas must have three basic qualities. Protection, comfort and enjoyment of the environment.

According to Williams, people with similar characteristics such as economic class, lifestyle, financial income and education play a significant role in the temporal continuity of a person's presence in a place. Efficiency is another factor in environmental vitality. Referring to the economic model of land and its costs to consider this problem in cities, which includes a kind of profit-cost function in the category of location of uses.

2.5. Communication Components of Environmental Vitality

The communication network has a life-giving effect on the body of the settlements, but it is visible. The communication network from two main aspects (as a pillar of the transportation system and as a space for communication and face-to-face encounters), not only has not found any importance, but at the present time it has such a small place that even in its most normal state as a system There is no contribution from urban transportation either (Rafiyan et al., 2013: 42). Today, in settlements and residential complexes, due to major problems in communication routes, such as the lack of proper design of sidewalks, lack of adequate protection of pedestrians against atmospheric factors, the presence of air pollution and noise pollution, etc. The environmental vitality of the settlements is decreasing day by day (Ahmadi, 2014), in order to increase the environmental vitality in these places, designers should take into consideration the following criteria:

1. Access: the ability to access activities, resources, services, information of different places or persons, including the quantity and variety of accessible elements (Lynch, 1981: 118-119).

2. Speed and movement: in designing the space, the proportions of the edges, rhythmic or linear features of the space should be adjusted in such a way that it affects the speed of movement and the

perception of the space so that with the movement of the observer in the environment and landscape, his experience to reach the maximum from space.

3. Communication: Pedestrian networks that play a key role in proper access to the destination.

4. Flexibility: if it has a suitable width, a smooth surface, and a suitable landscape in the residential complex, it can create an environment in accordance with human needs.

5. Convenience: it causes safety and non-delay for pedestrians.

6. Being happy: it makes residents interested by cleaning and removing threatening factors.

7. Clarity and transparency: the access routes are strange and at the same time have a coherent network.

Pakzad considers the goals of the communication network program to be north of vitality (variety along the route and permeability), pedestrian safety, flexibility in use and performance (Pakzad, 2009: 28-36). The static and dynamism of the space is also effective in improving the communication spaces; By maintaining the standards for planning communication networks, it is possible to create suitable nodes for pausing, sitting and watching. Frank Jaskevich has identified the important points in evaluating the quality of the access network derived from the aesthetics, comfort and relaxation of movement and activity in the space and has proposed nine principles: understanding the place with the degree of enclosure, the complexity of the transit network, the blending of buildings with the space, the complexity of the spaces, the diversity of the roof line or additional components of the body and covering the passage, the protective space or demarcation, the shade of trees, the transparency of public and private spaces, physical characteristics (Bianchini and Landry, 1994: 1-14).

2.6. Climatic Components of Environmental Vitality

The quality of the environment is known to be synonymous with basic human needs (Carr et al., 1992: 103). There is a close relationship between vitality and environment (Diener et al., 1997: 189). People's lives are completely influenced by their physical environment. Pollutants and dangerous substances have a considerable effect on people's health. Also, environmental quality places great value on the beauty and health of the place where people live (Heink and Kowarik, 2010: 591). The characteristics of the environment are very effective in people's skills, attachment type and tendencies. The higher the quality of the environment, the better it can convey the feeling of well-being, happiness, well-being and satisfaction to the residents through features that may be physical, social and symbolic (Kearney, 2006: 113).

According to Pourmohammadi, desirability is a criterion in which the preservation of natural factors, landscapes and pristine spaces is emphasized, which also increases the importance of urban green spaces. The climatic dimension of environmental vitality, in addition to having recreational, cultural and environmental aspects, also has the aspect of providing services to different areas of the city (Ghorbani and Timuri, 2018: 48). For example, the establishment of green spaces, on the one hand, due to the impact they have on the environmental vitality, and on the other hand, due to the financial burden they place without return of investment and profit, are worth extensive investigation (Kabisch and Haase, 2014: 129).

Natural elements represent the natural vitality of any place, and since nature is a part of human existence from the beginning and a person can relax next to it, its spaces and elements should provide such an environment and bed and be a place of human relaxation. This peace generally has an emotional and psychological aspect in addition to the physical aspect, so that natural elements are familiar signs for people; These signs communicate with the citizens and become a part of their existence and memory (Khatibi, 2012: 65). In order for the environment to be functionally

appropriate, it is necessary to have a climate that has its effect on materials, colors and openings, compactness. Size, form, etc. appear, to match (Yazdani and Marvotti, 2013: 12).

Paying attention to climatic and environmental characteristics and the effect these characteristics have on environmental vitality is very important in terms of raising the quality level of comfort and health in open and public spaces and also in terms of reducing the amount of pollution. Climatic factors, including wind, humidity, temperature and radiation, affect the space in different ways, and depending on the intensity and weakness of each one, the environmental comfort is increased or disturbed. Providing rules for the design of man-made environments makes it possible to use climate factors that are suitable for human comfort (Diant et al., 2015: 6).

According to Aminzadeh, in examining the environmental component of environmental vitality, the balanced organization of the environment (flooring, furniture, lighting, paint, decorations and avoiding unnecessary additions), bioclimatic effects such as changes in the pattern of wind behavior and shading, pollution (noise pollution), air pollution, pollution caused by improper disposal of waste and sewage) should be considered.

Environmental comfort, elimination of environmental and noise pollution, speed and continuity in environmental protection and cleanliness provide environmental vitality (Salehi, 2017: 127). Environmental comfort is caused by environmental comfort, optimal fit with the climate and utilization of natural elements, providing the necessary humidity in public spaces through the presence of water and plants.

Table 1 Classification of vitality indicators in different dimensions (source: authors)

Physical	<p>Texture (materials, facade, structure quality of buildings, complexity and variety of buildings, readability of form, attractiveness and beauty of form, lack of physical deterioration of mass, definition of bodies and identity of walls)</p> <p>Form (the area of the residential complex, the area of the open space of the residential unit, the geometry of the place, the number of floors of the residential complex, the distinction in the elements and the physical structure of the residential complex, the absence of extreme level differences in the spaces, the physical node of the place)</p>
Spatial	<p>Spatial openness (preservation of open spaces, freedom of choice, diversity, openness, transparency of borders, contrasting spaces, pause spaces, degree of confinement, surprise and discovery)</p> <p>Spatial continuity (transparency and fluidity of surfaces, axis adaptation of spaces, repetition and rhythm, unity)</p> <p>Spatial proportions (scale, weight, rhythm, composition, arrangement of shapes, order and skyline...)</p> <p>Revival of place and sense of place (diversity of sensory stimuli, creation of public and private arenas, creation of mixed spaces, sense of individuality and belonging, sense of individuality and natural resistance, sense of trust and confidence, sense of solidarity, conformity with mental images, identity and personality Specificity of the place, ability to create memories of the place, sensitivity to changes in the space)</p> <p>Coherence of situations (location and dimensions of green space, location and dimensions of playground, location and dimensions of sitting places, provision of non-fixed benches for sitting and increasing opportunities for selection, location and dimensions of green paths)</p> <p>Safety (safety in the playground, safety against cars, compliance with spatial hierarchy)</p> <p>Spatial diversity (legibility (activities, physical), signs, flexibility, adaptability)</p> <p>Aesthetics (combination of line elements, landscape, shadow and light and color, visual richness)</p> <p>Popularity (avoiding extensive landscaping and decorating the space, integrating</p>

	public functions in the design) order and diversity (creating a delicate balance and appropriate combination in design, creativity)
Functional	economic (job and income of people) activity (type of activities: necessary, optional, social), multi-functionality of space, functional and activity distinction Services (shopping center, shops and variety of business units and non-commercial uses, recreational and sports services) Type of ownership (personal, rental, mortgage)
Sociocultural	Social activities (social interactions and communication with others, cooperation and participation, a sense of belonging to the community, the activity of free associations, cultural celebrations, social activities, the right to enjoy public spaces, holding ceremonies and celebrations, the opportunity to socialize for children and teenagers in open spaces, appropriateness of the place with the cultural-social characteristics of people, maintaining moral and religious proportions of people, diversity of ethnicities) Personal activities (strengthening personal communication (visual, verbal and visual communication), the right to enjoy private spaces, presence and daily activities in a place, presence and special activities in a specific place Security (monitoring by the residents of the residential complex, presence of women and children in the area, night activities, monitoring on the footpaths)
Connection	Access (access network to open and outside spaces, pedestrian access network, bicycle paths, children's play area, ease of pedestrian movement, permeability) Facilities and equipment (parking, speed limiter)
Environmental – climatic	The interaction of architecture and design of open space and nature, recreation and entertainment Harmonious organization of the environment (flooring, furniture, lighting, decorations and avoiding unnecessary additions) The degree of adaptation to nature (coordination with vegetation and local climate) Comfort (cleanliness and hygiene, welfare facilities, non-pollution, comfort of people in the environment in different climatic conditions) Natural landscape (green space and vegetation, water feature, distinction in the natural elements of the open space of the residential complex)

3. Commercial Center

With the concentration of commercial spaces in the walls of the street and the traffic of cars, the necessary security and comfort have been taken away from the users and the possibility of freedom of movement and rest has been taken away from them. On the other hand, the non-compliance of these spaces with the needs of society increased the desire of users towards social and recreational activities in commercial centers. The use of the model of markets and urban spaces of traditional Iranian architecture, where social and cultural relations were widely accepted, has caused today's shopping centers to be designed as urban complexes, which, while meeting the needs of commercial spaces, provide urban space and create a suitable bed for social and recreational activities.

4. Shopping Center

A shopping center can be a row of stores in vacant lots adjacent to existing streets or low-traffic sidewalks that are open and uncovered or enclosed to control environmental conditions. It can also be a building with collections of buildings with various stores that are connected by central corridors. This type of shopping center facilitates people's shopping flow and increases their power of choice. Each shopping center can include the following different sections:

- Stores: In stores, which are the main part of shopping centers, a wide range of goods and services needed by buyers are offered.
- Supermarket: It is a store usually with an area between 400 and 2500 square meters, where two-thirds of its main products are food, and home appliances and clothes are sold as secondary products (Iran Doost, 2013: 2019).
- Hypermarket: It is a store with an area of more than 2,500 square meters, one third of which is dedicated to food and includes a wide range of other types of goods such as clothes and home appliances, which are offered at a relatively reasonable price.
- Recreational-cultural sections: creating recreational facilities in large shopping centers to attract customers is one of the most important developments in design in recent decades, the integration of recreational-cultural sections with green space has turned shopping into a fun activity for all family members (Porter, 2003: 382).
- Chain store: Chain stores supply goods and services at the level of the city, the country and the world, with the use of a single and central management, with suitable facilities and equipment.
- Specialized multi-purpose stores: include supermarkets and large pharmacies that include a set of related goods.
- Single-purpose specialized stores: they offer only one group of specific goods. Such stores are just services or are created by product manufacturers (Raskin et al., 1994: 89).
- Convenience stores: these stores provide the most important daily household items easily - the network of said stores are created and distributed through consumer cooperatives and trade unions.
- Property: The modern and different form of traditional open-air markets is the markets formed inside large buildings whose roofs make it possible to establish them in any weather.
- Virtual stores and remote sales: Many shopping centers create a virtual store on TV and the Internet, providing customers with the opportunity to view and choose products and deliver the desired products to their homes.

5. Research Method

The current research method is fundamental-applied, and in terms of the type of method, it has the nest-to-nest combination method. To answer the research questions, the nest-to-nest research method is used in a qualitative and quantitative manner. In the qualitative method, the foundation data method is used for coding, and for the quantitative method, the causal-comparative method is used, which is firstly done by extracting concepts from the coding of semi-structured interviews with thinkers. Then, the extracted categories and codes are used in the compilation of the questionnaire. The interview questions were based on the concepts extracted from the vitality in architecture and urban planning, and for the correctness of the questions, experts are evaluated and scored using the Delphi method. The validity of the questionnaire is using the CVI formula. = 0.73 and reliability using Cronbach's alpha = 0.72. For convenience, the pre-designed coding table is used. Interview analysis is done using Atlas T software and using open and axial coding.

Open Coding

The open coding process is an analysis through which concepts are identified and features and dimensions are discovered in the data (Lee et al., 2011: 49). At this stage, the foundational data theory forms the primary categories of information about the phenomenon under study by segmenting the information. The researcher bases the categories on the collected data such as interviews, observations, and notes (Creswell, 2003: 397).

Axial Coding

The process of relating categories to sub-categories and linking categories at the level of characteristics and dimensions is this coding called axial, coding is based on the axis of a research category. Strauss has discussed several main actions in the stage of axial coding (Lee et al., 2011: 50).

Table 2 Axial coding (Lee et al., 2011: 49)

1	Articulating the characteristics of a category and its dimensions is a process that begins during open coding
2	Identifying various conditions, various actions or interactions, and various consequences related to a phenomenon
3	Relating a category to its subcategories through propositions that suggest how they relate to each other.
4	Searching for clues in the data that indicate how the main categories may be related.

5.1. Sampling

This section includes two different samplings as quantitative and qualitative.

Qualitative sampling

First, 20 experts who are experts in the subject and the faculties in the universities of Tehran and were selected as a snowball, were asked to report to the business centers that were eligible to be investigated in the field of vitality, the level of utilization and having different factors of vitality in the spatial dimension was given a score of 1 to 10, and commercial centers whose average score was above 5 were selected and again referred to experts to confirm their selection. In the next step to interview the experts, 41 people were interviewed in this study, which was repeated in the received information from the 37th interview onwards. According to the principles of grounded theory, after the first interview, data collection and analysis are done.

Table 3 Characteristics of the interviewed people

Interviewees	Number	Abundance	Cumulative percentage
Professors of architecture	19	46.34	46.34
Professors of landscape architecture	15	36.52	82.86
Urban design professors	7	17.14	100
Total	41	100	100

Quantitative sampling

In the next step, according to the opinion of the experts and specialists of the extracted variables, a questionnaire was compiled in the form of a closed questionnaire with five-point Likert answers. The structure of the questionnaire includes questions related to the main question of the research; That is, to investigate the effect of each of the existing spatial factors on the vitality of selected commercial centers in the city of Tehran and in line with responding to it. In order to perform the calculations, a score of 5 for "very high impact" and a score of 1 for "very low impact" was considered by each expert, and in order to minimize the cost and time, the questionnaire among a

random sample of the statistical population (space users) was distributed. The sample size was selected using Morgan's table, which includes 384 people, who were randomly distributed in commercial centers according to the population and the separation of men and women.

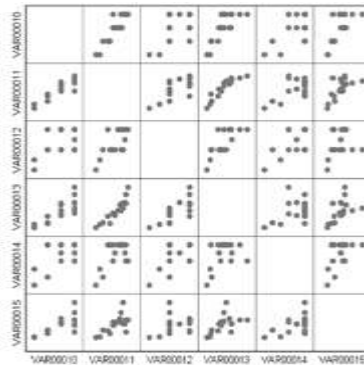


Fig 1 Correlation matrix of factors

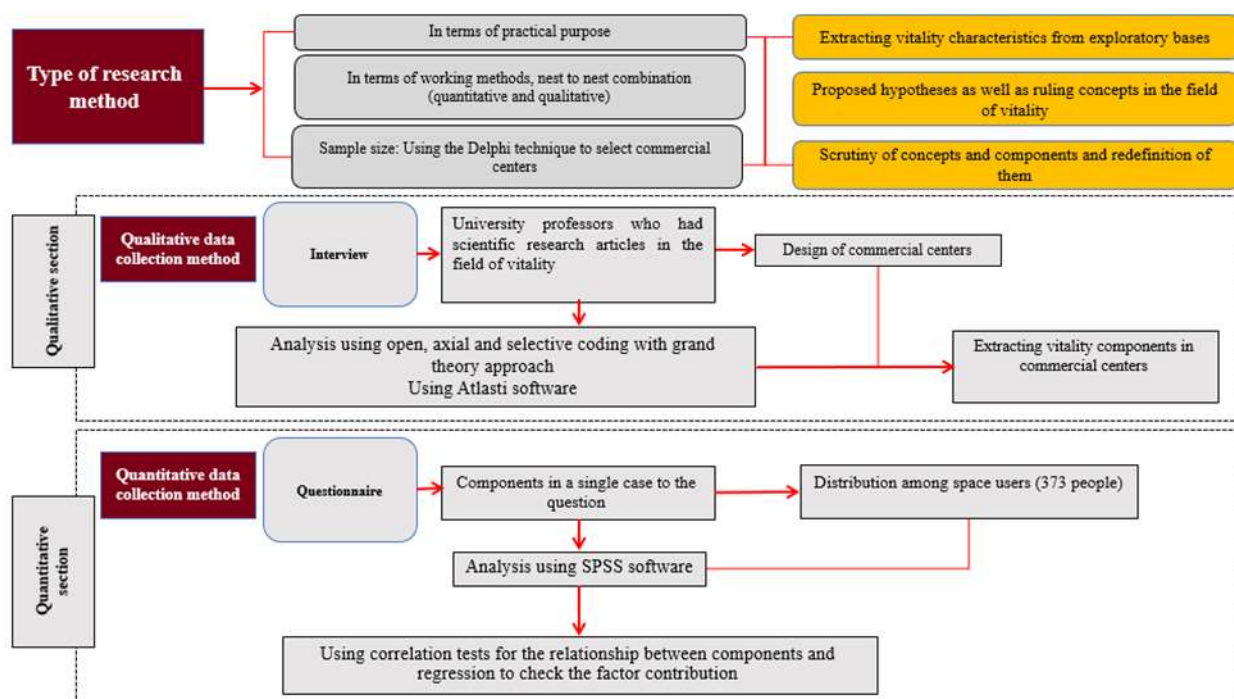


Fig 2 Steps of research implementation

6. Study Area

In this research, in order to select the study area and measure it, the experts were asked to give a score from 1-10 in order to select purposeful and valuable samples in environmental vitality for different age groups, and those whose average score was above 5 were selected. This is described in the following Table 4.

Table 4 Commercial center chosen by intellectuals

<p>Tuba commercial center</p>  <p>www.delgarm.com</p>	<p>Rosha commercial center</p>  <p>www.funzi.com</p>	<p>Donya Noor commercial center</p>  <p>www.touristgah.com</p>	<p>Palladium commercial center</p>  <p>www.eneshat.com</p>
<p>Milad Noor commercial center</p>  <p>www.safarzon.com</p>	<p>Bam Land commercial center</p>  <p>www.karnaval.ir</p>	<p>Sana commercial center</p>  <p>www.smarttiz.com</p>	<p>Vanak commercial center</p>  <p>www.adnel.com</p>
<p>Commercial centers of Iran Zameen</p>  <p>www.safarzon.com</p>	<p>Iranian commercial center</p>  <p>www.iraniansc.ir</p>	<p>Tandis commercial center</p>  <p>www.epersianhotel.com</p>	<p>Iran Mall commercial center</p>  <p>www.funzi.com</p>

7. Results

In the Delphi phase, the implementation phases take place as follows;

- First phase of brainstorming;

The first questionnaire was sent to the Delphi committee via e-mail and they were asked to name the various vitality factors and their dimensions in connection with the first part of the question. In the diagram below, the factors related to vitality in the first period are shown by scholars, which reaches a total of 20 items.

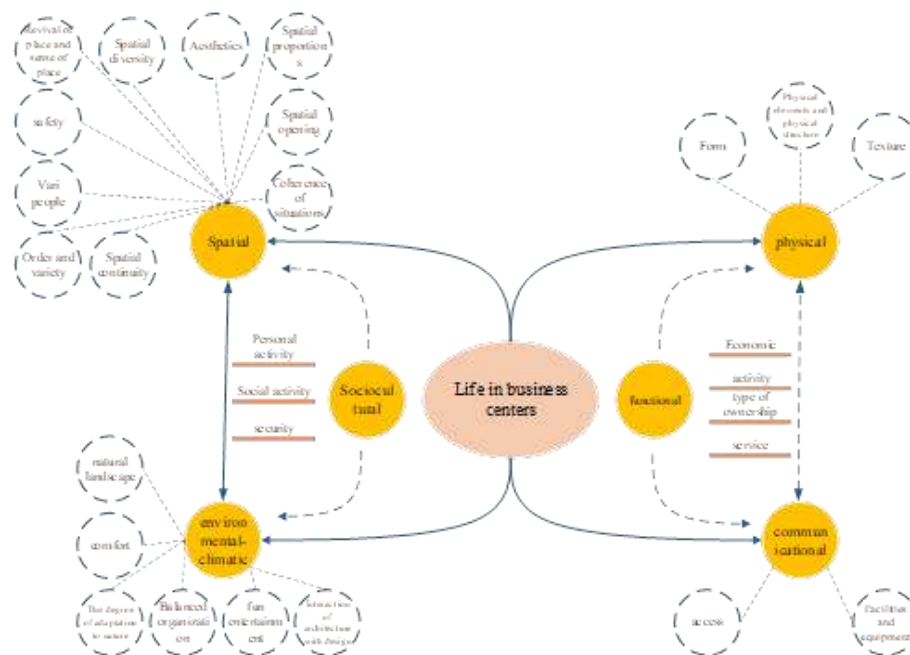


Fig 3 Variables extracted from the first round of the limiting phase in Delphi

- Second phase of limitation;

In the next stage, the experts were dealt with as a separate panel and they were asked to rank the factors selected by each panel. Each expert was asked to choose the number of 10 factors for each panel.

- Third phase ranking;

Experts are asked to rank the agents in their edit hit lists; Average rank is calculated for each item. In each list, evaluation is done using W. Kendall and this continues until they reach a consensus and some of the variables of the first round are removed. In the following graph, the Kendall coefficient is calculated for each variable, as well as the excluded variables are displayed.

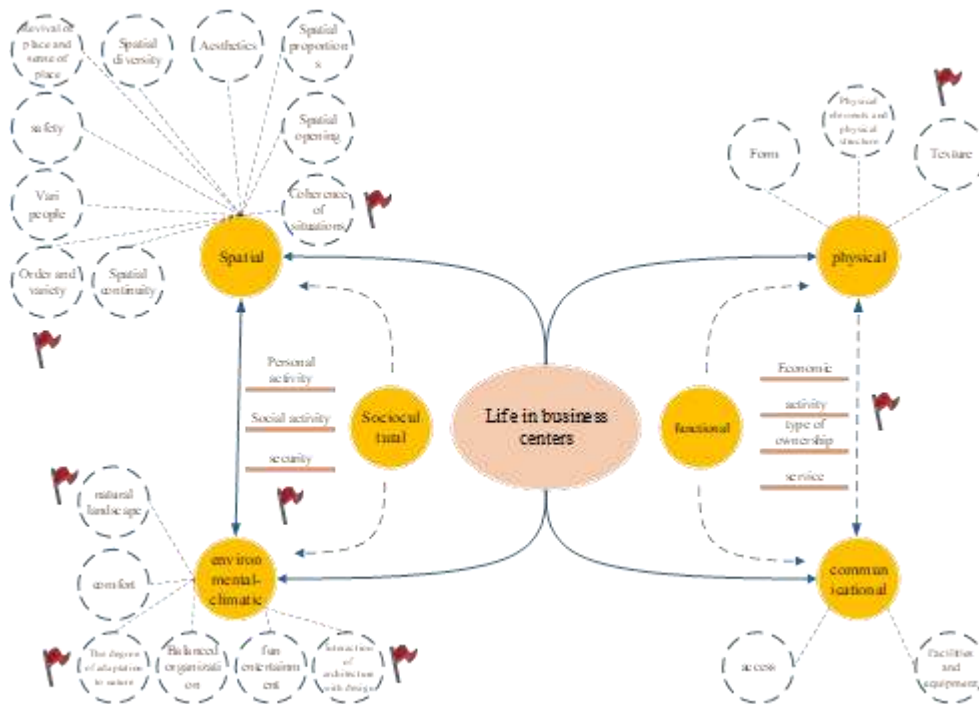


Fig 4 Selected components from the selection phase in Delphi future research

7.1. Quantitative Findings

After extracting the questionnaires, the following diagram is drawn, which revealed that in the age group of 60-80 years, the most influential component includes service and access, and the least frequency related is entertainment and personal activity. In the age group of 60-40 years, the highest frequency is related to spatial diversity, services, and the lowest frequency is related to safety. In the age group of 40-20 years, the highest frequency is related to facilities and equipment and spatial diversity, and the lowest frequency is related to the revival of place and sense of place.

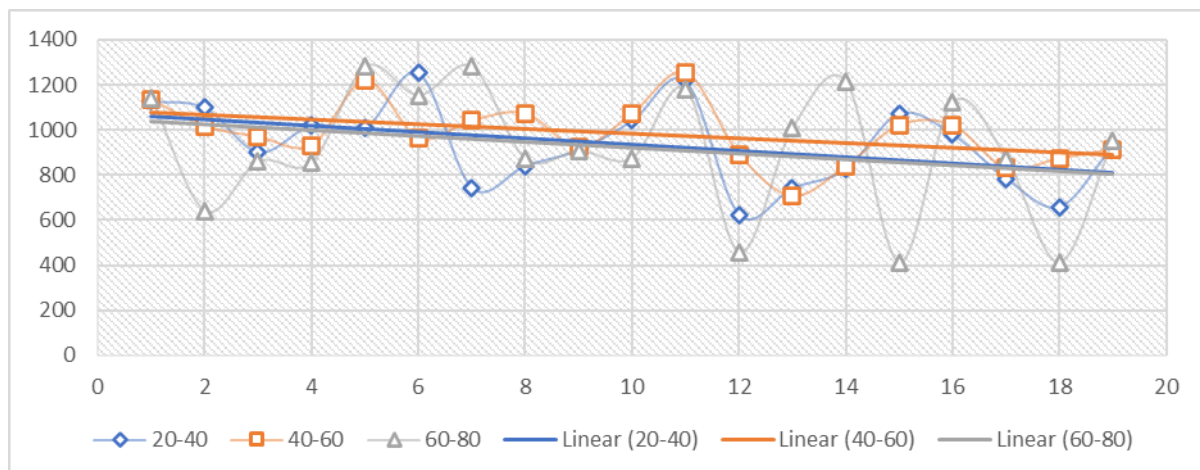


Fig 5 Frequency of various life variables in different age groups

In the age group of 20 to 40 years, the highest factor contribution is related to activity, safety and continuity components with the values of (1.000), (0.958) and (0.929) and the lowest factor contribution is related to revitalization of place and sense of place. with a value of (0.333). In the age group of 40 to 60 years, the largest factor share is related to recreation and entertainment with a value of (0.254), in the age group of 60 to 80 years, the largest factor share is related to comfort and access with values of (1.000) and access is (0.921), comfort and the lowest contributing factors are related to the components of revitalization of place and sense of place, recreation and entertainment (0.246).

Table 5 Step-by-step regression of different age groups for vitality components

60-80			40-60			20-40			Scale	Dimensions
β	F	coefficient of determination	β	F	coefficient of determination	β	F	coefficient of determination		
0.741	342/411	0.710	0.781	222/527	0.752	0.762	217/314	0.867	Body elements and body structure	physical
0.429	446/444	0.840	0.732	122/405	0.920	0.372	147/523	0.895	Form	
0.623	752/985	0.714	0.662	343/217	0.803	0.872	381/852	0.813	Economic	operational
0.685	223/211	0.883	0.648	943/199	0.746	0.685	921/298	1/000	an activity	
0.621	773/225	0.619	0.664	612/201	0.681	0.597	257/247	0.612	service	communicational
0.652	681/653	0.836	0.662	623/643	0.816	0.436	321/644	0.656	Facilities and equipment	
0.612	654/724	0.920	0.652	683/849	0.723	0.852	523/845	0.645	access	Spatial
0.381	621/741	0.654	0.665	603/349	0.846	0.665	254/754	0.645	Spatial opening	
0.484	325/512	0.625	0.483	945/184	0.814	0.213	541/124	0.715	Spatial proportions	
0.464	748/276	0.546	0.464	748/276	0.546	0.425	241/232	0.514	Aesthetics	
0.421	125/302	0.881	0.452	943/199	0.795	0.414	321/201	0.795	Spatial diversity	
0.631	034/519	0.265	0.463	034/499	0.243	0.421	124/443	0.323	Revival of place and sense of place	
0.124	125/521	0.745	0.472	034/523	0.895	0.421	134/522	0.958	safety	
0.311	258/149	0.540	0.661	258/147	0.978	0.615	265/229	0.921	Continuity	Social and cultural
0.325	214/315	0.368	0.452	564/321	0.462	0.424	412/323	0.906	Personal activity	
0.425	371/458	0.275	0.401	371/492	1/000	0.423	211/441	0.846	Social activity	Environmental - climatic
0.223	695/325	1/000	0.411	658/471	0.745	0.454	541/321	0.821	comfort	
0.529	937/621	0.244	0.421	987/650	0.254	0.341	991/621	0.485	entertainment	
0.679	210/521	0.452	0.589	960/542	0.455	0.578	920/581	0.675	Balanced organization	
0.628	312/520	0.654	0.521	362/214	0.781	0.514	654/218	0.754	Body elements and body structure	

After determining the coefficient of determination of the obtained components in each age group, the fit diagram is drawn between different groups 20-40, 40-60, 20-40, 60-80, 60-80 and 60-40. The responses obtained from the age groups of 20-40 years and 40-60 years have a high correlation and can be used to examine different samples from the same age group. But both of those age groups have a small correlation to the answers given by the age group of 60-80 years.

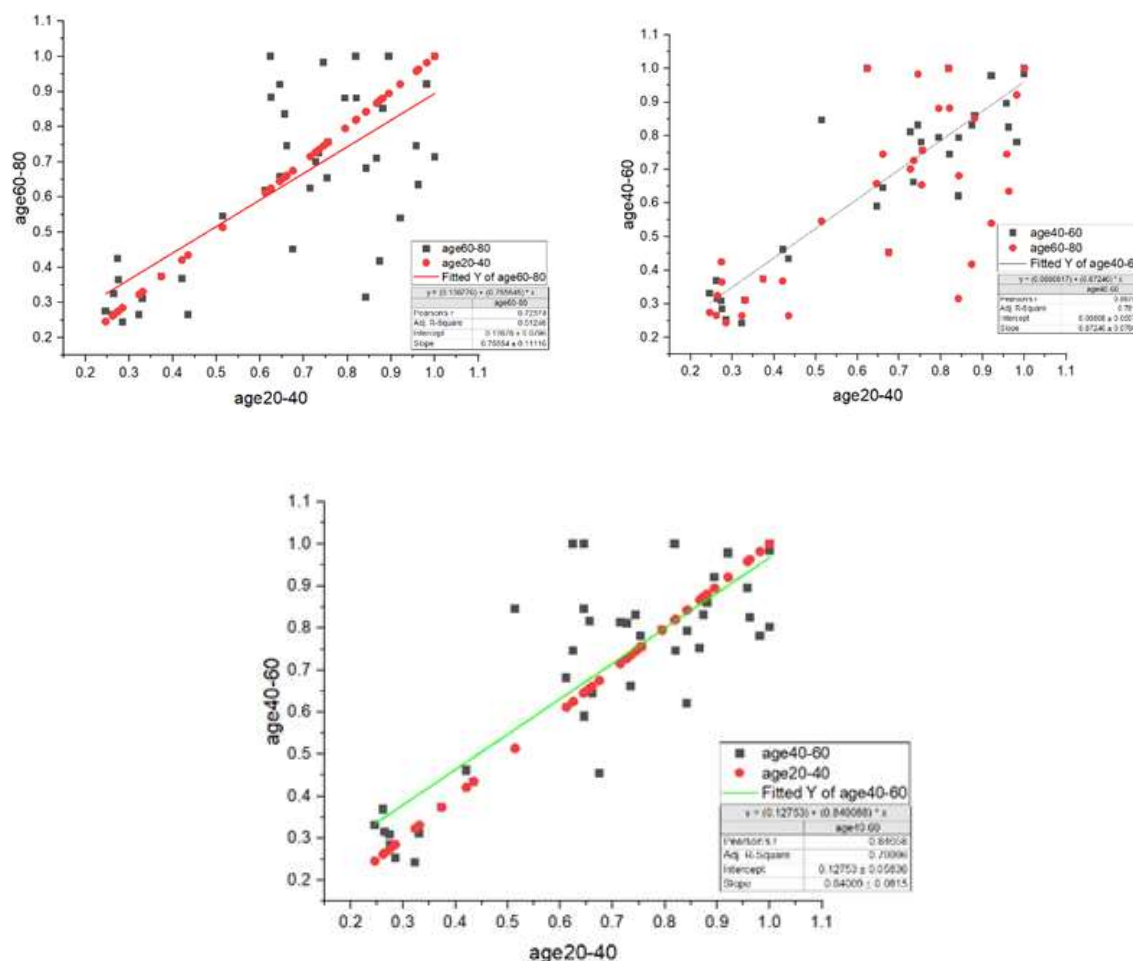


Fig 6 Fit between vitality components in different age groups

This research is theoretical-developmental in terms of type, and in terms of the nesting method, it was qualitative and quantitative. The nested research design is a design of mixed methods in which a data set provides a supporting and secondary role based on the primary data of another type (Clarck, 2008: 210). Existing documents of ruling discourses and its components are extracted. Then, semi-structured interviews are used for the type of influence and areas of influence as well as indicators of collective housing. At this stage, the questions are extracted from theoretical bases and the interviewees are university professors who are proficient in this subject and have at least two scientific research articles and are selected as a snowball. Then, in the interview results, interpretive, descriptive and live coding are used for analysis and labeling as well as data reduction. The results are displayed with the help of waterfall charts. And for this, ATLASTI software is used. In this step, looking from the outside (etic) is the answer.

In the next step, after extracting and categorizing the indicators, a questionnaire with a Likert scale is compiled and provided to the space users. Their number is selected based on the upper limit of Morgan's table, which is 384 people. And the results are extracted in the form of factor analysis with NCSS software, the sampling was random and experts were used for validity in the qualitative

stage and the CVR formula was used in the quantitative stage, and its value was 0.75. And reliability was obtained with Cronbach's alpha. It was found that its value was 0.72. The diagram of the research process is as follows;

8. Conclusion

Environmental vitality is a communication that occurs with a person's presence in the surrounding environment and creates ideas in his mind that are a level of his relationship with his surrounding environment. This relationship becomes deeper with the passage of time in the environment due to repetition in different seasons and the passage of life in space. But the physical characteristics of people have changed over time after the passage of several years, and there have been signs of indifference and undervaluing of these variables in different age groups. And the factors in it change. The surrounding environment of people of different ages can have different effects on different people and cause changes in the type of their moral characteristics, and the interpretations of environmental markers for them have been different in age groups. In this research, it was shown that the factors of environmental vitality at different ages have three different states or in general these factors do not change, and with increasing age there is no change in the type of perception and its effect on vitality by people, such as aesthetics. , or over time it has lost its value in the environment and its effects on vitality have decreased, such as activity, or the contribution of the component increases, such as the comfort component, in general, it is suggested that in the design of business centers to respond to the environment for All age groups must comply with the following.

- Conducting pre-design studies in all age groups in commercial centers based on the types of open spaces
- Research studies on age-related disabilities in the elderly, which lead to a lack of accurate perception of the environment.
- Measuring the effectiveness of various environmental factors in inducing environmental vitality based on age groups with a 5-year distribution
- Examining the effects of gender in the perception of the environment and the factors affecting it
- Providing comfort facilities for the old age groups so that they don't have any problems to spend a long time in the environment
- Designing environmental components in such a way as to induce a sense of movement and vitality in young people and to create a sense of stillness in old age in a way that strengthens people's connection with the environment.

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Application of Thermal Comfort Indicators in Climate Design (Case Study: Yazd Township)

Fatemeh Pasand^a, Hossein Moradi Nasb^{b*}, Mehdi Ali Ehyaei^c

^aPh.D. Student, Department of Architecture, Semnan Branch, Islamic Azad University, Semnan, Iran

^bAssociate Professor, Department of Architecture, Semnan Branch, Islamic Azad University, Semnan, Iran

^cAssociate Professor, Department of Mechanical Engineering, Pardis Branch, Islamic Azad University, Pardis New City, Iran

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Research Article

Abstract

Climatic and weather conditions have a significant impact on creating a sense of comfort in any architectural space. Therefore, it is essential to know the climatic conditions of each region and the associated measures. In fact, creating thermal comfort for people and providing them with the means of comfort for a better life space in terms of climatic conditions are the bases of the formation of urban and rural residential. Climatic architectural design is possible given the climatic data and thermal needs of the space to be built. The purpose of this study is to identify and investigate the weather conditions of Yazd Township, Iran. To do so, climate type of Yazd province was initially validated and then the range of thermal comfort was measured through different methods followed with the presentation of architectural solutions in accordance with the climate of this city. The present study is descriptive-analytical in terms of methodology and an applied study in terms of the approach. For this purpose, first by visiting the Meteorological Research Center, Meteorological Organization of Yazd Province, the meteorological data of 23 years (1996-2019) of this city was obtained, then using the climatic classification methods (Koppen, Emberger and DeMartón), the type of climate was identified. Next, by determining the thermal comfort indicators of the building and with the help of Olgyay, Mahani and Givoni bioclimatic charts, the intensity and extent of the drought period and the limits of thermal comfort

* Corresponding author. Tel: +98-9121319558.

E-mail address: moradinash_h@yahoo.com

This article is extracted from the doctoral thesis of the first author entitled, “Optimal State of the Geometric Form of the Building in Residential Complexes with the Aim of Reducing the Cooling Load of the Building (Case Study: Yazd City)”, under the guidance of the second author Dr. Hossein Moradi Nasab and the advice of the third author Dr. Mehdi Ali Ehyaei.

were calculated. Finally, recommendations are presented for designing residential spaces in accordance with the climate.

Keywords: Givoni; Mahani; Olgyay; Yazd; Thermal; Climate

1. Introduction

The term ‘climate’ comes from the Greek word ‘klima’ which means bending and curvature and literally means the inclination and deviation of an area of the earth toward the sun. Climatology is equivalent to meteorology (Beer and Higgins, 2004). Architecture and climate are two human-made and natural systems with close correlations with each other, so that it is unavoidable to investigate how climate elements affect architecture. In geography, the two concepts of meteorology and climatology are scientifically distinguished. Meteorology is the daily changes of atmospheric factors which are usually announced by the meteorological organization daily in the public media and are used in areas such as agriculture, aviation, shipping and people's daily affairs. But climatology is the general process of weather conditions of a region in long periods and its application is mostly in fields such as urban planning, architectural design and landscape design (Tahbaz, 2013). Climate is studied as one of the most important factors in the construction of buildings. Considering the geographical conditions of the region and the variety of weather conditions in different seasons of the year, building design, both residential and administrative, is required to have a comfortable climate in order to save energy. In the past, the architecture and urban planning of cities were significantly influenced by climatic factors, so that special attention was paid in the design of buildings.

Nowadays, in most of the urban planning, considering the climate and geographical investigations is the basis of the work. Knowledge of the climate is the most necessary step in examining various human activities. It is necessary to know the climate correctly and create a proper adaptation to it. Since people spend a lot of time at home, it is necessary to ensure its comfort. One of the most important factors that affect the construction of human housing is climate and weather characteristics. Design compatible with the climate means maintaining the microclimate of the house within the comfort range, regardless of the situation outside the building. The comfort range is the situation in which almost 80% of people feel comfortable. Based on this, the six main factors of comfort include temperature, humidity, radiation, air flow, coverage and activity level. undoubtedly, other factors such as age, gender, body shape, health status, diet, clothing color, and adaptation to the environment's climate also affect the level of comfort (Consulting Engineers, 2007).

Each climatic region has an architectural typology appropriate to its corresponding climate (Memamarian, 1996). The significance of the role of climate in structural design is obvious; hence, it is necessary to pay comprehensive attention to the role of climate in architecture.

2. Significance of the Study

Since one of the main concerns of the modern world is saving non-renewable energy sources, the use of natural energies not only will make the living space comfortable, but also will play a significant role in reducing energy consumption (Tavousi, 2011). As a result, it is necessary to consider the climate of different regions in designing buildings. Architectural design without taking into account the climatic factors of the region will be an incomplete and costly practice; hence, the

study and consideration of climatic factors is a must do in the design of urban spaces and the associated components including buildings, streets, etc. (Givoni, 1997).

Harmonizing the building and human residential environment with climatic conditions and factors is very important due to the high costs of energy. Climate and architecture is one of the new sciences, which aims to exploit natural gifts and save energy through reducing the consumption of non-renewable energies, including oil and gas, and creating conditions of well-being and comfort for individuals in buildings and housing. Through the studies of various climatic factors and elements, man can design residential spaces and buildings in such a way that provides the most comfort and well-being for him. This shows the interaction between humans, climate and buildings (Givoni, 1997). The present study seeks to find a way to save energy consumption while creating comfort and well-being in the buildings that are designed and built in Yazd Township.

3. Research Background

For the first time in 1986, a commission composed of meteorologists, health and life experts, architects, engineers and urban designers was formed to investigate the climatology of buildings in Geneva, whose goal was to investigate the effects of urban air in order to achieve the best result regarding the urban climate. Moreover, Hovar J. Kuchinlerd (1979) also emphasizes the selection of the building location and considering local microclimatic conditions as a constraint in comfort, arguing the role of factors such as radiation, wind and the direction of the building in controlling the heat of the interior space. Givoni (1998) in his book ‘Urban Design in Different Climates’ notices macro and micro-scale weather issues (Tavousi, 2011).

KIFA (2004) analyzed the 25-year period of climate elements in Nicosia, Cyprus, using the monthly table, in order to provide general and appropriate information for the optimal use of passive solar energy in urban planning and building design, resulting in presentation of pre-design strategies. Bouden and Ghrab, (2005) investigated the thermal comfort in five Tunisian cities from two climate zones. In their research, they asked two hundred people about their natural living conditions at work and place of residence every month for one year and compared the results with thermal comfort indices. The results of their study indicated a significant relationship between the declared thermal comfort conditions and the thermal comfort indices. Johnson (2006) studied the effect of urban geometry on outdoor thermal comfort in a dry climate in Morocco. He concluded that in a hot and dry climate, intensive urban design should be carried out to provide as much thermal comfort as possible in the city. Tui et al. (2007) investigated and determined the bioclimatic comfort conditions in Erzurum city in three rural, urban and urban forest areas of Turkey and concluded that forest urban areas are more compatible with the thermal comfort index used in (Farajzadeh Assal, 2008).

In our country, due to the reduction of non-renewable oil resources, urban pollution and the irreparable damage of fossil fuels to the environment, climate and climate design were again taken into consideration from the second half of the 1970s. Among the first efforts in this field, one can refer to the research done by Adl (1970). Making changes in the thermal thresholds in the Koppen’s method, he evaluated the climatic conditions of Iranian cities and presented the bioclimatic map of Iran for the first time. Tavasoli (2001) studied the influence of climatic and historical factors on the architecture of Yazd, Nain, Zavareh, Tabas, Kashan and some other central regions of Iran. Razjouyan (2014) investigated the comfort conditions and architecture suitable for the climate in different parts of the country while determining and explaining the comfort charts. Kasmai (1999) divided Iran into different climatic regions and specified the principles of architecture compatible with the climate in many parts of Iran according to the monthly criteria, the first bioclimatic table

and the structural bioclimatic table. Amiri (2016) investigated thermal comfort in the interior of the building and climate design in Qom city.

Riazi (1977) prepared a map of climatic divisions regarding the construction works based on Olgyay's index using the climatic data of 43 synoptic stations of the country. Unfortunately, since the role of building elements in controlling the thermal conditions of indoor spaces is not clear in Olgyay's proposal, Riazi's work has not been fully noticed. Kasmai (1999) used building bioclimatic tables and the statistics of 43 synoptic devices to prepare different climates of Iran for use in housing and architecture. Also using climatic data from 591 meteorological stations, he presented the first climatic zoning of Iran in relation to residential environments using the monthly method, based on which the country is divided into 23 climatic groups (Kasmai, 1999). Razjouyan (2014) has also provided appropriate instructions for the optimal use of climatic potentials in his books *Comfort through Climate Compatible Architecture*. Among the studies conducted in recent years on Iran's climate and its changes, one can refer to the works of Farajzadeh Assal (2008), Malek-Hosseini and Maleki (2010), Tavousi (2011), Kamyabi (2016).

While studying the literature review on investigation of the climate and solutions to improve the relationship between architecture and climate in design, it is noticeable that no significant study has yet attempted to identify the type of climate in Yazd province according to different international classifications. Hence, the present study attempts to identify the type of climate of Yazd and then the comfort range in this province. Next, according to the identified climate and the comfort range of the study, solutions will be suggested for better relationship between climate and architecture in this province. The innovations of this article are as follows:

- Studying the types of existing climate classifications, in order to verify the climate type of Yazd province with the help of weather data obtained from Yazd Meteorological Department.
- Determining the comfort range of Yazd province according to commonly-used methods in the world and general conclusions regarding the comfort range of Yazd province.
- Providing solutions to optimize the relationship between architectural design and the climate of Yazd province.

4. Methodology

4.1. Geographical Location

Yazd Township is located in a dry and wide valley between Shirkooh and Kharanag mountains. With an area of 99.5 square kilometers, Yazd is located in the center of Yazd province and on the Isfahan-Kerman road at the coordinates of 54.31 north latitude and 23.54 east longitude. The altitude of this city is 1215m, and the air distance to Tehran is 508 kilometers.

4.2. Method

Given that climatic conditions play a determining role in the formation of local architectural features in urban and rural areas, identifying the climatic differences and their effect on the body and buildings of the city is one of the measures which provide useful insights into improving the climate-compatible architecture. The present study is applied research with an analytical-descriptive approach, where the required data was obtained via library method and using the sources and information available in books and articles as well as the information from relevant organizations, including the city's Meteorological Department. Moreover, the statistical data of the synoptic

station of Yazd Township in a 23-year period (1996-2019) was obtained from Yazd Meteorological Organization. The data include:

- Average maximum and minimum temperature
- Average monthly and annual temperature fluctuation
- Average maximum and minimum relative humidity
- Average relative monthly humidity
- Total annual rainfall
- Prevailing wind speed and direction

In the next step, Koppen, Emberger and DeMartón's classification methods were used to identify the type of climate of Yazd Township, and various indicators such as Olgyay, Givoni, Mahani, Evans and Szokolay to identify the thermal comfort range of this township. Finally, suggestions were provided to improve climate compatible architectural design in this township. Figure 1 depicts different phases of the study.

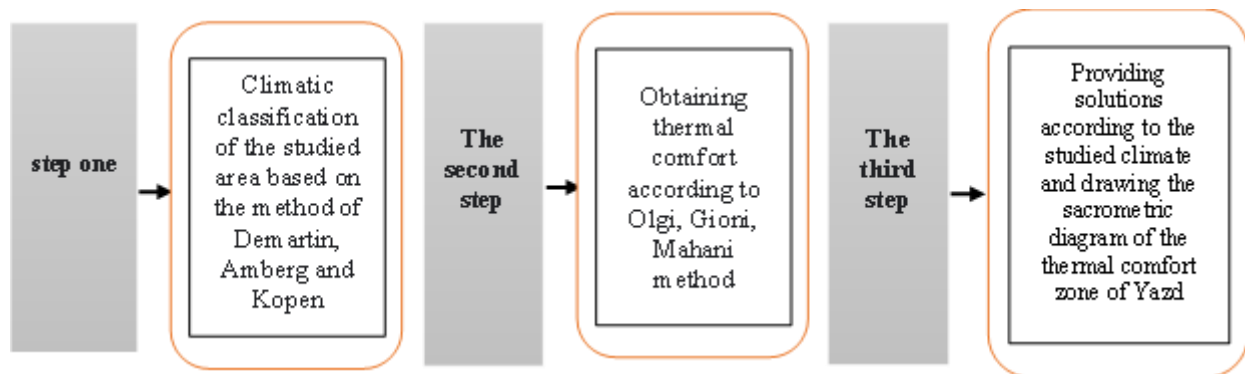


Fig 1 Research process

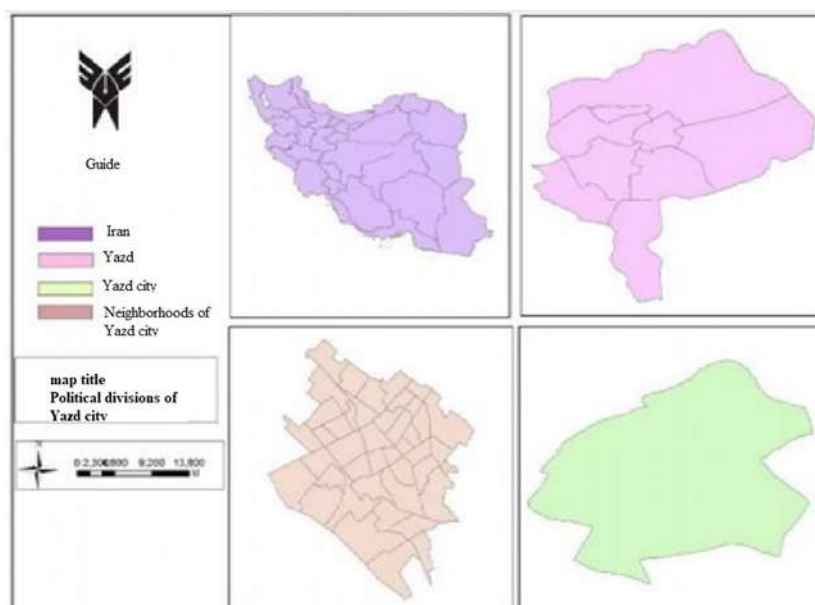


Fig 2 Geographical location of Yazd

Table 1 Climatic data affecting architecture in the 23-year period (1996-2019) Yazd city (source: Meteorological Organization of Yazd Province)

maximum wind		Sun clock	Evaporation (mm)		Ice days	Rainfall (mm)		relative humidity (percentage)		temperature (celsius)					Month
Side	Speed (m/s)				Maximum 24 hours	Total	average	average maximum	average minimum	average	absolute maximum	absolute minimum	average maximum	average minimum	
250	27.0	260.7	259.4	0.0	11.9	7.4	31	47.2	14.6	18.8	35.6	-0.8	25.5	12.0	April
280	25.0	299.8	353.5	0.0	7.5	3.2	25	38.2	12.0	24.5	39.4	7.7	31.5	17.5	May
290	30.0	358.0	459.8	0.0	10.6	0.9	16	23.8	8.3	29.8	43.8	12.4	37.0	22.6	June
260	23.0	353.1	513.9	0.0	3.8	0.3	15	21.4	8.2	33.2	45.6	16.2	40.3	26.1	July
220	22.0	360.4	480.7	0.0	0.0	0.0	15	21.3	7.9	31.6	44.8	16.6	38.9	24.2	August
320	20.0	343.7	393.2	0.0	0.0	0.0	15	22.9	8.1	28.7	42.2	12.7	36.4	21.0	September
230	21.0	299.5	264.4	0.0	2.8	0.2	21	30.4	11.5	23.3	38.2	5.2	30.9	15.7	October
330	21.0	245.4	153.1	0.1	12.0	3.2	35	49.2	20.0	16.0	33.0	-1.6	22.9	9.1	November
220	35.0	214.2	70.5	5.0	20.1	9.2	46	64.0	27.9	9.8	28.5	-6.8	16.2	3.4	December
320	21.0	214.4	23.7	12.6	21.3	9.8	47	66.2	28.8	7.5	27.8	-10.8	13.9	1.2	January
210	24.0	230.2	12.5	9.1	20.9	7.8	44	64.9	23.7	9.1	27.8	-10.1	15.5	2.6	February
260	25.0	239.0	119.1	1.4	26.9	7.7	34	51.9	16.8	13.6	35.2	-6.0	20.4	6.9	March
220	35	3418.2	3103.8	28.3	26.9	49.6	28.7	41.8	15.6	20.5	45.6	-10.8	27.5	13.5	yearly

5. Climate Classification

5.1. DeMarton's Classification Method

In the Demarton's method, Equation (1) is presented as a dryness index and can be used in a period of several days, a month, a season or a year (Alizadeh, 2002).

$$I = \frac{P}{T + 10} \quad (1)$$

where, I denote the dryness index coefficient, P is the average annual precipitation (in millimeters) and T is the average annual temperature (in degrees Celsius). Based on Demarton's method and given that the average annual precipitation of Yazd city is 48.4 mm and the average annual temperature is 20.5°C, the dryness index coefficient is 1.62. Hence, according to Demarton's climate classification (Table 1), the studied area is located in the hyper-arid (desert) zone.

5.2. Emberger's Classification Method

In Emberger's method, Equation (2) is used, where P denotes total annual rainfall in millimeters, M shows average maximum temperature in the hottest month of the year in degrees Kelvin, and m is average minimum temperature in the coldest month of the year in degrees Kelvin. According to this method, and given that the total annual rainfall of Yazd is 48.4 mm, Q will be calculated to be 3.54. According to this chart, the climate of Yazd will be dry and cold.

$$Q = \frac{2000 P}{M^2 - m^2} \quad (2)$$

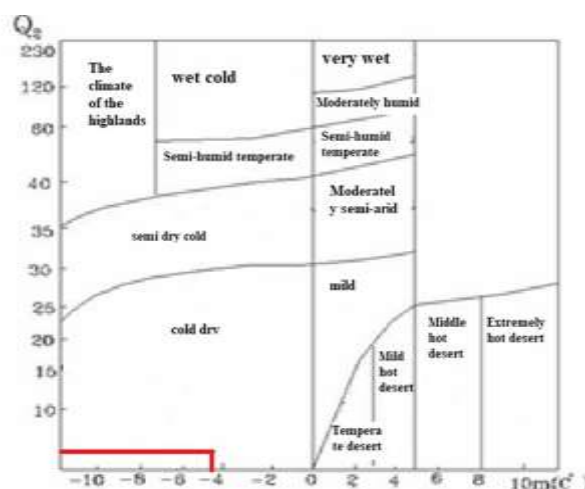


Fig 3 Emberger's climate of Yazd Township

5.3. Koppen's Classification Method

Since the average coldest month of the year in Yazd is between -3 and 18°C and the total annual rainfall during these 23 years has been less than 250 mm and even less than 150 mm, according to Koppen's classification, this township is of Bwh type which means dry and hot. General climate type of Yazd is presented in Table 2.

Table 2 Climate type of Yazd Township

Station name	Climate classification system		
	Demarten	Ambergris	Coupon
Yazd	Very dry (Desert)	Cold dry	Bwh (Dry and warm)

6. Thermal Comfort Indicators

Thermal comfort is a range of temperature and humidity in which the body's thermoregulation mechanism is at minimum (Givoni, 1998). Determining the thermal comfort range has a direct effect on the thermal calculations of the building, the size of the heating and cooling devices, the thickness of the insulation and the materials, and in general on the amount of energy consumption and loss. Considering that people in the same climatic conditions feel the same temperature comfort, it is necessary to determine the thermal comfort range accurately for each climate region (Yang, Wong, and Jusuf, 2013).

6.1. Olgyay's Method

With the help of Olgyay's table and based on the humidity and the intensity of heat and cold, it is possible to understand the climatic conditions of different regions in terms of human comfort, the duration of the annual heat and cold in different cities, the extreme degree of thermal conditions, the type of mechanical system and the need for mechanical systems (Olgyay, 1973). In this diagram, a range has been specified that shows the type of climate regarding the temperature and humidity, and the type of climate of a region can be determined by implementing the thermal

conditions in this table. Through the monthly temperature and humidity during a year in the table, while determining the thermal conditions of the area, it is also possible to obtain the critical conditions of the durability of the annual cold and heat (Mahmoud, 2011). Considering the temperature and humidity of Yazd during the given period, the following figure was obtained.

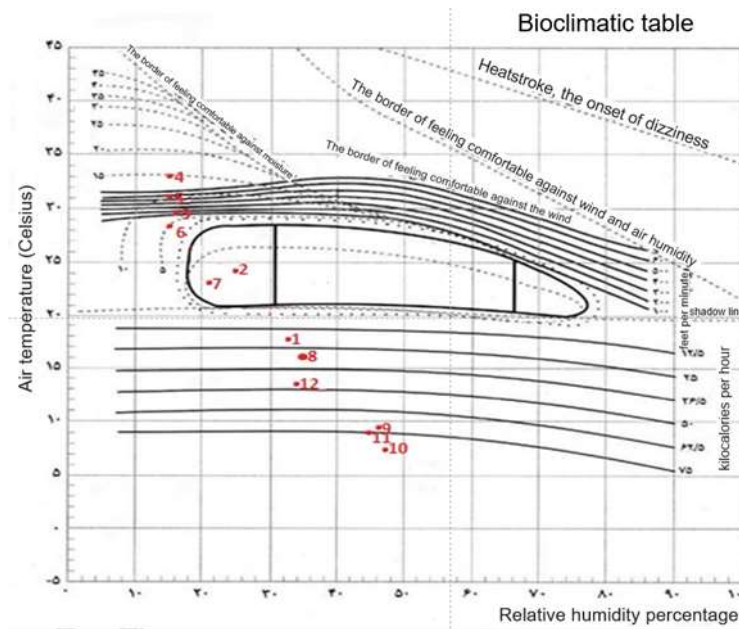


Fig 4 Olgyay of Yazd Township

Table 3 Numbering the 12 months in Olgyay and Givoni charts

March	February	January	December	November	October	September	August	July	June	May	April	Months
12	11	10	9	8	7	6	5	4	3	2	1	numbers

Results of Olgyay chart for Yazd Township:

- May and October are in the comfort range. In this state, a person feels comfortable in the shade and in a situation where the air speed is imperceptible (less than one meter per second).
- April, November, December, January, February and March are in a zone below the level of comfort, and a person does not feel comfortable in the existing conditions, unless exposed to direct sunlight; otherwise, desired comfort is provided using heating devices. However, in December, January and February, the required comfort is provided only by using heating devices.
- June, July, August, and September are above the comfort zone, and it is necessary to provide the necessary comfort both by air flow and by evaporation of water particles in the air.

In Olgyay's method, the type of materials is checked in terms of weight and the amount of thermal insulation in different areas. Since Yazd Township is considered to be a hot and dry region in general, according to Olgyay's model, to determine the range of thermal comfort, relative humidity of the air should also be determined in addition to temperature. According to Olgyay's

suggestion, the appropriate relative humidity range is 30-65% and according to the United States standard, this range is 20%-80% (Sadeghi Roshan and Tabatabaei, 2008).

6.2. Givoni's Method

In addition to determining human comfort range more precisely in terms of the temperature and humidity of the air, this method also determines the extent of usefulness of different building elements in regulating the thermal conditions inside the building. Considering the weather conditions of different cities on the building bioclimatic chart, the characteristics of these cities can be checked and classified accordingly (Ghavidel Rahimi and Ahmadi, 2011; Givoni, 1998) (Figure 5).

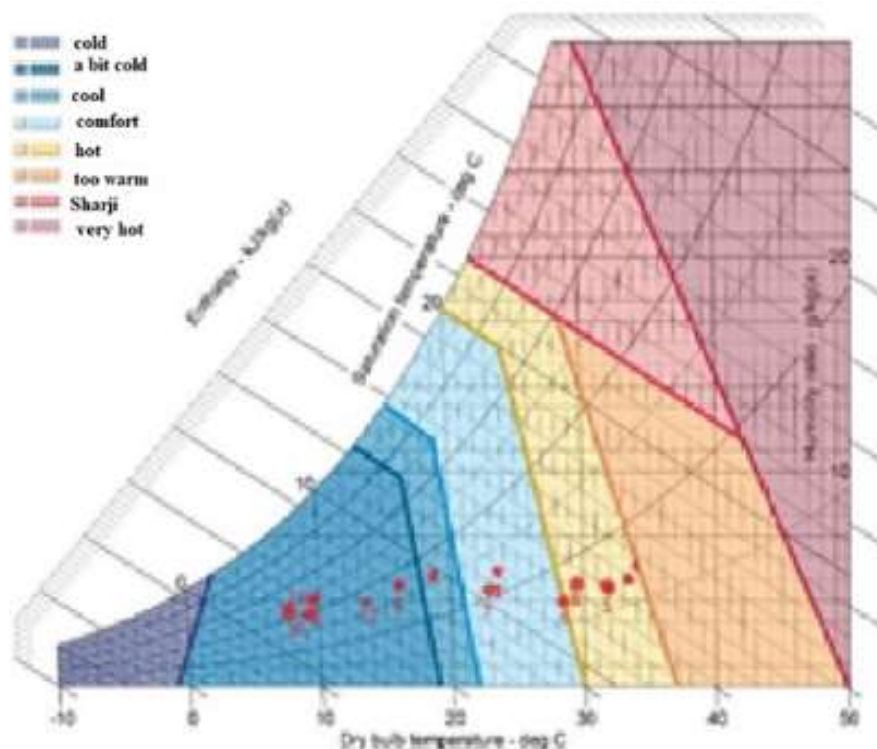


Fig 5 Givoni Chart of Yazd Township

Considering the Givoni chart, it can be seen that in November, December, January, February and March, Yazd is located in a slightly cold region; as a result, in these months, there is a need to receive passive solar heating and increase humidity through water supply.

In April, it is in cool conditions, which requires mild heating and obtaining internal heat along with increasing humidity.

In May and October, the city is in comfort conditions, hence, people feel comfortable both in terms of humidity and temperature.

In September, the city is on the border between comfort and heat and there is a need to reduce heat and ventilation.

In June, July and August, there is a feeling of heat and dryness, and the conditions can be brought closer to the comfort zone with the help of evaporative cooling such as the water-based cooler system.

6.3. Mahani's Method

Mahani chart of the region determines the comfort of night and day in each month according to the average annual temperature of the studied area and the average relative humidity of the same month (Razjouyan, 2014) (Tables 4 and 5).

Table 4 Mahani chart of Yazd

Longitude: 54 17		Latitude: 31 53				Above sea level: 1230 m				Total precipitation mm: 47.4			
Ave.annual temperature: 20.5		Annual fluctuation: 46.7				Max. temperature: 42.3				Lowest temperature: -4.4			
Temperature in Celsius		April	May	June	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar
Average monthly max. temperature		25.5	31.5	37	40.2	38.9	36.4	30.9	22.9	16.2	13.2	15.5	20.4
Average monthly min. temperature		12	17.5	22.6	26	24.1	20.9	15.7	9.1	3.4	1.2	2.6	6.9
Monthly temperature fluctuation		13.5	14	14.4	14.2	14.8	15.5	15.2	13.8	12.8	12.7	12.9	13.5
Relative humidity	Average monthly max.	47.2	38.3	23.6	21.5	21.4	22.9	30.4	49.2	64	66.2	64.9	51.9
	Average monthly min.	14.6	11.9	8.1	8.1	7.8	7.9	11.5	20	27.9	28.8	23.7	16.8
	Average	30.6	25.1	15.85	14.8	6.52	15.4	20.95	34.6	45.95	47.5	44.3	34.35
Relative humidity group		2	1	1	1	1	1	1	2	2	2	2	2
Rainfall in mm		7.4	3.2	0.9	0.3	0.0	0.0	0.2	3.2	9.2	9.8	7.8	7.7
Wind	Domina nt wind	SW	SE	SE	SW	SW	SE	SW	SE	SW	SE	SW	SW
Monthly average max. temperature		25.6	31.5	37	40.2	38.9	36.4	30.9	22.9	16.2	13.9	15.5	20.4
Comfortable day area	Max.	31	36	36	36	36	36	36	31	30	27	30	31
	At least	25	34	34	34	34	34	34	25	22	20	22	25
Average monthly min. temperature		12	17.5	22.6	26	24.1	20.9	15.7	9.1	3.4	1.2	2.6	6.9
Comfort able night area	Min.	20	23	25	25	25	25	23	20	20	20	20	20
	At least	12	14	17	17	17	17	14	12	12	12	12	12
Thermal status	Day	M	C	H	H	H	H	C	C	C	C	C	C
	Night	M	M	M	H	M	M	M	C	C	C	C	C

Table 5 Mahani's conceptual indicators (source: Kamyabi, 2016)

Concept of indicators	Monthly fluctuation in centigrade	Moisture group	Rain	Thermal condition		Indicators
				Night	Day	
Air flow is essential	Less than 10 degrees	4		Hot		H ₁
Air flow is essential		2 & 3		Hot		
Air flow (wind) is favorable		4		Appropriate		H ₂
Rain protection			> 200 mm			H ₃
Thermal capacity	> 10 degrees	1,2,3				A ₁
Free space is essential for sleeping		1 & 2		Hot		A ₂
	> 10 degrees	1 & 2		Appropriate	hot	
Protection against cold				Cold		A ₃

Table 6 Index of the thermal condition of the months of the year in Yazd Township

	April	May	Jun	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar
H ₁												
H ₂												
H ₃												
A ₁	*	*	*	*	*	*	*	*	*	*	*	*
A ₂	*		*	*	*	*						
A ₃		*					*	*	*	*	*	*

Table 7 Total humidity indices of Yazd Township

Total humidity indicators					
H ₁	H ₂	H ₃	A ₁	A ₂	A ₃
0	0	0	12	5	7

Table 8 Review of architectural features of buildings in Yazd based on Mahani's method

Suggestions		Checking presence and absence of indicators	Thermal condition indicators					
			A ₁	A ₂	A ₃	H ₁	H ₂	H ₃
			7	5	12	0	0	0
Method of establishing the building								
1	The length of the buildings along the east and west		5-12		0-10			
2	Compact architecture with courtyard		0-4		11-12			
Space between buildings								
3	Wide and open set for wind use							11-12
4	As above, on the condition of avoiding hot and cold wind							2-10
5	Compact collection	*						0-1
Air flow inside the building								
6	Individual rooms for the use of permanent blinds				0-5			1-2
7	Interlocking rooms and air flow forecasting temporarily when necessary				6-12		2-12	0
8	No need for noticeable air flow	*					0-1	
Windows								
9	Large windows, 40-80% of north and south walls		0		0-1			
10	Very small windows, 10 to 20 percent		0-1		11-12			
11	Medium windows, 20 to 40 percent	*						
Walls								
12	Light walls, short lag time				0-2			
13	Heavy walls, internal and external	*			3-12			
Ceilings								
14	Light roofs with thermal insulation	*		0-5				
15	Heavy ceilings, delay time more than 8 hours			6-12				
Night sleep in the open air								
16	The necessity of providing space for night sleep	*		2-12				
Rain protection								
17	The need for protection against heavy rain					3-12		

According to Table 8, buildings in Yazd Township should contain the following conditions:

It is suggested to design the building in the form of a complex and in a dense manner.

It is better to place buildings compactly and individually next to each other; arrangements that cause wind and ice tunnels should be avoided (Razjouyan, 2014: 62).

Suitable surfaces for openings are 20 to 40% of the wall surface. It is better to place the openings on the surfaces that receive the most sunlight (north and south).

The walls must be thick; heavy walls should be used both inside and outside. Light roofs should be designed with proper thermal insulation.

6.4. Evan's Method

Evans' index is one of reliable indices in the field of comfort climate, which examines the conditions of human comfort from the perspective of climate in different times and places (Mohammadi, 2002). In Evans' model, bioclimatic conditions can be obtained separately in the monthly interval and in two parts "day time" and "night time" (Tavousi, 2011), (According to Table 7).

Table 9 The range of day and night comfort temperature with Evans' index in four groups of relative humidity (source: Kamyabi, 2016)

Scale	Thermal conditions	Relative humidity	Daily temperature	Night temperature
A	Temperature comfort zone range with air flow of 1 m/s	0 – 30	29.5 – 32.5	27.5 – 29.5
		30 – 50	28.5 – 30.5	26.5 – 29
		50 – 70	27.5 – 29.5	26 – 28.5
		70 - 100	26 - 29	25.5 – 28
B	The range of temperature comfort zone with light summer clothes and light bedding at night with imperceptible air flow (0.1 m/s)	0 – 30	22.5 – 30	20 – 27.5
		30 – 50	22.5 – 28	20 – 26.5
		50 – 70	22.5 – 27.5	20 – 26
		70 - 100	22.5 - 27	20 – 25.5
C	The range of temperature comfort zone with normal and warm clothes and thick bedding at night (0.1 m/s)	0 – 30	18 – 20	16 – 20
		30 – 50	18 – 20	16 – 20
		50 – 70	18 – 20	16 – 20
		70 - 100	18 – 20	16 – 20

Table 10 Average maximum temperature and minimum relative air humidity and allocation of daytime climatic conditions in Yazd Township based on Evans' index

Month	Ave. max. temp.	Min. relative humidity	Daily bioclimatic conditions of Yazd	Allocation of daily climatic condition of Yazd	Allocation of daily final status of Yazd
April	25.5	14.6	29.5-32.5 22.5-30 18-20	cold Appropriate hot	Appropriate
May	31.5	12.0	29.5-32.5 22.5-30 18-20	Appropriate hot hot	Appropriate
June	37.0	8.3	29.5-32.5 22.5-30 18-20	hot hot hot	hot
July	40.3	8.2	29.5-32.5 22.5-30 18-20	hot hot hot	hot
August	38.9	7.9	29.5-32.5	hot	hot

			22.5-30 18-20	hot hot	
September	36.4	8.1	29.5-32.5 22.5-30 18-20	hot hot hot	hot
October	30.9	11.5	29.5-32.5 22.5-30 18-20	Appropriate Appropriate hot	Appropriate
November	22.9	20	29.5-32.5 22.5-30 18-20	cold cold Appropriate	Appropriate
December	16.2	27.9	29.5-32.5 22.5-30 18-20	Cold cold cold	cold
January	13.9	28.8	29.5-32.5 22.5-30 18-20	Cold cold cold	cold
February	15.5	23.7	29.5-32.5 22.5-30 18-20	Cold cold cold	cold
March	20.4	16.8	29.5-32.5 22.5-30 18-20	Cold cold cold (tend to fit)	Appropriate

Table 11 The average minimum temperature and maximum relative air humidity and allocation of nighttime climatic conditions in Yazd Township based on Evans' index

Month	Ave. min. temperature	Max. relative humidity	Night bioclimatic conditions of Yazd	Allocation of night climate conditions of Yazd	Allocation of the daily final status of Yazd
April	12.0	47.2	26.5-29 20-26.5 16-20	cold cold cold	cold
May	17.5	38.2	26.5-29 20-26.5 16-20	cold cold Appropriate	Appropriate
June	22.6	23.8	27.5-29.5 20-27.5 16-20	cold Appropriate hot	Appropriate
July	26.1	21.4	27.5-29.5 20-27.5 16-20	cold Appropriate hot	Appropriate
August	24.2	21.3	27.5-29.5 20-27.5 16-20	cold Appropriate hot	Appropriate
September	21.0	22.9	27.5-29.5 20-27.5 16-20	cold Appropriate hot	Appropriate
October	15.7	30.4	26.5-29 20-26.5 16-20	cold cold cold	cold
November	9.1	49.2	26.5-29 20-26.5	cold cold	cold

			16-20	cold	
December	3.4	64.0	29.5-32.5 22.5-30 18-20	cold cold cold	cold
January	1.2	66.2	29.5-32.5 22.5-30 18-20	cold cold cold	cold
February	2.6	64.9	29.5-32.5 22.5-30 18-20	cold cold cold	cold

Table 12 Appropriate climatic guidelines of Yazd province

Architectural guidelines for indoor air conditioning	Temperature fluctuations during day and night	Situation under study	Average humidity			Average temperature	Weather conditions
			minimal	maximum	minimal	maximum	
Need for air flow	-	Day is comfortable with A scale and hot with B scale	more than 70%	-	-	More than 27	High temperature and high relative humidity during the day
	10 or less		50-70%	-	-	More than 27.5	
Building components with heat capacity and delay time	-	hot day	0 – 30%	-	-	More than 32.5	High temperature and high fluctuation during the day and night
	-		30 – 50%	-	-	More than 30.5	
	More than 10		50 – 70%	-	-	More than 29.5	
Necessity of mechanical devices for cooling and heating	-	hot day	0 – 30%	-	-	More than 38	Severe discomfort
	-		30 – 50%	-	-	More than 37	
	More than 10		50 – 70%	-	-	More than 35/5	
	10 or less		More than 70%	-	-	More than 32	
Good heat capacity	More than 10	easy days	0 – 30%	-	More than 10	Less than 32.5	Comfortable day and night, but with a large temperature fluctuation during the day and night
	More than 10		30 – 50%	-	More than 10	Less than 30.5	
	More than 10		50 – 70%	-	More than 10	Less than 29.5	
	More than 10		More than 70%	-	More than 10	Less than 29	
Protecting the building from radiation and strong wind	All the conditions that did not come in situations 1, 2, 3, 4, and 6						Presence of daily comfort
Adequacy of building		new	-	-	-	15-18	Low temperature

components with the ability to accumulate heat in themselves							in the day
No need for proper insulation and permanent heating device		cool	-	-	-	10-15	
Need for proper insulation and a permanent heating device		cold	-	-	-	Less than 10	
Need for air flow	-	Hot at night	-	More than 70%	More than 25.5	-	High temperature and high humidity at night
	10 or less		-	50 – 70%	More than 26	-	
Building components with high heat capacity	-	Hot at night	-	0 – 30%	More than 27.5	-	High temperature and low humidity at night
	-		-	30 – 50%	More than 26.5	-	
	More than 10		-	50 – 70%	More than 26	-	
Need for good insulation with a building with medium or high heat capacity		Cold nights	-	-	Less than 29	-	Low temperature at night

6.5. Szokolay's Method

With the help of this method, the comfort range can be presented on the psychometric table according to the following steps (Kamyabi, 2016):

Given that the average annual temperature of Yazd is 20.5, the comfort temperature is equal to:

$$T_c = 0.31 T_m + 17/6c$$

$$T_c = (0.31 * 20.5) + 17.6c = 23.95$$

$$L = 23.95 - 2 = 21.95$$

$$U = 23.95 + 2 = 25.95$$

$$aL = 0.025 (21.95 - 14) = 0.19$$

$$aU = 0.025 (25.95 - 14) = 0.29$$

$$T_L = L + (A_c A_H) C$$

$$T_L = 21.95 + (0.19 * 9) = 23.63$$

$$T_U = 25.95 + (0.29 * 11) = 29.14$$

7. Results and Discussion

The three different methods used for the climatic classification of a region are DeMarton, Emberger and Koppen's classification methods, all of which were considered in the present study according to the data obtained from the Meteorological Department of Yazd Province. It was concluded that in all three models, the climate of Yazd is characterized as hot and dry.

The range of thermal comfort is a range of temperature and humidity in which the body's thermoregulation mechanism is at minimum activity (Givoni, 1998). In this study, to determine the thermal comfort range of Yazd province, all indices commonly-used in the world were considered, including Olgyay, Givoni, Mahani, Evans, and Zsokolay's index. Considering the results, a specific range was identified as the comfort range of Yazd province.

8. Conclusion

According to the studies conducted and the validation carried out, the climate of Yazd province is identified as hot and dry, and in this climate, it is better to carry out the architecture of buildings with the following considerations:

- It is suggested to design the building in the form of a complex and in a dense manner.
- It is better to place buildings compactly and individually next to each other; arrangements that cause wind and ice tunnels should be avoided (Razjouyan, 2014: 62).
- Suitable surfaces for openings are 20 to 40% of the wall surface. It is better to place the openings on the surfaces that receive the most sunlight (north and south).
- The walls must be thick; heavy walls should be used both inside and outside. Light roofs should be designed with proper thermal insulation.

In Table 13, according to the hot and dry climate of Yazd, guidelines for architectural and urban planning designers according to the climate of the province are presented. It should be used in the future.

Table 13 The results of climatic classification in the architecture of hot and dry areas of Yazd province
(source: authors)

External color	Shadow mask	Building form	Placement direction	Building density	Roof type	Type of material		Plan type	Climate type
						modern	classic		
Color is free but tends to be bright		Expansion of the plan in the east-west direction with 30° deviation to the northwest	30° rotation to southwest and 60° rotation to southeast	High density with minimal external surfaces	Dome shape	High thermal capacity and resistant to thermal stress (false ceiling and iron)	High thermal capacity and resistant to thermal stress of brick materials and wooden coating	Dense and compact	Warm and dry
Underground	Crossing	Door and window	Commonly used elements	Type of window door	Shape of the plan	Building volume		Connection with the earth	Level and number of windows
Basement has many uses	East-west with 30° deviation to northwest	Wooden and crescent face	Fountain and porch in summer	More vertical windows instead of horizontal placement of windows in the upper part	Square plan to minimize side area	Cubic volume		has it	Small and low windows and not placing east and west windows with awnings if necessary
Major objectives of climatic design		Suggested design	Dominant wind	Ventilation		Wall		Plants	View
Reducing building heat loss, using solar energy, using the element of wind and water in urban design and planning			West and North West	winter	Summer	Thick walls to delay the entry of heat such as the use of a trompe wall		Planting deciduous and evergreen plants	Not using smooth and unbroken facades
				Active solar architecture and conventional heating system	Water cooler and suitable materials				

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The Effects of Intellectual Currents of the Periods after the Glorious Islamic Revolution in the Formation of Residential Complexes Based on the Opinions of Laclau and Mouffe

Nasrin Hazeri^a, Lida Balilan Asl^{b*}, Ahad Nejad Ebrahimi^c

^a*Department of Architecture, Tabriz Branch, Islamic Azad University, Tabriz, Iran*

^b*Associate Professor, Department of Architecture, Tabriz Branch, Islamic Azad University, Tabriz, Iran*

^c*Professor, Department of Architecture, Faculty of Architecture and Urban Planning, Tabriz Islamic Art University, Tabriz, Iran*

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Abstract

Residential complexes and collective housing are one of the basic requirements of people in the modern world and in developing countries, especially Iran, which has felt the need more after the Islamic revolution. This concept and its configuration in the eyes of the country can be seen as a part connected to politics in the discourse parts in political fields. Critical discourse analysis examines language as a social act in connection with factors such as power, ideology, culture, society, hegemony and historical context, politics at the level of the text, whether spoken or written, and in this direction by presenting specific approaches, He introduced the power in the discourse and the power beyond the discourse, and the result is the revelation of the truth for people to think better and make a more correct decision and judgement. The purpose of this research is to explain the relationship between the discourses of the country's governing executive and the field of collective housing architecture by examining some examples of successful collective housing in the country. This research is of qualitative type and with inductive strategy, which uses documentary studies and field collection in data collection and uses coding method to reduce and analyze data. During the construction period of the discourse, functionalism played a greater role in creating consequences and problems, and expediency had the least effectiveness. During the reform period, the release of the housing market was the least effective and the supply of housing on a large scale had a significant effect. In the justice-oriented period, the discourse of seeking justice is the most influential and the least influential in the distribution-oriented economy. In the period of

* Corresponding author. Tel: +98-9143165625.

E-mail address: lidabalilan@hotmail.com.

moderation, internal empowerment has the least effectiveness in the formation of collective housing of that era, and the weak economy has the most effectiveness in collective housing.

Keywords: Effective Conversation; Collective Housing; Laclau and Mouffe; Tehran City; Shannon Coefficient

1. Introduction

Following the encountered challenges in social life, architecture as a full-view mirror of the situation of society and its governing mechanisms, has been affected by its crises and it is placed in a difficult situation that is the result of political conversation of a country (Baradaran et al. 2019). The study of political conversations can emerge to an effective point of view on the type of concept in collective housing. Because of the multiplicity and complexity in the perception of phenomena in contemporary society, especially from the beginning of the second half of the twentieth century, this phenomenon has led to the inefficiency of classical essentialist theories in understanding phenomena, which made researchers to consider non-classical theories with relativistic and anti-fundamentalist aspect (Haji Hosseini and Sam Aram, 2014). For this reason, in the present study, the researcher's attention has been focused on the theory of critical conversation analysis of Ernesto Laclau and Chantal Mouffe. Because this non-classical theory provides a new tool for better perception of contemporary phenomena to the researcher and governs a new opportunity for identifying and understanding phenomena in the conversation form (Laclau and Mouffe, 2001). Researches in the field of contemporary architecture of Iran shows the adoption of a value-judgmental approach in the analysis of contemporary Iranian architecture, which demonstrates the lack of success in Iranian researchers compared to international researchers in this approach (Hosseinzadeh, 2004). Because international researchers focus on the study of the reality of the happenings in the current and visual changes in society, i.e., economic, cultural and political fields, this has led to the establishment of study-research methods by benefiting from new approaches, makes analysis more apparent than before (Droudgar, 2016). Therefore, the future study, in addition to understanding this important issue, seeks new solutions in the perception of urban collective housing architecture phenomenon in the field of conversation, especially the political-governmental field, and is considered as a symbol of community development and influenced by the dominant conversations (Leach, 2013). In this research, after examining the conversation approach of Laclau and Mouffe in the literature and presenting project methodology, it is tried to answer the following questions.

What is the effective conversation on collective housing architecture in Tehran?

Which of the political conversations and the existing conversations had a greater impact on the collective housing architecture after the Islamic revolution of Iran?

2. Literature Review

In line with the logic of Laclau and Mouffe (2001), an theory on discourse there will in this chapter be argued that if one is going to understand what in this thesis is meant by “the multicultural” one needs to understand, what multiple content the concept of culture may be provided; what content which culture may be ascribed.

We will call articulation any practice establishing a relation among elements such that their identity is modified as a result of the articulatory practice. The structured totality resulting from the

articulatory practice, we will call discourse. The differential positions, insofar as they appear articulated within a discourse, we will call moments. By contrast, we will call element any difference that is not discursively articulated.

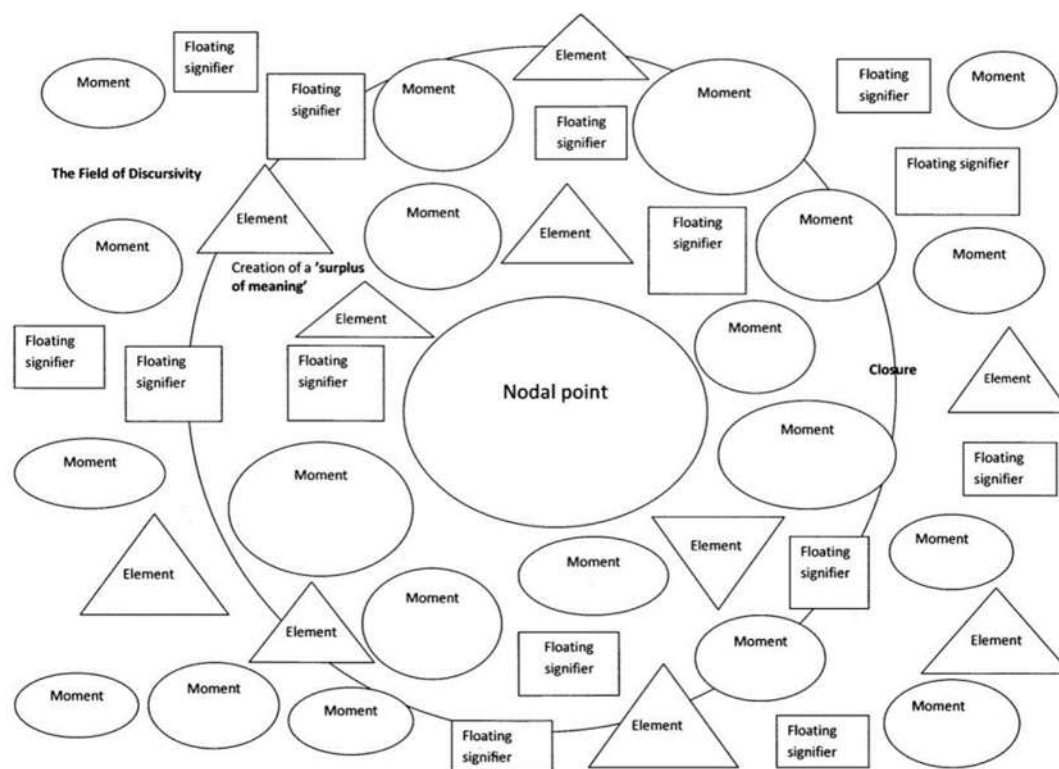


Fig 1 Signs in discourse: A structural visualization of Laclau and Mouffe's discourse theory (source: Laclau and Mouffe, 2001)

Laclau and Mouffe (2001) understand the interplay between discourses as a continuous political struggle for hegemony (Gramsci, 2011). A discourse is always flexible, but it gains what Laclau and Mouffe refers to as a hegemonic formation (1985:136); a status of temporal dominance, when it manages to fix the meaning of signs (concepts) within a domain. According to Laclau and Mouffe's theory (2001), every discourse is established around a crystallized nodal point. The nodal point involves, according to Laclau and Mouffe, "... the notion of a particular element assuming a 'universal' structuring function within a certain discursive field..." (Laclau and Mouffe, 2001). Surrounding the nodal point are discursive signs, called moments, elements and floating signifiers (Laclau and Mouffe, 2001). The moments within a discourse support and fixate the meaning of the nodal point. The moments, because they are related to each other support both their specific meaning, as well as their meaning as part of a group. The nodal point is in itself void of meaning, and therefore does not gain meaning until it is related to the moments surrounding it. The moments then have a fixed meaning. In contradiction to the moments, the elements do not have a fixed meaning, they are signs which different discourses struggle to invest meaning in and thereby fix as moments which suit their specific nodal point. Occasionally elements which are equivalents cling together and form a chain of equivalence. The equivalent elements in the chain of equivalence may be used interchangeably (Laclau and Mouffe, 2001) without altering the meaning of the discourse. However, a consequence of their ability to interchange is that they are "...reducing the number of

positions which can possibly be combined” (Laclau and Mouffe, 2001). A consequence of the logic of equivalence is that it simplifies the complexity or possible multitude of combinations of relations between the discursive signs; the political space; “the game” resulting in a hegemonic formation (Laclau and Mouffe, 2001). The floating signifiers within a discourse are elements which are particularly open to different ascriptions of meaning (Laclau and Mouffe, 2001). According to Winther Jørgensen and Phillips (2002), “... the term ‘floating signifier’ belongs to the ongoing struggle between different discourses to fix the meaning of important signs” (Winther Jørgensen and Phillips, 2002).

Trend of formation of super conversation of Islamic revolution by the appearance and determination of central signs:

After the victory of the Islamic revolution with the leadership of Imam Khomeini at 1978, concepts such as religious democracy, Islamic human rights, religious jurisprudence, religious nationalism against nationalism, defense of the deprived and oppressed were appeared in the conversation of the revolution (Rezaei Jafari, Agha Hosseini, and Ali Hosseini, 2016). The Islamic revolution from the privative dimension drew a line on many socio-political relations of the country and in the positive view, established new relations and changed the vision of Iranians and other people in other societies towards the universe, human, the end of life, government and political system and etc. The result of these events was the generalization of a conversation with its specific characteristics (Henry and Azarmi, 2013) and it led to the formation of a new conversation and semantic system in Iran. The principles of the Islamic Revolution are as following:

The principal of God-oriented, the principal of the right to determine human fate, the principal of integration of religious and policy, the principal of oppression, the principle of justice, the principle of spirituality, the principle of rationality, the principle of the generality of the audience

These principals are configured in the framework of conversation. Islamic revolution conversation by using written concepts and organizations such as people, republic, democracy, law, freedom, equality and human rights tries to give meaning to these concepts in the framework of its own conversation and by mixing the Islamic values and new patterns, propose government (Grincer, 2016). According to Foucault opinion, the Iranian people in the 1978 Islamic revolution tried to restore spirituality to their lives, especially in the world of politics and government. In fact, the injection of spirituality into politics was the main purpose of the Islamic revolution, which was established based on "political rationality" (Ehteshami, 2016).

Before revolution, Imama Khomeini could collect a collection of contexts from Islamic religious and modernism without any relation in a conversation called Islamic revolution. The Islamic Revolution, by creating a metaphorical space called Laclau, which in its shadow the concepts of tradition and modernity were intertwined, many active political groups in the revolution, seek their ideals in that space (Droudgar, 2016). The basic concepts in the conversation of the Islamic revolution based of Shie Islam are categorized and they are considered as prominent capacities in this conversation, the following can be mentioned:

- God governance and monotheism-oriented
- Justice
- Republic and democracy
- Freedom
- Arrogance and defense of the deprived and oppressed people
- Rationalism and expediency (benefiting from ijthad capacities in shia Islam) (Isenstadt and Rizvi, 2018).

In fact, the conversation of the Islamic revolution, which was emerged in the form of the Islamic republic, is the result of articulation and an important sign of "republic" and "Islamism". Islam takes role as the "central sign" of the "fundamentalist" and "traditionalist" Islamic groups, and mix the symbols of the clergy, jurisprudence, and Velayat-e-Faqih in one conversation. On the other hand, the signs of the people, law and freedom in the form of the secular and liberal modernist conversation were described around the central sign of the republic (Fatemi Moghadam and Astaraki, 2019). "Islam, the clergy of jurisprudence and the ruling of the jurisprudent" is rooted in "traditionalism" and "republic, people, law and freedom" is rooted in "modernism". Despite the inherent compatibility and contradiction between the two groups, from the signs of leader in the metaphorical atmosphere of the Islamic revolution, both groups were addressed around the character of the "Imam The metaphorical atmosphere forms in a situation that a conversation encounters a crisis (Rezaei Panah, 2010). In the revolution period and after that, the most important reason for the formation of the metaphorical atmosphere is the character of Imam as the most important factor of hegemony of the conversation in the Islamic revolution and its continuation. In a way that all of the signs of revolution conversation around the charismatic character of Imam were described and the contradictions between the signs from modernization and traditionalism were hidden. The two important signs of the Islamic revolution's conversation were "republic" and "Islamism", which were detailed in a new form in the conversation of the Islamic revolution with the title of the Islamic Republic (Paul, 2005).

The trend of the formation of sub political conversations under the super conversation of Islamic revolution

Since the victory of Islamic revolution until the dissolution of the Islamic republic party, three sub-conversations became hegemonic:

- Conservative nationalism sub-conversation
- Secular nationalism sub-conversation
- Traditional (left party) Islamic sub-conversation

From the time of Imam's death until the end of the constructive government, right party Islamic sub-conversation (traditional) emerged. From the end of the constructive government, the following three sub-conversations dominated the Iranian power (Samadi, 2018):

- Left party Islamic sub-conversation
- The fundamentalist sub-conversation
- The sub-conversation of moderation

And sub-conversation of "conservative nationalism" and "secular nationalism". Because of the rejected gaps and differences, they could show a basic strategy in the economy section. Among them, the following five sub-conversation for economic developing of Islamic patterns, the structural adjustment, political development, justice-oriented and develop mentalism were implemented:

- Left party Islamic sub-conversation (traditional)
- Right party Islamic (traditional)
- Islamic left conversation
- Fundamentalism
- Moderation (Mousavi, Jafari Nejad and Azin, 2019).

Table 1 Fixed sub-conversation from the start of Islamic revolution until now (Source: Authors, 2020 quoted from Ehteshami, 2016)

Conversation	Temporary government	year	The main axes
Islamic liberal	Temporary	59	This conversation is one of the basic stages of

	government (President Bani Sadr)		Islamic revolution that has the fixation and hegemony stage
Islamic left	Mirhosein musavi	60-68	With signs such as the leadership of faqih; establishing social justice; state economy; economic approach; saving in consumption; Populism, the tendency of the lower than middle classes; small distribution
Free economy and economic development (construction)	Akbar Hashemi Rafsanjani	76-68	Emphasis on free economy, economic prosperity instead of social justice; attracting foreign capital; accumulation of domestic capital; tendency to the private sector; pragmatism; providing employment; reconstruction of the basis of the society especially in the economic sector
Islamic democracy (reformists)	Seyed Mohammad Khatami	76-84	Signs and population of people; republic of the system; freedom in the political/economic/social/cultural spheres; specialization; attracting public participation; observing the citizenship rights; pluralism; expanding the scope of civil society
Social justice (fundamentalism)	Mahmood Ahmadi Nejad	84-92	Emphasis on Velayat-e-Faqih; return to the principles and values of the revolution; social justice; removing poverty and discrimination; populism; fight with corruption (in all economic/social/political fields); the emergence of Islamic nationalism; communication with nations instead of governments; emphasis on scientific and technical advances and ...
Moderation	Hassan Ruhani	92-now	The basis of the moderation government on developmentalism; adaptation from the liberalism ideology; constructive interaction with the world; exogenous economy; establishment of Iran's economic model based on the neo-Keynesian model; lack of distinction between sciences and knowledges; linking foreign policy to economics; Internal Barjam; Nuclear Barjam

2.1. Reading the General Plans of Social, Political, Cultural Development for Solving Housing Field

The general policies of economic, social and cultural development plans are adjusted by the Supreme Leader after consultation with the Expediency Council and it is provided for the current governments to manage five-year social development plans (Ziari et al. 2011). Until now, the rule plans of third, fourth and fifth development have followed the above policies, which include the fourth and fifth social, political, cultural development programs, i.e. the government of Seyed Mohammad Khatami and the tenth government, the second period of Mahmoud Ahmadinejad government, after analyzing and investigating the third development plan, it was concluded that in all 36 clauses of the national policies of the third development plan, there was no attention to the field of architecture, especially housing architecture, and the only cases that can be related to architecture, includes clauses in which the beauty of society and reliance on Islamic and revolutionary values and the protection of Iranian and Islamic identity are mentioned (Kamrava, 2016).

By examining the total of 52 general policy clauses in the fourth development plan, only sections of clauses 15 and 21 with the headings of social, political, defense and security affairs and clause 41 with the heading of economic affairs might be related to the field of architecture that these clauses in summary are as following: clause 15, entitled “strengthening the national identity of youth”, with the aim of providing an environment for intellectual and scientific growth and efforts to solve job, marriage and housing problems, is in line with the ideals of the revolution (Moatasim, 2005). The summary of clause 21 under the title of “identifying the city and villages facades” with recreating sub-sections and updating Iranian-Islamic architecture and observing the advanced standards for the safety and strength of the building and clause 41 with the title of “supporting housing for low-income and needy groups”.

By reading the general policy plans of fifth development with 45 clauses, only clauses 13 and 15 with headings of social affair consider the architecture that the summary of these clauses are as follow: clause 13 with the title of “improvement in the national identity of youth and considering their housing problems” and the summary of clause 15 with the title of “identifying the city and villages facades” is observing the Islamic-Iranian architecture and using advanced standards for the safety and strength of the building (Moustafa, 2004).

2.2. Reading the Five-Year Development Plans of Government in Housing Field

Table 2 Political changes in housing in different periods after the Islamic Revolution (Source: Moustafa, 2004)

Period	Dominant conversation	Policies for providing housing
first period: The Revolution of street movements for housing	Revolution conversation; considering poor people; development of populist economic and social policies; street movements related to land and housing	Distributing land, granting loans and subsidies to individual and work-based cooperation; assignment of cheap land by the Housing Foundation and the 100 account of Imams
Second period: Constructive conversation	Dominance in liberal vision in economy Considering free market and privatism Increasing oil revenues Releasing housing market Considering mass builders and the private sector in housing construction	Providing land and cheap loans; cheap and government housing; social housing
Third period: Reform conversation	Prioritizing market forces and the private sector Increasing oil revenues Releasing housing market Supporting housing supply	Continuation the policies from the previous period; pay attention to rented and cheap housing; fighting illegal housing
Fourth period: Justice oriented conversation	Development in justice conversation Returning to the ideals of the first decade of the revolution and populist policies Distribution-based economy Increasing government revenues due to rising oil prices	Mehr housing scheme; encouraging housing cooperation; granting cheap loans to the rural housing
Fifth period: Moderation conversation	Economic conversation Respond to consumerism needs in housing sector Dealing with housing trade Consumer demand versus merchant demand	Revision in Mehr housing scheme; considering traditional houses; pay special attention to illegal housing; social and supporting housing

After the victory of the Islamic Revolution, with writing and submitting socio-economic development plans, the main axis of development in every period were identified: Simultaneously with the socio-economic development that was implemented in six stages after the victory of the Islamic Revolution, various governments came to power and each of them with a specific conversation showed their policy and with defining the main and submission axes, they tried to direct important to take steps toward the goals of the desired plans for socio-economic plans within their government and reach their plans and goals, in addition to focus on their dominant conversation and manage affairs according to the defined policies, in the direction of goals (Pour Mohammadi, 2015).

Development plans of every government in social-cultural situations with considering economic and political plans were formed during the period of conversation space and the formulation and implementation of plans was influential (Bechtel and Churchman, 2002).

The first and second development program or construction period “policy of government concern” were considered as a float sign and it did not have any location in the constructive government. In fact, it exists in the realm of typology conversation. By implementation of correction government in line with the third development program, “Government decentralization policy” was converted to the central sign from the float sign and it was placed in the center of details of the reform conversation. The "economic relationship with foreign governments", which had not been considered significantly due to the post-war situation and the economic sanctions, was considered an "element". By providing the idea of “governments conversation” in reform government, from an element or float sign converted to an important matter and gradually established a meaning for itself in which the meaning was blocked and entered into the details of the reform conversation (Biniaz, 2014).

The fifth development plan was prepared under the conditions of a principled conversation. In these situations, the economic relationships with foreign countries, which had finally become a matter during the reforms, were deconstructed and became a floating sign again, and relationships with foreign countries were sent to the realm of conversation and it was prevented from entering in the conversation of the principled state. In this method of conversation, the emphasis was on revolutionary principles, fighting with imperialism, and insistence on the right to have nuclear energy, which was sanctioned by western countries. As a result, the "resistance economy" became the central sign of the fifth development plan.

The resistance economy elements in this conversation are mentioned as bellow:

- Emphasis on tax revenues
- Considering internal economic potentials (under the effect of reducing relationships with foreign countries)
- Targeting subsidies and using its revenues to manage the country
- Modification in consumption pattern
- Activating the stock market by granting justice shares
- Paying attention to mines and natural sources for being independent on oil revenues
- Islamic economics, which was considered as empty sign in the development plans before the conversation; in the fifth development plan, the model was entered from an empty sign to an important model and changed from a typology conversation to a fundamentalist conversation (Cowan, 2005).

3. Research Background

Until now, valuable studies have been performed in the politics of housing that can be mentioned in the following:

Jurabchi at 2009, in his thesis with the topic of environmental approach to collective urban housing tries to mention a legal narrative of the influencing factors on the construction and the way of arrangement of collective housing with medium density and height. In this research, the most key theories are used to describe the concept (Jurabchi, 2009). Ghanbari and Zaheri (2010) in an article entitled "Evaluation of macro-housing policies in the programs before and after the Islamic Revolution of Iran" studies the strengths and weaknesses points and they consider the generality of the programs as an important factor for weakness in this field (Ghanbari and Zaheri, 2010). Marie (2001) in an article entitled Housing for the poor!. Studies the housing policy negotiation on changes in the housing policies by government with emphasizing on the housing of low-income groups and they consider the government to meet their housing needs (Marie, 2001). Vincent (2001) in his article entitled housing policy in Nigeria, describes the role of area accessibility policies, housing infrastructure, regulation of material construction and related industries in Nigeria. Biniaz (2014) in his research entitled "eleventh government and the policies of housing development" describes the policies of Hassan Ruhani in relation to continuing the ninth and tenth government way and he demonstrates that eleventh government did not obey the previous policies in relation to housing (Biniaz, 2014). Ismaili Darka and Ziari. (2016) in an article entitled "study and comparison of housing policies in Iran and Sweden" descriptively examines housing policies in Iran and Sweden. The author describes the housing policy in Sweden as independent factor of the statements of the ruling society of Sweden and in this shape a community-oriented phenomenon with steady value is described, which placed in the opposite of Iran (Ismaili Darka and Ziari, 2016). Hezarjaribi and Emami Ghaffari (2019) in his study entitled "analyzing the development of housing welfare policies in Iran" (1979-2013), examined the role of government in social policy after the formation of the Islamic revolution until the end of the tenth government. This article considering two dimensions of legal inputs and executive method of governments examines the principles of target groups based on income and economic status with different patterns in the type of housing policy (Hezarjaribi and Emami Ghaffari, 2019).

4. Research Method

This article is a combination of qualitative and quantitative types, which in the first stage has been used to identify and extract the ruling ideas in the political discourse, from document studies and scanning of texts related to administrations and policy areas in the areas of collective housing after the revolution. Then, using prior knowledge and coding, inference, and comparison of data, discourses have been extracted. In the next step, to categorize these works using the Delphi method (future research), desirable collective housing was selected and measured. In the Delphi phase, in the brainstorming phase, experts were asked to give their opinion regarding the discourses that shape the selected collective housing in relation to the consequences, problems, and influential dimensions and effective discourses in the collective housing. Then, in the limiting phase, they were asked to give them a very low to very high score based on the effective discourses. The results are displayed in the form of many graphs, but in the last stage and the selection phase, effective political discourses in the formation of collective housing after the revolution in Tehran are selected. In the quantitative part, the Shannon coefficient is used to verify the results for each discourse and each period (Shahbazi, Bemanian, and Saremi, 2017; Shahbazi, Yeganeh, and

Bemanian, 2020; Shahbazi, Yeganeh, and Bamanian, 2020). Sampling for this research for collective housing samples was successful and targeted based on sampling and for experts the sample is snow ball. The studied collective housings are as below:

First, based on the existing statics, regions with the greatest number of collective houses were selected; then all of the eligible collective houses were identified and analyzed in the field. Based on the extracted data from the field, comparison and fitting of data, the common factor between the complexes, extraction and typology model of the residential complexes with an open space approach were compiled (Marie, 2001).

The primary selection of complexes was performed based on the amount of open space. For this sake, all of the collective housing in the nine areas was extracted by using the existing maps of Tehran, GPS maps and satellite images. Then, all of the residential complexes with open space over 65% of the land area were selected and analyzed in the field. Residential complexes with characteristics lack of generalization to the whole city were removed from the study. In the final step, experts are asked to review the subject of the article with the system of preference and give numbers between 1 to 10 between the introduced complexes and for each round, the highest score is selected (Ismaili Darka and Ziari, 2016).

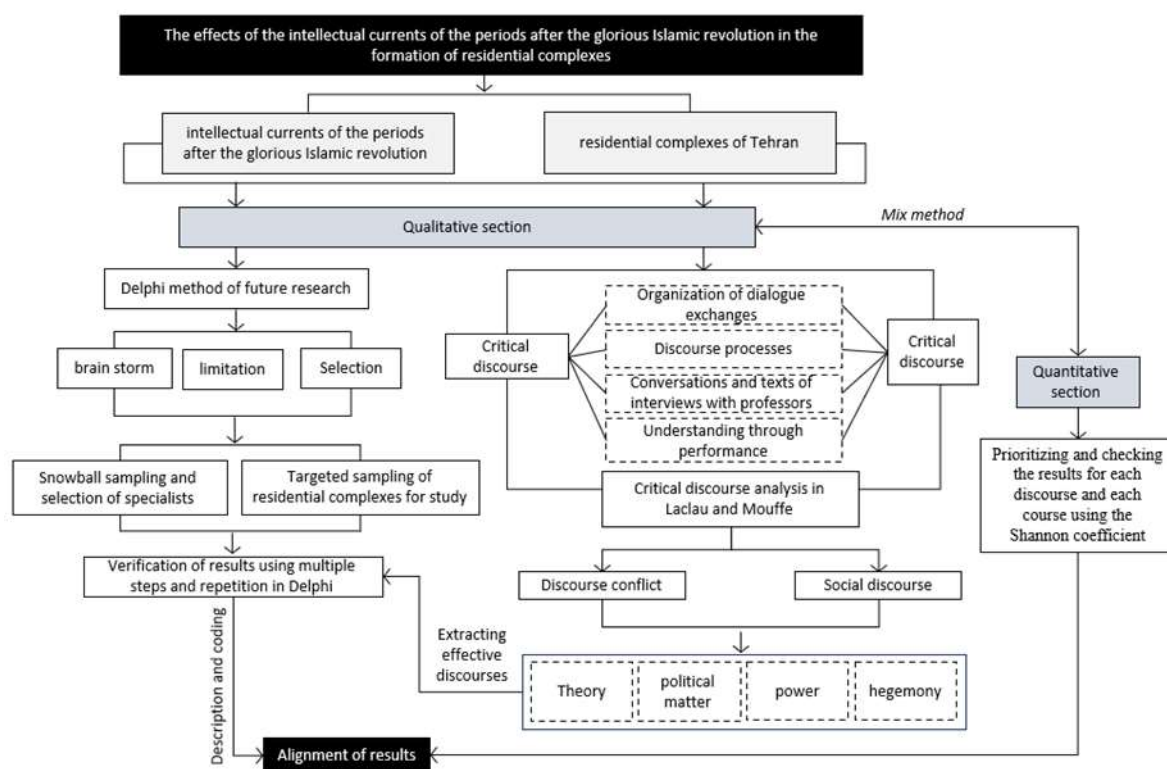


Fig 2 Research Methodology

Table 3 Typology of open space in residential complexes in every region in each block and unit

Height	Pattern of open spaces of residential complexes	Number of units		
		<216	504-216	+505
-6	Scattered	Nasim Danesh, Saman Region 2, Resalat, Golha (Saadatabad)	-	Baharan, Peykan shahr
	Strip	Golnaz	Mountain, Apadana, Farhang Shahr 1, Niloufar	Pardisan, Kushak
	Concentrated	Nasim, Laleh	-	-
12-7	Scattered	Sadaf, Ferdos	Sina, Golha Region 4, Arghavan, Behjatabad, Sarv Naz	Sadra, Ekbatan
	Strip	Nevisandegan	Besat, Zahtabi	-
	Concentrated	Setareh, Ctesiphon, Arian	Daneshgahian, Behine sazan, Ashrafi, Mahan, Ebne sina	-
+13	Scattered	Shamran, Omid, Pasargad	Golestan, Pars, Satarkhan, Vanak pars, Bistoon and Perspolis	Sobhan, Prince Hormozan Park, Atisaz A, Atisaz B
	Strip	-	-	-
	Concentrated	Mahestan	Omid, Iranzamin, Sarvestan	Atisaz C, Hafez, Mahestan, ASP

5. Research Findings

After conducting targeted sampling between the mentioned collective housings, the collective housings were selected as a sample to examine the impact of conversations on the formation of these housings:

Table 4 Selected collective housings

Year of construction	The selected collective housing	Head of government	Name of period
1993	Sarvanaz 500-unit residential complex	Rafsanjani	Construction period
1997	Ibn Sina Residential Complex	Khatami	Reform period
2006	Nilofar complex (Teimoori street and Teimoori neighborhood in Tehran)	Ahmadi Nejad	Justice-oriented period
2019	Tehran Zehtabi Residential Complex	Ruhani	Moderation period




5.1. Intellectual Phae Storm

At this stage, these questions are asked from experts about all of the four periods, which are as follows:

- 1- What effect did the super-conversations and sub-conversations have on the construction of the selected residential complex in this period?
- 2- What are the emerged problems and difficulties from the conversations in this period about the selected collective housing?
- 3- In which aspects of collective housing do these conversations occur?
- 4- In your opinion, which of these conversations was successful in the emergence of collective housing?

Table 5 Expert opinions for the conversation of each period than the selected building

Effective axis	Effective aspects	Problems	Results of the conversations of the construction period
Dominance of liberal economic view, attention to mass production, privatization, functionalism, expediency	Physical, spatial, social, economic	Lack of support, lack of regular rules, using modernism patterns in construction, lack of expertise, lack of using various materials, lack of attention to identity, lack of technology	Housing for all walks of life, the majority of the average community, quality of construction, removing decorations, reducing the interior space, increasing the interactive space, speed of construction, accurate locating, spatial quality, standardization of buildings
			
Effective axis	Effective aspects	Problems	Results of the conversations of the reform period
Releasing the housing market, attention to the economy, privatization, providing mass supply of housing, maintaining the beauty of society	Physical, environmental, spatial, functional	Small attention to the horizontal development of the city, construction of rented housing, lack of government support for mass construction, excessive downsizing of units, focus on the independence collective housing	Target community in the average class of people, development of implementation techniques, standardization of regulations, using new materials, attention to collective spaces inside and outside the building, high-rise construction, integration of commercial and residential applications in collective housing in this period

			Results of the conversations of the justice-oriented period
Effective axis Distribution-oriented economy, return to the ideals of the first decade of the revolution, the conversation of justice, increasing oil revenues, beauty and identifying the urbanization of the society	Effective aspects Physical, spatial	Problems Lack of promotion of prefabrication, lack of strategic housing plan, lack of attention to middle-income groups, building wear before operation, accumulation of marginalized residents in Mehr housing, lack of proper location, lack of peace and comfort inside houses	Intense reduction in construction quality, reduction in construction durability, elimination of interactive space in collective housing, low-income groups as the target community, acceleration in construction, attention to rural housing, lack of attention to standards, accumulation of criminal groups in collective housing
			Results of the conversations of the moderation period
Effective axis Develop mentalism, moderation in all matters, respond to consumer needs, economic plan, elimination of intermediation, weak economy, attention to non-oil exports, domestic empowerment	Effective aspects Physical, economic, social, cultural, spatial	Problems Dominance of supportive housing, mass production of small collective housing, housing stagnation, weak communication and macroeconomic policy, lack of supply and demand, lack of upgrading urban infrastructure, lack of standard in open spaces in collective housing,	Returning to horizontal development, paying attention to infrastructure, products of building for all groups, paying attention to sustainable development, rehabilitation of collective housing, using development stimulus projects in collective housing, emphasizing on the elimination of marginal residents, paying attention to aspects Non-objective, studies about unsuccessful collective housing



From the results obtained from text interviews with experts, there is an attempt to extract descriptive and interpretive codes, and also, after reduction they are shown in Figure 3.

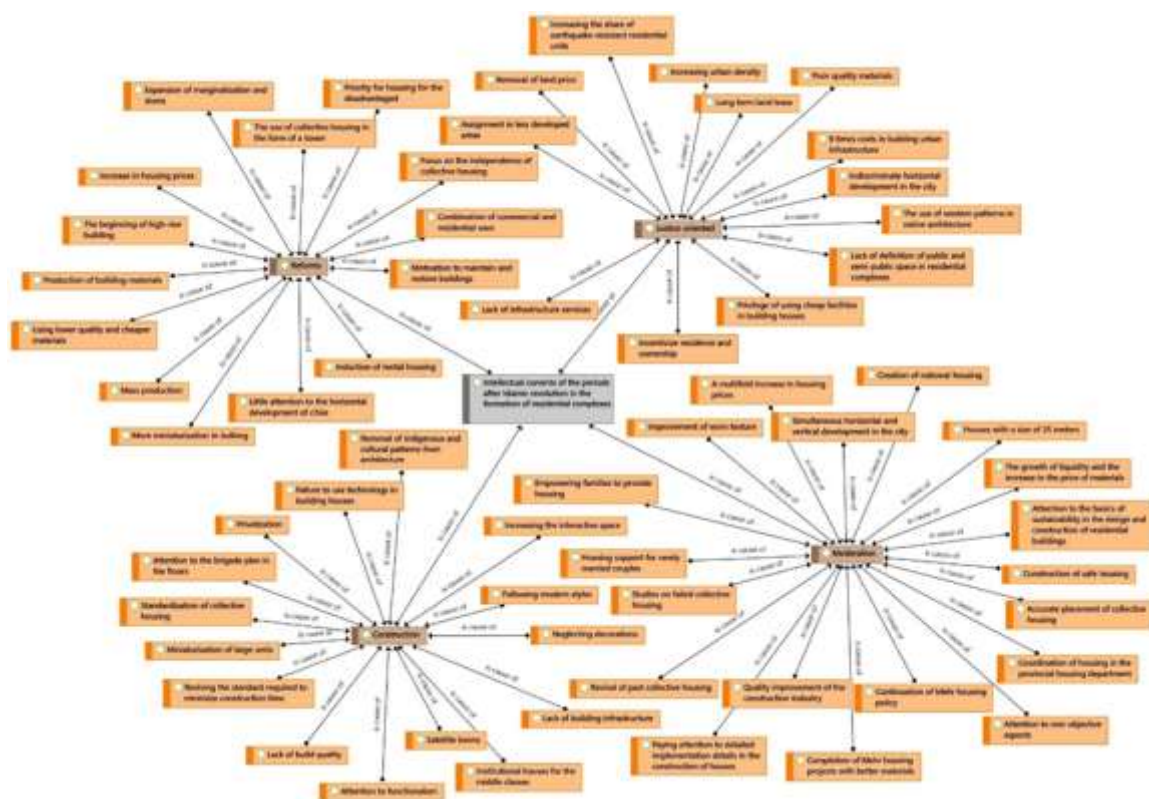


Fig 3 Extracted codes from the text of interviews

5.2. Restricted Phase

According to the results of the second phase of Delphi, experts were asked to score the impact of each conversation on the problems and consequences from very low to very high.

5.3. Selection Phase

After collecting data in the second stage of Delphi method, for agreement of experts with every index, first the simplest method i.e., the sum of scores and their average were used. Data were analyzed by "Shannon Entropy" method and by using this formula with higher accuracy than the abundance of data, we can calculate every index and their weight. In this formula P_{it} is the score to norm and F_{it} is the score to every response to the desired category. After that, data of every E_i is

calculated from the equation 2. In this equation, m is the number of responses and n is the number of categories then the weight of each category, W_{ij} index is calculated from equation 3.

$$P_{ij} = \frac{F_{ij}}{\sum_{i=1}^m F_{ij}} \quad (i = 1, 2, \dots, m; j = 1, 2, \dots, n) \quad (1)$$

$$E_j = -k \sum_{i=1}^m [P_{ij} \ln(P_{ij})] \quad j \in 1, \dots, n \quad k = \frac{1}{\ln(m)} \quad (2)$$

$$W_{ij} = \frac{E_j}{\sum_{j=1}^n E_j} \quad (3)$$

As expected, there are differences in Shannon's table and frequency diagram, and the importance of every conversation in the emergence of collective housing in that period is shown different. Since Shannon's algorithm for weighting needs more accuracy, the weight of variables based on Shannon algorithm is considered as the basis of conclusion in this study. Hence among all periods, the liberal economic view has the greatest impact on the creation of collective housing and the least impact was the conversation of moderation in all affairs. The highest Shannon coefficient is related to the construction period and the lowest is related to the justice-oriented period.

Table 6 Shannon coefficient for every period and every conversation

Name of period	Effect of conversation on residential complexes	Average	Sum of score	Shannon technic	Data in every conversation	Average of course weight
Construction	Neglecting decorations	112	4/3	1/428	0/04386	0/04379
	Increasing the interactive space	107	4/1	1/426	0/04311	
	Reviving the standard required to minimize construction time	95	3/6	1.442	0/04216	
	Institutional houses for the middle classes	106	4	1/406	0/04366	
	Privatization	89	3/4	1/423	0/04117	
	Standardization of collective housing	87	3/3	1/319	0/04018	
	Failure to use technology in building houses	99	3/8	1/117	0/04182	
	Miniaturization of large units	103	3/9	1/123	0/04355	
	Lack of building infrastructure	114	4/3	1/123	0/04328	
	Lack of build quality	85	4/2	1/227	0/04333	
	Removal of indigenous and cultural patterns from architecture	95	3/6	1/335	0/04293	
	Satellite towns	106	4	1/175	0/04311	
	Attention to the brigade plan in the floors	113	4/3	1/218	0/04382	
	Following modern styles	105	4	1/255	0/04288	
	Attention to functionalism	85	4/2	1/105	0/04311	
Reforms	The use of collective housing in the form of a tower	101	3/8	1/108	0/04279	0/04243
	Using lower quality and cheaper materials	89	3/4	1/108	0/04008	
	Focus on the independence of collective housing	99	3/8	1/120	0/04126	

	Combination of commercial and residential uses	128	4/9	1/324	0/04344	
	The beginning of high-rise building	105	4	1/105	0/04186	
	Expansion of marginalization and slums	127	4/8	1/255	0/04344	
	More miniaturization in bulking	139	3/7	1/339	0/04298	
	Little attention to the horizontal development of cities	107	4/1	1/128	0/04486	
	Increase in housing prices	102	3/9	1/126	0/04411	
	Motivation to maintain and restore buildings	90	3/4	#VALUE!	0/04316	
	Priority for housing for the disadvantaged	101	3/8	1/106	0/04466	
	Induction of rental housing	84	3/2	1/123	0/04217	
	Production of building materials	82	3/1	1/019	0/04118	
	Mass production	94	3/6	0/817	0/04282	
Justice-oriented	Indiscriminate horizontal development in the city	98	3/7	0/823	0/04455	0/04243
	Increasing the share of earthquake-resistant residential units	109	4/1	0/823	0/04428	
	Lack of definition of public and semi-public space in residential complexes	80	4	0/927	0/04433	
	Privilege of using cheap facilities in building houses	90	3/4	1/035	0/04393	
	3times costs in building urban infrastructure	101	3/8	0/875	0/04411	
	Poor quality materials	108	4/1	0/918	0/04482	
	The use of western patterns in native architecture	100	3/8	0/955	0/04388	
	Lack of infrastructure services	80	4	0/805	0/04411	
	Incentivize residence and ownership	96	3/6	0/808	0/04379	
	Removal of land price	84	3/2	0/808	0/04108	
	Long term land lease	94	3/6	0/82	0/04226	
	Assignment in less developed areas	123	4/7	1/024	0/04444	
	Increasing urban density	100	3/8	0/805	0/04286	
Moderation	Creation of national housing	122	4/6	1/128	0/04444	0/04237
	Coordination of housing in the provincial housing department	134	3/5	1/126	0/04486	
	Studies on failed collective housing	115	3/9	1/658	0/04286	
	Attention to non-objective aspects	110	3/7	1/656	0/04211	
	Simultaneous horizontal and vertical development in the city	98	3/2	1/214	0/04116	
	Paying attention to detailed implementation details in the construction of houses	109	3/6	1/636	0/04266	
	Attention to the basics of sustainability in the design and construction of residential buildings	92	3	1/653	0/04017	

Completion of Mehr housing projects with better materials	90	2/9	1/549	0/03918
Housing support for newly married couples	102	3/4	1/347	0/04082
Revival of past collective housing	106	3/5	1/353	0/04255
Improvement of worn texture	117	3/9	1/353	0/04228
Empowering families to provide housing	88	3/8	1/457	0/04233
Quality improvement of the construction industry	98	3/2	1/565	0/04193
Houses with a size of 25 meters	109	3/6	1/405	0/04211
Continuation of Mehr housing policy	116	3/9	1/658	0/04282
Construction of safe housing	108	3/9	1/448	0/04188
The growth of liquidity and the increase in the price of materials	88	3/6	1/485	0/04211
A multifold increase in housing prices	104	3/8	1/335	0/04179
Accurate placement of collective housing	92	3/4	1/338	0/03908

After the first decade of the Islamic revolution and the problems arising from the imposed war and the need to rebuild the country were felt. The consequences of the imposed war were severe youth unemployment and a 50% budget deficit, which caused despair in the youth, and also because of the gaps that arose. The bipolar view and the liberal view had managed to find a place for itself.

In order to organize the current situation of the discourse of the Islamic Revolution, a sign that includes all the needs of the society was needed; that there is a combination of traditional and modern views in it, so the slogan of construction was raised with the approval of economy-oriented development, which included all the needs and created self-centered aspects such as development as justice, moderation and tendency towards the capitalist model of foreign and domestic policies. The domestic policy promoted strategies in the development of the economy among the people and considered the economy as the main axis and the main need of the country, and due to unemployment and excessive breakdowns, the solution of construction and construction was proposed in all matters.

After the period of construction and focusing on the economy and mass construction, problems arose that included the increase of literates, the change of the gender pyramid in society, the increase in urbanization and marginalization, and the tendency to communicate with the outside world, which necessitated reforms in the type of attention to foreign policy and it was created internally, so the central sign has changed and the trend towards reforms has been felt more and more. In the reforms, attention to men has been placed at the heart, and civil society, freedom, law, and political development have created the shape of politics both inside and outside. In order to continue the previous type of policy in housing and solve low-income housing, it was necessary to build small and rented units. Cooperatives emerged to facilitate these matters, so the type of policy in collective housing was to continue the previous path and pay attention to mass housing with amendments in legislation and to follow the requirement.

The reform government, after paying attention to its sub-discourses, caused the emergence of problems such as administrative inequalities, the spread of corruption, the distribution of wealth, and inefficiency in removing deprivation and poverty, which caused the emergence and tendency of people to the central sign of justice, which turned its attention to reducing poverty and deprivation. and made these three principles his main axis, which included increasing living standards in rural

areas, removing deprivation from villages, and improving the quality of rural life in order to return the migrated population to the city. Policymaking in the internal sector was related to justice in all aspects of the country, which resulted in results such as gasoline rationing, subsidy payments, and Mehr housing; who tried to establish equality in all matters. In order to support these matters, facilities were considered, which led to the removal of land prices, the provision of housing for people, and the order to build 1.5 million residential units.

Attention to the inside and the lack of coordination with the outside of the country, as well as the internal disturbances and the existence of sanctions on a large scale, made the need for moderation in all matters to be felt more. Also, due to the prevailing economic conditions, it was necessary to consider a plan that would give hope to the youth. and in order to advance his goals such as de-escalation of international tensions and moderation in affairs, he should make the prominence of the nuclear discourse the focus of his work and base his policies on these issues.

6. Conclusion

All types of attention to the collective housing sector in all governments are strongly affected by the economic situation of the country and almost all of them have proposed a solution for the distribution of wealth, but due to the prevailing conditions in the country as well as cultural and technological changes and the emergence of ways of social interactions and generally changing lifestyles. Changes occurred.

During the period of construction, the collective housing policy was integrated with other policies in the domestic sphere, like all periods, and for the problems that arose during the imposed war and support for the existing situation, the discourse of construction was raised. Each of these discourses was influenced by the country's economic conditions. The increase of interactive space, neglect of decorations, social isolation, satellite towns, miniaturization of large units, absence of technology, and the emergence of semi-public spaces with high-speed seasoning emerged.

Perhaps the prototypes of collective housing after the revolution can be seen in this era, to fulfill the motto of providing housing for all people and housing many people in society, smaller units emerged with high speed in locating and building, which by itself minimized the individual standard required by people. And also made the spaces smaller and chose the modern architectural approach to take advantage of the higher execution speed and economy.

During the period of the next government, which was called reforms, it was felt that a large number of the society needed to become homeowners at a high speed and to revive the country after the destruction of the war. The Azad University was created and the possibility of education for a large number of people in the society was created, due to the clarification of regulations and also the education of a large number of people in the society with universities, the possibility of high-rise building and creating vertical development in the buildings was created. With the discourse of reforms, there were changes in the practices in all parts of the country.

Mass production was developed, but according to the economic conditions, people's purchasing power was less and attention was paid to the rental sector. Great progress had been made in the field of execution techniques; And according to the formed planning, spaces were found with functional separation capability. It may be possible to consider the discourse of reforms as a complement to the previous period and to see them both in a unified way, But the history of society has changed.

In the era of justice, when the slogan of wealth distribution was raised and also due to the bad economic conditions, emphasis was placed on housing for low-income groups and the housing of Mehr, horizontal development of the city was put on the agenda in the previous periods due to

following modern architecture without local identity. were and followed it, Mehr housing was created that can answer all the questions.

Less developed areas were targeted due to the acquisition being easier and at a lower price, and the construction started due to the attention to costs, the materials used were of low quality, which caused premature wear and tear and lack of connection with the building structure. And with a specific definition, they were to support some kind of activity. Due to the reduction of construction costs, this collection reduced the size of the buildings and many activities were limited to the walls of the buildings and left to the outer spaces, but no definition has been made for it.

Government of Ahmadinejad, the way of looking at policies can be seen as extreme, which caused the discourse of the country to change its way of looking inside, and moderation and moderation became the main discourse of the country. Sanctions increased and the economy fell further. The housings became smaller and had sizes of 25 to 30 meters to modify and revive the residential complexes of the past that were not successful and could not reach their specific goal. Various studies were conducted and all these studies were tried to be conducted in open, semi-open, and closed spaces.

The construction of higher-quality buildings was put on the agenda, designs based on more studies were made, and an attempt was made to bring the marginal residents back into the city. In many of the collective housings that were built before and were abandoned in parts without his function, they were revived, and multi-functional urban spaces emerged as community centers in various place. Figure 4 shows the conversation of each government with importance degree and its consequences.

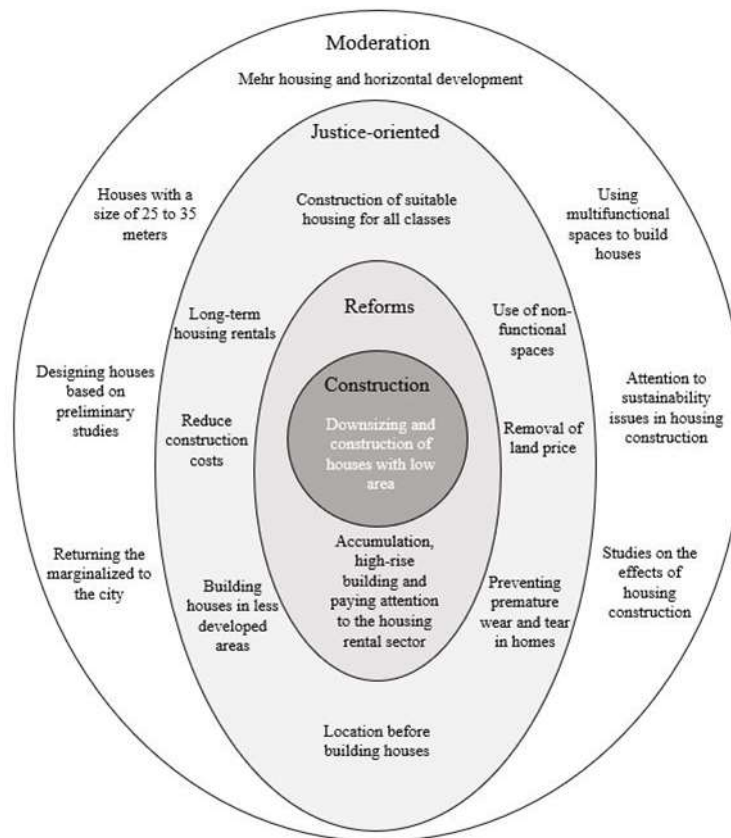


Fig 4 Effective conversations in every government and its consequences

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Sustainable Architecture in Traditional Houses of Kashan

Mehdi Tavakoli Kazeruni^{a*}, Bahareh Noshadi^b, Farzad Daneshvar^c, Seyed Alireza Fatemi^d

^a*Department of Architecture, Shiraz Branch, Islamic Azad University, Shiraz, Iran*

^b*Department of Architecture, Shiraz Branch, Islamic Azad University, Shiraz, Iran*

^c*Master of Earthquake Engineering, Shiraz, Iran*

^d*Master of Architecture, Shiraz, Iran*

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Research Article

Abstract

As an environment where a person lives and grows from the beginning of her birth until her human behavior is formed, the house is very important in the affairs of human life and is considered an effective factor in human behavior. On the other hand, the rich culture of Islamic Iran and its architectural symbols in this land, along with the compatibility of that architecture with the nature of our country and its existing climatic conditions, doubles the need for Iranian architecture to respond to the material and spiritual needs of users. Therefore, the need to pay attention to the matter of house building requires that by examining the distinct patterns of desirable traditional housing in Iran, and especially the native housing specific to Kashan city, we can find suitable teachings for the house. According to the conducted research, it can be assumed that by using the mentioned patterns and adapting these patterns to the needs of the contemporary society, a sustainable residential design can be achieved in the city of Kashan. The present research method was to find out the design principles of sustainable houses in Kashan with the approach of recognizing and using the existing valuable models of traditional architecture in the hot and dry climate of Iran. It is considered research. The research method in the current study consists of documentary and library studies and documented survey measures on field research on the famous historical houses of Kashan city. The most important and top design indicators include three criteria with titles; The interaction of the audience with nature, responding to the needs of the audience and adapting to the local culture. By achieving these effective factors and finally setting them as a model, sustainable houses have been designed in the hot and dry climate of Kashan city.

* Corresponding author. Tel: +98-9177142863.

E-mail address: m_tavakoli1@yahoo.com

Keywords: House; Traditiona Architecture; Sustainable Architecture

1. Introduction

The traditional architecture of Iran has strong and fruitful supports from various aspects of sustainability, Iranian art and culture, and it shows a special contribution and value from this art and culture. Examining these features can serve planning, designing and popularizing today's living environment. Residential needs of people in cities, especially traditional cities, today are met independently and without identifying its side effects, especially on the environment (Pakzad, 2007a).

Examining the desert cities of Iran such as Yazd, Kerman and Kashan show that the physical characteristics of the historical and traditional parts of the said cities are significantly consistent with new scientific findings. It also seems that the said environmental harmony is the product of a long process of repeated trial and error that has taken place throughout history and in the course of designing and constructing buildings and urban structures (Meletparast, 2009).

What the architectural culture of the past had in itself as a tradition is today only in the form of an inanimate body of our progress, therefore, today's societies, in pursuit of discovering and using the values of the past, inevitably seek and delve into the unknown and forgotten values in is itself

The sustainability of many traditional buildings in the desert, in terms of cultural, social, economic and environmental, is one of the values that can be generalized in the architecture of desert houses today (Pour Ahmadi, 2013). Studying and investigating traditional architecture in general and architecture of the house in particular shows that the traditional building is formed as a kind of man-made artefact in perfect harmony with the natural environment.

This harmony and compatibility are to the extent that architecture has become a part of the nature of its bed. In addition, considering the importance of preserving the environment and saving energy consumption in the contemporary era, it seems desirable to use traditional design methods. Because historical experience has shown that traditional architecture has been much more successful than contemporary architecture in this field (Akrami and Zare, 2016).

In the past architecture of Iran, the traditional architect was able to use the knowledge and techniques of his time in such a way that the compatibility of art and technology was observed in the best way in all parts of the building. Harmony, stasis and stability at the same time as beauty is one of the wonders of traditional Iranian architecture, which has been achieved with the utmost elegance and balance along with meaningful content in the body of the architectural work. Therefore, what is clear is the need to use modern knowledge and technology by considering the local architectural values of the region in contemporary architecture (Asefi and Imani, 2012).

Iran's traditional architecture in desert areas has strong and fruitful supports from various aspects of sustainability; Examining these features can serve planning, designing and popularizing today's living environment. Residential needs of people in cities, especially traditional cities, are met independently and without identifying its side effects, especially on the environment (Pakzad, 2007).

In order to create a stable and suitable environment for human life, Iran's desert architecture has achieved principles and methods that not only do not cause destruction and damage to the environment; But beyond that, it also plays a role as a factor of perfecting the material. Examining the physical design features of desert architecture and materials and implementation methods shows that in architectural design, in addition to using environmental potentials, it also prevents pollution

and destruction of the environment and is a clear example of sustainable architecture (Pour Ahmadi, 2013).

2. Sustainable Architecture

2.1. Energy Crisis

In the 1970s and after that, environmental problems overshadowed many human activities and caused the field of architectural design to face a tough challenge as one of the effective factors in high energy consumption. Therefore, the issue of preserving the environment, the needs of future generations and the use of free energy, introduced a new concept called "sustainability" in all sciences. Based on the studies, the principles of sustainable architecture have been relatively respected in many native and traditional buildings of our country; Among these, the architecture of rural buildings as a clear example of local orientation, the criteria associated with sustainability such as preserving the environment and the use of beneficial climatic factors inside the building with a view to the formative elements of local architecture such as culture, economy, society And nature has correctly complied (Rezaei, Vathiq, and Moradi, 2014).

In the past, the energy used by mankind was basically renewable. The form and design of the cities was designed based on the existing climate in such a way as to provide maximum use of solar and wind energy for the citizens. This issue is well observed in Iranian cities, especially desert cities. But with the progress of industry and the industrial revolution, the world faced an increase in the demand for fossil fuel consumption, and this has serious consequences such as air pollution in cities, which is a broad term in the health of sustainable architecture that describes techniques in architectural design that are aligned with the attitudes It is ecological and has been formed with the idea of respecting nature. In fact, this architecture is not a new trend, because it has been fundamentally present in many ancient civilizations and traditional architectures, including the traditional architecture of Iran. And the energy crisis has become one of the most important concerns of people in the present age (Rastegar, 2011). The concept of sustainable architecture, whether as the creation of human space and the regulation of the relationship between man and the physical environment, or as the product of this process, is always mixed with the sustainable environment and in a general framework, it can be interpreted as "the creation of a sustainable man-made environment" (Farhoudi, 2007). This architecture has an activity in the direction of restoration, reconstruction and renewal of natural systems and the earth, as well as cautious use of life cycle resources in nature (Soleimani, ,2008). Human life as an organism provides another life" (Aminzadeh, 2003).

Sustainable architecture, architecture compatible with the economic, social and natural environment, is the process of creating a space during which natural resources are minimally damaged during construction and operation. There are three basic principles for sustainability in architecture: resource conservation, which deals with the reduction, reuse and recycling of natural resources used in the building, life cycle design, which is a method for analyzing the building process and it brings up its effects on the environment, and finally human design, which focuses on the interaction between humans and the natural world (Pour Ahmadi, 2003).

According to Pirnia, Iran's art and architecture have long had several principles that are well shown in the examples of this art. Traditional houses also benefited from these principles as an important part of our past architecture. In evaluating the introversion of houses, he cites the absence of gardens and greenery outside the house and believes: "one of the concerns of Iranians in building houses is to create a visual connection between the room and the outside space. Openness,

spaciousness and having a free view are part of Iranian nature, even now it is the same" (Pirnia, 2004a).

2.2. Traditional Values of Iranian Architecture

Introversion: One of the beliefs of Iranian people is personal life and its sanctity, as a result of which the building's organs were organized around one or more courtyards and separated the building from the outside world (Pirnia, 2004). Introversion is a matter of climate and moral and religious meanings, such as being together and tending to inner states or privacy in the interior of the house, are secondary meanings that have contributed to popular beliefs through introversion. Of course, topics such as not paying attention to the appearance and working on the inside originate from religious views. So that the traditional architecture of Iran is very simple on the outside. But inside, it presents a world of richness and beauty (Memarian, 1994).

Considering the division of the building into interior and exterior, another point that can be seen in the establishment of closed spaces; The presence of openings on two fronts is for the spaces located between two courtyards, which, due to the difference in temperature between the shade and the sun, a cool breeze flows from the shade to the sunny front and cools the air (Tabatabai Molazi and Pourmand, 2015).

Wari people: Wari people means observing the fit between building parts and human parts and paying attention to her needs in construction work (Pirnia, 2004).

Flexibility: The concept of flexibility in Iran's traditional houses is defined in three types of diversity (multi-functional spaces), adaptability (seasonal and daily displacement) and changeability (separation and consolidation) (Einifar, 2003).

Economic design: In the traditional consumption system, there is no waste or waste in nature, and the continuous life cycle continues without an element leaving this cycle (Pour Ahmadi, 2013).

Avoiding futility: Islamic culture, by recommending moderation and proper use of God's gifts, has forbidden its followers from doing useless and useless works and from creating technical objects without proper use and degrading human dignity (Pirnia, 2004).

Use of organic materials: Production of building materials and construction materials in traditional buildings has been done with minimum destruction and damage to the environment and with minimum consumption of fossil energy, not creating hard and unabsorbable construction waste in nature. The type of construction materials used in the investigated building is mainly clay and brick, which are generally obtained from the soil resulting from the excavation of the product itself and straw and pickling at the building site, and in combination with other materials, which are also sometimes from agricultural activities, in the matter of construction. have been used. In other words, the supply of materials is all from local sources and they are considered Buma Ward (Pour Ahmadi, 2013).

"The application of local techniques and the use of natural materials often had a relatively simple process and easily met some of the residents' functional needs" (Mohammedzadeh, 2012). It takes its steps to become a body, merges with the earth, receives water from the earth, and after changing its appearance and chemical-physical content, returns it to a different extent, turning to the breeze and turning its back to the winds that bother it. In mixing with nature, it is associated with both obeying nature and benefiting from it (Flamaki, 2006).

Conditions that can be considered as environmental conditions, under the influence of different factors such as radiation intensity, temperature, humidity, wind, covering the body, stopping its activity, etc. contract. A range of thermal comfort means a condition in which a person can feel comfortable while resting in the open air. The meaning of environmental architecture is to focus on

the building's ability to integrate environmental and atmospheric factors and transform them into spatial qualities, comfort and form (Karakhana, Makfi and Sajjadzadeh, 2014).

Geometry is the language of Iranian architecture and it has cast a very bright light on various aspects of Iranian art. Detailed geometrical designs have a simple appearance but a complex inner aspect, and wisdom and planning are used in all of them, and there is no coincidence in them. Geometric patterns establish a link between the earthly order and the cosmic system to enhance the emotional aspect of the viewer. The symbolic aspects of geometry in Iranian architecture reflect the wisdom of the "Great Architect of the World". Geometric patterns are connected with rationality and order while being simple and scattered. They refer to the center of the "ceiling", but you don't see a center... as if all the dispersion and multiplicity are gathered in a hidden order and they manifest themselves in a form every moment and expand spirituality in a mysterious way so that man reaches a position where the eye finds insight and the soul in Search for perfection and walk towards perfection (Pourabdullah, 2013).

Orientation, in old and local buildings, is one of the principles of traditional architecture. This principle depends on various factors including;

1- The movement of the sun and the directions of radiation 6- The direction of the different winds 1- It depends on the condition of the ground and the accessibility of the building. In most traditional houses, the north-south axis is the main axis of the building, and the main living spaces were built on the north and south sides of the yard, and the secondary spaces were built on the east and west sides (Qaim, 2006).

The north-south orientation makes the east and west sides of the house in any of the seasons; Do not have adequate sunlight. Therefore, in order to increase the spatial quality of the eastern and western sides, according to the climate of the region, traditional architects slightly rotated the main axis of the building in relation to the north-south direction.

In this way, different orientations for buildings have emerged. Including; 1-Northeast-Southwest (Raste run) 6-Northwest-Southeast (Esfahani run) (Memarian, 1994).

Light, light and architecture are connected topics. Throughout the past, architects have realized the importance of light in architecture and have invented clever ways to use light in buildings. In Iranian architecture, light is not used in a single way; Rather, it has been used in different ways (Tamizi, 2011).

The efforts and innovations that have taken place during the era to take advantage of natural light are especially visible in the traditional architecture of Iran. Traditional Iranian architects have learned from their experience that if they use ambient light well in architecture, they can turn the simplest forms and precious materials into precious elements and decorations. Iranian architecture is full of the presence of light, so that it can be said that the fabric of traditional buildings is mixed with light.

The yard forms the axis and basis of internal communication of a traditional house. From the perspective of a traditional person with a mystical view; Being the center of the yard in the internal communication of the traditional house means that; Living in a traditional house has a continuous connection with the whole being and the world of nature (Akrami and Zare, 2016).

The yard is one of the most valuable places in organizing the design of houses. In this way, the enclosed spaces of the central courtyard houses have the maximum size. In these houses, all sides around the yard are built to create various internal environments to receive light and heat from the sun, depending on the amount of sunlight, different sides of the yard can be used in different seasons. Usually, the southern parts are used because they are facing the sun and have maximum shade in the summer. The northern parts are also called winter residents because the residents move

to the northern part in winters. In other words, the residents of these houses change their living space in harmony with the regional changes in accordance with the seasons (Rastegar, 2011).

Removing the valuable element of the yard, in the architecture of today's houses, destroys the hierarchy of movement between spaces and distances people from nature. It disrupts the sanctity and psychological security of the home and brings outside problems into the home (Naibi, 2002).

The central courtyard is the most important space of the house, a climatic element and the shaper of the concept of introversion. Therefore, from a spatial point of view, it has a climatic function. But in terms of functionality, it is a traditional human and family behavioral camp. Therefore, the yard has both a cultural role and plays the role of various functions. Among these roles: 1-Vibrant and relaxing environment 6-Light reservoir for indoor spaces 1-Home breathing room 4-Organizing home spaces

1-It is the communication of all spaces with each other (Akrami and Zare, 2016).

The garden pit is a space surrounded by underground rooms, and such a combination creates cool spaces in the underground rooms and causes the air flow to be used in the correct way, and artificial cooling devices are no longer needed, and as a result reduce energy consumption (Khodabakhshi and Mofidi, 2001).

Atmospheric factors and temperature fluctuations have very little effect on underground buildings and they continuously protect the building against these changes like a barrier, and the earth's crust, as a thick thermal insulation, prevents heat transfer into the ground. The deeper the building is from the ground, because there is more soil, the temperature changes are less and from a depth of 8.1 meters, the temperature is almost constant and is equal to the average annual temperature in the space outside that place (Qabadian, 2003).

In Islamic culture, water is mentioned as a symbol of life, heaven, purity and a sign of beauty and prosperity. Although it is sometimes called the main hall of the summer residence, it is specifically an underground area built under the summer residence, and like a porch, it is a semi-open space and often has a pond. In the Abbasid house of Kashan, there are excellent examples of cisterns and cellars (Parsi, 2008).

Cellar, in Kashan, there are many different spaces called cisterns on the ground floor or basement or in the corners. In this city, the deep basements that are built under each face of the building especially for summer residence and often have a torn belly pattern are called cellars (Parsi, 2008).

In Kashan, the spaces of the reservoir and the cellar are usually decorated with Yazdi bands and with plaster or cymbal materials. On the other hand, in Tabriz, brick decorations are very common, especially with colored bricks and the use of complex applications in the center of the space. The most important pattern used in the house pond is the torn belly. Usually, the extension of the windbreaks reaches this space and the passing of the wind over the water of the pond creates a gentle air in this space (Mehri and Zandi, 2013).

The portico is a semi-open and continuous covered space like a corridor. This space is used to create a connection between spaces and it is mostly built around courtyards (on one, two, three and four fronts) or around an extroverted built space (Soltanzadeh, 2005).

Plants, the attention to nature and its elements, especially water and plants, originated from the teachings of Islam and the sayings and traditions of the Holy Prophet (PBUH). The Prophet used to say: Whoever plants a tree, God will reward him with the amount of its fruits.

In the dry areas of the Iranian plateau, the amount of greenness depends on the amount of water and how to access it, so the green space is very influential in the microclimates around the building for the following reasons:

- Effective reduction of direct sunlight and its reflection
- Shading on the roof, walls, windows and yard space
- Reduction of dust around the building
- Focusing the wind flow and increasing its speed in the desired direction
- Increased humidity in dry climates
- Reducing the temperature of the temperature around the building

The ability of plants to moderate temperature changes is one of the important factors for controlling solar energy. The ground that is placed in the shade will absorb the heat a lot. The humidity caused by the plants will reduce the heat and therefore in the surfaces and parts of the building where there is greenery, the cold will remain longer during the day (Sefalai, 2004).

The entrance is also one of the most important parts of a traditional house. In traditional houses, after the entrance door, there is a vestibule, which plays an effective role in creating the hierarchy of entering the house. Next, a narrow and winding corridor connects the vestibule to the courtyard. This entrance hierarchy is built to prevent the nobility from encroaching on the privacy of the house and creating a distance between the living space and the social space outside. Entrance to the yard is generally done from the corners, or a place close to it, so that at the moment of entering from the hallway, a complete view of the yard is not created. Thus, upon entering the house, privacy is more important than ease and speed of movement (Soltanzadeh, 2005).

The front of the house invites entry in all situations, even in the simplest houses. The height of the headboard is either equal to the height of the straw wall or it occupies a part of the height of the wall. The front surface is usually decorated with patterned bricks. Hasti is also made in different shapes. The dimensions of the vestibule have been changed according to the needs of the house. The covering of the vestibule is also diverse, such as: karbandi, Turkin arch, etc., in each of the sides of the vestibule, according to the required function, different elements are considered, such as: the platform, the entrance corridors to the yard, the roof road and the well of the house (Memarian, 1994).

The roof is one of the important factors of heat transfer from the outside to the inside of the building. Because this surface is exposed to direct sunlight almost all day long. Therefore, it transfers a lot of heat to the interior spaces. Therefore, paying attention to the proper design of roofs, especially in hot and dry climates, is one of the main design principles. What we get from the architecture of the past in these areas is the use of vaults and domes, which is one of the main elements in the formation of the architectural identity of hot and dry areas. Due to their special curved shape, these roofs are always in the shade from one direction at different times of the day. As a result, compared to smooth surfaces, they absorb less heat and transfer it to the interior (Kasmai, 2005).

The porch is one of the architectural spaces of Iran that can be seen in most of the traditional houses of Kashan and it is diverse in terms of form, dimensions and location and has many functions. The concept of porch and portico has had deep implications throughout the history of Islam. The porch shows the possibilities of defining and writing the space, and it is the transition space between earthly and temporal factors. From the metaphysical point of view, the porch itself can be considered as the soul, which walks between the garden or yard as the soul and the room as the body (Ardalan and Bakhtiar, 2003).

The porch is very useful in hot seasons and many functions such as eating, sleeping, working at home, etc. take place in it. It also moderates the air in the rooms behind it in hot seasons. And in terms of climate, it has many values (Mahmoudi, 2005).

Badgir (wind-catcher) is one of the architectural elements that was built with a climatic approach in the native architecture of hot and dry and hot and humid regions of Iran and stands out in the form of a vertical channel in some cities. The architecture of wind deflectors and their performance, which have been effective in the natural cooling of buildings in these areas, shows the genius of the architects who played a role in their design and construction. Badgir has always been defined as a traditional structure for ventilation, which has been seen throughout the Middle East from Pakistan to North Africa with different names and forms (Yarshater, 1989). One of the characteristics of dealing with nature in desert houses is the use of It is a wind breaker. This important and beautiful element directs the right wind into the house in the hot season and makes the house cooler (Memarian, 1994).

The wind deflector works in such a way that it catches the desired wind and directs it into the main rooms of the building, water storage or cellar. Some wind deflectors cool the inside of the building only by moving air, and some others do this both by moving air and by evaporation, so that the air flow after entering the building through a small stone basin and the fountain is passed and then it is directed to other rooms. The room under the wind deflector where the pond and the fountain are located is in the form of an octagon and there are many doors in it. Whenever there is a need to cool a certain room, in between those rooms and the vestibule room under the wind deflector are opened (Qabadian, 2003).

Kitchens, in traditional houses, are mainly located in the corners of the main yard or in the basement. Sometimes the kitchen has its own courtyard. One of the reasons for the kitchen being far away from the central and main yard is the type of fuel and the cooking method. In the second place, there was a lack of facilities such as a hood, gas stove, suitable fuel, etc., which caused these spaces to be polluted and lacking in proper appearance. In contemporary housing design, it is desirable to place the kitchen in the space between the private space and the reception space, so that it is possible to provide services to both spaces (Akrami, 2013).

Types of rooms in traditional Iranian houses; Three-door room: working room, sleeping room, breakfast room (winter room)

The five-door room: the meeting of the household and guests, the dining room of the household (wintering)

Big Ursi room (Tehran): guest house, dining room, gathering house of elders (wintering)

Tanbi room: the bedroom and rest room located between the hall and the wind tower (summer house).

Upstairs room: bedroom and work (winter room)

The earring room: bedroom, privacy and library

House seat: a room that does not have a door or window to the yard and there is a seat in it (Memarian, 1994).

Decorations, not so long ago in all the cities, most of the buildings were built with raw clay, plaster and straw, and these materials surprisingly fit the Iranian life and have surprises in it. Straw is combined with tiles, wood or stone and similar materials in the form of pleasant proportions, and Iranian architects have taken help from them to decorate buildings. Introducing the cultural heritage and national and Islamic arts entrusted to our society by the past is one of our national and patriotic honors. From the beginning of his work and from the time of using brick, which is considered as one of the primary building materials, the Iranian artist created the most beautiful designs and designs when creating walls and covering domes and creating earrings, moqrans and arches and in the process of its evolution with Chinese knot, flower-making, knot-making and brickwork have created unique masterpieces. When using plaster, he created a unique world by creating stucco with

geometric, plant, animal, and human motifs, and when using wood for windows and doors, he used arts such as inlay, mesh, mosaic, carving, inlaying, and painting. Wood has created an incredible miracle. To decorate the building, he has taken help from one-color, seven-color, pearl, gold, or glass and mirror tiles in various shapes and sizes and presented a world full of beauty and creativity. The splendor and beauty of Iranian architecture, especially in the Islamic period, depends on its decorations. These decorations have been popular in all Islamic eras and have progressed in all eras with the facilities of those times. The remaining buildings from the Islamic era have various decorations that show the importance of this art in different periods. Architectural decorations by Iranians have been a major artistic development and in many Islamic countries, buildings with different decorations have been made by Iranian artists (Masoodi Gokani, and Houshmanpour, 2012).

3. Case Example of Kashan Traditional Houses

3.1. Isfahanians

A combination of a large courtyard with two spatial complexes on its two sides, a small courtyard is also located in the middle of the northern complex of the building, which has an extended portico on both its southern and eastern sides. This part can be considered the outer space of the house. The second spatial complex of the house is located on the south front of the main courtyard. This complex has ponds with semi-open space and at the level of the yard. Shahneshi is located in the south of Hozkhaneh and a little above its level. A continuous portico surrounds the main yard and in the middle of the main yard of the house there is a pond with two long and large gardens on both sides of it, which emphasizes the axis of the yard. There is another courtyard in the eastern corner of the building, which is connected to the main courtyard. The existence of these two courtyards with two sets of space is such that they can be considered the interior and exterior of the house (Soltanzadeh, 2005).



Fig 1 Isfahanian house (source: Namnak.com)

3.2. Bakuchi

This building includes a rectangular courtyard and two space complexes on its north and south fronts. The most important spatial complex of the house is located on its northern front. This front has a backyard in the shape of eight and a half eight in its middle. There is currently no roof space on the south side of the main courtyard, the remaining works show that the buildings in this part have been destroyed. Ventilation is located in this complex, which is effective in conditioning the air in the pond. The eastern and western fronts of the main courtyard have facade walls with similar

divisions, and the lower floor includes sunken arches and several service spaces. It is possible to enter the house from its northern side (Soltanzadeh, 2005).



Fig 2 Bakuchi house, (source: Namnak.com)

3.3. Boroujerdis

This building is basically internal and external. The outer part has an elongated courtyard, at both ends of which there are two important spatial complexes, which are higher than the other two fronts. The southern front of the courtyard is the most important part of the house and consists of a large and high hall in the shape of an eight and a half eight and rooms around and on two floors surrounding the hall. The front porch of this part stands out with a prominent and long view in front of the magnificent volume of the ceiling of the hall. A collection of these elements with two windmills located on both sides add to the splendor of this view. The complex located on the northern front has a five-door hall with a throne, which has a moonlight in front of it and a windmill can be seen behind it. There are three rooms and service spaces on the eastern front.

On the opposite front, only arches similar to the front facade can be seen. The entrance of the house includes a porch with a yazdibandi roof and plaster decorations (Soltanzadeh, 2005).



Fig 3 Boroujerdi house (source: Namnak.com)

4. Research Methodology

The current research is considered to be an applied research in terms of its purpose. Considering the breadth of content in the theoretical foundations section, he saw a significant part of the research in the theoretical framework. It should be noted that the main goal of this research is the development of applied knowledge in a specific subject and it is an attempt to objectify the existing knowledge in a practical way. Therefore, this research is placed in the category of applied research, and special attention has been paid to the theories and theoretical foundations of traditional Iranian architecture, in order to inspire and return to the rich culture of our country, Iran. In the following, in line with the purpose of the research, it is oriented in a practical way.

In terms of what it is and its nature, this research is in the qualitative-quantitative type and in the category of causality with research on case samples. Since the collection of data in its library type is completely organized and classified, the main bases of research in terms of nature can be called qualitative, causal, case and historical.

In the first stage, information was collected using a library method from reliable sources related to the research and its theoretical foundations. categorized and the appropriate orientation was provided to achieve the desired propositions and in line with the purpose of the research. Now, the structure of data collection is defined in a specific classification in a library method. The studies and investigation of the background of the research, in a form completely in line with the main subject of the research, relying on reasoning and logical structures, approach the results of the research step by step. In this part of the research, it is tried to avoid personal interpretations and viewpoints and by referring to the available reliable sources, to make sufficient arguments to advance the issue.

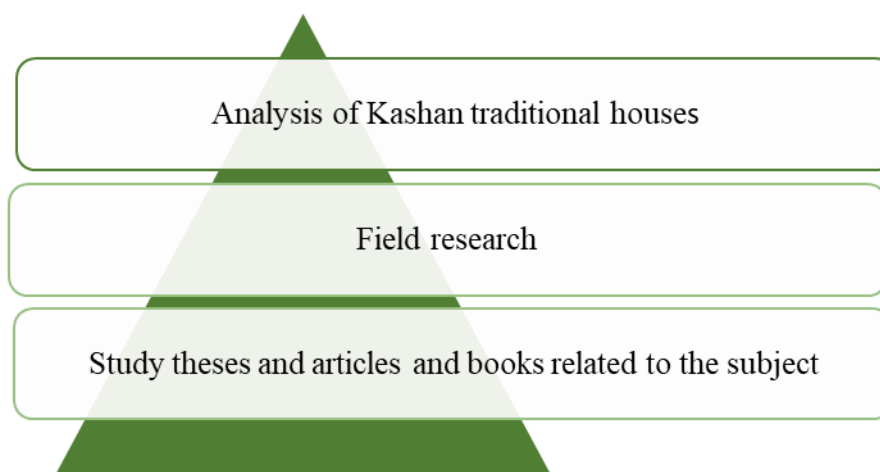


Fig 4 Information collection tool

Data analysis is a multi-step process in which the data obtained through the use of collection tools are summarized, coded and categorized... and finally processed to establish the context of analyzes and communication between them. This data is provided. In this process, the data is refined both conceptually and experimentally, and then we obtain components so that the optimal design can be carried out.

Table 1 Data analysis

Stability components	Physical components	Social components
* Harmony of the body with the climate * Environmental protection	* Suitability to the needs * The use of canvas materials	* Culture * Respect for the user * Flexibility

Table 2 Social components

Social components	
Findings	Solution
Flexibility	The multi-functionality of spaces
	Considering flexible or programmable spaces
	Types of spatial qualities (open, semi-open and closed)
Respect for the user	Responding to performance
	Suitable spaces for the type of activity
	Preservation of privacy and comfort and mental security and provision of comfortable conditions in terms of climate
	Creating relaxation through connection with natural factors such as green plants, water, natural breeze and light
	Sunshine, beauty and eye-catching building
	Attention to the human scale in the dimensions of spaces
	Reducing construction and repair costs according to the type of materials and labor
Cultural	Identity through the ability to match one's perception of space with one's cultural background
	Matching the body and function of the building with the culture and behavior of people
	Coordination of the building with the neighbors

Physical components		
Findings	Solution	
Suitability to needs	Maximum use of minimum space, taking into account all the needs of the consumer	
	Coordination between the sizes and scale of the spaces with their function and the number of consumers	
	Design and construction with a long service life	
	Standardization in constructions using appropriate modules and foundations	
The use of canvas materials	Using suitable materials available in the region as a result of minimizing transportation costs and the possibility of building renovation and maintenance at a low cost	
	Not destroying or harming the environment by using renewable materials	
	Using materials and materials that have the ability to return to the natural cycle	
Data collection and description	Research problem	Providing practical solutions in the process of sustainable development. Hence, the main goal in expanding the meaning of traditional houses in hot and dry climates
	Research questions	How to design residential houses in Kashan city by considering the principles of sustainable architecture?
	Previous studies	Studying the examples of articles about sustainable architecture and traditional houses in hot and dry climates

	Default formation	By designing a residential complex in a hot and dry climate, considering sustainability in traditional buildings and achieving sustainable architecture.
	Collecting data	Library Studies Field studies
Analysis and evaluation	Data collection	Effective physical components in the architectural stability of houses in hot and dry regions



Analysis and evaluation	Data collection	Identifying effective factors in sustainability Identifying how to use effective factors in sustainability in the design of traditional houses
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Table 3 Main factors according to contemporary experts

Dependent variable	Proposition	Independent variable
Use of air flow	Garden pit reduces heat exchange and improves air flow	Garden pit
Introversion and harmony with the climate	The central courtyard shapes the concept of introversion and is a climate element.	Central courtyard
Traditional housing	Traditional housing responds to functional needs and conforms to local culture	Cultural and climate
Access space	Hierarchy of access is a factor in the formation of the old residential context.	Hierarchy
Sustainable Architecture	Sustainable architecture is the creation of human space and the understanding of the relationship between man and nature.	Relationship between man and the physical environment
Traditional house	In traditional houses the lifestyle is in harmony with the shape of the building	Adapting lifestyles to climatic conditions

5. Conclusion

Desert areas and the edge of the desert have special environmental and climatic characteristics, and the traditional houses of such areas are located and built based on special principles and in accordance with environmental conditions and ecological nuances. The idea of saving energy in construction, using natural materials (such as soil, stone, wood, clay, etc.), paying attention to the energy required to maintain and regulate environmental conditions with the appropriate design of empty and full spaces (on a small and large scale) The correct orientation of buildings, the use of suitable construction technology using natural energy and the minimization of fossil energy are examples of desert architecture and urban planning.

Desert buildings are considered dynamic buildings because they meet their needs for water and energy in their site, and they are not only compatible with their site and climate, but also contribute to environmental changes. They work without pollution. and they do not produce any type of waste that is not useful for other types of construction processes or that cannot be directly consumed in

the environment. It provides the health and happiness of the residents in an integrated ecosystem and improves the environmental qualities. Sustainable architecture is the creation of human space and the understanding of the relationship between man and nature. Identity in traditional houses is achieved by the multi-dimensional function. Traditional housing responds to functional needs and conforms to local culture. According to the results paying attention to the needs of the audience identity in traditional houses and maintaining the relationship between man and nature are very important factors that must be observed in the architectural design of houses in hot and dry climates.

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Examining the Characteristics of Performance Art in the Works of Marina Abramovic from the Point of View of Experts and General Audiences

Bahman Rasouli^a, Maryam Jamali^{b*}, Maryam Bakhtiarian^c

^a*Ph.D. Student, Department of Philosophy of Art, Faculty of Law, Divinity and Political Science, Science and Research Branch, Islamic Azad University, Tehran, Iran*

^b*Department of Art, Fasa Branch, Islamic Azad University, Fars, Iran*

^c*Department of Philosophy of Art, Faculty of Law, Divinity and Political Science, Science and Research Branch, Islamic Azad University, Tehran, Iran*

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Abstract

Performance art can be evolved from other arts that lead the audience from performing a group entertainment to creating a collective work of art. This depicted the presence of the audience in space and its participation in emotional and various results. The performance art has elements of different type of arts and displays the human body as a canvas, which is a part of the main form of art as a moving body. This research points to the investigation of the influence of each of the elements of performance art in the types of mixed arts in Abramović's works. This research is a mixed method. In the quantitative part, a comparative comparison between the components in the selected groups is based on the inferential test statistics. First, by using a systematic review, the grand theory, and coding approach characteristics of performance art are extracted. Then, Delphi future research system is used to select important examples of Marina Abramović's performance art. In the following, the results obtained in the form of a questionnaire are provided to two groups of audiences, which include non-specialists and experts. The sample size for both groups is 384 individuals calculated based on Cochran's formula. The results show that based on the output obtained from multivariate regression, it was determined that in the group of spatial users, the contribution of the factor related to the characteristic of Applied art with a value of (1.000) is higher one and the lowest is related to Innovation and creativity with a value of (0.254) in the group of experts. The highest factor contribution is related to the component of Dramatic, political,

* Corresponding author. Tel: +989173043412.

E-mail address: mj.amrabadi@gmail.com

and religious arts and linked with traditional, religious rituals with a value of (1.000) and the lowest one is related to narrative and anti-narrative with a value of (0.222).

Keywords: Performance Art; Marina Abramovic; Comparative Comparison; Audience

1. Introduction

In contemporary terms, the body was used as the object of art. The performances have a message and sometimes refer to sexuality and highlight the fact that the human body can be used as a canvas (Sophaer, 2012: 57). Some used other people's images on their bodies so that they could integrate it with the body art; Like Hannah Wilke, as an American painter, sculptor, photographer, and performance artist who is known for investigating issues related to feminism, gender, and femininity (Mahmoudzadeh Bakhtabad, 2017: 112), she uses images of herself and her mother in her body (Ward, 2014: 37). The art of performance can be seen as the evolution of other arts such as cosplay, which were drawn from entertainment to the creation of a work of art (Mansourian and Nasri, 2015: 94). This depicted the presence of the audience in space and its participation to examine various feelings and results. The performance art movement integrates elements of various arts through the artist's body as one with the other (Navaei, 2014: 54). This research points to the investigation of the greater influence of each of the elements of performance art in the types of mixed arts in Abramović's works. Performance art - which in some Anglo-Saxon countries is called live art - branched out from the visual arts, but while it is close to the show, it is very different from it in nature. Being alive, real, and in the moment and emphasizing the use of the performer's body as an artistic material are one of the main features of performance art. The art of performance started with visual arts and painting; after some time passed, this group of artists came to the conclusion that their art is commercialized and is only bought and sold by merchants. To avoid this, they suggested drawing with the body as a solution; as she began to roll on the white surface with her body. Over time, the art of performance opened a path for itself and found its fans. This art contains many other arts in its heart, which has caused the emergence of special features for it, but the effect of each of these features on the performance art itself is different. This research aims to extract each of the features of the performance art and specify each one. In Abramović's works, she answers this question, which is the most effective contributing factor for each of these performance art features in Abramović's works for two groups of experts and audiences?

2. Research Background

Pourkasmaei et al. (2019), in an article entitled "The concept of the body in performance art based on the theories of Gilles Deleuze", intending to apply Gilles Deleuze's theories about the body without organs, analyzed 6 well-known works of performance art to their approach to the body and relationship. It should be analyzed with the community. The results show that 1- in this branch of art, the goal is to invite the audience to rethink the concept of the body in a physical or social sense and to rethink oneself and social issues to create a body without limbs. 2- The artist sometimes puts her body on the threshold of maximum or minimum and sometimes tries to make a body without limbs from the body of the city or society. It is a rich organ and not empty or cancerous.

Sarvandi et al. (2018) in an article entitled "The concept of the audience in the works of Marina Abramović based on the opinions of Maurice Merleau-Ponty" the aim of explaining the concept of

the audience with Maurice Merleau-Ponty's phenomenological approach based on the concepts of the body, showed that according to the definition of Maurice Merleau-Ponty, in another case, the audience is due to entanglement. With works of art and artist, the audience becomes a tool for action, and this is the factor of meaning and awareness for the artist himself.

Mahmoudzadeh Bakhtabad (2017) in her master's thesis in the Department of Art and Architecture at Imam Javad Institute of Higher Education in Yazd with the title "Study of the Aesthetic Possibilities of Performance Art in the Design of Conceptual Clothing in Iran" addressed the fact that artistic innovation is possible. To face various reactions, including the desire to change and accept new horizons that are opened to the audience by the work of art. The theoretical results of the analysis lead to the practical achievement in clothing design; in this way, he claims that the aesthetic shortcomings such as lack of originality and lack of effective communication with the audience in the design of existing clothes can be corrected by using some elements and features of performance art.

Rezvani (2015) in her master's thesis at the Faculty of Art and Architecture of Tehran University of Art, entitled "Investigation of the concept of the body in Merleau-Ponty's phenomenology and performance art with a case study of Vali Export" addressed the fact that the body is the main focus of the discussion to achieve. A clear definition of the position of the body in the considered field is given to the expression of Merleau-Ponty's opinions about the subject's perception and existence, and the dualities of the philosophical tradition are discussed. Since the field of performance studies is a source of inspiration for many branches of science and at the same time there is a gap in the philosophical approach to these studies, the present topic was chosen as a factor to link performance studies with the philosophical approach considering the importance of the body in both fields.

Manzella and Watkins (2011) in an article titled "Performance Anxiety: Performance Art in 21st Century Catalogs and Archives" showed that performance art with its extensions can be a sensory experience for each individual. The nature of performance art is an activity that is ephemeral and will not last for future generations and our children. This research shows that by using the multidimensional tool of artificial intelligence, how to involve all the different senses of the next audience of performance art in this matter.

Ward (2014) acknowledges this in an article titled "Some Relationships between Conceptual and Performance Art". Aspects of performance art differ from definitions and reality after the performance. Conceptual art in performance can be called a work that emphasizes the basic conditions of aesthetic experience. The main difference between performance art and other forms of visual art, such as painting, photography, and sculpture, is a temporal event and action.

Sophaer (2012) in an article entitled "Touching the Body: The Living and the Dead in Marina Abramović's Osteo-Archaeology and Performance Art" argues that archeology and performing arts are two distinct disciplines that work with the skeleton of the body. In both cases, this knowledge comes from the touch of the living and dead bodies. By clearly valuing the importance of touch as a way of understanding the human body, performance art in Marina Abramović's shows is a provocative challenge to different ways of thinking about the nature and knowledge of the human body.

Demaria (2004) in an article entitled Marina Abramović's Performing Body: The Connection between Time and Place raises the question of whether performance can be analyzed as a textual exercise. The audience of Abramović's work is a clear example of the use of text as a way of reimagining the mind through the transformations of the relationship between time and space. In the strong relationship that is established between the performer and the audience, what is certain and

obvious is the transfer of material and cognitive meaning, which leads to the redefinition of a mental and simultaneous experience of identity.

3. Theoretical Foundation

3.1. Performance Art

Performance art is a type of cultural production that was used as an indicator of American culture and social customs in the late 20th century (Porkasmaei, 2019: 36). Performance was born among the various modern art movements of the early 20th century. Perhaps the most famous and most famous point of view in this field was presented by Rosely Goldberg (Shad Qazvini, 2011: 22). The performing artist is known as an emerging phenomenon in the art movement of Futurism (Sarvandi et al., 2018: 15). Artists who wanted to challenge the imaginations of art audiences and disrupt their mental framework, chose performance as a way of artistic expression (Mashayikhi and Azmudeh, 2014: 17).

The artists of the postmodern era tried to change the awareness and visual perceptions of their audience (Mohsani, 2012: 42). Each performer offers a personal definition of performance in the manner or process of performance. Performance is a movement that combined visual arts, figures, and theatrical forms and became official in more than thirty years (1970-2000). In the 1960s and 1970s, this art form was defined by apotheosis, how the audience reacted, and political protest, and it was also the favorite solution of many feminist artists, such as the gorilla girl mask, whose aim was to show sexism, racism, and corruption (Mahmoudzadeh Bakhtabad, 2019: 112).

The development of performance art was accompanied by photography and film documentation and action painting (Carlson, 2009: 14). Happening emphasized the importance of the event in artistic creation, the participation of the audience, and blurring the boundaries between the audience and the work of art (Pertovi, 2014: 147). Performance identity, often using the principles of autobiography, became one of the most popular forms of performance art from the early 1970s onwards (Arbabzadeh et al., 2016: 48). Live performance often shows a show with variable unknown factors of performance, place, time, and audience. By entering the 1980s, performance art gradually distanced itself from its initial performance methods and more or less went out of the abstract state, and as a result, it was somewhat welcomed by the general audience (Tashekri, 2008: 58). Therefore, it can be said that performance art was a revolution for mixing the previous knowledge of the audience about an artwork. The artistic audience of the modern world knew art more with specific forms and rules (Kay, 2012: 23).

3.2. Definitions and Theories about Performance Art

The culture of the new world and the platform defines performance art as follows:

"A form of art that emerges from the combination of the constituent elements of various arts such as painting, film, folk music, and drama. The performance artist usually expresses her opinions in a non-narrative way by bringing together images that have different and unrelated topics (Rahbarnia and Davari, 2008: 68). Its performance form is largely derived from the types of shows that became known as Happening in the 1960s; But the Cambridge definition is one of the most complete definitions of this phenomenon; "Performance art combines elements of visual, auditory, performing arts, popular culture, and everyday life to present it through the artist's body, which is merely an artistic tool, and her mind, which has an ideological structure" (Mashayikhi et al., 2012: 19).

Although in the theater, the theory and execution of performance are associated with the names of people like Victor Turner, Richard Forman, Robert Wilson, and Richard Schecter (Rahbarnia and Davari, 2016: 24), the great influence of the avant-garde with the leadership of Arto, Ger Tofsky, Barba, Kupo, Meyerhold forgot Craig and Brecht (Shirazi and Rahbarnia, 2015: 7).

Roselle Goldberg says in the book *The Art of Performance*: "Performance is an easy art with endless instabilities, created by artists impatient of the limitations of established forms. Artists who were determined to present their art openly to the people (Zare, 2012: 15). For this reason, the basis of these works has always been anarchist and due to its nature, this art refuses specific and precise definitions except for the simple statement that art is alive and performed by artists (Porkasmaei et al., 2019: 46). Because the art of performance freely utilizes all disciplines and media such as literature, poetry, theater, music, folk music, architecture, and painting, as well as video, film, slide, and storytelling, and arranges them in any combination: Later, ritual, religious and ethnic ceremonies of artists were also used with great power in this type of performance and what was created was called performance (Carlson, 2007: 42). In the later stages, disrupting the usual time and space for performance became one of the characteristics of performance art (Lucy, 2007: 28).

Performance art cannot be easily described in structural frameworks or as a special work (Mohsani, 2012: 16). Time or what is called the duration of the performance is a critical element (Navaei, 2013: 63). Performance art is formed based on time, and performance can also have elements of endurance (Lucy Smith, 2016: 34). According to Goldberg, the live presence of the artist and focus on the body became the main idea and standard for performance art (Mahmoudzadeh Bakhtabad, 2017: 18). The main factor in the performance is the performer and the actual performance of her body to provide the audience with a fleeting artistic experience. The body is the conceptual tool of performance art and its basis (Damoud, 2011: 69). It can be emphasized that American action painters showed a great desire to practice on canvas; what was formed on the canvas was not an image, it was an event and it originated from the encounter of the artist with the work (Sarvandi et al., 2020: 17). This confrontation with the work can be considered the most important definition of performance art (Mansouriyan and Nasri, 2017: 101).

3.3. Characteristics of Performance Art

At the beginning of the emergence of this art (the sixties and seventies), artists with the live presence of their bodies, from biographies to bodies engaged in actions in everyday life, have used to create art that is completely different from their previous periods. Rosely Goldberg in the book *Art of Performance*, A historical perspective looks at the study of Dadaist and Surrealist experiences in the field of performing arts and finds signs of the emergence of performance art in the experiences of visual artists of the 20th century (Shariati Mezinani and Rawdrad, 2011: 17). Instead of producing a work of art in the usual form such as canvas, sculpture, etc., this time she chose her body ready for her basic work and appeared in front of the audience in a designed situation.

In all cultures, examples of art can be seen; but what separates an art show with a postmodern reading from the art show before it is the elements and features that can be seen in the art show of this period. According to Derrida in the article "Truth in Painting", although it separates the frame or the base of the artwork from the surroundings, it also connects the work to the surroundings and the margins (Saidian, 2010: 121).

One of the characteristics of performance art that can align it with Ta'ziyeh is that there is no professional actor to create a work in the field of performance, and mainly dramatic text is not used like in theater (Rahbarnia and Davari, 2016: 21), the spatial extent is diverse and in terms of The

time is unlimited and the set of gestures on a large scale visually advances its theatrical form, which can be repeated one or more times without practice or with practice, and its subject can also include tribal performances and religious shows (Carlson, 2007: 124). In general, it can be said that one of the best ways to know a subject accurately is to examine its characteristics. Performance art is not exempt from this issue due to the multitude of definitions and the lack of a single and coherent definition of it (Mashayikhi et al., 2012: 28). Among the main features of performance art in the postmodern era, which separates it from similar examples of previous performances, are the following:

a. Imitation and Repetition

According to the performers of performance art, what we see in the theater as a repetition of real life tries to reflect real life with some types of repetition in the theater. Repetition takes place consciously, arbitrarily, and with a specific motivation and follows a specific goal (Kay, 2012: 113). In other words, in the repetition that is done in the theater, the human conscious mind acts; but repetition, according to performance performers, in the form they use, often originates from the unconscious conscience of the mind. (Lucy Smith, 2016: 14). One of the effects and functions of repetition and persistence in performing a fixed action is the dissolution of ecstasy in the performer or her audience (Rahbarnia and Davari, 2016: 22).

b. Surprise

Surprise, another important feature of the performance, occurs after repetition. In the sense that an action is repeated so much that it destroys the expectation of another action for the viewer. By creating the expectation of continuing to repeat an action, a platform is provided for the unexpected action to have a greater impact on the audience. The unexpected action is to defeat the previous expectation of the viewer, not to accidentally enter a world of chaos (Mashayikhi et al., 2014: 17). When there is chaos, we naturally do not expect unforeseen events. For this reason, less may give us the feeling of being unexpected. Disrupting the order obtained by repeating a movement creates surprises (Naqoyan, 2012: 15).

c. Stillness

One of the most effective and colorful elements in poetry, music, art, thinking, and even life is silence. In general, we can say that silence has been dealt with in two ways: the first is the deconstructive and philosophical view of people like John Cage, and the other is stillness as one of the tools for creating a work of art that takes a technical form (Mohseni, 2012: 114). Stillness in performance can be interpreted as stillness in meditation. In addition to the states of stillness used in meditation, other forms of stillness pursue different goals (Navaei, 2013: 65). Stillness can also mean re-creation, resulting in the breaking of stillness (Porkasmaei et al., 2019: 17). Therefore, stillness can have different states. stillness as sleep, stillness as bewilderment or contemplation, stillness as a painting in a frame, stillness as a stoppage of movement by a person to pay attention to another person's speech or behavior, stillness as inducing coldness, stillness as a sculpture indifferent to time, especially when the hours existing in the scene are also disabled (Tashri, 2008: 61).

d. Concentration and Confusion

According to Freud, the first stage of concentration in humans occurs in the first stages of childhood development in the form of focusing on objects, then the stage of focusing on oneself comes, during which the grown child instead of focusing on objects to some extent focuses on subjects and materials (Arbabzadeh et al., 2016: 52). Performance of performers are used to entering a stage of chaos to pass one of the main elements and enter another element, but this is not necessary for the performance (Zareh, 2010: 129).

e. Impromptu

One of the characteristics of performance art is performing actions, and words and showing impromptu without prior reflection and precision. Sometimes, in a performance, the actor utters words and performs behaviors that are not foreseen, or the second actor sometimes feels that she has to end the dialogue and play of the first actor and enter the show without setting a time, or sometimes the actors play games. They say that it is not even conceivable for other actors (Shirazi Mezinani and Rahbarnia, 2015: 8). Performance art artists believe that improvisation attracts and engages the audience more spiritually (Lucy, 2007: 34). Improvisation is a kind of expression of the actor's subconscious, so that her conscious does not affect her unconscious, no special behavior even at the end The show is not determined for him and does not create any limits for her, and she projects herself without being determined what to say and what to do (Sarvandi et al., 2018: 19).

f. Innovation and Creativity

One of the elements of performance art is invention and innovation, creating a spirit of creativity, flourishing, and avoiding any repetition, boredom, and stereotypes. One of the characteristics of the postmodern era is that the artist tries not to act in the same stereotype. Of course, perhaps this can be considered as one of the common elements of the modern and post-modern eras, that the innovation of invention in its essence and nature has value and objectivity and is considered an admirable and valuable thing independently (Damoud, 2013: 73). For this reason, after the renaissance in all fields, various styles and methods are formed; but in the postmodern era, in addition to creativity and innovation, and stereotyping, homogenization, official interpretation, and absolute thinking are avoided, and diversity and pluralism are important (Carlson, 2009: 125).

g. Political and Religious Performance

One of the uses of performance art in the postmodern era is the political, ritual, and religious uses of this art style. For example, in 1985 in Czechoslovakia, Thomas Roller was sentenced to prison for performing a political show. Her lawyer considered her act as a dramatic act and documented her book written in 1979 and thus acquitted him (Shariati and Rawdrad, 2009: 24). Therefore, when performance art is associated with an ideological theme, it becomes a propaganda function and serves religious rituals. Performance art is a good tool considering its possibilities and deconstructions (Mahmoodzadeh Bakht-Abad, 2019: 14).

h. Position of the Audience in Performance Art

Audience action is one of the important concerns of performers, and every performer tries to invite the audience to participate, to the point where it is impossible to produce and create artwork

without an audience (Mansourian and Nasri, 2015: 101). This view penetrated performance art in the 50s and 60s with the idea of John Cage. By taking advantage of the accident and the principle of uncertainty, Cage abandoned the role of the artist as the sole creator of the work. Based on this idea in the famous performance of 4 and 22 minutes of silence, the temporal structure of the piece is the only pre-determined idea of the artist. What sounds are going to be heard in it is unknown and of course, depends on the audience and unpredictable events (Naqoyan, 2014: 57).

i. Death of the Author is equal to the Growth of the Role

The reader, as the creator of Barth's work, inverted the relationship between the work of art and the artist and the audience in another way. As a result, the audience is not a consumer, and in addition to participation, it must also be a producer (text). Giving importance to the body and the physical presence of oneself and others (performer and audience) also provides the possibility of phenomenological reading (Naqoyan, 2012: 58). Every performance, as a ritual of questioning the ways of perception, assumes that the performer and the audience are dependent on each other to such an extent that there would be no performance without each of them. In Husserl's philosophy of living the world, she considers me to be dependent on another (Damoud, 2011: 75). In Husserl's philosophy, intersubjective sharing is the basis of shared world formation, which can be said that in performance art, the presupposition of intersubjective sharing between the performer and the audience is the context of form (Mansourian and Nasri, 2017: 102).

j. Removing the Distance between the Show and the Audience

Although an art performance in the postmodern era is similar to the street performances of previous periods; in performance art, the distance between the actor and the audience is removed, and sometimes the audience is played in this show. In many cases, due to the breaking of the boundaries and formal frameworks of the performance, the space of the show and the actors' play is mixed with the space of the audience and there is no distance from each other, and this helps to bring the audience closer to the show (Mohsani, 2012: 15). In performance, each audience is expected to interpret the language of the performance for themselves or the concepts that are understandable to them (Naqoyan, 2012: 16). Theater actors ask the audience to interpret their movements and performances, reducing the distance between the show and the audience has caused the audience to feel the atmosphere of their theater and become part of the actors in the show (Lucy, 2007: 35).

k. Removing the Gap between Show and Reality

In modern art, structurally, art was separated from life; but in the postmodern era, it was tried to eliminate this distance and bring art to the context of life. For this reason, one of the characteristics of drama art is that it tries to break the border between drama and reality and make real things appear (Navaei, 2014: 54). One of the components of the performance that was taken care of to attract the audience is to create excitement and engage the audience with the show, which of course can be considered as one of the characteristics that emerged in the modern era. Sometimes eliminating the distance between the show and reality is to maintain the behavior and internal stability of the actors. To make the show appear more natural and realistic, preparations are made so that the artist feels that she is in the text of reality and her natural life instead of the show, or in other words, she is living (Mahmoudzadeh Bakhtabad, 2019: 158).

1. Breaking the Border between Art and Life

In a performance, just as the border between reality and show is broken, the border between art and life is also broken. Performance art it deals with real life. Abstract concepts lose color and people's real life enters the performances (Shirazi and Rahbarnia, 2015: 6).

m. A performer is a narrator not an actor

Performance art performers believe that they are not actors, but rather performers; They believe that theater acting or any kind of performance, even if it is done in its best form, is still a work that is far from objective reality and is considered a form of pretending (Carlson, 2007: 16). They also believe that they do not pretend to be themselves, and nothing is outside of themselves, and in the circumstances, they are in, it is related to their subconscious mind, which emerges spontaneously (Naqoyan, 2012: 77). What they do is themselves. The key characteristic of performance art is the feeling of closeness (Tashri, 2008: 59). The diagram of the conceptual framework is as follows:

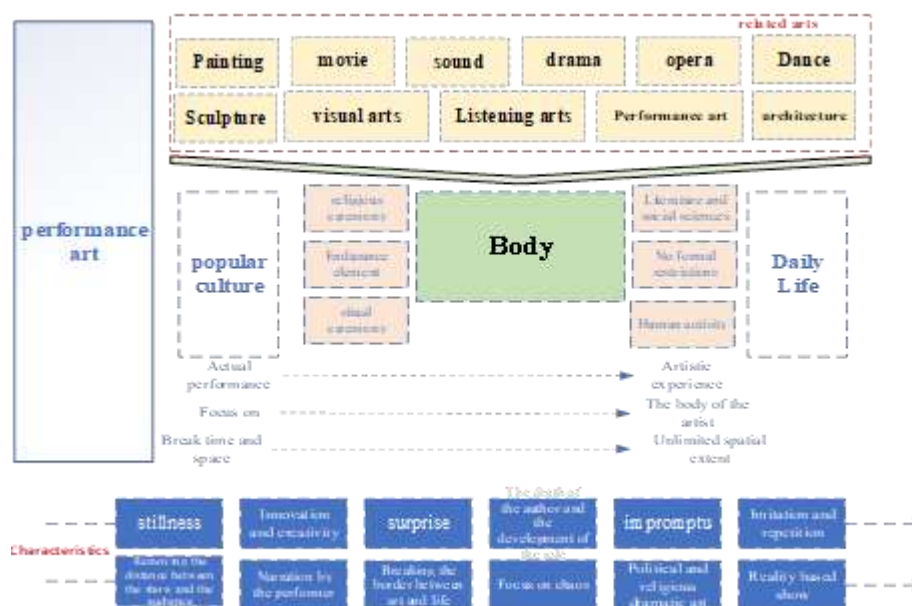


Fig 1 The conceptual framework of performance art and its characteristics (source: authors)

3.4. Performance by Marina Abramovic

Abramović has performed many performances throughout her career. A brief look at her most famous performances will make her worldview and view of the issue of art clearer for us. Abramović's initial works were created when she was not only living in the suffocating era of Tito's regime but also under the pressure of her mother's strict control (Shad Qazvini, 2013: 25). On the other hand, life in the Balkans had a great impact on her views. Abramović says about life in the Balkans: "Balkan culture, which is kind of the border between East and West. This is why I sometimes refer to myself as an interface pal. Life in the Balkans is a kind of steadfastness and being a warrior" (Shariati Mezinani and Rawdrad, 2009: 16).

His most famous professional performances were the Rhythm Project, which consisted of several performances performed between 1973 and 1975, in which the main theme was an exploration of the limits of the body. Another performance in which Abramović challenged her body was a performance called Thomas's Lips, which was performed in 1975. In this performance, Abramović was sitting naked in a corner of the gallery behind a table covered with a tablecloth (Zare, 2012: 158). She ate a kilo of honey with a silver spoon and then drank a liter of wine from a crystal goblet. After she broke the wine cup, she drew five feathers on her stomach with a star blade. She whipped himself for a while and then lay down on an ice cube with a heater on over her head. The heat of the heater led to more bleeding, while the ice mold had frozen the back of Abramović's body (Porkasmaei et al., 2019: 52). Finally, the audience put an end to this performance by pulling Abramović down from the ice mold and covering him (Turner and Bruner, 1986: 147). Although the performance of Thomas Lips coincided with the developments of feminist art in that period, the general concept of the work was more influenced by life under the pressure of the Tito government. Abramović's approach was more towards politics than feminist movements (Thompson and Weslien, 2016: 15).

Marina's professional work is divided into three parts. The initial period, the period of collaboration with Olai, and after her separation, Abramović met Olai (Yu Lisien) on November 30, 1975, exactly on the day of their birthdays, while in Amsterdam, where she was with other artists such as Vito Acconci. They had gathered to record a television show about performing arts. The two were instantly smitten, and after three months of endless phone conversations, Abramović finally left home to join Olai in Prague. Work that had a strange effect on Abramović's works and changed them from physical injuries to the relationship between two bodies. And during this time, they performed duo performances. In a very famous performance called their relationship with movement, Olai and Marina rotated the car 365 times around a circular axis. This was while Olai was driving and Marina was announcing the number of laps with the loudspeaker. In the execution of the relationship in the space, the two of them passed each other alternately and slowly, in such a way that they bumped into each other every time they passed, they repeated this work so much that the encounters became painful and prejudiced. The energy of femininity and masculinity mixed in this performance and became a new component that they called themselves (Yacek, 2014: 101).

In the performance of inhaling and exhaling, Olai and Abramović were kneeling in front of each other, so that their pictures were opposite each other, and they were breathing each other's exhaled air. Although the image presented might seem romantic and even erotic, this kiss of death was very deadly and poisonous, as carbon dioxide was immediately replaced by carbon dioxide. The indescribable performance (*Imbond ra bilia*) was one of the most effective performances of the related project due to the direct participation of the audience. Abramović and naked Olai That They were standing opposite each other in front of the entrance of the Museum of Modern Art in Bologna (Stango, 1977: 25). The entrance to the museum was very narrow, so the visitors of the museum not only had to pass between these two people but also had to decide which one to face. They too. In performing the relationship in time, they sat back-to-back for sixteen hours with no audience present while they were connected by their hair. In the performance of lighting the darkness, Abramović and Olai were kneeling in front of each other and slapping each other in the face for twenty minutes; But their most famous duo performance was the Lovers Project in 1988, in which Marina and Olai each started moving from one side of the Great Wall of China and met at the center point of the wall (Westcott, 2010: 115).

Abramović's first performance after separating from Olai was inspired by her walk on the Great Wall of China in 1988, only to discover that the wall was built on an energy line and symbolized a

dragon. During the research she did to achieve this performance, she realized that snakes and other reptiles move with a specific and magnetic movement on the energy lines of the earth. In the first performance of Abramović's dragon head, she sat on a red chair surrounded by masses of ice, and five large and hungry pythons roamed freely on Abramović's body to find the energy lines of her body (Turner and Bruner, 1986: 79). The duration of the motionless performance, looking at the type of movement of the snakes, remained completely calm and motionless. Between 1989 and 1993, she visited many mines in Brazil and collected abundant crystal stones. In mines that reach a huge amount of crystal; she wanted permission to stay in the mine for the night (Stile, 2008: 18). During this period, she performed many performances in which meditation and sleep along with crystal stones played a major role (Yacek, 2014: 108).

In one of her most famous performances, *Balkan Baroque*, Abramović sat on a pile of 1,500 cow bones covered in blood and rubbed the bones with a brush and disinfectant for four consecutive days. While she was singing the folk song *Yogsalam*, which she remembered from her childhood, and pictures of her parents were displayed on the wall behind him; on the other screen, it showed Abramović wearing a white lab coat and explaining how they got rid of vermin in the Balkans by killing them (Stango, 1977: 26). What Abramović intended to show It was difficult living conditions under the yoke of communist governments and ethnic cleansing by these governments. In the same direction, a video performance was performed in the name of *Hero*, in which the video of Marina sitting motionless on a white horse for seventeen minutes and holding a white flag above her head, and next to the video, a showcase of her father's medals and badges was displayed to the public. In the *illusion* performance, which was performed with 400 rats on the stage, she tried to clear her mind and, in this performance, she focused on the psychological phenomenon of shame. Shame about what happens in front of audiences' eyes (Ward, 2014: 38).

According to him, shame is one of the most pressing psychological forces that leads to the destruction of the self in humans. This work was also taken from her personal life and memories and bitter spiritual experiences during her life in Yugoslavia (Mansourian and Nasri, 2017: 100). In 2005, she performed seven easy pieces at the Museum of Modern Art in New York, with performances by artists such as Vito Acconci, Wally Export, Bruce Neumann, Gina Payne, Joseph Beuys, and Thomas Lips. Her last strong performance in 2010 at the Museum of Modern Art in New York was an exhibition of her forty years of performance and a piece called *the present artist*, in which Abramović sat in a chair for three consecutive months and looked into the eyes of her audience. In 2012, a documentary about this reward called *the artist is present*, directed by Matthew Akers and Jeff Dore were released (Westcott, 2010: 116).

Also, the life and death of Marina Abramović was a theater project directed by Robert Wilson, and Far Gada Kola Grane has produced a documentary from it (Sophaer, 2012). And she played the role of her mother in this performance (Yacek, 2014: 99).

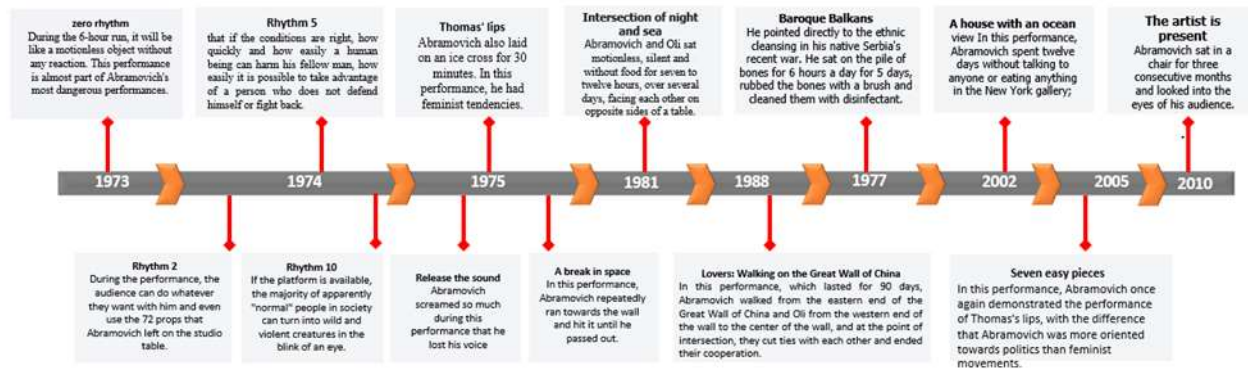


Fig 2 Marina Abramović's performances (source: authors)

4. Research Method

The research method is a combination of qualitative and quantitative nested types, in the qualitative stage, the characteristics of performance art are extracted from the expert's point of view with semi-structured interviews. In this part, Atlasti software is used for ease of coding, and the results are presented with cascade diagrams. In coding, a description and interpretation approach is used. The selection of Abramović's performances is selected by a prospective Delphi with three phases (brainstorming, limiting, and selection). Their W Kendall is calculated for each of the works and the selected works are selected as the examined samples. A sampling at this stage is targeted and with a preference system. After the selection of Abramović's performances, the quantitative stage begins. In this stage, a questionnaire with a Likert scale is compiled based on the characteristics obtained from the qualitative stage, and it is randomly distributed among specialists and space users for each of Abramović's works. The sample size is 384 informants who were selected from a society with the criterion of entering the research and according to the upper limit of the Morgan table; the results are analyzed in JMP software using descriptive and inferential statistics. The results are presented in a comparative form. Validity is calculated with CVR=0.76 and reliability with Cronbach's alpha (0.78).

5. Research Findings

5.1. Qualitative Findings

In this part, after expanding the research questions to formulate questions, a semi-structured interview was held with the experts who were selected with the snowball system, it was found that the most frequent code of concentration and agitation was 21 and the least frequent was stillness with the number 7. After the 28th interview, there were repetitions, which showed that the results were saturated. In the diagram below, 25 components were extracted after interpretation and description.

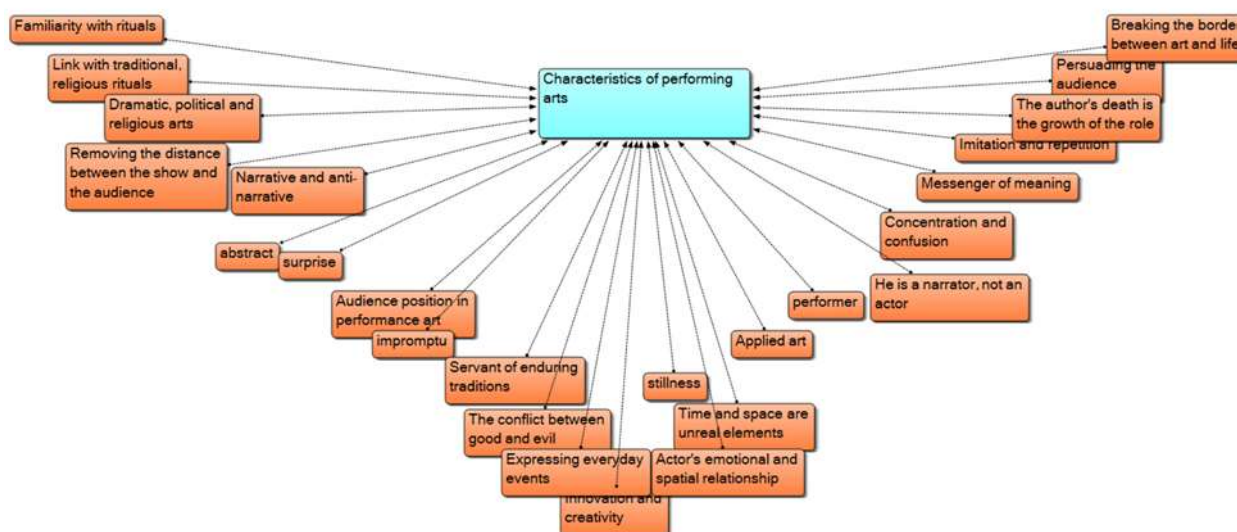


Fig 3 Extraction diagram of the features of performance art in Abramović's works

In the qualitative phase of Delphi, the expert panel is asked to first study the features extracted in the theoretical foundations and refine them concerning the types of performance artworks of Marina Abramović. Give a score of 1 to 10 according to each of these features and the ability to check. In the next stage, the experts were dealt with in a separate panel and they were asked to rate the works selected by each panel. Each expert was asked to select 10 works, as a result, the selected works were chosen by 50% of the experts for each panel. Experts are asked to rate the works on their board's editing lists; the Average rank is calculated for each item. In each list, evaluation is done using W. Kendall and this continues until they reach an agreement and some of the variables of the first round are removed. The table below shows the calculated Kendall coefficient for each variable, as well as the excluded variables of the first round.

Table 1 Kendall coefficient calculated for one of the works

W Kendall	The name of the works	W Kendall	The name of the works
0.832	Thomas's lips	0.846	zero rhythm
0.492	Intersection of night and sea	0.741	Rhythm 5
0.612	Lover: Walking on the Great Wall of China	0.495	Rhythm 2
0.565	Baroque Balkans	0.433	Release the sound
0.472	Changing Position	0.675	A house with an ocean view
0.842	life and death	0.582	Art should be beautiful
0.521	Inhale and exhale	0.738	Relationship with movement
0.724	light of darkness	0.796	Relationship in time
0.655	Meditation and sleep	0.801	dragon head
0.719	Delusion	0.769	Shoes for departure
		0.522	Seven easy pieces

After examining table number one, it was found that the selected works include: Rhythm Zero, Rhythm 5, Thomas's Lips, Love Walking on the Wall, Baroque Balkans, A House with an Ocean View, Art Must Be Beautiful, Life and Death, Relationship with Movement, Lighting And

Darkness, Relationship in Time, Dragon's Head, Meditation and Sleep, Illusion, Shoes to Go, and dropped tracks include Rhythm 2, Unleash the Voice, Decisive Night and Sea, Shift Position, Seven Easy Pieces.

5.2. Quantitative Findings

a. Descriptive Statistics

According to the descriptive statistics, 253 people (70.7%) of the sample population were men and 131 people (29.3%) were women, and 74.4% were in the age group of 20-30 years, but 211 people (54.9%) were men in the group of experts. And 173 people (45.1%) were women. The working method at this stage is such that the question has been compiled according to the number of components, and each question has an answer between 1 and 5. The total score of the characteristics of a work means the score given by each person to the desired quality. Therefore, the score that can be obtained for each quality varies between 5 and 25. Based on this, the classification is created in such a way that the people who have given a total score of 5 to 11 to a factor, estimate it as poor, have a score of 12 to 18 as an average opinion, and 19 to 25 as a good opinion. The results of descriptive statistics showed that the highest frequency of data in the group of experts related to Breaking the border between art and life with a value of (1904) and in the group of space users Persuading the audience with a value of (1909) is related to the characteristics of Abramović's artworks and the least in the group of experts It is related to Concentration and confusion with the value (1258) and in the space users group it is related to the Messenger of meaning with the value (1315).

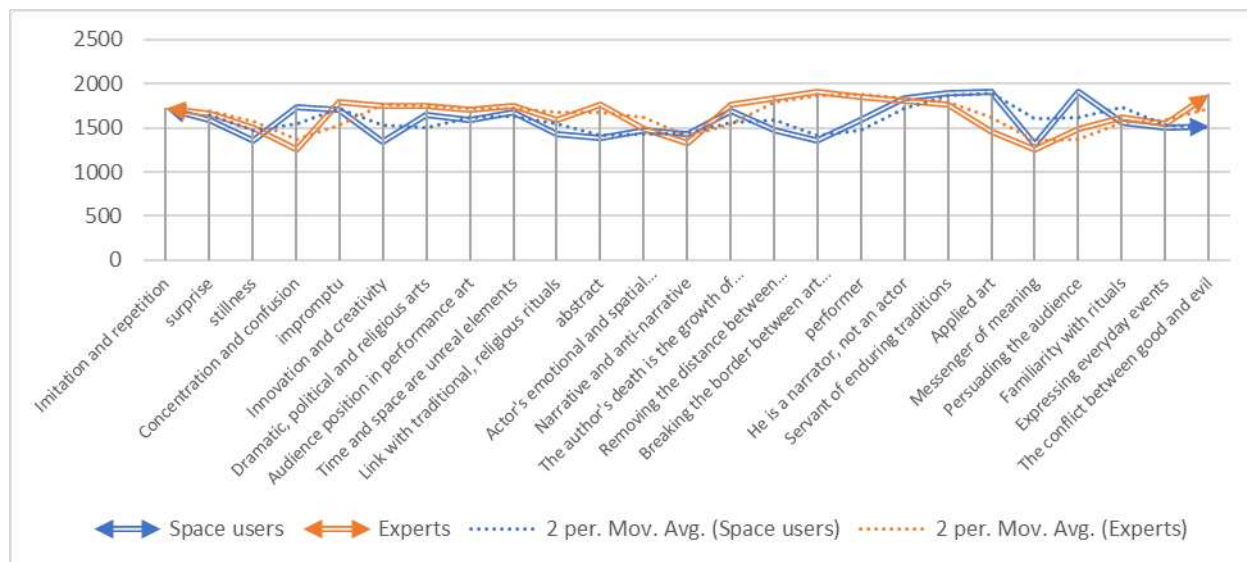


Fig 4 The abundance of features of performance art in Marina Abramović's selected works

b. Inferential Statistics

Spearman Correlation

The results of the questionnaire are entered into the Spss25 software after numbering. Predictive relationships (regression) and correlation relationships are used for analysis. Two-Sample Kolmogorov-Smirnov Test is used to check the parametric and non-parametric types of data.

Table 2 Kolmogorov-Smirnov test to check the normality of the performance art characteristics variable

P	Z Kolmogorov Smirnov	Standard deviation	Average	Variable
0.411	0.723	1.23	21.25	Characteristics of performance art

As can be seen in the above table, the Kolmogorov-Smirnov test for the performance art characteristics score ($p=0.411$) and therefore does not have a normal distribution, and non-parametric analysis should be used for it, based on the results obtained from the Spearman (specific correlation) test. It was found that in spatial applications, the highest correlation in the group of space users is related to the performer component with a value of (0.920), and in the expert group it is related to Breaking the border between art and life with a value of (0.913) and the lowest correlation is related to the concentration component. And confusion in the group of space users and in the group of experts related to Expressing everyday events.

Table 3 Correlation between the variables of performance art characteristics in groups of space users and experts

Characteristics of performing arts	Space users		Experts	
	The correlation coefficient	meaningful	The correlation coefficient	meaningful
The author's death is the growth of the role	0.714	0.00	0.645	0.00
Removing the distance between the show and the audience	0.883	0.00	0.788	0.00
Breaking the border between art and life	0.619	0.00	0.913	0.00
Performer	0.836	0.00	0.514	0.00
He is a narrator, not an actor	0.920	0.00	0.749	0.00
Servant of enduring traditions	0.654	0.00	0.656	0.00
Applied art	0.625	0.00	0.813	0.00
Messenger of meaning	0.546	0.00	0.625	0.00
Persuading the audience	0.881	0.00	0.715	0.00
Familiarity with rituals	0.265	0.00	0.806	0.00
Expressing everyday events	0.745	0.00	0.315	0.00
The conflict between good and evil	0.540	0.00	0.756	0.00
Imitation and repetition	0.368	0.00	0.792	0.00
Surprise	0.275	0.00	0.755	0.00
Stillness	0.882	0.00	0.842	0.00
Concentration and confusion	0.244	0.00	0.518	0.00
impromptu	0.452	0.00	0.345	0.00
Innovation and creativity	0.658	0.00	0.583	0.00
Dramatic, political and religious arts	0.266	0.00	0.919	0.00
Audience position in performance art	0.726	0.00	0.752	0.00

Time and space are unreal elements	0.852	0.00	0.584	0.00
Link with traditional, religious rituals	0.681	0.00	0.958	0.00
abstract	0.921	0.00	0.921	0.00
Actor's emotional and spatial relationship	0.425	0.00	0.421	0.00
Narrative and anti-narrative	0.374	0.00	0.246	0.00

Inferential Statistics

To use the type of linear or multivariate regression, the internal correlation matrix diagram of the variables is used. After drawing the correlation matrix diagram, it was found that the factors have no linear relationship, so it is correct to use multivariate regression.

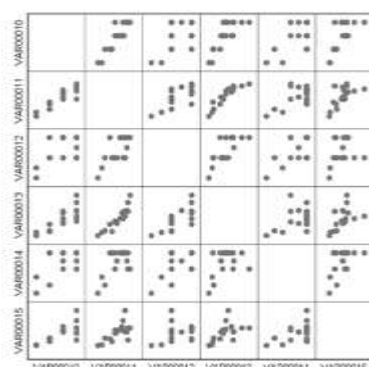


Fig 5 Diagram of correlation matrix of factors

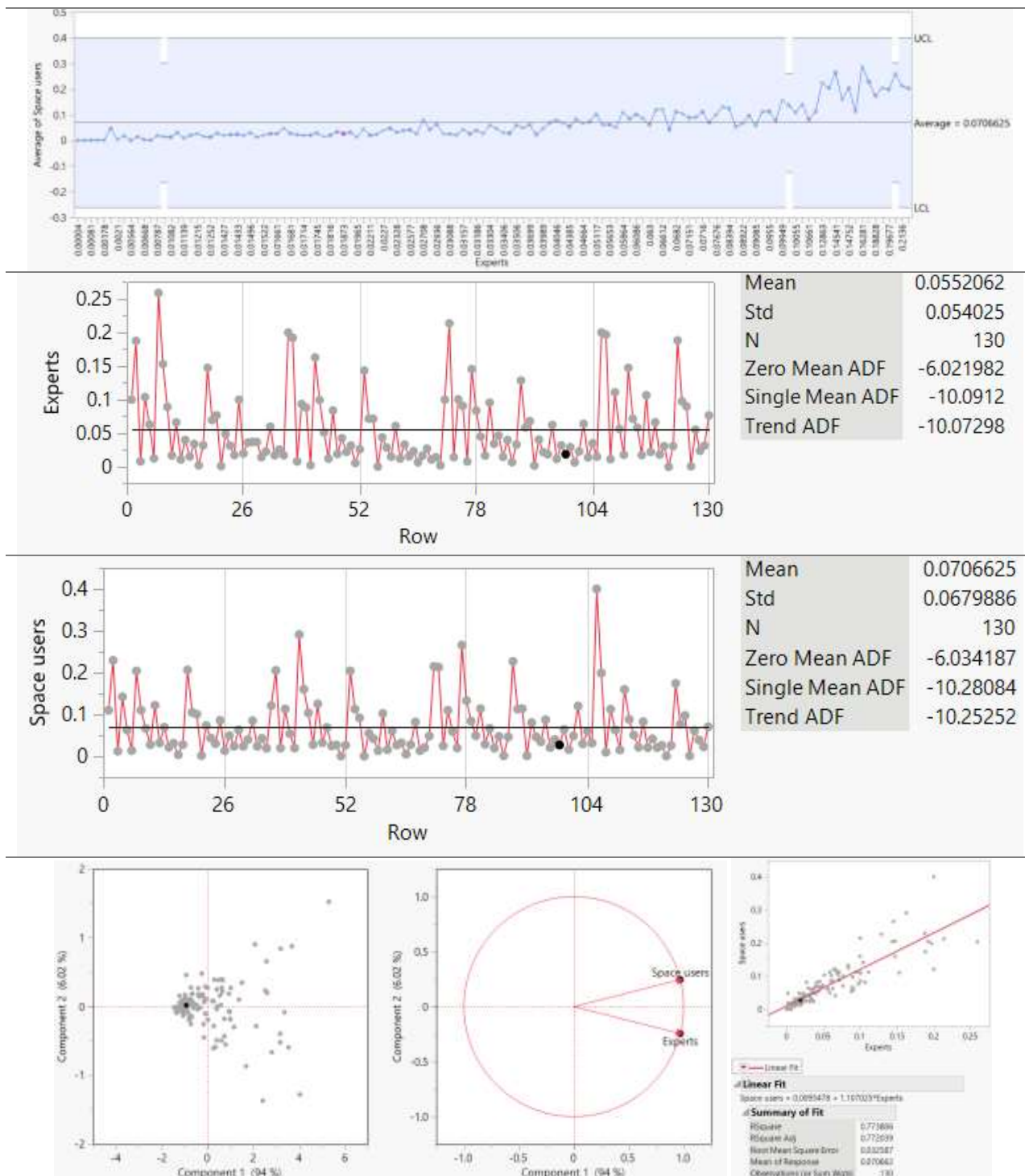
Based on the output obtained from multivariable regression, it was determined that in the group of spatial users, the highest factor contribution is related to the characteristic of Applied art with a value of (1.000), and the lowest is related to Innovation and creativity with a value of (0.254), the highest factor contribution is in the group of experts. It is related to the dramatic, political, and religious arts component and linked with traditional, religious rituals with a value of (1.000), and the lowest is related to Narrative and anti-narrative with a value of (0.222).

Table 4 Multivariate regression between the variables of performance art characteristics in groups of audiences and experts

Characteristics of performing arts	Space users				Experts			
	Coefficient of determination	F	β	t	Coefficient of determination	F	β	t
The author's death is the growth of the role	0.752	217/314	0.762	451/39	0.583	342/411	0.741	571/44
Removing the distance between the show and the audience	0.920	147/523	0.372	328/44	0.919	446/444	0.429	365/31
Breaking the border between art and life	0.803	381/852	0.872	823/36	0.752	752/985	0.623	255/31
Performer	0.746	921/298	0.685	362/39	0.584	223/211	0.685	479/58
He is a narrator, not an actor	0.681	257/2	0.59	958/1	0.958	773/225	0.62	982/2

		47	7	8			1	1
Servant of enduring traditions	0.816	321/6 44	0.43 6	644/1 6	0.921	681/653	0.65 2	134/1 1
Applied art	1/000	523/8 45	0.85 2	422/2 1	0.421	654/724	0.61 2	425/2 4
Messenger of meaning	0.846	254/7 54	0.66 5	144/1 9	0.246	621/741	0.38 1	132/2 3
Persuading the audience	0.814	541/1 24	0.21 3	231/3 9	0.821	325/512	0.48 4	121/4 8
Familiarity with rituals	0.546	241/2 32	0.42 5	914/2 9	0.285	748/276	0.46 4	963/4 7
Expressing everyday events	0.795	321/2 01	0.41 4	221/2 4	0.675	125/302	0.42 1	564/4 3
The conflict between good and evil	0.243	124/4 43	0.42 1	248/4 8	0.754	034/519	0.63 1	448/4 9
Imitation and repetition	0.895	134/5 22	0.42 1	288/2 5	0.756	125/521	0.12 4	214/1 5
surprise	0.978	265/2 29	0.61 5	254/6 5	0.661	258/149	0.31 1	216/2 2
stillness	0.462	412/3 23	0.42 4	517/4 9	0.874	214/315	0.32 5	552/2 2
Concentration and confusion	0.331	211/4 41	0.42 3	326/2 5	0.265	371/458	0.42 5	354/1 8
impromptu	0.745	541/3 21	0.45 4	351/5 8	0.727	695/325	0.22 3	341/3 2
Innovation and creativity	0.254	991/6 21	0.34 1	324/2 9	0.331	937/621	0.52 9	324/2 3
Dramatic, political and religious arts	0.455	920/5 81	0.57 8	825/2 1	1/000	210/521	0.67 9	839/2 8
Audience position in performance art	0.781	654/2 18	0.51 4	586/3 1	0.275	312/520	0.62 8	581/4 8
Time and space are unreal elements	0.756	382/7 52	0.54 2	566/4 8	0.963	382/752	0.54 2	566/4 8
Link with traditional, religious rituals	0.645	321/5 14	0.54 1	618/2 5	1/000	317/645	0.57 4	698/2 9
abstract	0.831	167/4 28	0.65 4	131/2 2	0.624	235/456	0.45 6	214/3 2
Actor's emotional and spatial relationship	0.315	175/4 31	0.22 1	211/1 8	0.646	125/423	0.20 2	571/4 4
Narrative and anti-narrative	0.811	425/1 54	0.52 1	418/4 3	0.222	405/121	0.30 1	365/3 1

The average data results of space users and experts showed that the answers of experts were close to the data average of space users, but it seems that in general, experts give more importance to features and their influence in creating performance art is more than the audience knows.

Table 5 Average comparison and PN modeling in JMP software

Also, the respondents of space users and experts have different opinions on how to answer the questions of the questionnaire. The results show that the components follow the factor contribution almost equally, but the way of influencing them will be different, also between the answers of the two groups of space users and experts. There is a correlation of 0.76, which shows a strong connection between their answers.

6. Discussion

The compliance of the results with the moving average in both groups of space users and experts shows the high validity of the research tool for measuring the characteristics of Abramović's works. Also, due to the difference between the results of descriptive and inferential data, an inferential analysis should be used as the basis for analyzing the results. According to the users of the performer's space, applying all the features of the art of performance and paying attention to the details in the art of performance, can help to display this art more effectively, but the presence of too many contradictions and complications in the art of performance for the visitors and audience in the form of It will not be understood concretely and it has less effect on other features, but experts consider breaking the border between art and life as a turning point to focus on other features in performance art. Paying attention to daily affairs will reduce the quality of performance art, but according to the audience, the practicality of the type of Performance art has the greatest impact on the creation of art, and it is the least related to innovation and creativity because if performance art breaks the boundaries of creativity, it can be incomprehensible to the audience.

7. Conclusion

The uniqueness of Abramović's performance can be seen in challenging the audience. She considers the audience to be the main pillar of performance art so this art gets its meaning through the performer and the audience. These two important things cannot be separated, like the subject and the object in other works, they are directly next to each other and are a reason to define each other, and the art of performing art is a synthesis based on the art of the body, which to preserve its nature, needs to include features that Every artist shows some of them more in their work. Marina Abramović observes all the features in her works with high coefficients, but she considered the most obvious feature of her works to be the improvisation of art, an art that appears specific and appropriate to the time and can respond to the present and the times. be a performance and news innovation in attracting the audience and arouses the maximum attention of the viewer as if it has distinguished him from the world, also her narration in her works has a decisive role in creating her unique art, she breaks the boundaries of time and space with her body and In her view, the body has the highest potential to attract the audience, because the audience feels that nothing is represented and that everything is real and emerges in time. In domestic arts, the mentioned features can be used for the success of native arts in the form of performance art and try to increase the coefficients of these features specially. Paying attention to the opinion of the audience is essential in dealing with all aspects of performance art, and considering the closeness between art and artist in the correlation results of this research, there are differences in the way people and experts look at the features, which should be addressed. Doing a preview and asking for comments from the audience can help to improve the results.

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Representation of the Connection Between Literature and Art

Parisa Yazdani^{a*}, Salar Zohoori^a

^aDepartment of Research Art, Kish International Branch, Islamic Azad University, Kish, Iran

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Review Article

Abstract

The connection between art and literature has existed since ages, and the most important art of Iranians is the Persian literature. The first topic that every researcher focuses on in this field is the search among the links and similarities between literary and artistic texts from a visual point of view. Doubts between the writer views when structuring a prose or order and an artist who understands the structure of natural order and recreates it with his art. Such similarities generally evoke the historical connection between writers and artists. The knowledge that Rumi received in his relationship with Shams is no less than the knowledge that Van Gogh created from his relationship with his inner fake world. Sometimes Sohrab traveled between these two worlds. Farhad Kouh sculpts Biston and Nizami wrote it in prose. Rostam killed Sohrab and the coffee house painters depicted it. The researcher's mission is to discover these links, and reading texts, whether visual, musical or literary, through philosophers and theorists is the concern of every researcher. Of course, sometimes the authors' frank confessions and imitation make this (research and discovery) easier. In this research, we try to discover this ancient relationship and represent the link between literature and art. The research question is what kind of connection exists between literature and art, in response to the proposed hypothesis, it should be mentioned that there has been a connection between these two components for a long time, and literature is the reason for the approach of many artists. New strains of art have also become ecstatic. Of course, it should be noted that all social components and movements have become the way for the emergence of new arts and styles in art. To the extent that in some cases the names of artistic and literary styles have been the same in some cases.

Keywords: Literature; Art; Common Language

* Corresponding author. Tel: +98-9111160760. ORCID: 0000-0001-8202-1021.

E-mail address: yazdaniparisa99@yahoo.com

1. Introduction

1.1. Literature

The definition of literature is a very controversial definition, although there are many sources and references in this field and defined by expert. However, they are also aware of the incompleteness and comprehensiveness of their definition. In this article, in addition referring to cultures and dictionaries, we have tried to address different or similar points of view presented by thinkers in the field of literature. For example: in many dictionaries such as Dehkhoda, Ma'in, Nafisi... literature and the science of literature are defined very similar and even the same, but in popular culture we see that the science of literature only includes Arabic literature. Why? This point is very evident in written cultures and reliable sources of researchers. As a result, the opinions of literary greats are also different in the same proportion. For example, Aristotle considers literature as an art, or Jamal Mir Sadeghi interprets literature as the art of words, but today's formalists consider it as a science. Dr. Zarin Koob considers literature to include written works, while we read in the book "Literature and Literature" by Jamal Mirsadeghi, we should not forget that there are many written works left that were transmitted orally before being written down. Therefore, literature includes not only written works, but also oral works. Are those books not part of the world literature? These differences sometimes lead to the point where two great literary experts express their differences with each other and criticize each other. As Jean Ricardo considers the definition of literature in literature itself: reading and writing. But Simon Dubois declares openly that he does not believe in his opinion and considers literature as an activity that is done by humans and for humans to reveal the world to them, and this revealing itself is an action. Such differences have made us gradually realize the reason for these different definitions and by studying different works, we come to the conclusion that literature is an artistic category and it is impossible to get a comprehensive definition. However, those who deal with literature, without having a definition of it, know literature in their minds and hearts and distinguish it from other categories (Ghasemi, 2008).

1.2. Iranian Literature

The connection and kinship of history with poetry, literary and religious texts in general has existed for a long time. This affinity in the literature of our species is such that in some cases there is a very narrow distance between historical narratives and literary stories. Chronicles and stories are mentioned together in some old collections of Iranian history, such as the collection of chronicles and stories. In the Shahnameh, what is referred to as "story" from the words of "peasant" or "mobad" sometimes has the meaning of history and real narratives in the eyes of the poet. In the Qur'an, the stories of the prophets and peoples of the past have been called "stories", but all of them are considered to be part of history in the eyes of the Muslim people (Zarin Koob, 2000). If the historical themes are original, they will surely open their place in the literature. A historical situation must find its own literary and artistic parallel in the creation of literature, and if it does not find it, it remains outside literature (Brahani, 2010). On the other hand, without history and time, there is no poem or work and however, the focus of the poem is more on the circular character and the general spirit of history than the linear sequence and chronicle of events. In other words, works resist the reduction of an aesthetic whole to a specific historical text (Bennett and Nicholas, 2017). Art, literature, science and technology are based on knowledge of the past. Historical knowledge is not a luxury or pure entertainment of the mind in free time from the most serious occupations, but

rather a duty, the performance of which is necessary not only to preserve certain form or type of intellect, but also to intellect itself (Stanford, 2008).

Meanwhile, Saadi Shirazi is one of the poets whose mentality in his works is formed with concepts, developments, historical figures and myths. So that in some of his prose and verses, one can see excavating from the poet's heart to these historical topics and concepts. Golestan and Bostan Saadi are the meeting place of past historical and cultural texts, which are interwoven with special elegance and artistry in its tripod. If Ferdowsi founded the Persian language as a strong fortress to defend Iran's national identity, Nazai played an essential role in protecting this fortress and its strength to face a new wave of dangers and allowed Persian to become flexible in the new era (Milani, 1999). This of course was not possible except for Saadi's familiarity with the dimensions, elements, and angles of national and Islamic culture and history, which he used with his elegant and beautiful and attractive poetic simplicity, relying on his insight. The historical geography of this region has expanded and grown, his historical knowledge can explain the historical characteristics, the extent of his knowledge to history, the influence of the historical and social situation of the era in his works.

1.3. Art

Art is a "special feeling" that comes together with the human artist, in other words, a kind of spiritual connection between art and the human artist is created in the art works, and displayed for everyone to understand with an expressive character, and it is in the form of a form, the meaning and concept of understanding are placed in the understanding of the audience and it can be said that the art of creation is the existence of creation with the creation, and this issue cannot be considered as a mixed material of art. So that art is considered one of the most important features and characteristics of creation in the creation of humanity in the universe and it cannot be separated from the world without the presence of man through the door of the world of truth.

The art of an ancient phenomenon and its beginning can be related to human life and the descent of Adam (man), to the earthly world (earth), in line with the words and lamentations of man and his children with God's angels, which is the narration of the predominance of presence and intuition and the first form The artistic meaning was considered in the form of beauty and pleasant sound from musical inspirations (Madadpour, 2013).

The relationship between art and the ability to produce art is a kind of belief in local knowledge and art that is in accordance with culture, religion-tradition, etc., the quality of the worldview and culture of the society in ensuring the benefit of structural methods with mentalities and objectives that cause sustainable growth and dynamism in the society, including Gared (Naghizadeh, 2010).

As the mental structure of every human being is the interaction result of the potential forces of his subjectivity with objectivity, in other words, perception with factors becomes subjectivity, that considers the nature different from the effect. Humans are different from the mentality of others, and relative understandings are actualized in relation to attitudes. The artistic form and the content of the artwork are debatable and something inseparable from each other (Debdeba et al., 2019).

The discussion of aesthetics is always followed by two groups.

1. Philosophers, who deal with theoretical issues and provide theory and stylistics regarding art and providing an interpretation of it in a general way.

2. Artists and critics, who always try to deal with art on case-to-case basis in special and unique cases.

The main subject of aesthetic science is to answer the question, "What is art?"

Some people say: "Art is beauty" and one of the general characteristics that everyone names for art is "Its characteristic is beauty" or "anything that is made by humans and is beautiful". Another question that arises is, "What is beauty?" Beauty is anything that attracts a person and he/she wants to see or hear it again and again. Ugliness versus beauty. Ugly is everything that we avoid seeing again and hate.

The problem with this definition of art is that it leaves the whole nature and essence of art to the audience reaction. The audience reaction is an important issue, but it is not the only factor in valuing an artwork. Another group believes that art is anything that becomes a means of refining, elevating the human spirit; That is, they consider art to be only moralistic art, and they consider their art to be an art that has positive social, moral, educational, and educational effects. Leads. Proponents of this theory support the slogan "art for society".

The drawback of this definition is that ethics and social issues are not applied equally in all arts that can be used as a comprehensive criterion for evaluating works of art. For example, in poetry, novels, or cinema, the level of moralism is very different from art such as calligraphy.

There is another definition of art that says: Art is a copy of nature and everything that exists in nature can also be valuable in art. For example, whims, arrogance, desire for crime and bloodshed, and other ugly traits, since they exist, can be depicted freely and can be respected and admired just like a sacred art, because it is a mirror of the whole face of truth and are the facts.

The fourth definition says: Art is the expression of a person's feelings and emotions and his perception to life and the universe. The problem with all these definitions is that they consider one aspect or attribute of art and ignore the rest. Art is actually a combination of all these meanings and includes a general definition.

After the issue of defining art, another discussion that is raised is the history of the philosophy of art. This discussion starts from ancient Greece and Plato and continues with Aristotle's opinions and ideas. Recently, many principles of various arts, rules and laws in this regard are taken from the book of Aristotle's *Botyka*.

2. Application of Literature and Art

Perhaps it can be said that the most characteristic of Iran is Iranian literature. As Fred Halliday points out that "Iranian literature is at the top of world literature. And this does not mean that the literature of other nations has come close to that peak, they are all in the range and Iranian literature is at the tip of the peak.

Sociology of literature deals with the knowledge of art and literary activities in connection with other people of society and social environment and examines and explores the mutual influence. From sociological point of view, poetry and literature are an important part of society, and on the other hand, it deals with creative artistic tools, and the combination of these two features can be seen in outstanding literary works.

In general, the culture or set of material and spiritual values of mankind is manifested in the context and mirror of literary texts and works of art. Therefore, in any era, literature, art and poetry are important social dependents that can reflect the events and internal and external changes of a society like a mirror. So, it is possible to study the life-giving effect of society and social environment on these works and reach good and valuable results. The originality of understanding the content of any artistic or literary work and its social essence is considered one of the main goals of the sociology of literature (Torabi, 1991).

Researchers and thinkers having focused on this feature that in order to properly understand the types of art or literature or any other social issue, at the beginning of the journey, the place and

origin of their emergence must be known, then with careful insight and in-depth analysis, the results that come from this revelation the research is analyzed. Therefore, it is necessary to first understand the structure of the literary work and then its function and arrive at a precise definition of it. Dr. Amirhossein Arianpour, a prominent researcher in the field of sociology of literature, says:

"Because art has always been associated with all activities of human life, especially in the beginning, it is never possible to examine artistic movements apart from other aspects of life. Therefore, in the research related to the sociology of literature, the origin and course of arts and the construction and function of each of them are identified in the general context of human life (Arianpour, 2001).

It is also possible to reach this point of view and judgment that in short, all kinds of common arts, especially literature and poetry, emerged from social life and are a part of human vital activities are the result of human struggle with reality. As for the emergence of creation myths or common legends among the people, it can be believed that for the first time, a human being is able to imagine and create imagination for each of the realities in front of him, such as wolves, rain, drought. A year, famine, struggle with nature, etc., creates ideas in his mind and based on those ideas, which have a real basis, he creates artistic creations such as songs, dances, sculptures, paintings, and poems. It is worth saying that returning with those originalities and understanding social realities from the labyrinth of art and poetic fantasies is a very difficult and exhausting task, but in any case, by opening the doors of secrets and so-called code breaking, we can reach reality. As in the deep historical and social depth of all the religious and national ceremonies of Iranians, there is a social reality that can be reached through the hidden curtains of art and drama or poetry and literature. Ancient myths and legendary people of the world talk about the magical connection between fantasy and reality, art and life. As if we analyze the word myth, the result is the combination of story and history or reality and legend. The oneness of imagination and reality in Persian literature is an undeniable fact, as in Ferdowsi's *Shahnameh*, all kinds of stories presented and rehabilitated by the great Ferdowsi, indicate the combination of the realities and imaginations of the past, which are in the most beautiful form with Ferdowsi's literary and creative language, presented, in the story of Rostam's war with the Shah of Mazandaran, a certain implicit historical fact can be considered. Although neither Rostam is real nor the Shah of Mazandaran:

زگیر اندر آمد به پیوند اوی
از ایران نظاره بر آن بر گروه
ستان دار نیزه به گردن گرفت

(شاهنامه، ص ۳۷۳)

یکی نیزه زد بر کمر بند اوی
شد از جادویی تنش یک لخت کوه
تهمن فروماند از او در شگفت

3. Application of Art

Throughout history, art has always accompanied man. Different types of art have had different forms depending on different times and different societies. Although art is part of human life, its role in life is more important and deeper than everyday affairs. This importance of art can be seen in various ways, but in any case, it has given a kind of sanctity to art. Sometimes they used art for hunting and blessing agriculture, and sometimes they used it in the church for religious teachings to the people. Even in contemporary secular societies, artists are considered to be the remnants of the lost sanctity. The reason for the sanctity of art lies in its essence, because art is meant to elevate man and transcend the boundaries of everyday life. A point that should be considered is that the importance of art in various societies has caused it to increase its social power. Unfortunately, this

virtue was not and is not, since the beginning of history and probably before that, individuals and groups have tried to use this great power to dominate people and use art as a tool to fulfill their sensual desires. This is a great difficulty that art has always faced and still is. Art, whose task is to suppress the human spirit and finally let go of belonging to worldly affairs, on the contrary, it has been used to strengthen and control people (Madadpour, 2001).

Based on what Heidegger presented for the first time, technology opened a new perception of existence in relation to human beings. In this view, nature is like an inanimate body that provides a source full of energy reserves at the disposal of humans, and humans have the right to dominate and occupy it. In this world, which has been emptied of any sacred meaning, in fact, the conflict between appearance and concealment, unconcealment and concealment, and revealing and concealing, which occurs in art, is eliminated in favor of technology, and technological products, including its artistic goods. Sentences are made based on the role of features that are considered for them. Whatever this special role is, it is in the direction of making profit and making it easier to maintain and take care of daily affairs. And in this way, there is no trace of ecstasy, mood, passion, love, and other conditions in technological products... because it is produced to be consumed and to fulfill its role (Rikhtegaran, 2010).

The complicated issue here is that a person can lie by telling the truth. To clarify the matter, An example from the great Shakespeare. In the play Othello, the jealous person who suspects Othello of his chaste wife, Desdemona, is called Iago. Iago repeatedly tells Othello about Desdemona's decency and loyalty. If we look at Iago's sentences, I don't see anything dirty in them. But with these right words, Iago creates wrong thoughts in Othello: "Sir, beware of envy; Because jealousy is a green-eyed giant that mocks even the meat it feeds on. The one who surrenders to his fate despite hating the person who has committed a wrong against him is happy; But that man who is deeply in love and at the same time doubts about his lover, how miserable and poor he is! (Shakespeare, 1999: 1178). Here, apparently, Iago tries to stop Othello from jealousy, but in reality he drags him to the abyss of envy. The French psychoanalyst, Jacques Lacan, emphasizes the difference between what is said and the position from which it is said. What the patient says is an issue, but who said it is more important. Saying "You are my master" implies the speaker's position: either as a slave or, more likely, as someone who is willing to do anything but accept the position of a slave. Therefore, speaking determines a person's position as a speaker, in other words, it gives a person a position. The Quran is the holy book of all Muslims, but when they put the Quran on the head of a spear in the battle of Safin against the army of Amir al-Mu'minin (AS), its role is reversed by changing the position. If someone cannot understand this subtle difference, he will follow the path of Khawarij. The art of performance is inherently a combination of what has been said and this position. If a dialogue is said in the show, there must be a person who expresses this speech. This issue is also true for art itself. In the art of discussing the relationship between content and artistic form, formatting is the same word and position. If a movie or a show that gives humane and valuable slogans, in the form of slogans, has the intention of inciting the audience, it deprives him of the ability to think. On the other hand, the progressive art, by breaking the previous formats, wants to make the audience think with the help of its creativity and respect the intelligence of the audience instead of making copies. For this reason, modern and creative art was banned both during Hitler's and Stalin's eras. Georg Lukács, a Marxist theoretician, criticized modern artistic forms and instead chose a type of compressed realism: "Lukács cannot accept that some modern writers achieve a kind of realism by showing the alien existence and impersonality of modern beings, or in any case, new literary forms and industries emerge that are in line with modern reality (Selden, 2017).

4. Application of Art from Philosophers Perspective

To understand and explain the nature of art is one of the most important subjects of art philosophy. The ups and downs history of this additional philosophy, which was the history of philosophy until the new centuries, contains different opinions about the nature of art. It is obvious that this plurality of opinions is not only limited to different historical periods or several philosophical schools, which sometimes increases with the number of philosophers, but also includes different areas of civilization.

For example, in the field of Eastern civilization, especially in India, the concept and nature of art is subject to foundations such as Sadarshya and Rasa. Sadarshya considers art to be the similarity of the artwork with the object, but this similarity does not mean the simile of the image with the object, but according to Permaneh's theory, the truth is the object, and in a word, there is no duality between the artwork and the object because the image is the truth and not just a copy of it. Rasa also indicates the presence of a healthy and innate taste in the human being, which allows him to understand the truth of the work of art (Swamy, 2005).

The unparalleled dominance of yoga in the art of the above three areas of civilization turns the nature of art into an intuitive concept, and its creation into ritual stages. In this field, the artist is a seeker who overcomes the distractions of the mind through the eight stages of yoga and, as a result of concentration and meditation, receives a form of "Davata" or divine angel in the heart. The result of this behavior is a creation that is not just a picture of the ideal face of the highest level, but is its very essence. The six principles of Chinese painting and the theoretical foundations governing Japanese art also express the same meaning. Therefore, in the area of the East, the essence of art is to recover ideal forms and fix them in works of art with the intention of reducing or eliminating distances and intermediaries in order to achieve intuitive perception. This meaning has a different history in the western civilization. The works of Homer and Hesiod (*Iliad*, *Odyssey* and *Theogony*) are the first texts containing theoretical definitions of art in Western history. In these historical works, the term *tekhneh*, which means to create, and to bring forth, expresses the meaning and concept of art, and after a while, this meaning is defined and praised as a series of rules that must be followed to create. But besides the concept of *tekhneh*, there is another season and limit that distinguishes it from any construction and creation, in the general sense, and that is *dulis* (Petropoulos, 2003). *Dulis* originally means deception and a kind of remedy. The combination of *dulis* and *tekhneh*, the first of which is the imaginary aspect of art and the second of the rules and techniques of creating an artwork, defines the concept of art in the age of Greek mythology. The most prominent examples of this concept are works of art that Hephaestus is the creator and craftsman. The invisible net that Hephaestus made to trap his unfaithful wife and hung above his bed to trap Aphrodite and Ares in the event of error and betrayal is the most obvious example of the combination of *Dolis* and *Thekhena* in Homer's *Odyssey* (Homer, 1998). Therefore, art is in the same technique. It also has a magical effect. Later, this duality was effective in dividing art into two basic parts, content and form, as well as the emergence of terms such as magic mirror, magic box and magic realism in the works of people like Marx and Kazantzakis. Influenced by the same meaning, the Greek Gorgias, contemporary with Socrates, but older than him, called art "*poesis*" which means creation and construction, and for it he defined three characteristics: *finihood* (*techneh*), deception, and an undeniable effect on the soul of the audience (Petropoulos, 2003). Perhaps for this reason and in a sense, it was the extension of this idea and thought that Plato, as the first philosopher in the philosophical system of art, revealed his fundamental incompatibilities with it, especially in the *Republic*, by defining and criticizing art. In the 10th book of the *Republic*, he expels artists and poets from utopia by creating and increasing the distance from reality by adding

another shadow - that is, an artistic work - to the material shadow of reality. In other works, art is created as an illusion because it does not create knowledge, and by creating a painless and narcotic pleasure, it fuels the psychological imbalance of man, and by imitating shadows, it takes us two steps away from the truth. Rahezan knows the meaning and spirituality of human life. Although in the laws he finally admits that good can be imitated and he gives music as an example (Aflaton, 2001). Aristotle, considering all the differences he has with his teacher, but in art, with the teacher's opinion that he considers the essence of art to be imitation (that is, the theory of mimesis), is also a story, although it does not rise to the level of ugliness that Plato listed for art. He considered art to be a creator of knowledge, and especially performance art as a means of purifying and cultivating the soul (the theory of catharsis) and called the artist to the necessity of familiarity with nature and a more accurate imitation of it, and he considers the pleasures of art to be useful in the transcendence of the soul (Capleston, 2016). The most influential idea in explaining the nature of art after Aristotle, despite the opinions expressed by the Epicureans and Stoics in this regard, is the innovative opinion of Plotinus; An opinion that had a great impact on the art of both the religious civilizations of Islam and Christianity, is one of the most important factors in creating the unity of the views of the Eastern sages and the enlightened philosophy of the West on the other hand, by traditionalists such as Coomaraswamy, Guenon, Schwann, Burckhardt and others. From Plotin's point of view, the essence of art is not the imitation of nobles, who are considered as shadows based on the idea, but the imitation of "reasonable figures". Plotin opened a new chapter in art and considered the cultivation and purification of the soul as one of the essentials of perceiving sensible forms and establishing it in works of art. His beautiful example about the similarity of the artist's work with a stonecutter who carves the additions of the stone to manifest the beautiful idea enclosed in it, in removing the additions or vices from the soul and radiating the inner light to achieve human virtues, the soul is the essence of art. Due to the direct influence of Neoplatonist ideas on Augustine, the first great Christian orator and theoretician, Plotinus' opinions became one of the most important theoretical foundations of art in Christianity, especially the specific Christian theology and the dualism that governs it in the division of the world into the heavenly kingdom and the life of this world, along with concepts such as the ascension of Jesus to the heavens, had made Plotin's opinions completely believable. While Thomas Aquinas, by reviving the opinions of Aristotle, regarded the perfection of imitation as the standard and measure of beauty (Ettinghausen, 1995). But he did not make a deep change in the concept of art and remained loyal to the previous concepts and traditions. Although the iconoclasm movement in the Eastern Roman Church opened new chapters in the view of art and its function on the Christian world, Western Catholic Christianity has remained faithful to its artistic ideas and traditional perception of art. Object and subject, as well as giving centrality to the subject of the modern world, which began with the distinction of the subject by Descartes and after him Kant, changed the definition of art and its concept. The replacement of the theory of expression shows the centrality of finding man as not only the creator of works of art, who had the essential origin of these works. In this theory, the origin of the works of not the external world or the reasonable forms of Plotinus, which were the perceptions, desires and psychology of modern man. The opinions of Freud and Jung, who spoke about the unconsciousness of the human conscience, added to the strengthening of the theoretical background of this theory, so that in the late 19th and 20th centuries, art became the field for the emergence of the mental perception of human beings from the phenomena, and in a word, art is shouting. These mentalities were in the form of artworks. The opinions of people like Tolstoy, Collingwood and Croce were the theoretical field of the theory of expression in this field; A theory that calls art a reflection of the human being (Shepard, 1996).

Reducing the concept of art from an ideal phenomenon to a personal worldview made the art of the contemporary world a personal art, and the appearance of other opinions in the definition of art such as theories of "form" and "beauty" completely broke the connection between the artist and the works of art. In this regard, Roland Barthes declared the theory of the death of the author of works of art as having an independent nature from the personality of the artist (Payne and Barrett, 2000).

With the predominance of sociological views over philosophical views in the field of art theories, American George Dickey, announced the institutional theory and considered the recognition and acceptance of a work by one of the social institutions and not necessarily the rules and foundations of art in essence (Calhoun, 2002).

The 19th and 20th centuries are the scene of the emergence of different theories in the art conceptualization, and of course, besides these theories, another point of view considers the principles of art to be indefinable. Some of the followers of Wittgenstein, who is one of the most influential philosophers of the 20th century, considers art to be indefinable due to its creative, effervescent and dynamic nature. From their point of view, art is no longer art if it is defined. Therefore, in order for any work to be artistic (and be considered) it must escape the trap of definition.

What was briefly mentioned (and of course it has a lot of explanations and details in its place) was only a reference to many opinions in art conceptualization, which is not limited to them, because about such opinions in the conceptualization of art in all corners of the realm of philosophy. Research and sociology of art is always open. Based on this, the most comprehensive definition of art in the field of Western opinions and theories is that art is a form of reflection of imaginary and ideal human figures in the form of various dramatic, musical and visual works. The prominent presence of the element of imagination in art, as its close genus, makes the nature of art fully evident.

5. Presence of Cultures Influenced by Iranian Literature

5.1. From Nationalism to Anti-Arabism

Nationalism, anti-Arabism, and antiquarianism can be considered as a triangle that contributed to the construction of Shackle, one of the main branches of the right discourse. The impact of this triangle on Zabihullah Safa's criticism and opinion in the history of literary writing has been much stronger than its impact on other Iranian literary historians. The strength and concentration of this influence has reached such an extent that it has led to the formation of confrontation between Iran and Iranians with all their merits and perfections, while on the other hand, Arabs with all their disadvantages and ideals. In describing the arrival of Muslim Arabs in Iran, he writes: "The Iranian nation fell from sovereignty to slavery and captivity" (Safa, 1990) or, everywhere, instead of Arabs, he uses the signified expression "Flags". In the report of some historical events, he exaggerates: "Little by little, it was realized that the caliphs chose their wives more than the Persians" (ibid.).

Comments and analyzes of other literary historians are less influenced by nationalism and its components. For example, Rezazadeh Shafaq, perhaps influenced by the history of Persian literature translated by Herman Ate, treats the issue much more moderately (Forozanfar, 2007). He has commented on the relationship between Arabs and Iranians without prejudice. Even Zarin Koob, who was influenced by the discourse of the right in two centuries of silence (1970), distanced himself from the anti-Arab prejudice and strong nationalism in his writings related to the history of literature. Although Nisari's position on this issue is not devoid of nationalist sentiments, it is not radical either. Nafisi has also avoided harsh judgments. For example, his comment about

the conversion of Iranians to Islam is worthy of attention compared to Safa's comment. He says, "Sometimes, moving towards Zoroastrianism and the revival of old Iran formed the basis of a movement" (Zarinkoob, 1996).

For example, contrary to the prevailing thoughts of today's Iranian society, which have a strict and moderate attitude towards the Arabs of the neighboring countries, in reality, one can find many nations that culturally, like the Iranians, the Arabs, the Turks, have a cultural unity. Many parts of the Islamic civilization are Iranian, and this prejudice of the people who consider Cyrus' charter as the basis of culture and civilization is unacceptable. Because Cyrus the Great spoke about equality and non-prejudice in the most prejudice-oriented era.

{ When I entered Babylon without a fight, all the people before me received me with joy. I sat on the Shahriari throne in the court of the kings of Babylon. Marduk, the great god, turned the hearts of the people of Babylon towards me..., because I had a great honor for him. Oberman, Cyrus, who was my praiser, and my son Cambojie, and also Berkasokar [and Ilotbar], and all my troops, had a blessing and a cheap kindness. We praised his high position for a happy month and peace and reconciliation. By the order of "Marduk", all the kings sitting on the throne of the kingdom. All the kings from the upper sea to the lower sea [Mediterranean to the Persian Gulf?], all the people of distant lands, from the four corners of the world, all the "Amorite" kings and all the tent dwellers paid tribute to me and fell on my feet [kissed my feet] in Babylon. From..., to Ashura and Shushman, I rebuilt the cities of "Agadeh", Ashnona, Zamban, Mturno, Deir, the land of Gothians, as well as the cities on the other side of the Tigris that were destroyed. He ordered to open all the mosques that were closed. I returned all the gods of these shrines to their places. I returned all the people who were scattered and displaced to their places and rebuilt their ruined houses. Also, I returned the figures of the gods of Sumer and Akkad, which "Nebonid" had brought to Babylon without fear of the Great God, to the pleasure of Marduk "the Great God" and with joy and happiness, I returned them to their shrines. May the gods whom I have returned to their original positions... [before "Bel" and "Nebo"] pray for a long life for me every day in front of the great God, may they find blessed and benevolent words for me, and call my God "Marduk": Cyrus The king is a king who honors you, and his son is a Cambodian} } (translated text of the Charter of Cyrus).

6. Explanation of Kant's Theory of Knowledge

Kant's theory of knowledge begins with metaphysical analysis. He considered the empiricists and rationalists before him to be among dogmatists who accepted many dogmas without examining their truth. On the other hand, natural sciences were progressing more and more. Therefore, with a critical attitude, he analyzed metaphysics as the central issue of philosophy and tried to determine its relationship with the certainties that science had achieved in his opinion. It can be said that metaphysics (according to Kant) always precedes experience (prior)), with purely intellectual concepts, it can be used experimentally, but metaphysics as a science is not possible (Haddad Adel, 2017). From here, Kant tries to get help from science to explain the first type of our metaphysics (as a science) which is connected to experience and is able to communicate with the world outside of humans, which is his theory of knowledge that is the problem The important thing is the theorems written prior to the experience (pre-experimental).

(Analysis of the relationship between Kant's epistemology and the theoretical foundations of modern art, Afemi Reza, Baskabadi, Mons, 2016, Visual and Applied Arts Letter)

Accepting the Bible, the Quran or the Upanishads and all religious books as a guidebook in the entire path of life is based on the personal beliefs of each person, and all of these beliefs are

transcendental and cannot be accepted with reason. This acceptance is based on the existence and presence of myths that are formed in the mind of each person with different religious acceptances. Just like a Muslim who chooses weeks of mourning a year for a legend like Imam Hossein. So, this understanding created in Muslims is not based on science but on the basis of sensory knowledge and these beliefs are not based on philosophy but on the transcendental beliefs of every Muslim because our knowledge of this myth is combined with emotional, ritual, our cognitive and epistemological has taken place.

Sensual belief in some of these myths and our intellectual connection with them is evident in all religions. For example, in Mel Gibson's movie *The Passion of the Christ*, which is based on the last 12 hours of the life of Jesus Christ. They left the cinema with a changed state. Because for the audience of this movie, the association is a sacred thing, just like the character of Jesus himself, but for a non-Christian whose circle of thoughts is not based on the teachings of Christianity and the knowledge of the Messiah, can the scenes of the crucifixion of Jesus be Will Christ cause spiritual transformation in them? Or the breakthrough of thoughts such as how this healing prophet and son of God is a prophet who is constantly being harassed, attacked and suffering. This is because our understanding of religion is a Jihad-oriented understanding, but the understanding of the followers of Christ is a religious understanding, based on self-sacrifice and sacrifice for others. As a result, we are associated with two types of understanding of the same phenomenon. The same encounter with the same subject, but with two appropriate understandings and understandings, proves that these understandings are not different understandings based on science, but they are interpretable.

People's attitude towards the environment and society is always based on preconceptions and our perception to the surrounding phenomena is rooted in the inductions that our predecessors have inherited for us. Krishna Murthy believes that our understanding of the phenomena around us must be new and far from the inherited knowledge, and only then will we see correctly. According to him, there are three factors in every look: 1- The look itself and the act of seeing 2- The viewer or the document 3- The viewer or the comprehender. There should be no distance between the viewer and the viewer. The distance is the result of our prejudice, looking at something by seeing a legacy from the past. If we look at something with the eyes of the past and inherited standards, we will not see as we should. We see them good or bad with the eyes and minds of others who are lost in the dust of centuries. We carry the seven-thousand-year-old dead body, which is full of love and hatred, to an object or an event without any reason or motivation, and only following the customs and habits. We consider horses as noble animals and vultures and snakes as ugly. As Sohrab says:

I don't know why they say the horse is a noble animal / the pigeon is beautiful / and why there is no vulture in anyone's cage. / What does the clover flower have less than the red tulip? (Shamsia, 2010; Shamsia, 1991).

Another type of knowledge is sensory knowledge, knowledge or sensory knowledge is the type of knowledge that enables people to know the surrounding environment.

When Hafez says:

که عشق آسان نمود اول ولی افتاد مشکل ها
زتاب جعد مشکینش چه خون افتاد در دلها

الا یا ایها الساقی ادر کاسا و ناولها
ببوی نافه کاخرصبا زان طره بگشاید

Obviously, he talks about the external characteristics of a lover (Zatab Jaad Mashkinesh), but definitely with artistic and literary methods, the real and present becomes an epistemological and cognitive and lofty matter and gives depth to the real matter and moments. It becomes apparent.

Therefore, it can be said that one of the basic pillars of the material world of human beings is to enjoy the world and the world of emotions and understand this deep and dynamic world. In the definitions of happiness, it can be pointed out that happiness is feeling good about the surrounding phenomena. Happiness is an internal thing and it is also an unquestionable skill in the field of emotions, which by the way, knowledge of this world is more possible through knowledge and sensory knowledge, because this world and we humans are both matter and knowledge of two phenomena in the homogeneity conditions is much more possible.

The author of *Satreg Qabusnameh*, who considers himself to be a scholar, like the creator of *Shahnameh*, spared no efforts to implement his recommendations and guidelines. In an advice letter, he has mentioned three important principles of race, art and wisdom, and like Ferdowsi, he considers these three principles to be the keys for human happiness. In the direction of his sermons, Kikavus addressed these principles in an implicit and direct manner, and the interpretation of a son's address expresses and evokes reason. Ferdowsi also combined art with wisdom and combined it with gems: "The artless and voracious cave". Isham's words are a salve for the pain of all those who have called our current state of Barzakh "unhistorical". Driven from the past and left from the new history. Not a foot that is stuck on the ground and not a head that walks in the sky.

(The Triangle of Happiness in *Qabusnameh* and *Shahnameh*, Ebrahimi, Reza, Hafez Quarterly, 2013)

So, when the feeling of happiness is based on the feeling (pleasure and inner quality) and with the measuring scale, the degree of our relationship with literature and art, it causes a more complete understanding and knowledge of our surroundings and also causes each of us to be placed in the flow of this desirable feeling.

According to Marx, who is also known as the master of explaining modernity, work causes the growth and advancement of man. Marx attached special importance to the relationship of humans with their labor force and wrote in detail about the issue of alienation. Like dialectics, Marx also started with the Hegelian concept of alienation, but eventually developed its more materialistic reading. According to Marx, capitalism establishes social relations of production (for example, between workers or between workers and capitalists) through commodities (including labor) that are bought and sold in markets. The possibility that a person can give up ownership of his labor power - his ability to make a difference in the world - is tantamount to alienating him from his essence, and this is a spiritual loss. Marx has described these losses as the idolatry of goods, according to which, it seems that the goods produced by humans have their own life and value that humans and their behavior adapt to it out of necessity (Calhoun 2002: 22).

7. Conclusion

Regarding the structural similarities of literature and art and the complementary nature of both, it can be said that if we want to consider art limited to the field of visual arts (what is included in the general idea), it can be said that, visual art form is the literary expressions and words of literature, and on the other hand, both of these subjects can be connected to each other and their communication threads can be revealed.

For example, Schopenhaver's belief that all arts want to reach the stage of music (Flamaki, 1990) is based on the premise that "music cannot be created without literature and philosophy" (ibid: 133). Nothing but the fusion of imagination and feeling, and literature also cannot be imagined separately from art, because (visual) art is made from the heart of literature and literature is the conceptual element of art. The fusion and connection that is in the form of words are expressed and take the name of anecdote and story. As a result, there is no doubt about the unity and connection

between literature and art, and different types of art are imagined both in the dominant literary text and in the dominant artistic one. In other words, "A poet dwells on words, just as a painter dwell on colors and a composer dwell on sounds" (Sartre, 1961). What is certain is that the soul of art is its content mixed with beauty and feeling, which manifests itself in different containers and forms. And it creates different branches of art and if we look at all art types from a general point of view, we will see this single spirit in them. In other words, "artistic embodiment, even when it is shown to the highest degree in an individual format, includes the wholeness and mirror of the world" (Krucheh, 1971), which arises from the spirit of art.

Literature is an art "constructed" upon creation and also arose from within, but it has shown itself in the form of text and words. Its creativity is unlimited and it lives in a parallel world with art. Art, like the moon, has an effect on the globe of literature, and with this globe, it takes meaning and effects. Artists selfishly ignore the influence of this earth and consider their field as the only source of influence. In the process of producing an artistic work, there is a lot of lies, deceit, and hypocrisy, of course, not that there is no flattery and hypocrisy in literature, but literature based on flattery has never multiplied and remains produced at the same level, but art is possible because of its specificity. more for hypocrisy. However, these two have always existed like spouses who both influence each other. In my opinion, these two spouses, both of the same sex, and the relationship between them is a little less comparable to the relationships of any two other phenomena.

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