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Original Research Article

Reading the Effective Factors of Spatial Atmosphere of Contemporary Mosques, Based on Grounded Theory Approach*

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Abstract

Problem statement: Despite the many definitions of the mosque that have been offered in academic places so far, Undoubtedly, the definition of a mosque would not be complete without considering its audiences. Because one of the main functions of mosques is to create a platform for spiritual communication between man and God. This connection from the most primitive type of mosque to modern mosques has been an integral part of the function of mosques. Therefore, the audience and his perception are very important in this sacred space. The original experiences that take place in man-made spaces are experiences that have been influenced by a number of factors. Experiences that architects and phenomenologists call “the atmosphere”. This research seeks to identify the factors affecting the audience’s perception of the atmosphere of mosques.

Questions and research objectives: The purpose of this study is to “identify the factors affecting the audience’s perception of the atmosphere of mosques” And it tries to answer the question of what factors can be effective in conveying the spatial atmosphere of a mosque.

Research method: This research has been done qualitatively. In terms of the nature of the data, is Textual, semantic and unstructured. It is inductive thinking in terms of logic and interpretive in terms of the level of analysis. Strategy of this research is grounded theory and analyzes has been done by systematic coding of Strauss and Corbin with the help of MaxQDA software.

Conclusion: Findings of the research show that in the audience’s perception of the atmosphere of the mosque space Architect can plan such as minimizing the conflict of the audience or the correct use of symbols and signs and benefiting from religious texts he or she can be involved to some extent (and not definitively) in shaping the spatial atmosphere of the mosque. Factors such as the audience’s emotional experiences when confronted with space, Ruling currents of thought, Historical events and geographical conditions, there are issues beyond the control of the designer in shaping the atmosphere of the mosques. Therefore, the factors affecting the transmission of the atmosphere of a mosque are in controllable parts and in uncontrollable parts. As a result, it can never be claimed that architecture alone can be an influential factor in conveying the atmosphere of a mosque.

Keywords: *Atmosphere, Spatial Experience, Contemporary Mosques, Audience Perception.*

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Introduction and statement of the problem

Throughout history, Muslims have used various tastes and artistic methods in the construction of mosques based on their national and indigenous cultures and civilizations. They have created the best architectural styles and artistic phenomena in mosques. Insofar as one of the ways to understand the culture and civilization of Muslims in every age is to explore the artistic creations that have been used in the construction of mosques (Nobahar, 1997). The mosque was considered as the main artistic, religious, social, political, economic, educational and cultural institution in the prophetic society. Muslim architects, knowing full well that mosques are the houses of God on earth, did their best to display the most worthy techniques and arts in mosques (Soleimani, 1999). In order to provide a single definition of the meaning of a mosque, from a terminological point of view, it is possible to separate the mosque from all its additions and to accept only the elements without which the mosque is no longer a mosque (Akbarzadeh, 2014). But, for sure, the definition of a mosque would not be complete without considering its audience. Because one of the main functions of mosques is to create a platform for spiritual communication between man and the one creator. This connection has been an integral part of the function of mosques from the earliest type of mosque built by the order of the Prophet to modern mosques. Therefore, man and what he perceives in this sacred space from his relationship with God is of great importance. Experiences that are formed in architectural spaces are original experiences that are formed under the influence of various factors. Experience what architects and phenomenologists call the “atmosphere”. This research seeks to identify the factors affecting the audience’s perception of the atmosphere of mosques.

Literature review

A review of Literature Review shows that no research has been done so far on understanding the audience’s perception of the spatial atmosphere of mosques. Of course, valuable researches on the subject of sense

of spirituality in architecture have been done by some theorists such as “Seyed Hossein Nasr” and “Titus Burkhart” who have expressed the concepts and spiritual components in the body of architecture by re-reading the cryptography and transcendent wisdom hidden in Iranian Islamic architecture (Nasr, 1966, Burkhart, 1986 cited in Naghizadeh, 2006). In some studies that have been done in laboratory and experimental methods, the effect of some factors such as sound or light on the creation of spiritual sense has been measured. Studies in 2011 and 2013 at the Universities of Kuala Lumpur and Perlis in Malaysia have tested the effect of sound on spirituality on patient recovery. A study entitled “An epistemological approach to understanding the sacred place and its application in design” has also been conducted by Tarbiatjoo that the results shows the process of human-place interaction occurs in three stages: confrontation with place, conversation with place and sense of place. The method of analysis of his research depends on modern hermeneutic topics that emphasize the role of the audience in understanding and creating meaning however, the present study seeks to identify the factors affecting the audience’s perception of the mosque space with the help of grounded theory method. In Table 1 some other studies conducted in the field of understanding the architecture of contemporary mosques. These researches have dealt with the subject of contemporary mosques in different fields and from different perspectives. A summary of the Literature Review in this category shows that most of these studies are limited to typology, semiotics or formal evaluations and comparative comparisons between different mosques and some of them have quantitatively measured the effect of some physical elements on the understanding of the sense of spirituality in the mosque. Based on these studies and summaries, a lack was felt regarding the reading of the factors affecting the formation of the atmosphere of mosques in a qualitative manner.

In reviewing the research records, another group of researches were studied on the subject of the atmosphere, which has been discussed more in

Table 1. Some researches on the subject of contemporary mosque architecture. Source: authors.

Researcher	Research Title	Findings
Imantalab, Gerami (2012)	The proportion of meaning and form; the accordance of mosque architecture and prayer	In designing contemporary mosques, a semantic system must first be introduced. The use of open and closed spaces and the entry of light is very important and the use of circular and square forms should not be neglected.
Raeisi, Noghrekar (2015)	Geometric-spatial evaluation of Tehran contemporary mosques by using thematic analysis of religious texts.	The level of attention to Islamic teachings in Tehran's innovative contemporary mosques has decreased compared to traditional contemporary mosques, and the geometry and space in Tehran's traditional mosques are often more in line with the teachings mentioned in religious texts.
Noghrekar (2015)	Evaluation and critique of the new design and building of Vali-e-asr Mosque near the city theater	The current building is an imitation of foreign works and contrary to Islamic values.
Mahdavinezhad, Mashayekhi, Bahrami (2015)	Mosque design patterns in contemporary architecture	The obtained models based on the typology of contemporary mosques fall into four groups: white modernist mosques, superstitious mosques, formalist mosques and eclectic modernist mosques.
Tarbiatjoo, Eslami (2018)	The dialogue between human and sacred places: an inquiry on the role of user in understanding sacredness of places.	Understanding, talking and accepting a sacred place takes place in a dual tendency towards traditions, and that is the dialectic of return and occurrence.
Mahdinezhad, Azemati, Sadeghi (2019a)	Strategic explanation of the components of spirituality in Iranian mosques architecture.	This study tries to quantify the effect of physical components (ornaments, materials, form, proportions) on the understanding of the sense of spirituality. The results show that except for materials, other components have had a significant effect on the understanding of spiritual sense in mosques.
Hoomani Rad, Tahbaz (2014)	Assessment of daylight role in creating spiritual mood in contemporary mosques	This research has studied the relationship between the architectural characteristics of the religious space and its spiritual quality and by examining the valid theories of scientists in two different fields of light physics and light psychology, has studied the dome space of Ghoba Mosque located in Tehran.
Shahidi, Farajnia (2012)	The design and validation of spiritual outlook measurement questionnaire	Development of a questionnaire to assess the spiritual attitude appropriate for research in the field of spirituality and spiritual growth. The internal consistency of the questionnaire was obtained by calculating Cronbach's alpha, 0.91.
Mahdinezhad, Azemati, Sadeghi Habibabab (2019b)	Ranking the indices of spiritual peace in the architecture of traditional mosques based on the perception of spirituality using Vikor method	The indicators studied in this research are golden ratio, symmetry and pairing of components, shapes and curved lines, observance of using hot and cold colors together materials, use of sensory combination, hierarchy and conceptual decorations.

recent decades. These studies showed that most of these studies were conducted by Western theorists and researchers, from “Herman Schmitz” to “Juhani Pallasmaa”, “Alberto Pérez-Gómez” and “Steven Hall”. Therefore, in terms of conducting research in the spatial context, there was a gap in Iranian and Islamic researches. Some research records in the field of atmosphere are listed in [Table 2](#).

Theoretical background

• New aesthetic topics

Since based on the study of texts and sources, the

subject of the atmosphere is a subject derived from aesthetic concepts and is considered a new discourse in aesthetics. Therefore, in order to properly understand what the atmosphere is, aesthetics is considered as the closest concept to an atmospheric phenomenon. New areas of aesthetics were found in the second half of the 20th century. The most important issues that the aesthetics of this era deal with are issues related to the aesthetic understanding of a world that its constituents are not merely objects and phenomena, but are the greater elements found in the environment. In recent years, there have been clear signs of positive

Table 2. Some researches on the subject of the atmosphere. Source: authors.

Theorist	Title	Findings
Schmitz (1969)	Sensory space	For the first time, the concept of atmosphere was separated from the concepts of metrology and entered in the fields of philosophy, socio-economics, etc.
Pallasmaa (2009)	The Eyes of Skin	Expresses the importance of the sense of touch in human experience and perception of the world.
Zumthor (2014)	Architecture of Thought	The only way to perceive architecture is not the eyes, but the presence.
Bohme (2001)	Aesthetics	It tries to create a new plan in the philosophy of human cognition with the experiences that exist in everyday life.
Zumthor (2016)	Atmosphere	It outlines the seven principles of architecture that it commonly uses in its work, and at the end adds two appendices to it, stating that with these principles the atmosphere is my style.
Bohme (2017)	Atmospheric Architecture	He considers the atmosphere as the basic concept of modern aesthetics and introduces the art of stage design as a new paradigm in atmospheric aesthetics.
Pallasmaa (2013)	Organizing Architecture	In the critique of modernity, he sees it as more interested in form than the senses - interested in the surface than in texture and material, and ultimately interested in form rather than the atmosphere.
Pallasmaa (2016)	Sixth sense	Introduces the sense of atmosphere as the sixth sense after the five Platonic senses.
Mahdlikova (2015)	In search of new experiences of the body through space	Examines the relationship between subject and space and declares that architecture works best when it helps us organize gaps and pauses and time intervals where they are accelerating at any given moment.

attention to new aesthetic topics. Many people are tired of the limitations of classical aesthetics and have turned to European aesthetics to pursue deeper discussions about the social-political dimensions of art and its practical, ethical and ideological outcomes. These topics can be traced in Dewey’s works, and in [Table 3](#), some of the aesthetic attractions of “Dewey”, “Croce”, “Collingwood” and “Sibley” are presented to achieve recent aesthetic topic.

• **Atmospheric perception through the lens of sensory perception**

Philosophical thinking about sensory perception has a relatively broader realm than science. While philosophers actually address many of the questions that attract the attention of empirical researchers – for example questions about how our ability to sensory perception is associated with our brain, body and environment – philosophical theories of sensory perception are also openly designed to take into consideration more philosophical points. The two points that are of particular importance to the philosopher of sensory perception are phenomenology and epistemology in this field. William Fish’s Metaphorical interpretation suggests that “Sufficient philosophical theory of

sensory perception must wear at least two caps: an epistemological hat and a phenomenological cap; In an overly simplified sense, what we finally find out is that the more consistent the phenomenological cap is with a theory, the more disordered epistemological cap will seem, and vice versa. Of course, these are not the only important considerations that should be considered when evaluating a theory about sensory perception. Another consideration is that philosophical theorizing should also be influenced by scientific findings. The theory of philosophy that wears both hats as it should but is not compatible with scientific findings will not be worth much” (Fish, 2017). In “Philosophy of Perception”, he points out that in order to provide a structure to present philosophical theories and specifically to understand important aspects of similarity and differences between philosophical theories of sensory perception, theories must be categorized based on the three key principles that confirm or reject. One of the interesting properties of these principles is that although they all require our understanding of what the subject is perceived, most theories of sensory perception reject at least

Table 3. New topics in aesthetics. Source: authors.

New topics in aesthetics	Sample views
Environmental aesthetics	The most important issues that environmental aesthetics deals with are those related to the aesthetic understanding of the whole world, in addition to the aesthetic understanding of a world whose components are not just objects and phenomena, but larger elements found in the environment. Thus the scope of environmental aesthetics extends beyond the limited boundaries of the art world and our understanding of works of art to expand the aesthetic understanding of the environment.
Everyday Aesthetics	In the second half of the 20th century, with the re-emergence of an attachment to nature and the environment, followed by an exploration of popular art, the more or less limited range of aesthetics was repeatedly questioned. Everyday aesthetics continue this process of expanding its scope by including the objects and events and activities that make up people’s daily lives.
Ambient Aesthetics	Bohme believes that the main emphasis of the new aesthetics should be on the atmosphere. In our daily lives, we often experience the atmospheric quality of this or that situation. Qualities such as tense or comfortable, happy or sad, lively or taken, exciting or dull, captivating or elusive. Sometimes the distinctive quality of the situation is deliberately organized, and sometimes it emerges seamlessly and without prior planning.

one of these principles eventually. These three key principles are introduced in [Table 4](#).

Conceptual framework of research

The result of previous studies has been relying on concepts from classical aesthetics to new aesthetics and sensory perception. The atmosphere as one of the subjects and subcategory of everyday aesthetics as well as environmental aesthetics, which its main focus in theoretical studies is on humans as the audience of space and environment as an atmosphere of atmospheric formation. Studying and recognizing the atmosphere, more generally, is a study of the relationship between man and his surroundings. In order to achieve this recognition, it is necessary to identify the situations of the space audience or, in other words, the audience’s experience of space. Based on the above, the conceptual framework of the most important dimensions affecting the understanding of the audience’s experience from the

atmosphere is summarized according to reviewing the research literature and extracting the concepts and studying their characteristics in [Fig. 1](#). This conceptual framework has been used in formulating objectives and questions of research and choosing methodology.

Research methodology

In order to achieve appropriate answers to research questions and finally the final model of research, the “qualitative” and “grounded theory” approach has been used. Because the present study, in terms of “data nature”, is textual, semantic and unstructured, in terms of “logic of thinking”, is inductive and component-by-whole, in terms of “type of study”, seeks a new exploration and in terms of “level of analysis” is based on interpretation and in terms of “level of explanation” is focused on describing a process as well as “epistemological assumption”, interpretive, critical and naturalistic, that is, we want

Table 4. Principles of sensory perception. Source: authorsbased on Fish, 2017.

Principles of sensory perception	Topics
The principle of the common element	According to the principle of the common element, the indistinguishable cases of sensory perception, sensory error, and sensory illusion are common in the “underlying” mental state or events; That is, perceptions, sensory illusions, and sensory errors that are seemingly indistinguishable are common to the underlying mental state.
The principle of phenomena	Robinson believes that if a person senses that there is something of a certain sensory quality, then there is something that the person is aware of and really has that quality.
The principle of representation	Although most Intentionalists consider sensory experience to be a physical object, in their view the physical object is not necessary for the realization of sensory perception, and in other words, the connection of the mind with the same condition as the formation of sensory perception is not.

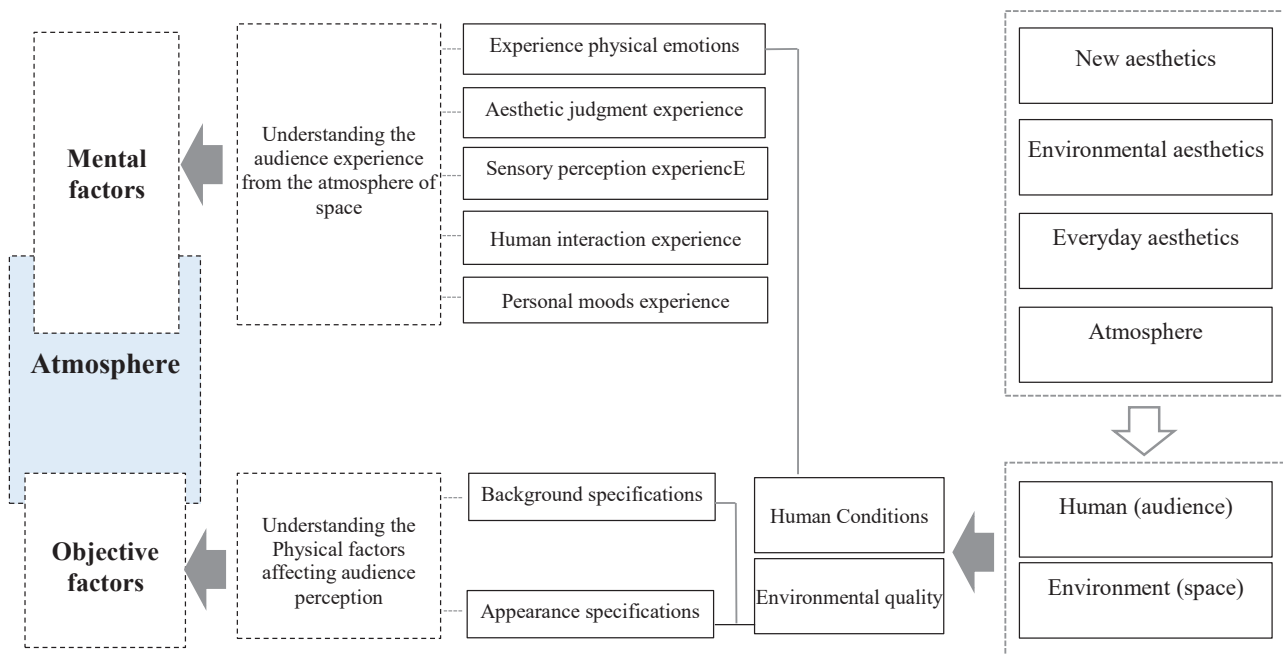


Fig. 1. Research conceptual framework. Source: authors.

to go towards the affairs and events. “A grounded theory seeks to create or discover a theory that can provide an explanation of real issues based on a process, action, specific activity or interaction among human beings in order to form a framework for future researches by going beyond description (metaphorical or descriptive phenomenology) and interpretation (hermeneutic phenomenology). Participants in this study should all have experienced that process or action in person, and in fact the theory will be useful for explaining the way they operate” (Norouz Borazjani, 2018). According to Ferasatkhah (2009), in the research methodology based on ground theory, the aim is to “come down from the sky of global theories a little, and on this earth, in the Ground, to the real data, this place and now, so that we can finally reach the hypotheses of the same earth itself, the same ground, and leave it to the next researchers to conduct new survey research with the intention of generalizing them”.

• **Research questions**

Mosques are important and influential spaces in Islamic cities that have played a central role in people’s lives with various social, political, economic and physical functions. In addition, mosques have always

been considered the symbol of the most spiritual and sacred spaces, but how much are the spaces of today’s mosques consistent with such a symbolic aspect in the minds of the audience? Therefore, the main question of the research is, “What factors can be effective in transferring the prevailing space atmosphere in mosques?” because of this main question of the research, as well as during the relevant studies and based on the proposed Creswell (2012) model, other sub-questions were also created:

What are the causal conditions for the formation of the audience’s experience from the atmosphere of space?

What are the Contextual conditions for the formation of the audience’s experience from the atmosphere of space?

What are the intervening conditions in the formation of the audience’s experience from the atmosphere of space?

What are the strategies in the formation of the audience’s experience from the atmosphere of space?

What are the positive and negative consequences of the formation of the audience’s experience from the atmosphere of space?

• Research steps

Each research needs steps to be implemented and in the present study these steps include identifying and selecting participants and location, collecting and analyzing data through interviews, observations, on-site notes and finally coding in the analysis process. The outline of data collection and analysis to the construction of theory is shown in Fig. 2.

- Selecting participants and location

Sample framework in this study is Purposeful and theoretical. Purposeful in order to define the target groups of information and theoretical in order to have the necessary adequacy to bring us to the level of theoretical abstraction. When primary samples are analyzed in coding, the results of their processing provide the choice of the next sample. The present study was conducted based on interviews with participants’ groups introduced in Table 5. In the process of data collection and analysis, until theoretical saturation, work on data, axial coding and selective and achieving concepts, categories and main categories continued to be extracted at the end of the answer to the main question of the research.

- Data interpretation method

Data interpretation method in this study was performed by data analysis process through three-stage coding (open, axial and selective) Strauss and Corbin. Data were collected and analyzed at the same time. Thus, after each interview and its implementation, three-stage coding was performed and analyzed, in which these stages and processes were categorized and analyzed using Maxqda software. After interviewing and collecting data, the data related to each question were analyzed separately. Categorization and data

regularization were performed according to grounded theory method and according to the introduced methodology. In this stage, the obtained data were separately divided and arranged separately according to research questions and then the process of analyzing and coding the data was done through open, axial and selection coding. A sample of the stages of coding process in this study is shown in Fig. 3.

At first, 980 codes were identified in the open coding phase. These 980 identified codes were reduced to 183 open codes, and both-concepted and repeated codes were merged. Then, the identified concepts were down to 21 conceptual categories and finally 13 axial codes were down. In the selective coding stage, the relationship between the main Category was discovered and connected to five issues, which indicates the relationships between the main categories. To summarize the text of the present study, some obtained codes are presented in Table 6.

Discussion

• Causal conditions

The results of this study show that at first, the two material and spiritual levels of human existence cause the causal conditions of the formation of the audience’s experience from the spatial atmosphere of mosques. “Presence in space”, “the need for social interactions” and “social aspect of The Religion of Islam” can be discussed and pursued at the material level of human existence, “belief in the last day”, “the need for worship” and “encouraging Islam to self-build believers” at the spiritual level. As a social being with different levels of need, human beings need to be present in space and establish social

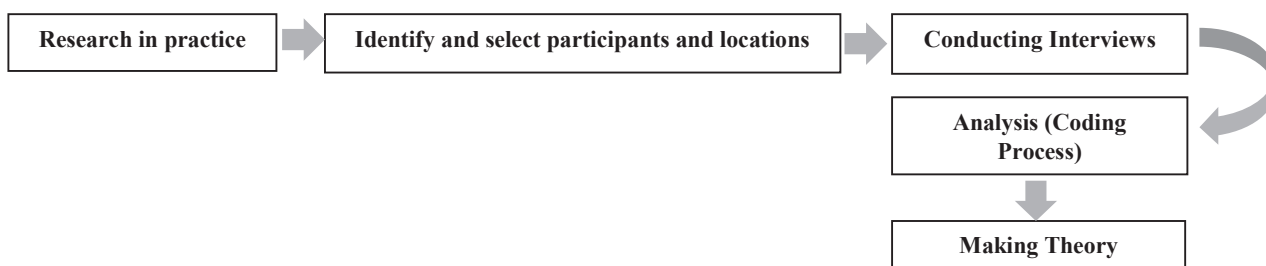


Fig. 2. Outline of data collection and analysis to construct the theory. Source: authors.

interactions to meet their needs. On the other hand, the orders of Islam for Muslims and their beliefs on the last day and the need to worship the Creator of the universe, which is rooted in him by the beliefs of every Muslim, are other factors that initially begin

the formation of the audience’s experience from the atmosphere of the mosque space.

In confirming the need for humans to be present in space, Negintaji, Ansari and Pourmand (2018) research shows that after the presence of humans in space and the formation of a sense of place, first the identity of the place (identification), then dependence on the place (desirable characteristics) and finally the attachment to the place is formed, so the necessary condition depends on the place, the presence of human beings in space and since the sense of place is formed after the presence of human beings in space and over time. Therefore, it is necessary to provide the

Table 5. Participating groups. Source: authors.

Groups	Participant
Specialists	Universities Lecturer
	Mosque Designers
	Ph.D. Architectural Students
General	Mosques Managers
	Audience in mosques

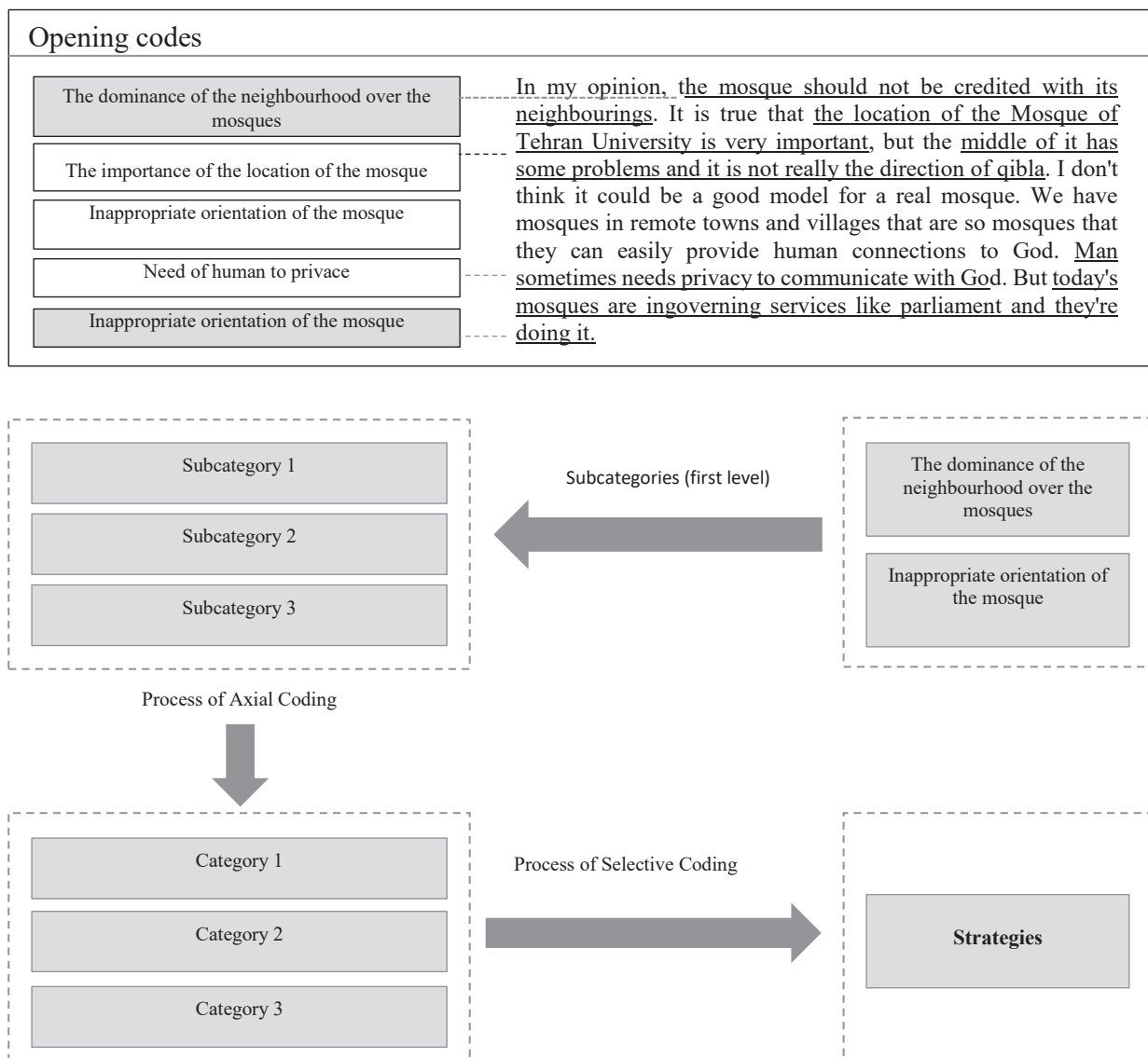


Fig. 3. Example of three-step coding in the research process. Source: authors.

Table 6. Codes extracted from interviews and their categorization. Source: authors.

Selective codes	Axial codes	Sub-Categories	Open codes
Casual conditions	The apparent level of human existence	Presence in space	Human need for physical camp, bedding of presence, main function of public space, loss of social dimension of space due to absence
		Need for social interaction	The need to experience dealing with others in space, the sociability of space is the key to the success of space, the need to reproduce social spaces, neglect to maintain and enhance the collective space
		The social aspect of religion	Distortion of the social aspect of religion, diversity of social orders of religion, human happiness and perfection in social life
	The spiritual level of human existence	Belief in the Hereafter	Resurrection is one of the necessities of Islam, resurrection is one of the most important principles of religion
		Need to worship God	Creating balance in human existence, human journey from creation to creator, worship is an unchangeable pillar of all religions
		Encouraging self-improvement in Islam	Self-creation leads to true salvation, human evolution depends on worship
Contextual conditions	The emotional experiences of the audience in the face of the mosque		A sense of upheaval, a sense of calm, a sense of vitality, a sense of intimacy and sociability, a sense of revelation within space
	Minimal conflict of senses with architectural components		Much attention in detail and decoration, the existence of numerous spatial sequences, materials, ambient temperature, light and shadow, water sound, space silence, colors, odors
	Symbols and signs		The geometry of the naves symbolizes the Kaaba, unity in the multiplicity of domes, guiding the audience to the sky, the minaret symbolizing multiplicity and community building.
Intervening conditions	Land effects	Spatial and temporal field	Climatic and situational conditions, the impact of historical events and memories on the atmosphere of the mosque
		Cultural and Belief field	Beliefs and convictions
	Ruling currents of thought	Traditionalist current of thought	Adherence to past patterns, the mosque is a mirror of the whole community
		Avangard current of thought	Formal desensitization and desecration, opposition to traditionalist thought, lack of specific style and strategy in design

possibility of the user’s participation in the design and emphasize the important role of the user. In fact, the formation of a sense of place goes with the presence of man in space and the understanding of bio-universe characters, begins and ends with a attachment to the place. Also, Daneshpour & Charkhchian (2007) confirms that human beings as the most important factor in the dynamics of urban spaces require a suitable platform for effective presence in public spaces. Responding to human social needs and providing the necessary opportunities in the field of acquiring his social experiences requires space and physical facilities. In addition to the need for man to be present in space, there is also a more transcendent level that refers to man’s need to worship and worship the god. In confirming this, Dehnavi (2016) points out that man is a being who must reach the final perfection with optional movement and his main

purpose is to be near to God. On the other hand, the journey towards such a high destination is an esoteric journey that begins from the depths of the soul and the heart of man, and different forms of worship are the only ways in which the final perfection is used.

• **Contextual condition**

The results show that “emotional experiences of the audience encountering of the mosque”, “minimum conflict of senses with architectural components” and “signs and symbols” are special conditions of the main phenomenon that affect strategies.

- Emotional experiences of the audience encountering of space: is one of the most important factors that can lead to the formation of how the audience experiences the atmosphere of the mosque space. The audience’s spirits depend on many factors. From psychological and individual factors to environmental factors. Sometimes, encountering a mosque atmosphere, the

audience may experience a kind of perception that the same person in the same mosque has a completely different perception on another day, and this is entirely related to the internal psychological factors of the individual and not any other external factors. Sometimes a person's perception during the period of a day may also be affected by environmental factors such as ambient temperature, ambient noise or the intensity of light and darkness of the environment. A person may have a different perception of the space of a mosque at dawn in the middle of the day or at sunset time. Because there have been changes in the environment. However, it is important to note that no design and any competent authority can play a role in this matter. Because one's mental background and spirit when faced with the effect is completely personal and dependent on the internal and psychological issues of each individual. Also, environmental changes in 24 hours of a day are also out of design control. The findings show that the concept of experience has a fundamental place in phenomenology. According to Van Manen (1977), "lived experience" occurs through "living space", and living space or living place is the situation in which human lived experiences are formed, and this concept is different from the geographical meaning of the place, because what makes this happen is firstly the mutual impact that a certain place places on the human sense of being there, and secondly, the human sense of being there. It makes sense, so that the specific experience of the nature of living space is created through the quality of its meaning. Danielsson (2011) shows that peripheral information is received through the senses, but that doesn't happen until it connects with memories and emotions, resulting in a process of real perception. It is only then that the experienced mind and human diagnosis become connected, that is, when the mind finds the place of certain human memories at which point that information matters. On this basis, "self-awareness" is the key to understanding each individual's architectural experience.

- Minimum conflict of senses with architectural components: Despite the fact that human senses and its role in understanding the environment is

undeniable, the results of this study show that the most desirable perceptual quality of the audience is not in a mosque full of details and data for more conflict of senses, but also reduction of any additional element and emptying the space from numerous data. A return to history also shows that the Mosque of Medina of the Prophet Muhammad was built with such an approach. Because religious advice indicates that it is deliberate. In many mosques, today we see additional decorations that, according to some audiences, attract their attention. Attracting attention that sometimes brings the audience to worldly affairs instead of attaching it to the essence of God. Mount & Cavet (1995) point out that "humans live in a multisensory world surrounded by smells, sounds, tastes and tasting phenomena, and the way these stimuli are experienced contributes to our understanding of the surrounding environment". "Architectural experience is a multisensory case. The quality of matter, space and scale are measured equally by eyes, ears, nose, skin, tongue, skeleton and muscles. Architecture reinforces the individual's sense of existence and sense of being in the world, and this essentially lead to rich experiences" (Pallasma, 2014, 111-112). but as stated, the results of this study, despite the emphasis on greater involvement of human senses in the environment in order to improve the quality of the environment, emphasize that the atmosphere of a mosque should at least create a conflict of senses for the audience. This leads man to the presence of the heart instead of clashing with the details of space and physical presence. These findings are also based on Noghrekar (2018, 131-132) who acknowledges: "If the type of architectural space and its geometrical context is designed to be varied and moving, so that humans see both different and variable elements and are encouraged to move towards more sights, this type of space is used to make humans more likely to meet external elements and is suitable for world attentions". He also considers stillness as a prelude to thinking by narrating a words from "Imam Ali". "Silence and stillness are a way of stopping the perceptions of the five senses of man

and can be the prelude to thought and warning and its later stages to gain wisdom and good will” (*ibid.*).

- Symbols and signs: Components such as minarets and huge domes can be considered as deviations from the palace-building tradition of the second Khalifa’s time. Because “during the Umayyads and Abbasians, religion served the monarchy, and as a result, in order to justify the Palace dwellings, mosques were constantly loaded with extensions that contradicted the rules of the Prophet Muhammad” ([Akbarzadeh, 2014](#)). But in any case, the spread of this tradition caused the physical adhesion of these signs to the concept of the mosque. To the extent that today, every Muslim considers his first mental image of the mosque in connection with symbols and signs. In the eyes of some audiences, especially those aged 60 and over, it is not possible to imagine a mosque without minarets and domes. Therefore, symbols and signs can relatively lead to the formation of the audience’s experience from the spatial atmosphere of mosques. The results of this study are in accordance with Noghrekar’s view in “Five Treatises on the Wisdom of Art”, architecture and urbanism. He considers the bodies to be dependent on time and place and believes that only in a similar, cryptic and allegorical way can they be meaningful to the thoughtful and conscious heart and be reminded of the means of remembrance. He also acknowledges that “bodies can relatively relate to meaning and concept, and in general, be the most suitable context and means for the transcendent and willful journey of man and are inherently creditable” ([Noghrekar, 2018, 176](#)).

- Interventional conditions: The results show that there are environmental conditions that their diversity leads to different strategies at different times. In this research, these conditions can be identified in two areas of “land influences” and “prevailing thoughts currents”. The historical story behind each mosque can be considered as an influential factor in what the audience perceives from the atmospheres of those spaces. That’s why historical mosques provide a different kind of perception to the audience. On the other hand, the prevailing thoughts movements in any society have a direct impact on the construction of

mosques. The diversity of today’s mosques has been confirmed that some mosques are built in accordance with the principles of traditionalist thoughts movements, while others are pursuing an avant-garde that does not insist on continuing the traditional path and seeks to disrupt some traditional patterns in order to express new words. Regardless of which thought flow is preferred over the other (which is not the subject of this research), these two mainstreams will lead to the formation of different and sometimes incomparable experiences with each other for the audience of mosques.

- Strategies: Based on the results obtained from interviews with designers as well as measuring the concepts obtained from interviews with audiences by designers, the basic strategies that exist in shaping the audience’s experience of the atmosphere of the mosque space can be examined at two levels. Level 1: “Design Field” and The Second Level: “Management Field”. The use of strategies can lead to a greater perception of the space and the audience’s desired experience of the mosque space, and vice versa, neglecting them leads to disturbances in perception or lack of the desired experience of the audience from the atmosphere of the mosque space. Undoubtedly, the role of the designer in shaping the audience’s experience of the atmosphere of mosques is very important. Because the designer can take steps in this regard by considering the demands and needs of the audience in any period of time and with the necessary knowledge and knowledge. In this way, it is necessary for the designer to know the roots of the design of mosques and be aware of religious principles and be able to use symbols and signs with sufficient knowledge and mastery and also try to avoid entering his personal tastes as much as possible so that he can ultimately respond to the real needs of an audience in the mosque space by increasing the sense of fantasy in the audience and at least clashing the audience’s senses in space. Also, strategies are applicable by management institutions that may seem less important at first glance, but have significant effects on the formation of the audience’s experience

from the atmosphere of the mosque space. Providing the possibility of audience participation in changing some spaces, the possibility of increasing human interactions, as well as benefiting from the presence of experts in government agencies and institutions are strategies that can be implemented by managers and management institutions. In Fig. 4, the solutions for implementing research achievements to achieve a suitable atmosphere in contemporary mosques are presented.

- The main phenomenon: Continuous return in the coding stages and constant comparison of the relationships between concepts, the researcher’s attention to the categories derived from the interviews, and from this route was a round-trip between concepts and categories that the researcher’s mind attracted various interpretations that were raised around the central phenomenon. All the interpretations that emerged from the interviews spoke of a variety of factors in the formation of the space atmosphere of mosques, leading the researcher to explore that the main phenomenon was “Hidden roots”. In other words, what was obtained from the interpretation

of causal, contextual and intervening conditions is that many factors along with architecture are the basis for the formation of the spatial atmosphere of mosques. The return between the data continued until theoretical saturation, which was the same as achieving the underlying theory joints. So that the researcher achieved the conceptual model derived from those theoretical joints.

Conclusion

The findings ended with the “Hidden roots” model using grounded theory method and the relationship and the effect of interventional and contextual conditions on strategies was determined. Fig. 5 shows the final model of factors affecting the audience’s perception of the spatial atmosphere of mosques. These findings show that in the audience’s perception of the atmosphere of mosques, architecture is only one of the factors that has a visible aspect and the designer can be involved in shaping the desired experience of the audience from the space atmosphere of the mosque with measures such as minimal conflict of the audience’s senses or the use of symbols and signs and benefiting from

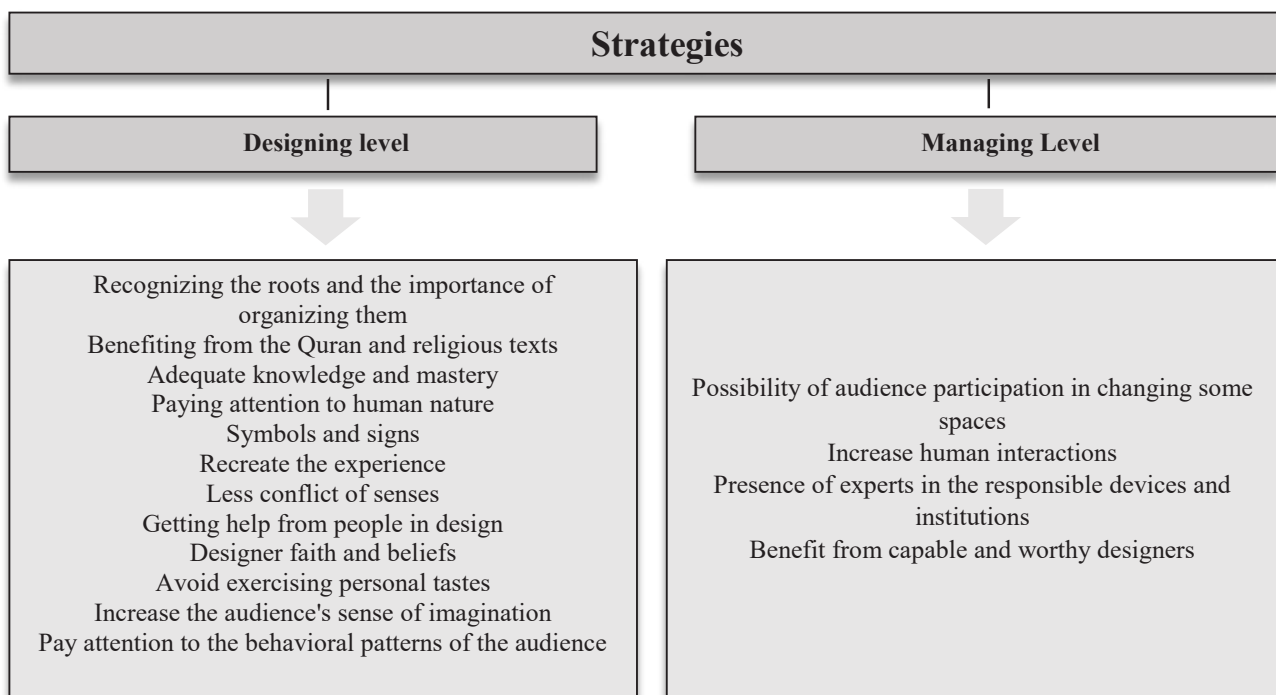


Fig. 4 Strategies for implementing research achievements. Source: authors.

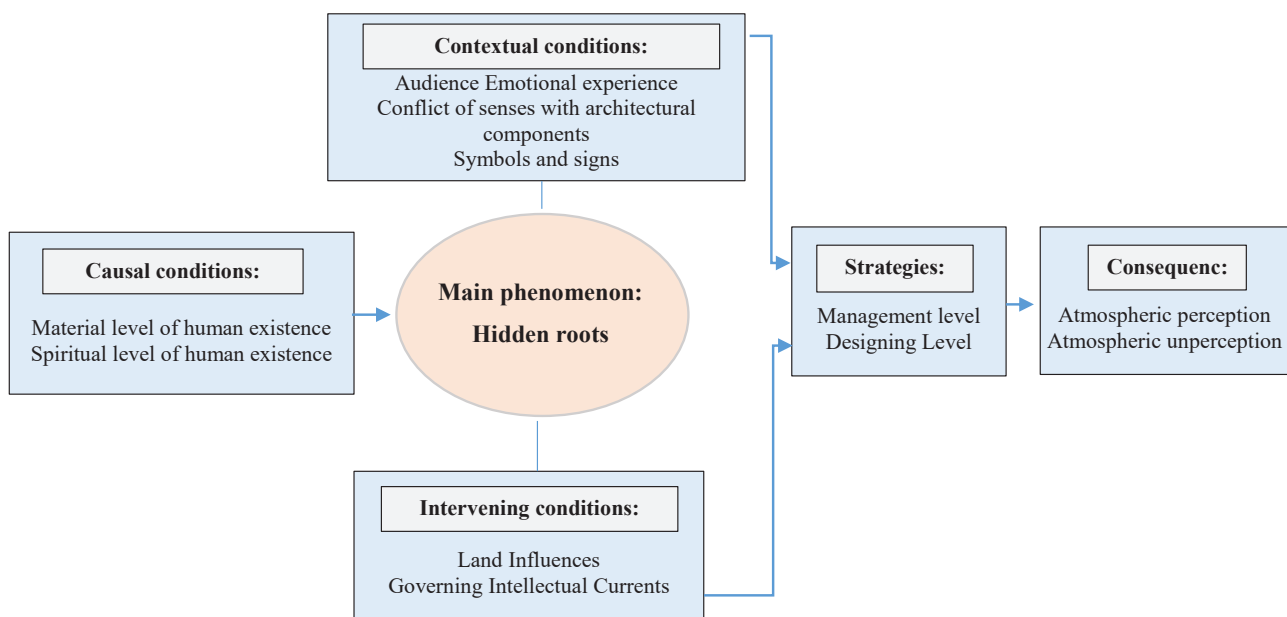


Fig. 5. The final model of the formation of the audience experience of the spatial atmosphere of mosques. Source: authors.

religious advice. On the other side, hidden dimensions are involved in the audience’s perception of the atmosphere of mosque space, although they are not visible, but their impact will be very pronounced. Factors such as the emotional experiences of the audience when confronted with space, the prevailing intellectual currents, historical events and geographical conditions. These dimensions are subjects outside the designer’s control in shaping the audience’s perceptual experience in space. Therefore, the factors affecting the transfer of space atmosphere of a mosque in parts are controllable and uncontrollable in some parts. As a result, it can never be claimed that architecture alone can be an effective factor in the transmission of the atmosphere of the mosque space.

Reference list

- Akbarzadeh, M. (2014). Me’ mari alayhe Khoda: Ta’ammoli dar Manzar-e Edraki-ye Masjed-e Mobtani bar Rezayat-e Khoda [Architecture against God: Reflections on the Perceptual Perspective of the Mosque Based on God’s Satisfaction]. *Hamshahri Me’ mari*, (25), 138-142.
- Bohme, G. (2001). *Asthetik. Vorlesungen über Ästhetik als allgemeine Wahrnehmungslehre [Aesthetic. Lectures on Aesthetics as a Common Theory of Perception]*. München: Wilhelm Fink Verlag.
- Bohme, G. (2017). *Atmospheric Architectures: The Aesthetics of Felt Spaces*. New York: Bloomsbury academic.

- Creswell, J. W. (Ed.) (2012). *Grounded Theory Design Educational Research-Planning, Conducting and Evaluating Quantitative and Qualitative Research*. Boston: Pearson Education.
- Daneshpour, S. A. & Charkhchian, M. (2007). Public spaces and factors affecting collective life. *Bagh-e Nazar*. 4(7), 19-28.
- Danielsson, C. B. (2011). Experiencing architecture - exploring the soul of the eye. In *ARCC 2011 Research Conference* (pp. 95-102). Detroit: Lawrence Technological University.
- Dehnavi, M. (2016). *Philosophy of Worship*. Retrived from <http://sadeghain.net/en/Article/View/140>
- Farasatkah, M. (2019). *Research Method in Social Sciences with Emphasis on “GTM” Theory*. Tehran: Agah Publishing.
- Fish, W. (2017). *Philosophy of Perception: A Contemporary Introduction* (Y. Pour’esma’il, Trans.). Tehran: Hekmat.
- Hoomani Rad, M. & Tahbaz, M. (2014). Assessment of daylight role in creating spiritual mood in contemporary mosques. *ARMANSHAHR*, 7(1), 11-23.
- Imantalab, H. & Gerami, S. (2012). The proportion of meaning and form; the accordance of mosque architecture and prayer. *Islamic Art*, 8(16), 77-88.
- Mahdavinezhad, M. R., Mashayekhi, M. & Bahrami, M. (2015). Mosque Design Patterns in Contemporary Architecture. *Researches in Islamic Architecture*, 2(4), 2-19.
- Mahdinezhad, J., Azemati, H. & Sadeghi Habibabad, A. (2019b). Ranking of spiritual tranquility indicators in traditional mosque architecture based on perception of “sense of spirituality” using “VIKOR” method. *Ontological Research*, 7(2), 82-59.
- Mahdinezhad, J. & Azemati, H. & Sadeghi Habibabad, A.

- (2019a). Strategic explanation of the components of spirituality in Iranian mosques architecture. *National Studies*, 20(78), 78-94.
- Mahdlikova, E. (2015). [In search of new body experiences through space]. (P. Mehrdad, Trans.). *Ettela'at-e Hekmat va Ma'refat* [Information of Wisdom and Knowledge], 10(6), 36-42.
 - Raecisi, M. M. & Noghrekar, A. (2015). Geometric-spatial evaluation of Tehran contemporary mosques by using thematic analysis of religious texts. *Researches in Islamic Architecture*, 1(4), 30-46.
 - Mahdlikova, E. (2015). Dar josojou-ye tajrobiyat-e jadid-e badan bevasete-ye faza [In search of new body experiences through space]. (M. Parsa, Trans.). *Ettela'at-e Hekmat va Ma'refat*, 10(6), 36-42.
 - Mount, H. & Cavet, J. (1995). Multi-Sensory environments: an exploration of their potential for young people with profound and multiple learning difficulties. *British Journal of Special Education*, 22(2), 52-55.
 - Naghizadeh, M. (2006). *Islamic Urban Design and Architecture*. Tehran: Rahiyan.
 - Negintaji, S., Ansari, M. & Pourmand H. A. (2018). Explanation of the relationship between human and place in architecture design process by a phenomenological approach. *Honar-Ha-Ye Ziba - Memari va Shahrsazi*, 9(72), 71-80.
 - Nobahar, R. (1997). Me'mari-ye masjid az didgah-e motoun-e dini [Mosque architecture from religion texts point of view]. In *Majmou'e-Maghalat-e Avvalin Hamayesh-e Me'mari-ye Masjid: Gozashte, Hal va Ayande* [Proceedings of the First Conference on Mosque Architecture: Past, Present, Future] (vol.2, pp.242-286). Tehran: Tehran University of Art.
 - Noghrekar, A. (2015). Critical analysis of mosque design case study: Vali'asr Mosque in adjacent to city Theater of Tehran. *Researches in Islamic Architecture*, 1(2), 23-39.
 - Noghrekar, A. (2018). *Panj Resale dar Hekmat-e Honar, Me'mari va Shahrsazi-ye Eslami* [Five Treatises on the Wisdom of Islamic Art, Architecture and Urban Planning]. Qazvin: Jihad-e Daneshgahi.
 - Norouz Borazjani, V. (2018). *Raveshshenasi-ye Pazhouhesh-e Keyfi* [Qualitative Research Methodology]. Tehran: Yadavaran.
 - Pallasmaa, J. (2009). *The Eyes of Skin* (R. Ghods, Trans.). Tehran: Parham Naghsh.
 - Pallasmaa, J. (2013). *Building Atmosphere*. Rotterdam: nai010 Publishers.
 - Pallasmaa, J. (2016). The sixth sense: the meaning of atmosphere and mood, *Architectural Design*, 86(6), 126-133.
 - Pérez-Gómez, A. (2018). *Ta'ammolat-e Behengam* [Timely Meditations] (R. Asgari, N. Javaherian & B. Behpour, Trans.). Tehran: Memar Nashr
 - Schmitz, H. (1969). *System der Philosophie. Bd. III.2 Der Gefühlsraum*. Bonn: Bouvier.
 - Shahidi, Sh. & Farajnia, S. (2012). The design and validation of spiritual outlook measurement questionnaire. *Ravanshenasi Va Din* [Psychology and Religion], 5(3), 97-115.
 - Soleimani, M. (1999). Enteza'negari dar Masajed-e Iran [Abstractism in Iranian Mosques]. In *Majmou'e-Maghalat-e Hamayesh-e Me'mari-ye Masjid: Gozashte, Hal va Ayande* [Proceedings of the Conference on Mosque Architecture: Past, Present and Future] (vol. 1, PP. 74-81). Tehran: Tehran University of Art.
 - Tarbiatjoo, A., Islami, Gh., Habib, F., Kakaei, Gh. (2013). *Epistemological approach to understanding the sacred space and its application in design* (Ph.D. dissertation). Islamic Azad University, Tehran, Iran.
 - Tarbiatjoo, A. & Islami, Gh. (2018). The dialogue between human and sacred places: an inquiry on the role of user in understanding sacredness of places. *Hoviatsahr*, 12(35), 65-74.
 - Van Manen, M. (1977). Linking ways of knowing with ways of being practical. *Curriculum Inquiry*, (6), 205-228.
 - Zumthor, Peter. (2014). *Thinking Architecture* (A. Shalviri, Trans.). Tehran: Herfe-ye Honarmand.
 - Zumthor, Peter. (2016). *Atmosphere* (A. Akbari, Trans.). Tehran: Parham Naghsh.

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