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Explaining the Factors Affecting the Formation of A Sense of Presence Based on the Grounded Theory Approach in the Monuments

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Abstract

The purpose of this study is to investigate the mechanism of quality of sense of presence (atmosphere of presence) according to sensory perceptions in historical and contemporary monuments. In other words, this study seeks to identify the factors affecting audience perception and quality of sense of presence in buildings it is a historical and contemporary monument. The research method in this research is qualitative, which is textual and semantic in terms of data nature, and inductive in terms of thinking logic and interpretive levels of analysis. The selected strategy in this research is based on the grounded theory. The analyses are performed by the systematic coding method of Strauss and Corbin with the help of MaxQDA software. The research findings show that the research achievements were expressed in physical-spatial and social-participatory. In the physical approach of the subject, one can try to create a sense of place in the building by using issues such as symbols and signs, avoiding personal tastes in design, understanding the real needs of the audience, promoting a sense of spatial vitality, identity and emphasizing place hierarchy. Each monument pointed out that they have a direct and immediate impact on improving the audience experience and reaching the stage of a sense of presence. Also, in the next stage, social-participatory strategies can be summarized in the role of public awareness, motivating citizens to participate in the environment, and using interactive spaces in the design to increase social interactions.

***Keywords*:** A sense of presence; Audience experience; Perception; Monument; Atmosphere

1. Introduction

Various thinkers have always emphasized paying attention to sensory perception in different public spaces or other spaces that have an architectural scale. They have criticized the dominance of visual sense in this perception. One of these thinkers is Yan Bentley, who, in his book, Responsive Environments, introduces the role of all human senses in different urban spaces under the title "the quality of sensory richness" and suggests the success factor of urban design in dealing with purposes other than the sense of sight. . In this regard, the non-superiority of the importance of view compared to other substances has been noticed by phenomenologists, among which Maurice Merleau-Ponty can be mentioned.

Johanna Pallasma, under the influence of Merleau-Ponty's philosophical view, by emphasizing the connection between the person and the space through all the sensory stimuli, rejected the mere dependence on a vision for understanding the world. Monica Degan uses the term "sensory landscape" to describe the layering, overlap, and simultaneous presence of multiple sensory experiences in the urban space and considers it derived from the word "olfactory landscape," first mentioned by Portos (Degen, 2008). Pavel Rodaway, who is a specialist in human geography, introduced the concept of "Sensory Geography," referring to the structure of the human body as a general positioning system that relies on four main sensory groups, including sight, hearing, smell, and touch (Rodaway, 1994).

This way, attention has been paid to the present discussion from different intellectual perspectives. But the critical point is that all visual and non-visual senses should be paid attention to in an integrated manner, which is introduced as the quality of sensory richness in the theoretical literature on the subject. According to the definition by Aristotle (322-384 BC), the different aspects of sensory richness have been divided for the first time into the common types of sight, hearing, and smell, taste, and finally, touch. Finally, passing through sensory administrations and reaching the stage of sense of presence requires the presence and use of hidden potentials in the body of the building, as well as non-physical cases, and the audience's experience in this regard can be an excellent way to categorize these cases.

In general, perception means a psychological or mental process that follows the selection of information related to feeling and, finally, the visualization of meaning, which takes place actively (Behzadpour and Hasanpour, 2019: 75). In the contemporary era, trends toward visual composition, geometry, and the desire for ambiance and atmosphere have emerged in architecture, which expand an understanding of the field of experiences and effects of architecture beyond the sensory perceptions focused (or in the focus of vision) and presence (Plasma, 2018).

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In other words, the space, like sharp objects, involves all the audience's senses and creates complete perception. In this space, the audience hears, sees, touches, and smells, and sometimes even their sense of taste is involved with the space. This activation of the five senses lays the foundation for the complete perception (presence) of the space and the all-around engagement of the subject and the object, which ultimately causes the unification of their permanence and connection. This is the main component of improving perception and discovering meaning. (Selji et al., 1400: 156). Meanwhile, the critical role of public urban buildings (here, urban monuments) in formulating and shaping the city's image has been widely discussed and confirmed (Nolasco- Cirugeda et al., 2020).

The basis of the current research is the monuments designed by famous architects in different eras. Every memorial work has shouldered and played its role in the present context and historical conditions and the cultural, social, religious, economic, and political requirements of the period in which it was created, which still affects contemporary people. The concept of "memorial space" is introduced in this article to investigate how "feeling" occurs in such events, and based on the audience's experience of such spaces; it is determined that the specific emotional experience of a space can be used to connect people (Sumartojo, 2016). the spatial experience obtained from the multi-sensory interaction with all the details that make up urban public spaces affects people's overall perception of a place. It creates relevant consequences in shaping the "emotional tone" of architectural work. (Dai & Zheng, 2021)

Therefore, the semantic quality of these buildings is essential and effective in today's society. Every architectural monument is unique; the architecture of every historical period is the physical identity of that era, and its semantic quality must be analyzed and analyzed. As mentioned earlier, the effect of a memorial for the people that called it to be present again years later accepts a different kind of subject matter that this point is the primary concern of the present research, which is based on the qualitative analysis approach. The meaning of this building has revealed itself.

A memorial or "Monument" is a building explicitly built to honor a person or a significant event or for a social group is known as a memorial or a crucial cultural heritage in two categories, burial and non-burial, in different urban settings and contexts. Moreover, they are made naturally. (Khakzad, Mirgholami, 2014). Gideon states that monumental buildings are signs humans have created to symbolize their ideals, goals, and actions. They remain long after they are created and form the legacy of future generations. In this way, they establish a relationship between the past and the future. (Gideon, 1943). The purpose of this study is to investigate the mechanism of the quality of the sense of presence (atmosphere of presence) about sensory perception in historical and contemporary monuments; in other words, this research seeks to know the factors influencing the perception of the audience and the quality of achieving the sense of presence.

2. Theoretical Foundations

A review of the research literature indicates that no purposeful and systematic study has ever analyzed users' perception of spatial atmosphere in historical or contemporary monuments. Various theorists of theoretical domains have referred to three other senses. These senses include the sense of orientation, the sense of familiarity, and the sense of time. In this connection, in the book "The Image of the City," Kevin Lynch emphasizes spatial orientation, and Tony Craig also stresses the importance of prioritizing familiar cases when dealing with the landscape. Scholars like Vonder Leech and Poidon describe four dimensions of landscape, with the fourth dimension being time. They argue that as time passes, spaces become places where life is established. These spaces take on more meanings through time-dependent qualities. Hence, the sense of time and other senses perceived by man become meaningful within the sensory landscape enrichment framework. Thus, attention has been paid to sensory perception in different environments; however, the critical point is to fully pay attention to all senses in the environment, both visual and non-visual, known as sensory enrichment quality. In the meantime, creating this quality in the environment helps provide an inviting quality there, and thus, makes man reflect and evaluate himself (Shahcheraghi, 2016). The concept of presence and sensory atmosphere in Psychology, Anthropology, Politics, Law, Sociology, and Architecture has been used and examined. Accordingly, considering various epistemological and ontological dimensions, the phenomenon of the "Sensory Atmosphere" has been deeply analyzed and investigated by theorists. In the following, various theories are investigated (Table 1).

Following a review of foreign literature on the study subject (sensory atmosphere), the following domestic literature can be cited:

In their study, Bagherzadeh Kasiri et al. (2021) investigated the compatibility of the spatial quality of congregational mosques in East Azerbaijan using the components and indicators of architectural atmosphere theory, concluding that in the fixed qualities of architectural body, element proportions and buildings embodiment contribute most to creating spatial atmosphere.

In a study entitled "A novel review of sensory perceptions in the Iranian market architecture," Abbasi et al. (2018) investigated the historical market of Kashan. They found that the architecture of this complex created a robust system of senses by configuring the moving elements of senses, suggesting that the central orientation system has brought about movement paths with an inviting quality towards motion and space discovery. This, they concluded, provides comfort and convenience in space for people in such spaces as mosques, commercial buildings, and open spaces in the adjacency of marketplaces. In the market, a perceptual process is achieved in the face of crowdedness and desirable environmental privacy . In the first stage, this privacy will create an inviting quality towards convenience, comfort, reflection, and thinking. In

later stages, this privacy results in receiving semantic systems and understanding values and aesthetics.

In a study, Taghdir (2016) investigates the process of human perception and its role in the quality of creating works using Islamic philosophy. The study claims that one of the most important areas to contribute to understanding perception and its process is philosophy. This study uses inference and logical reasoning to express the correspondence between levels of human perception and the world of existence, thereby applying models to explain the levels and stages of human perception of existence. Accordingly, it investigates the effects of various levels of perception and human interaction with existence on creating the quality of architectural buildings.

Tahmasebi et al. (2015) investigated the components underlying semantic quality, concluding that the most important results of confirmatory factor analysis indicated that the surrounding environments semantic and perceptual quality factors could potentially define perceptual-semantic quality; however, the component of security cannot express this variable.

The theoretical subjects of previous studies were similar to those of the present study because they all involved the user's perception and quality of cognitive issues about valuable architectural buildings; however, the present study analyzes monument sites explicitly. In other words, these buildings' functional and semantic quality is focused attention. For this, the designer should focus on the semantic consistency of analytical levels in such structures.

Existence makes all of the universe a function of perception by sentient creatures like humans, who enjoy sensory organs to perceive their "being" and be aware of their existential quality (Ardent, 2012, p. 37). Human awareness of affairs, as Sartre suggests, is primarily directed at perceiving phenomena through the senses. He believes in pre-reflective and reflective awareness, considering the former to be directed at attention to phenomena and the latter to be directed at a contemplation about them involving imagination (Copleston, 2010, pp. 406-407).

In terms of sensory perception, man faces an external affair through the senses; therefore, what is perceived in this type of understanding is sensory and has a form. Man sees, touches, smells, hears, and tastes an object and, thus, has a form of that object imprinted in his mind based on data received by the five senses (Ebrahimi-Dinani, 2002, p. 7). Jena Paul Sartre argues that the human's creative process necessitates a kind of analogy or simile, which is an equivalent of perception, as this analogy is required to pass through simple vision and experience of the environment with all the sensory perception (Sartre et al., 2004).

With the introduction of Gibson's Ecological Psychology (1979), the definition of active perception based on situation experience through movement in space led to new thinking movements. Architectural space enrichment is represented by movement in space. Atmospheres are active feelings in space (Schmitz, 2016, p. 3). Attention to atmosphere arises from architects' critical reaction to modern architecture's technological and industrial tendencies; it is a sensual reaction to indifferent architecture (Borch, 2014). The atmosphere is produced by laying out the context in space (Böhme, 2017). The concept of the atmosphere is formed by the user's understanding of an embodied image of space, which comes from a momentary perception of an individual's feelings about a situation or a community (Pallasmaa, 2013). Like climate, the atmosphere varies over time. Apart from a place, the atmosphere is not an independent or frozen state (Ólafur & Eliasson et al. 2016). Although the atmosphere is immaterial, materiality can attract the user's attention and strengthen their sensitivity towards any unique atmosphere. All materials have mental-social content. Suitable materials can produce an appropriate context for the emergence of the atmosphere (Griffero, 2016). Atmosphere refers to emotional feeling-based spaces. Feelings in the user's heart do not serve as internal affairs; instead, all the materials and spatial elements involved in the quality of atmospheres are made meaningful by the individual's architectural experience of space; atmospheres result from human's feelings of the simultaneous presence of subject and object (Böhme, 2017).

Considering the phenomenology aspect of the subject, the concept of atmosphere can be examined, which is very important. In other words, in the literature, the feeling component is expressed as a correspondent to the atmosphere, and the atmosphere has different levels and dimensions (Amini & Soltanzadeh, 2017). We perceive atmosphere through sensual abilities and capacities; it is the human's inherent capacity to understand better atmospheres and states, similar to his capacity to make imaginations when reading a novel that signifies feelings. Zumthor's work is founded on the creation of "atmosphere."He argues that an architectural work enjoys the qualities of a work of art when the combination of forms and content gives rise to a powerful atmosphere that influences its user; this influence is complete only when the work can conquer all the existential nature of human being, including his five senses and soul (Zumthor, 2019, p. 12). The atmosphere is made meaningful with the feeling of presence in time; the atmosphere of a building leads to human movement, thus, resulting in attention to the quality of architectural space (Zumthor et al., 2018).

Over the past two decades, some commonalities were found between collective memory and urban space. Landscape and memory jointly constitute each other (Kao et al., 2021). Communal space has a significant role to play in forming collective memories, which, themselves, significantly contribute to the social identity of society. The monumental landscape is a part of a larger cultural landscape affecting the formation of social norms (Alderman & Dwyer, 2008). Monumental elements as memory-making subjects constitute parts of a monumental landscape constructed to expedite reminding of or forgetting about the past. Like any other element underlying a cultural landscape, monumental elements

can leave social effects, affecting the community's views about the past and thus influencing the formation of the community's future (Harvey, 1979; Schein, 2003). Monumental elements affect how people interpret the past because it is publicly thought these elements are impartial protectors of history (Alderman & Dwyer, 2008). Broudehloux and Cheli (2021) studied monumental public spaces in four European cities and used methods by which architecture as a non-verbal language can serve as a tool to objectively present realities to users beyond what they see (Broudehloux & Cheli, 2021).

Table 1
Cognitive approaches to the sensory atmosphere

Theorists	Sensory atmosphere
Astala	The quality of a space or place is merely the visual perceptual quality usually assumed. Judging an environmental character combines several cognitive factors of a multitude of factors which are immediately and artificially perceived as a general space, limit, feeling, or mood (Astala, 2016).
Tony Hiss	Simultaneously, our system experiences our surrounding environment. This is how we feel the space atmosphere with our senses at a time (Hiss, 2010).
Maurice Merleau-Ponty	Atmosphere perception includes judgments beyond the five Aristotelian areas, such as the feelings of orientation, gravitation, equilibrium, constancy, motion, duration, continuation, scale, and lighting. The immediate judgment of a spatial character requires the meanings of all of our existence, which is perceived indirectly, environmentally, and unconsciously, instead of being perceived by accurate, concentrated, and conscious observation. This complicated evaluation also includes time dimensions, because experience has shown that duration and perceptual experience are memory and imagination.
Martin Heidegger	When speaking of man and space, it is as if a man stands on one end and space on the other end. However, space is not something to be with a man. This is neither an external body nor an internal experience. As we enter space, so does space, and experience is the exchange and the harmonization of body and subject which we call atmosphere.
Vagli	The atmosphere is clearly what appears to eliminate analysis. Although space can be observed as having an architectural nature, it cannot be easily defined, except for its structure or control (Vagli, quoted by Astala, 2016).
Juhani Uolevi Pallasmaa	The quality of a space or place is merely the visual perceptual quality that is usually assumed. Judging an environmental character combines several cognitive factors of a multitude of factors that are immediately and artificially perceived as a general space, feeling, or mood. The atmosphere is immediately perceived as a unity in which all senses simultaneously work. After this experience, there is the experience of atmosphere quality in embodied experimental architecture.
Gernot Bohm	Embodied feeling allows me to not only feel something but also induces what I feel. Atmosphere is affected by embodied feelings via nature.

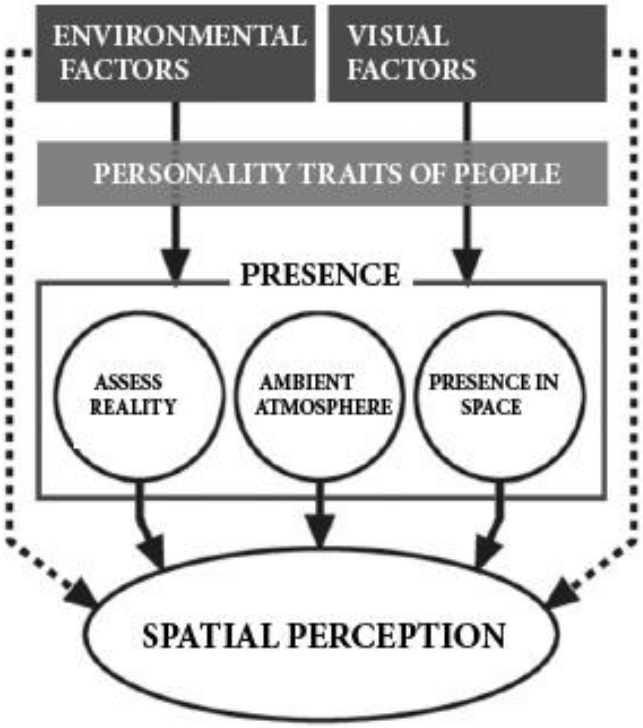

Fig. 1. Status of spatial atmosphere in the environmental experience process
(Quoted by Bagherzadeh Kasiri et al. 2021)

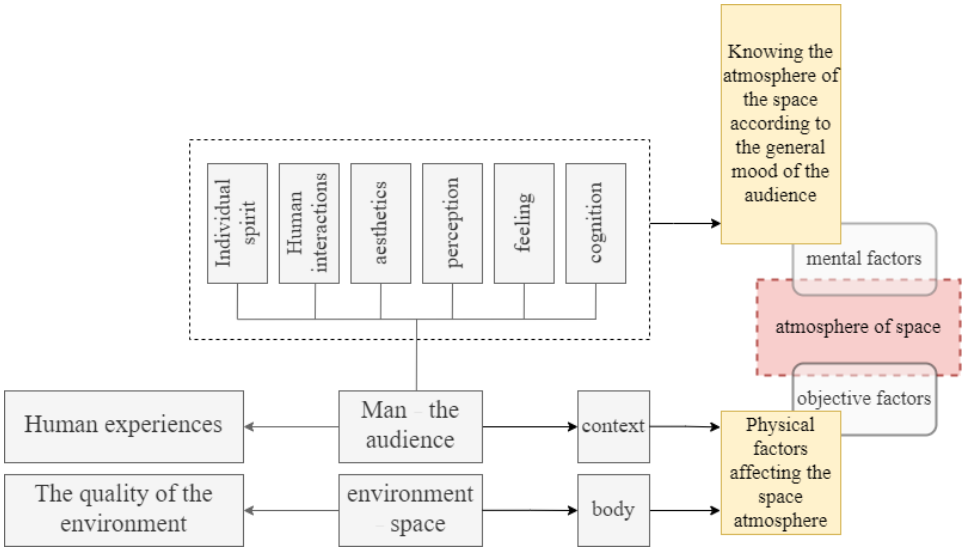

Fig. 2. Conceptual study framework

Philosophical thinking about sensory perception involves a broader realm than other sciences. Even though philosophers practically deal with questions that attract the attention of empirical researchers, i.e., questions about how our ability for sensory perception relates to our brain, body, and environment, the philosophical theories of sensory perception have been proposed to take into account more excellent philosophical points.

Two significant points for a philosopher of sensory perception are phenomenology and epistemology in this field. William Fisch's metaphorical interpretation indicates that the philosophical theory of sensory perception should involve two aspects: an epistemological aspect and a phenomenological aspect. However, it is too challenging to propose a theory involving both aspects. However, what is finally understood is that the more compatible a phenomenological aspect is with a theory, the more incompatible an epistemological aspect with that theory, and vice versa. However, these are not the only significant considerations to be focused on when evaluating a theory about sensory perception. Another consideration is that scientific findings should also inspire philosophical theorization. A philosophical theory incompatible with scientific findings is not valuable enough (Fisch, 2017, p. 26). In the book "The Philosophy of Perception," Fisch suggests that to provide philosophical theories, and specifically to understand significant similarities and differences of the philosophical theories of sensory perception, theories should be categorized based on key confirming or rejecting principles. One of the exciting features of these principles is that they all require our understanding of the subjects under perception, as many sensory perception theories reject at least one of these principles. These three fundamental principles are given in the table below.

Table 2
Three principles of sensory perception theories in the literature on the subject (conclusion by authors)

Principle of common element	Using the principle of a common element, sensory perception, sensory error, and sensory illusion share the subject states created for users; in other words, sensory illusions and errors, undistinguished by sustainability, have a common subjective foundation.
Principle of sustainability	Robinson argues that if it occurs to someone that an exceptional sensory quality has been represented in something, then the individual is said to be fully aware of this concept, as his perception has involved a unique quality; this concept is called the principle of sustainability.
Principle of Representation	Although many scholars consider a sensory experience a physical object, they believe that the physical object is not critical to realizing sensory perception. In other words, the relationship between objective and subjective is not necessary for forming a sensory perception.

3. Study Method

This study was qualitative, and the nature of the data was textual and semantic. In terms of thinking logic, the study used inductive reasoning, and in terms of levels of analysis, it was interpretative. The selected strategy in this study was based on Grounded Theory, and analyses were carried out by Strauss and Corbin's Systematic Coding using MAXQDA software. Qualitative research aims to understand and perceive single and group meanings in subjects related to society and individuals. Qualitative research, like this present study, includes basic questions about concepts and phenomena in the surrounding environment. Here, data are ordinarily gathered collaboratively with subjects in a study and interpreted inductively. Then, the researcher begins interpreting meanings in the data. A final report also has a fully flexible structure. According to this research approach, the researcher is involved in takeaways that reveal and interpret external occurrences verbally or visually. Qualitative research is, in fact, a set of lived experiences that includes manners of gathering data (Norouz-Borazjani, 2018, p. 76).

As the first stage of the research method, types of study tendencies in the qualitative research method are investigated to select an underlying theory to gather qualitative data using an underlying theory and a deep semi-structured interview method, discussed in previous sections.

The purposive sampling method was used because interviews should be conducted with those with enough information about the selected monuments. For this, the best people for this survey were architects who had both the experience of presence and designing monuments. These people can finally bring about sources for conducting semi-structured interviews.

In the qualitative sampling method, the number of interviews (sample volume) depends on the theoretical saturation of questions intended by the authors. On this basis, according to the qualitative study method, 15 different people, as selected by the author, who had the experience of presence and perception of case studies and were experts in architecture, were interviewed through deep semi-structured forms.

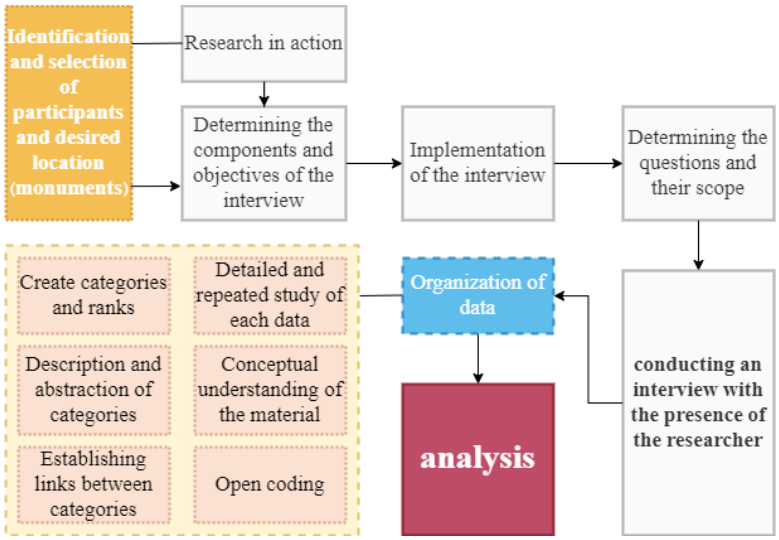

Fig. 3. The process of qualitative research in the present study

A study of case studies suggested that given a plurality of studies in Iran, it was only possible to examine some of the cases. Hence, the study used the purposive sampling method. For this, 20 monumental buildings constructed by great architects were selected, and some works were selected as examples that met the following conditions:

Qualifying an architectural expression, i.e., the building, should be valuable and thus be examined.

Mosques should date back to the last 100 years.

Accessibility to architectural documents, visiting, and imaging of sites.

A preference system was used to validate the sample selection method, with experts scoring 1-100 to prioritize the samples and extract those with an average rate of over 5. It is noteworthy that some of the selected buildings, although among valuable buildings, were removed from the site list chosen due to existing limitations and the need for access to their related maps and information. Consistent with the abovementioned content, some of the examples were removed, and finally, 12 cases were selected from different periods, given in the table below.

Table 3
Study and introduction of case studies by period or construction style

Style or period	Monumental building	Architect/ year of building construction	Description	The general image of the building
Ilkhanid-Safavid	Soltaniyeh Dome	1303 Ilkhanid era	The Soltaniyeh Dome is the tomb of Oljaito, which was constructed at his order from 1302 to 1312 A.D. in the city of Soltaniyeh (the capital of the Ilkhanids). The dome of this building is the third largest dome after the Santa Maria Del Fiore Church, and the Hagia Sofia Mosque Dome, constructed by the Mongols (the era when Mongols invaded Iran)	
	Sheikh Safi Al-in Ardabili Tomb	1334	This building is an Iranian structure registered in UNESCO's global heritage list. This site is home to the tomb of Sheikh Safi Al-Din Ardabili, the tombs of Shah Esmail I (first Safavid king), The mother of Shah Esmail (daughter of Ozon Hasan Agh Ghoyunlu) and also some sheikhs and courtiers of the Safavid era and Iranian martyrs of the Cahldoran War.	

Qajar	Ibn Babouyeh Tomb of Tehran	-	The history of the Ibn Babouyeh tomb dates back to the reign of Fath-Ali Shah; however, except for the inscription in which Qur'anic verses are written by the script of one of the famous calligraphers of the Qajar period, no other work that indicates the history of the tomb is available.	
Second Pahlavi	Khayyam Neishabouri Tomb	1962 Houshang Seihoun	This tomb was one of the most important buildings in its time. The height of the tomb measures 22 m and its main skeleton is metallic, covered by concrete. The building's form in the lower part is divided into ten sections, with the footings distancing 5m from each other (Bani Masoud, 2015).	
	Bu Ali Sina Tomb of Hamedan	1947 Houshang Seihoun	The territories around the tomb measure 7000 sq m. the building is 64m long facing the Abu Ali St., and its facing is covered by granite stone. The courtyard surface is connected to the porch by three steps, the porch is 30 m long on the east of the building. Ten columns are measuring 1.4m high constructed in a conical form (Bani Masoud, 2015).	
	Hafez Shirazi Tomb	1935 André Godard	The Tomb of Hafez is one of the most beautiful sites in the north of Shiraz City, developed in 1935 by Ali Asghar Hekmat. Using octagonal chambers inside the compound, it is a reference to paradise pleasures. The repetition of number eight not only reminds the promised paradise but also serves as a major exception in numbers in Iranian tombs (Mo'tamed & Mahshid, 2016).	
	Ferdowsi Tomb	1934 Abolhasan Sedighi, Houshang Seihoun	This tomb is constructed in a cultural complex called Ferdowsi Tomb in the city of Tous, in memory of Abolghasem Ferdosi. The tomb's building was inaugurated in the October of 1934 in Ferdowsi's Millennium Ceremony. This building was expanded in 1969 by a complementary design developed by Houshang Seihoun, who imitated Cyrus's tomb, with gardens around it and adjacent museums added to the site (Bani Masoud, 2015).	
	Sa'di Tomb	1951 Mohsen Foroughi	Iranian modernist architect, Mohsen Foroughi, designed the tomb by using traditional Iranian architectural elements. The eight-column building has been decorated with brown-colored stones lying in the front of the tomb, and the building itself has white stones and tilework on it. Seen from the outside, the tomb's building is cubic, as the inside is octagonal made of marble walls and an azure dome (Bani Masoud, 2015).	
Islamic Revolution	Shams Tabrizi Monument	Moshaver Engineering (space-city) 2016	The Shams Tabrizi monument design begins with the transparency of water and includes an elevated square, which has four levels looking at four corners of the world, as a sign of pervasiveness and generality. These four levels are harmonized by rotation at the primary cubic shape, reminding of Shams and Molavi's Sama' dancing, because it was Shams who taught Sama' to Molavi (Rumi)	
	Gheisar Amin Pour Monument	Hossein Khosrowjerdi 2004	The Gheisar's tombstone has been likened to a pearl covered by a shell (tomb's dome building), with the circularity of the tomb resembling Gheisar to pearl. The tomb's materials are traditional materials made of hand-made bricks of Isfahan, and tiles by prominent artists of Isfahan.	
	Naharkhoran Martyrs of War Monument	Ali Haddadi 2009-2011	The Foundation for Preserving Works and Disseminating Holy Defense Values selected the prominent work of the year (2011). This site has a vacant space which not only reminds of the presence of martyrs but also communicates the spirit of architecture and art.	
	Sardasht's Chemical Bombardment Monument	Afsaneh Sharafian and Pouya Misaghi 2007	The building's design is based on such concepts such as oppression, sojourn, and sustainability of the martyrs and the wounded of the Sardasht's chemical attack. This site is aimed at communicating with the entire world.	

As previously noted, the study method was based on qualitative research. The data analysis method followed Strauss and Corbin's systematic approach of the three stages of open coding (identifying categories and subcategories), axial coding (finding the main category and linking it with other categories, and presenting a

linear diagram or model), and selective coding (proposing a theory for categorizations and categories in the axial coding), conducted on a continuous comparison. The present study gives all the interview results in tables, then selects and names other codes in the next stage. This stage is critical because the output will be the same final categories of the study that constitute the basis of future quantitative studies. To meet the study goals, the following methods were taken.

Open coding: Here, the initial concepts of data gathered about the studied phenomenon are formed, and data are divided into smaller units to identify, categorize and name the concepts. In this section, all interviews (audio files), converted into text in the later stage, are examined in a holistic process. Each concept capable of being included in the axial coding was emphasized.

Axial coding: The goal of this stage is to create a link between concepts produced in the open coding stage. The axial coding process is based on concentrating and determining a category as an axial category and then placing homogenous secondary categories under the main category. In axial coding, a coded category appears to be a central phenomenon and is analyzed. Later, it creates a link with other concepts. These other categories are causal conditions (factors affecting the central phenomenon), strategies (measures adopted based on the central phenomenon), intervening and underlying conditions (situational, unique, and general factors affecting strategies), and outcomes (results from using strategies).

Selective coding: In this stage, abstract categories are crucial to developing a theory, as new data and their coding are not required. It is noteworthy that research categories and their coding are saturated, and each one is laid next to the other, considering the closeness between the concepts. In the next stage, the author should select a nuclear category (Nowruz-Borazjani, 2018, p. 260). In this stage, interview text coding was performed, given the relevant analyses and studies. Two hundred ten codes were first identified in the open coding stage, which was reduced to 128 as repetitive codes were integrated. Then, the identified concepts were reduced to 21 conceptual clusters and, finally, to 7 axial codes in three various categories of selective codes. The table below gives a sample of open codes (sentences explicitly referring to axial coding) on the right column, only to mention the coding process. The following table shows 20 cases of the 128 (open) codes to elucidate the research process.

Table 4

Coding content related to various level codes in interview texts (Research findings: 2021).

Selective coding	Axial coding	Sample open codes (subcategories)
Causal conditions	Presence in space	I would rather be in an association and feel the need to be seen and have presence in an association
		I always come here to escape solitude
		It is very important for me to spend leisure time
	Human's needs for social interactions	Whenever I visit the monument, I recall most of my past memories
		I mostly go to the monument to meet my friends
		When I see people and friends, I have a good feeling
Underlying conditions	Human's lived experience of the environment	I feel a sense of comfort by seeing space
		I have a good or lively sense and cheerfulness
	Environmental information	I always look at the site's geometry
		For me, construction materials are very important.
		I consider space as a film with various sequences, and I try to examine the space in its entirety.
		Light, shade, and temperature effects are key to me. I try to go to the monument under good climate.
		Most of the time, I prefer the silence of space over people's noise. Most of the time, I feel the water sound very pleasing.
		Color diversity in the space, especially in the autumn season, is highly pleasing.
	Sense involvement with architectural elements	To me, seeing or visual sense in this monument is more important than other senses. Of course, other senses are key to me.
		Sometimes, I have a good feeling when hearing the voice of others. Also, being in an assembly for eating breakfast and afternoon meal makes me feel good.
Intervening conditions	Conditions depending on tile and place of monument	Effects of various memories on popular beliefs, climatic and situational condition governing the monument
		The memories of the past, and the great men and women I have heard have always been interesting, and anytime I have come here, I have recalled those memories.
		Variations of various time periods and what I have read in books have greatly affected me.
	Thinking movement prevailing over the architecture of the work's design period	A building design model at a special period has always been key to me. The designer's traditional or modern view and their attitude to the building are important to me.
		Local peoples' views about buildings and styles prevailing over this historical period are very important.

4. Findings

4.1. Qualitative Findings:

Causal conditions: Here, causal conditions are, in fact, the human's need for a presence in space and, consequently, for forming social interactions in the context intended. In this connection, Negin Taji et al.'s study suggested that after man is present in space and the sense of place is formed; the intended place first identifies the place identity. Then, place dependence (desirable characteristics) and place attachment are formed. Therefore, the necessary condition for place attachment is the human's presence in space. Since a sense of place is formed after the presence of a human in space and over time, the user's possibility of participation in space is provided, and its role is emphasized. A sense of place formation in a direction begins with the human's presence in space and perception of world-living characters and ends in place attachment. Also, a study by Daneshpour and Charkhchian (2007) suggests that people present in the public urban space as the most important influential factors require creating an appropriate space for active presence. In this connection, space and physical station serve as necessary elements to account for all types of human needs in the social arena. In the end, two critical components of "human's need for a presence in space" and "human's need for social interactions" can be considered as causal conditions affecting the understanding and perception of space, and finally, achievement of the sense of presence.

Underlying conditions: Underlying conditions are formed when a man faces a work of art (here, monuments). These conditions are formed in the first stage, which is the stage of understanding and understanding the work, based on individual characteristics and climatic conditions governing the surrounding community that would finally lead to forming our lived experience of the monuments and surrounding environment. As noted previously, individual characteristics and psychological factors and the reciprocal interaction of these factors with environmental factors can significantly affect the formation of a human's experience of perceiving an architectural work. As noted by studies, experience is said to have an important position in the phenomenology and creation of deep perception about an architectural building. Denison found that information from the surrounding environment can be received via senses; however, this does not occur unless all information is related to the memories and feelings resulting from an actual perception process. When the mind relates to human experience and recognition, i.e., when the mind finds the place of a particular human's memories, that information assumes importance at that state. Thus, "self-consciousness" is the key to perceiving each individual's architectural experience. According to interviews with different people, the upstream components of "human is lived experience of the surrounding environment and the monument space," "environmental information," and also, "senses involvement with architectural components" can be taken into account as axial codes.

Intervening conditions: Intervening conditions in the present study include those affecting the perception and spatial atmosphere category. In this regard, and given the results of interviews, environmental conditions can implicitly affect users' perceptions. These factors are subjective, intellectual, and work design factors proportionate to the architect's emotional patterns and the building's designer. In this study, these conditions can be recognized and traced in the "place and time-dependent conditions monument" and "intellectual movement prevailing over the architecture of a work design period." The historical background affecting each monument can bring about various indicators, which will thus affect users' perception of buildings.

On the other hand, the intellectual movements governing each society directly impact the sensory perception of contemporary monuments. The diversity of the design patterns of the intended monuments in the present study suggests that some of them were constructed in proportionate to traditionalist intellectual movements, some others took on an avant-garde approach, or others integrated a traditional and modernism thinking style, which eventually led to adopting different strategies in different times.

5. Quantitative Findings (Weighting Using Delphi Hierarchy Method)

After identifying the outputs and components affecting the formation of the sense of presence based on the above three conditions, all the components were provided to experts and weighted based on the hierarchical method and pairwise comparisons. As noted, expert views were used to determine the coefficients of the importance of criteria and indicators. In this connection, matrices composed of relevant indicators and criteria were provided to experts and their final weights were obtained by calculating their geometric averages. After developing the model in the Expert Choice software and entering the pairwise comparisons of the indicators, the weight of the main indicators and their priorities based on the two main indicators of environmental and human indicators were determined. The consistency rate of pairwise comparisons was found to be 0.09, which was acceptable because of being lower than 0.10.

Given the following diagram that falls under underlying conditions, Delphi experts argued that out of the three output parameters in the coding process, the factors "environmental information" and "sense involvement with architectural components" with weight coefficients of 0.548 and 0.297 were considered to be effective, respectively; in the end, according to the experts, the lived experience of space ranked third. Thus, "space experience" can be different because of the conditions prevailing over the monuments or peoples' spirits who are present there, and it can not be involved as a major criterion in classifying the process of sense of presence.

Fig. 4. Pairwise comparison of indicators affecting the user's sense of presence from the view of Delphi experts (a subcategory of underlying conditions) (Research findings, 2022).

Concerning components affecting the subcategory of causal conditions, and based on two parameters from interviews, expert choice outputs indicated that the components of "human's need for social interaction", and "presence in space" with weight coefficients of 0.542, and 0.458 were more effective than other components, respectively. This suggests that to meet the sense of presence in a monument, the human's need for social interactions is key; in fact, this component as an intermediating parameter can provide experience ad sense of presence in users by means of forming "memories.

Fig. 5. Pairwise comparisons of indicators affecting the user's sense of presence from the view of Delphi experts (subcategory of causal conditions) (Research findings, 2022).

The diagram indicates that out of the subcategories of intervening conditions affecting the monuments, Delphi experts suggested that the effect of "time and place dependent conditions" with the weight coefficient of 0.611 was greater than "thinking movement governing the era" with the weight coefficient of 0.389.

Fig. 6. Pairwise comparisons of indicators affecting the user's sense of presence from the view of Delphi experts (subcategory of intervening conditions) (Research findings, 2022).

6. Conclusion

A review of interviews with people (studied monuments' users), and the measurement of concepts derived from interview data led to examining basic strategies in forming the user's experience of the space atmosphere of monuments using two various approaches. The first approach is a social domain (collaborative) and the second approach is physical (spatial). In other words, using these approaches can help form and promote users' sense of presence, which the later visits to monuments, can be internalized in users consciously. Conversely, if these approaches are not used and no sense of presence is formed, a desirable experience of the spatial perception of studied monuments cannot be achieved. The following describes these strategies.

As noted previously, as regards the second approach, which involves factors related to physical (spatial) factors, this area is fully related to the designer's experience of a sense of presence in space. As stated, one of the most important designer's missions is, in fact, inducing a sense of presence in the designed building, which s/he can fulfill in every historical and temporal period by the knowledge of this issue. Out of the design stages in the physical and spatial area, such issues as symbols and signs, avoiding the application of personal tastes in design, perceiving user's real needs, promoting spatial vitality, identifying and emphasizing the hierarchy of place, and trying to create a sense of place in a monument should be respected. In this regard, there are also social-collaborative strategies, including the role of public awareness of design, creating motives for citizens' participation in the environment, using interactive spaces in the design to increase social interactions, etc. In the end, the study model (solutions to implement the current research accomplishments) is provided as follows:

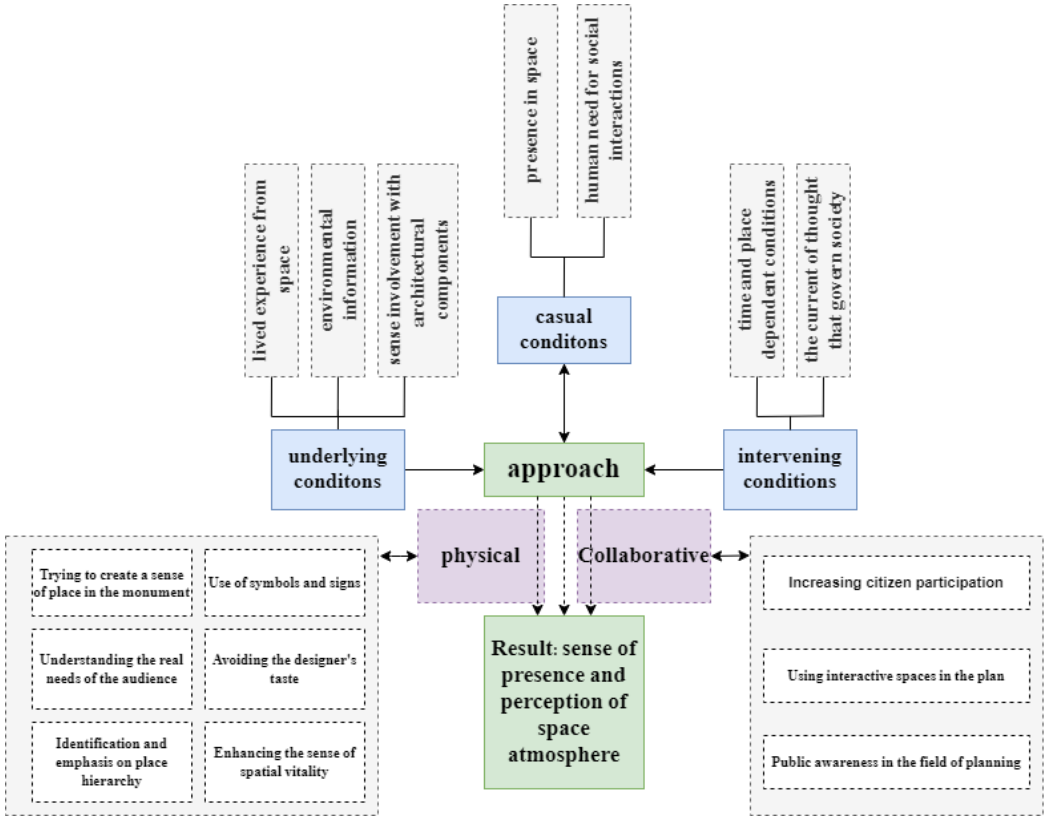

Fig. 7. Final model of the formation of user's sense of presence in facing monuments

As noted from the study findings and Figure 3, various three-fold conditions affect the category of the sense of presence and the perception of space atmosphere (here historical and contemporary monuments). In fact, monument designers should be cognizant of clear and latent factors affecting the sense of presence to facilitate user's perception of it. This study aimed to investigate the mechanism of the quality of sense of presence (presence atmosphere) based on sensory perception in historical and contemporary monuments. In other words, this study seeks to understand factors affecting the user's perception to achieve the sense of presence in those monuments. A study of the interview results (Table 3) and three open, axial, and selective coding processes led to categorizing strategies derived from various conditions prevailing over buildings into social and physical structures. The major architectural and physical section that greatly affect the sense of presence and the perception of space atmosphere include promoting the sense of spatial vitality, identifying and emphasizing the space hierarchy, perceiving the users' real needs, avoiding the application of designer's tastes, using signs and symbols, and trying to create a sense of place.

In the social area, such issues as public awareness of monument design, using interactive spaces, and promoting citizens' participation to promote a sense of presence in monuments were considered key issues. After determining the factors derived from interviews, and coding processes, the determined factors were weighted using the quantitative methods and hierarchy method, with more important factors referred to in the study finding section. In sum, the three factors of "environmental information", "Human need for social interactions", and "time and place-dependent conditions" were more important than others. It was finally concluded that physical and architectural components were not important alone in this respect; rather, other latent factors, including "social components" greatly affected the quality of user's experience, which can be key to meeting the sense of presence in monument.

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