Measuring of Subjective and Objective Aesthetics in Planning and Urban Design

Nadia A. Al-Salam [1], Ahmed A. Al-Jaberi [2], Ahmed S. Al-Khafaji [2*]

[1] Centre of Urban and Regional Planning for Post Graduate Studies, University of Baghdad, Baghdad, Iraq.

[2] Faculty of Physical Planning, University of Kufa, Al-Najaf, Iraq.

Abstract

The article includes the concept of aesthetics through what has been dealt with in the literature by philosophers and researchers who have addressed this concept in an attempt to derive indicators of aesthetics. The article adopted a descriptive and analytical methodology by reviewing recent literature on the concept of aesthetics and its relation to urban planning and design issues. Many subjective and objective aesthetics indicators have been identified, some of which are classified under real aesthetics, and some under fake aesthetics. The indicators were applied to the Kufa Mosque complex and Sahla Mosque complex as a comparative case study. It was found that the indicators of real aesthetics have a higher weight in determining the final aesthetic judgment on the complex form versus the fake indicators, which in turn reinforced the weighting of the subjective aspect over the objective. This was consistent with the answer to the question directed to the sample about which complexes are more aesthetic. The answer was that the Kufa Mosque complex is most aesthetically. This was proven by the questions directed in the questionnaire, which outweighed the real aesthetic indicators for the Kufa Mosque complex. As for the results of analyzing the indicators of fake aesthetic were equal, as each complex achieved higher values in three indicators.

Keywords: Subjective Aesthetic; Objective Aesthetic; Real Aesthetic; Fake Aesthetic; Religious Complexes.

1. Introduction

Since ancient times, philosophy has dealt with the theory of values, including (goodness, truth, and aesthetic), which are the major values upon which humanity is built [1], and interest in the subject of the article came to discuss an important value, which is the value of aesthetic. Aesthetic is a substance and spirit that is perceived through the mind and transcends with feeling and conscience. The philosophy of aesthetics deals with the nature of art and aesthetic experience, whether related to the arts or beautiful subjects in nature [2]. One area of the value theory is the philosophy of aesthetics, which is known as aesthetics [3]. Herbert Read defines aesthetic as the truth in the sense that aesthetic is the tangible aspect of an idea [4], and its standard is a measure by which to judge quality in light of the values and connotations it contains that are reflected in the behavior and practices of the person who is aware of it [5]

As the values of aesthetics are determinants and directives of behavior and practices, artistic appetite is the response to the aesthetic characteristics of art work, which is a complex pattern of behavior that, in essence, requires making judgments about the value of a thing, an artwork, or an aesthetic idea [6]. The research attempts to study the gap represented by the clear lack of aesthetic indicators, as we find that most researches are concerned with physical

issues compared to subjective values. The article tries to find out which of the values: subjective or objective, has more effective and important in achieving aesthetic. The article is based on the hypothesis that real aesthetic is related to the subjective aspect more than the objective aspect that is related to the visible physical form.

1.1. Background of the Research

Many recent works of literature have dealt with the issue of urban aesthetics. The literature tried to find factors and indicators for the aesthetics of streets, spaces, and public places, as well as studying the human perception of these aesthetics. These works help urban designers and planners to improve the quality of urban environments. In this regard, we can review the following literary works:

Iandoli et al., (2020) shed light on visual perception and its role in evaluating aesthetics, the study drew on the literature of aesthetics, Gestalt psychology, principles of art criticism, and design. The purpose was to try to demystify the understanding of aesthetic perception by adopting mental representations of more effective complex systems that can fulfill aesthetic principles [7]. Ibrahim et al., (2020) aimed to determine the effect of photovoltaic systems on the mosques aesthetics, given that these photovoltaic will be an element of the building. The recent trends urge the use of sustainability techniques, so it has become necessary to find a method that designers can adopt to integrate these techniques with the buildings without distorting the meaning of the building as a mosque and without affecting its aesthetic composition [8].

Bulakh (2019) focused on the aesthetic of the modern city, as the aesthetic appearance of the city develops over time, it consists of the integration of buildings and structures, the diversity of urban planning, and the formation of architectural images to give a full formation in the symbolic sense. He summarized in his study four interrelated stages that lead to the formation of the symbolic aesthetic appearance: the search for comparisons, the schematic expression of similarity, the abstraction with the help of the symbolic story, and the creation of a symbol by giving new content to the sum of abstract ideas [9].

Vihanninjoki (2019) focused on the importance of design in the making of urban places. He dealt with the place as a market that would provide what customers desire of aesthetics as a commodity because urban places contain features that can be focused on to highlight the aesthetics in them through good design. The article dealt with aesthetics from a philosophical point of view using Heidegger's propositions [10]. Haruna et al., (2018) clarified the role of urban planning strategies in achieving environmental aesthetics, as well as creating environments with social and economic resilience that contribute to a key role in achieving sustainable development. They identified major obstacles in implementing aesthetics represented by financial support, environmental awareness, and solving the problem of land ownership. They recommended that directing support decision-makers in creating urban environments aesthetics that support economic and social resilience [11].

Rezafar and Turk (2018) dealt with the changes that occur in urban environments intending to achieve aesthetics. They focused on the city of Istanbul as a case study. The article tried to combine design decisions with laws and legislation by setting the priorities, which would encourage the occurrence of these changes. The study suggestions three priorities represented by character and identity, green design, incompatibility between identity and design [12]. Nia and Suleiman (2018) pointed the value of urban spaces and it's an important role in achieving the aesthetics of European cities. They showed that historical places acquire multiple values through it's growth stages. This article indicated that urban design has a key role in organizing urban spaces, which would enhance their aesthetics and quality. In their study, they identified several important factors represented: integration, visual connectivity, vitality, and spatial quality [13].

Some studies have confirmed that the balance between the aesthetic dimension and the social dimension plays an important role in creating cultural awareness of public spaces in cities [14]. Others emphasized the reduction of structured and unstructured factors, which can influence the resulting meanings and it's aesthetic perception [15]. Some studies used philosophical analysis of the aesthetics concepts and intelligibility to emphasize the importance of urban design in producing beautiful environments [16]. Previous studies dealt with the aesthetics issue in specific aspects. It attempted to limit factors specific to the aesthetics of urban space and city, or the impact of aesthetics on the cognitive behavior of humans. These studies have differed from our research, which attempts to develop general indicators to evaluate aesthetics according to subjective and objective aspects. This article serves urban designers and planners, as they can adopt these criteria and take them into account when constructing or developing any urban project.

2. Theoretical Discussions

The theoretical part of this study includes three main items: The first item is the definition of the concept of aesthetics according to the opinion of specialized philosophers and theorists. The second item classifies aesthetics into two aspects: objective and subjective. The third item of a real simulation and a fake simulation of aesthetics to reach the decisive and influential indicators in achieving aesthetic values.

2.1. The Concept of Aesthetic

The concept of aesthetics in philosophical studies revolves around everything that excites the senses and inflames human feelings, and it is inferred to aesthetic through perception and visualization [17]. So Socrates coincides between the concept of aesthetic and quality [18], so every beautiful must be good, as for Plato, he believes in the absolute aesthetic [19] that is inherent in things implicitly [20] and has defined the elementary elements of aesthetic with a set of qualities that include (Harmony, proportionality, harmony, union, integration) so that they meet and come together [21, 22]. Aristotle disagreed with his predecessors, separating the good from the beautiful and nullifying the conditional relationship between them, and specifying that aesthetic has three areas: the embodiment of the material human aesthetic that has the highest degree, the human non-material or spiritual aesthetic, and the aesthetic of material inanimate objects that takes the lowest degrees of aesthetic. Its aesthetic criterion lies in the simplicity, coherence, satisfaction of things, their inclination to fragmentation and division [23].

As for John Dewey, he believes that aesthetic is achieved through functional utilitarianism [24], a clear link between art and civilization, which is the outcome of human experience [25]. As for the aesthetic criterion for Hegel, it is the standard of idealism embodied through the sensory means, so the beautiful is the perfect, complete, united. It expresses the multiplicity of parts, it's differences, it's connection and it's merging into one unit [26, 27]. Kant considered that the criterion of aesthetic is the subject of our supra-sensual faculties, it is the essence of its orientation by the free imagination, as it is an intuition that no concept can match because the imagination cannot become knowledge [28, 29].

2.2. Subjective and Objective Aesthetic

Supporters of the objective trend believe that aesthetic is present by its strength in beautiful things and is not affected by personal or subjective whims or personal moods, because aesthetic exists regardless of personal appreciation for it [30]. For example, Goethe believes that an objective aesthetic is formed according to a set of constituents that act as a positive provocation to perceive it as an entity that provokes several attempts to observe the aesthetic of the figure. This came as a result of some of its taste characteristics and imposes on its preceptor to understand each characteristic and link it to its relations within the general formation of the form [31].

As for supporters of the subjective trend see that aesthetic is something related to the soul that it changes from one person to another, that aesthetic is within us, as it is conceived through the thought of those who appreciate it [32]. The aesthetic judgment stems from free thought and the power of imagination that varies from one person to another. That is, aesthetics is a subjective psychological phenomenon [33]. Kant is considered the most defender of the subjective trend, as he considers that the judgment on aesthetic is a subjective judgment that changes from one person to another. The source of the feeling of aesthetic lies in us and that the aesthetic of something has no relationship with its form. The aesthetic judgment may be objective or subjective, specifically, there is no aesthetic judgment completely objective or subjective, just as some of our aesthetic judgments are based on a biological basis [34].

2.3. The Simulation in Aesthetic

There are two types of simulation in aesthetic: the first is a simulation that is based on knowledge and is accompanied by truthfulness (that is, a sincere expression that adheres to the truth and achieves aesthetic), As the second, it is a simulation that is not accompanied by a close knowledge of the origin truth that simulate it [35]. Rather, it is an automatic transmission that depends on camouflage and is devoid true aesthetic because it does not depend on goodness, nor does it contribute to creating pleasure. Plato called on this type of simulation "fake" because it is the simulation that brings pleasure to the public people [36]. He also called it superficial simulation, which is related to simulate appearance, therefore it is far from the truth and is based on conjecture [37]. After addressing the most important philosophical definitions related to the concept of aesthetic values, it is found that aesthetic is divided into two types: subjective aesthetic (sensual or spiritual), and objective aesthetics (formal or physical). It may also represent a real simulation or a fake simulation. The article reached, through the theoretical framework, a set of indicators representing aesthetic values, as shown in Table 1.

Table 1. Derivation of aesthetics Indicators

Fake simulation	Real simulation
Stimulating memory towards other similar complexes and buildings	Functional integration and meet the needs
Proportion of scale between buildings within the complex	Feeling aesthetic pleasure
Coherence and formal buildings harmony within the complex	Feeling of spirituality
Simplicity of the buildings shapes within the complex	Achieving social values
Drawing inspiration from nature	Achieving functional values
Rhythm and harmony in the colors used	Connection to the values and historical events of the city

3. Research Methodology

In its theoretical framework, the article relied on many previous propositions and literature from which the indicators of aesthetics were derived. Some of these indicators were classified into objectives concerned with the physical and formal aspects, which are under the concept of fake aesthetics. As for some other indicators of aesthetics, they were subjective, mostly related to social values, spiritual values, and historical events, which are under the concept of real aesthetics. Then the article moved to the practical side by applying these indicators to the study area represented by the Kufa Mosque Complex and the Sahla Mosque Complex. The reason for choosing these two complexes is because they carry many material and moral values as a result of their association with the history of the emergence of Kufa city. To test the indicators from the user's viewpoint of the complexes, a questionnaire was used and distributed to an intentional sample of 200 people from the Kufa city who frequented the complexes several times.
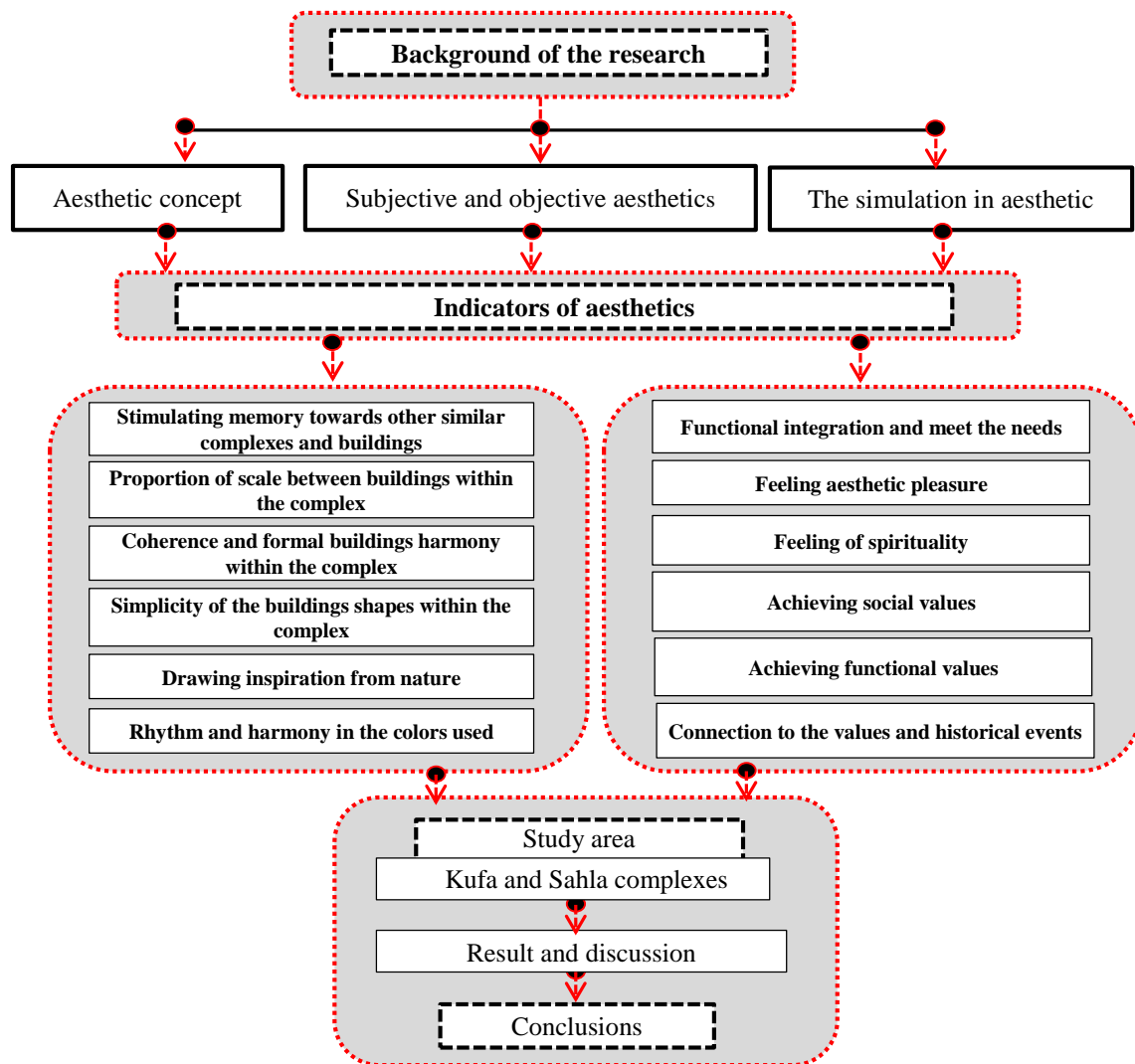

Figure 1. Research methodology

4. Case Study

Many studies have focused on the mosques' aesthetics and their aesthetic perception because mosques express spiritual and religious values, as well as daily functional use for the Muslim person [38, 39]. Kufa is an Iraqi city in the administrative district of Najaf Governorate, in the Middle Euphrates region. It is 156 km away from the capital, Baghdad, within global coordinates of 44˚ 23' 55" latitude and 32˚ 02' 11" longitude [40, 41]. The Kufa city is one of the oldest Islamic religious cities, which includes many shrines and mosques, the most famous of which are (Kufa Mosque, Sahla Mosque, Maitham Al-Tamar shrine, Sa`sa Ibn Sohan shrine, and Prophet Idris shrine). Two important religious Mosques complexes (Kufa Mosque and Sahla Mosque) had been chosen as a case study because they include a group of religious shrines. They are linking to each other by a direct main transport axis, constitute two major urban nodes for the emergence of other land uses such as commercial and residential [42, 43]. In addition, the two religious Mosques complexes are associated with the collective memory of the residents, as they represent many of the issues

and beliefs in which the residents believe. They also contain many other functions that support religious functions, such as open spaces, libraries, toilets, and administrative services.

Figure 2. Satellite image of Kufa Mosque complexes site   **Figure 3. Satellite image of Sahla Mosque complexes site**

The historical dimension of the city goes back to when Kufa has conquered in the year 17 AH 638 AD by the Arabian leader Saad bin Abi Waqqas during the reign of the second Caliph Omar Ibn Al-Khattab. It planned in the firsr Emirate House and Kufa Mosque, then planned the roads, houses, shops, markets, Sahla Mosque, and a cemetery [44]. The Kufa Mosque complex includes many well-known religious shrines such as the shrines of Muslim bin Aqeel, Al-Mukhtar Al-Thaqafi, and Hani Ibn Urwa. The total area of the complex is (11162 m^2) square meters, of which the covered area is (5521 m^2) and the open area is (5641 m^2) [45].
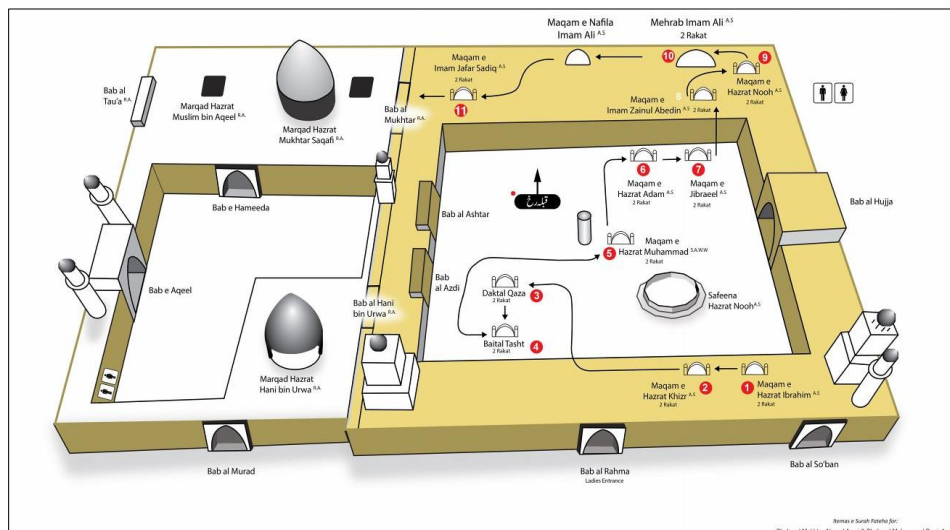

Figure 4. Kufa Mosque Complex

As for the Al-Sahla Mosque complex, it is the largest mosque in the city of Kufa, with a total area of 18,470 m^2. The complex is surrounded by an external wall, its height is 7 m, supported by semi-circular minarets. As for the mihrab, it is located in the middle of the prayer house. It is located in the middle of the eastern side of the Mosque, the minaret of the mosque, which is their height (30 m), and surrounded by a courtyard. The mosque, along its sides, is the corridor formed by the arcades. The complex includes a group of the standing places represented by the Prophets (Idris, David, and Ibrahim and Al-Khidhr) [42].
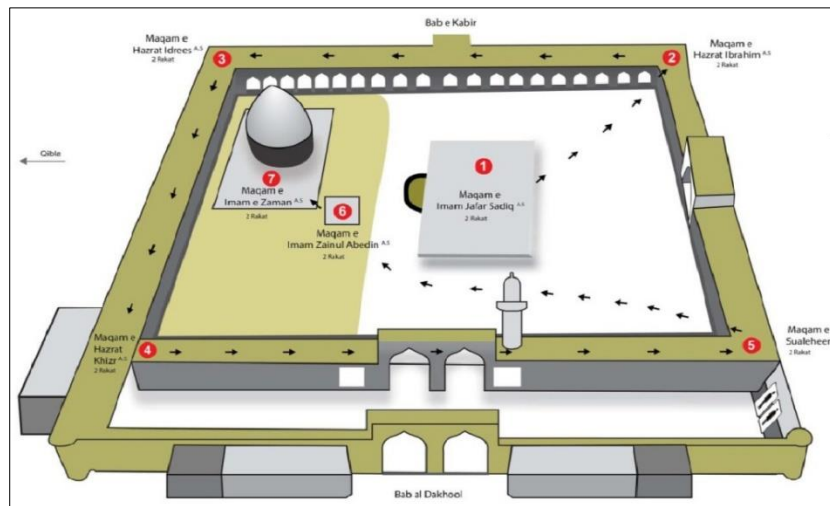
Figure 5. Sahla Mosque Complex

To know the subjective and objective aesthetic aspects of the complexes, the article relied on analyzing the results of a questionnaire that numbered (200) forms distributed on the intentional sample to visitors from the residents of Kufa city (See Table 2):

Table 2. The Results of Questionnaire for Religion Complexes in Kufa City

Repetition of the answer in the verification of indicators					Objective aesthetic aspects	Subjective aesthetic aspects	Repetition of the answer in the verification of indicators				
Complex	May be	No	Yes	Ind.			Ind.	May be	No	Yes	Complex
C1	40	36	124	X7	Stimulating memory towards other similar complexes and buildings	Functional integration and meet the needs	X1	23	9	168	C1
C2	40	43	**112**					30	18	152	C2
C1	14	31	155	X8	Proportion of scale between buildings within the complex	Feeling aesthetic pleasure	X2	11	24	165	C1
C2	30	43	127					40	38	122	C2
C1	70	31	99	X9	Coherence and formal buildings harmony within the complex	Feeling of spirituality	X3	22	19	159	C1
C2	50	38	112					55	5	140	C2
C1	52	11	138	X10	Simplicity of the shapes of the buildings within the complex	Achieving social values	X4	18	2	180	C1
C2	50	30	120					12	68	120	C2
C1	40	142	18	X11	Drawing inspiration from nature	Achieving functional values	X5	4	1	195	C1
C2	16	160	24					10	0	190	C2
C1	43	19	138	X12	Rhythm and harmony in the colors used	Connection to the values and historical events of the city	X6	1	0	199	C1
C2	19	10	171					10	10	180	C2
General question					What is the most aesthetic complex in your opinion?			89%			Mosque of Kufa
								11%			Mosque of Sahla

Analysis of the questionnaire results showed that the Kufa mosque complex has obtained higher results than the Sahla mosque complex in all subjective (real) aesthetic indicators represented by functional, spiritual, social, historical values, and aesthetic pleasure (See Figure 6).

The analysis also showed that the main difference in the values of the subjective aesthetic indicators. It is due to the following**:**

- **Functional integration and meet the needs:** The Kufa Mosque complex has achieved a higher value because the services provided in it are more integrated, as it includes internal and external open spaces surrounding the complex, service uses, a library, meeting room and an administrative suite, as well as the presence of commercial and recreational uses surrounding the complex. Most of which are not found in the Sahla Mosque complex.

- **Feeling aesthetic pleasure:** The Kufa Mosque complex has achieved a higher value because the mosque includes a spacious space of white marble that contains a central fountain that works to soften the atmosphere and achieve a local climate that helps adults and children to move easily and with great pleasure. As well as the use of heat-insulating wooden ceilings that contain lamps used for traditional lighting that it gives a sense of the

aesthetics of the two places, while the Sahla Mosque complex contain a large interior space, but it is not complete with tiles (See Figure 7).

- **Feeling of spirituality:** The Kufa Mosque complex has achieved higher values as it is closely related to the house of Imam Ali, in addition to the presence of the mihrab inside the complex, which represents the place of the martyrdom of Imam Ali. As well as the presence and shrines of Muslim bin Aqeel and Hani bin Urwa, as they are related to the spiritual and emotional aspects of the city's residents. While in the Sahla Mosque complex, most of the places are places of residence for the prophets, not shrines.

- **Achieving social values**: Kufa Mosque complex has achieved higher values because most of the visitors take this place and its outer spaces as a time for recreation, sitting and eating some food and drinks, and a place to meet friends and families. This was helped by the presence of spacious outdoor spaces and the provision of places to sit and rest, while Sahla Mosque complex is limited to the functions of prayer and worship because the space is indoor.

- **Achieving functional values:** Both complexes fulfill the religious function, and the Kufa Mosque complex achieved a slight advantage because the shrines inside the complex are numerous and have higher privacy, they are treated by visitors as independent buildings.

- **Connection to the values and historical events of the city:** Kufa Mosque complex achieved a higher value because the historical events are more related to the collective memory, the martyrdom of Imam Ali, the events of the revolution of Imam Al-Hussein, and the presence of the Emirate House adjacent to the complex. As for Sahla Mosque complex, it contains important historical events, but it is less linked to the collective memory compared to the Kufa Mosque complex.
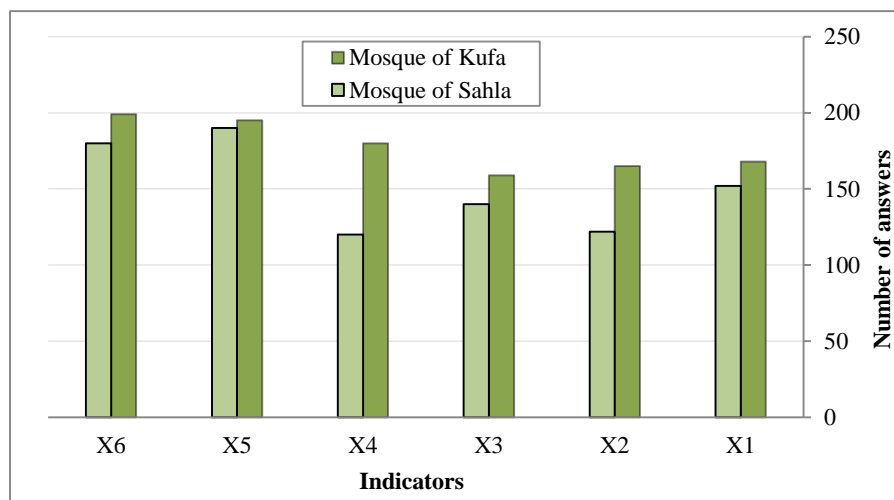

Figure 6. Values of the subjective aesthetic

Figure 7. Open space of the Kufa Mosque complex

As for the indicators that achieve the objective (fake) aesthetic, it was found that there is an equality in the number of indicators achieved in the two complexes, as the Kufa Mosque complex achieved higher values with three indicators, Sahla Mosque complex has higher values with three indicators too, as following: (See Figure 8).

- **Stimulating memory towards other similar complexes and buildings:** Kufa Mosque complex achieved a higher value due to the presence of the golden dome, as respondents linked its shape to the shrine of Imam Ali in the Najaf city, while Sahla Mosque complex, which linked the shape of the dome and the minaret to the shape of mosques in general.
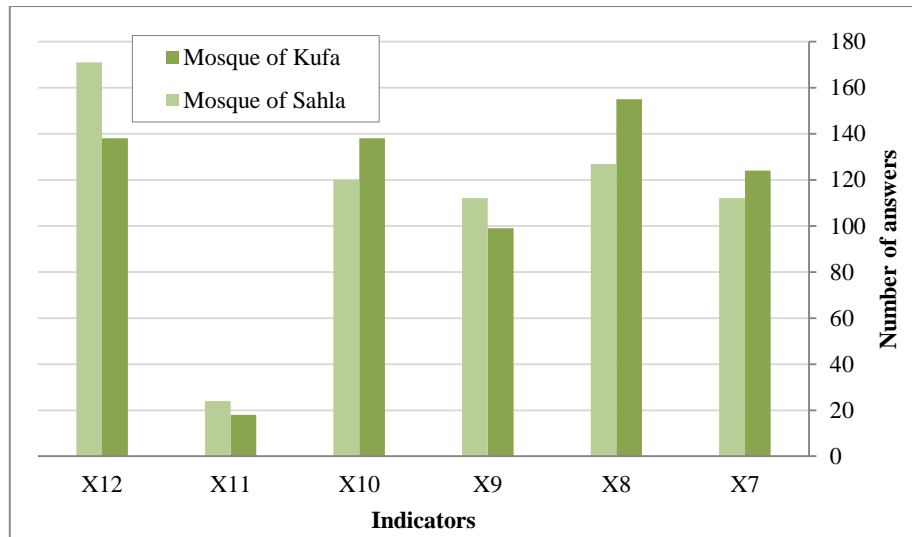

Figure 8.Values for the indicators of the objective aesthetic

- **Proportion of scale between buildings within the complex:** Kufa Mosque complex achieved higher values because the proportion scale used in domes and minarets compared to the complex of Sahla Mosque, as it contains tall minarets and a huge dome (See Figure 9).

Figure 9. Tall minarets and a huge dome of the Kufa Mosque complex

- **Coherence and formal buildings harmony within the complex:** Sahla Mosque complex achieved a higher value because it was designed as connected vaults and rectangular porticos with continuity of the interior spaces with uniform colors and decorations. The Kufa Mosque complex, which was designed as isolated interior spaces for each shrine with different finishing materials and colors for the shapes of domes, minarets, walls and ceilings for each shrine.

- **The simplicity of the buildings shapes within the complex:** The Kufa Mosque complex achieved higher values because the shapes used are simple, some finishes of wood and the sizes of domes and minarets are smaller compared to the Sahla Mosque, which contains giant minarets and a large dome, as well as decorations and glazed ceilings (See Figure 10).

- **Drawing inspiration from nature:** Both complexes achieved low values with a slight preference for Sahla Mosque Complex because the building and finishing materials used in them are manufactured materials such as

bricks, marble, and concrete, they do not contain natural elements except for the formations of plant decorations used on the ceilings, especially in Sahla Mosque Complex.

- **Rhythm and harmony in the colors used:** The Sahla Mosque complex has achieved higher values as it was designed as continuous space that includes multiple activities. It was designed the same geometric proportions of the spaces and corridors were adopted in it. In contrast to the Kufa Mosque complex, whose spaces are designed separately from shrines (See Figure 11).
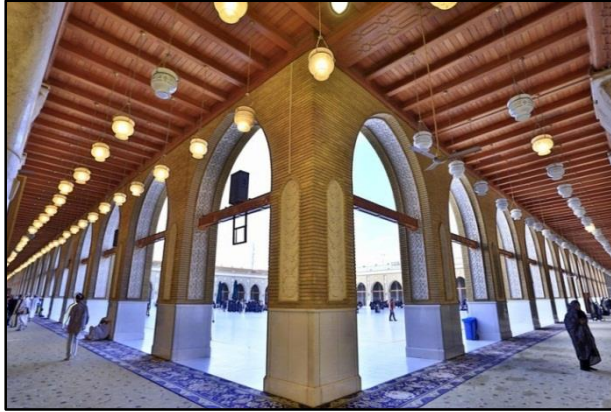

Figure 10. Wooden ceilings of the Kufa Mosque complex

Figure 11. Continuous space of the Sahla Mosque complex

When comparing the average values of the two complexes, noted the Kufa Mosque complex has achieved in the real (subjective) aesthetics aspect 89%, while the Sahla Mosque complex achieved 75% of the respondents were (yes). But the fake (objective) aesthetic aspect has been found that 56% for the Kufa Mosque complex in compared to 55% of the Sahla Mosque complex answered (yes). This indicates the superiority of the Kufa Mosque complex opposite the Sahla Mosque complex in the aspect of real aesthetics and its equivalent in the fake aesthetics aspect. This is what coincides with the result of the final question about the most aesthetics complex in your opinion. (See Figure 12).
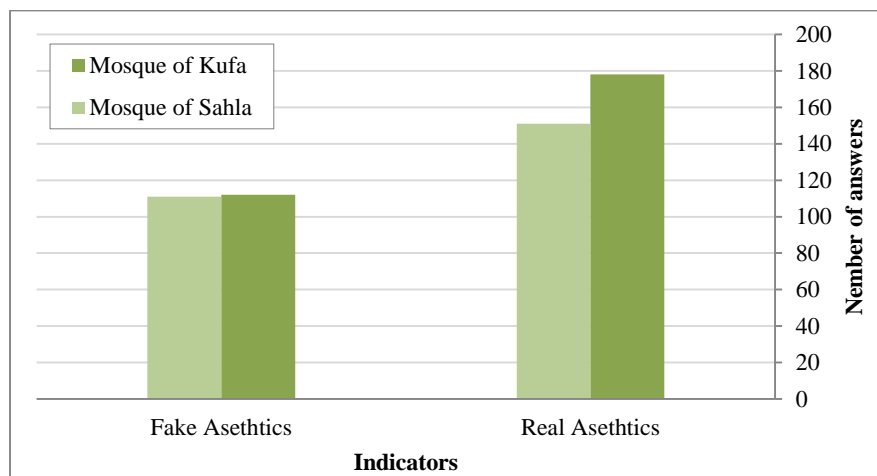

Figure 12. Real aesthetics compared fake aesthetic

5. Conclusion

Aesthetics issues are not limited to philosophical studies, but can be generalized, as it was possible in this article to reach indicators of aesthetic values in urban planning and design through multiple philosophical proposals, by reviewing several studies that dealt with the aesthetic issue. The theoretical side has identified twelve indicators that include six indicators of subjective aesthetics, which express the real simulation of aesthetics, and six indicators in the objective aspect that express the fake simulation of aesthetics, which is represented by (Stimulating memory towards other similar complexes and buildings, Proportion of scale between buildings within the complex, coherence and formal harmony of the buildings within the complex, simplicity of the shapes of the buildings within the complex, Drawing inspiration from nature, and Rhythm and harmony in the colors used). The indicators of the subjective aspect were represented by (Functional integration and meet the needs, Feeling aesthetic pleasure, Feeling of spirituality, Achieving social values, Achieving functional values, and connection to the values and historical events of the city).

In the practical framework, the article adopted the Al-Kufa Mosque Complex and the Al-Sahla Mosque Complex as a comparative case study to determine which of the two complexes achieves the indicators of aesthetic more in both subjective and objective aspects. It was found that the subjective aspect in the evaluation has the greatest impact in defining the aesthetic in general and reflects the real aesthetic, and this was verified by asking which of the complexes is more aesthetic in your opinion, the answer was the Kufa Mosque complex, this confirms the importance of the subjective aspect because the objective indicators were equal. The values aspect constitutes an important dimension in the integration of aesthetics standards, where the work must comply with the foundations and lofty human principles. The real simulation indicators had the most likely weight and the most influential weight in the final judgment on the buildings aesthetics.

6. Declarations

6.1. Data Availability Statement

The data presented in this study are available in article.

6.2. Funding

6.3. Acknowledgements

6.4. Conflicts of Interest

The authors declare no conflict of interest.

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