Khulna University Studies Volume 18(2): 59-77 : 2021

REVIEW ARTICLE

ENGINEERING & TECHNOLOGY

THE ROLE OF URBAN AESTHETICS ON ENHANCING VITALITY OF URBAN SPACES

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KUS: 21/12: 17082021

Manuscript submitted: August 17, 2021 Accepted: September 15, 2021

Abstract

Several scholars have focused on the different approaches in designing convivial urban spaces, but literary evidence shows that the essence of aesthetic design in public urban spaces, by referring to the main dimensions involved in the shaping of urban vitality, has not been adequately researched. In this regard, this study, by hypothesizing that the quality of urban design leads to a vital urban environment, focuses on urban vitality from the aesthetic point of view. Thus, in using qualitative grounded theory as a main methodological tool and using a systematic review of the related literature as the main induction approach for collecting qualitative data, five main dimensions of urban vitality, which are necessary to attain a correlation with the aesthetic quality of urban design, were conceptualized. The study concludes that the aesthetic design of an urban setting has a direct effect on the active involvement of its users and that this, therefore, has a direct consequence on the level of public urban vitality, manifested. Integrating the complexity theory with the five main dimensions used for assessing urban vitality was suggested as a viable area for further research.

Keywords: Urban vitality; urban aesthetics; liveability; functionality of urban spaces

Introduction

Urban life, which can be described as being composed of the interactions between urban spaces and human activities demonstrates urban vitality. The experience of rapid urban expansion in contemporary cities and the obvious dysfunction of urban infrastructure conveys several aesthetic problems, which have a direct impact upon the vitality of cities. In this regard, Stenberg 1991 pointed out that the urban aesthetic creates the identity of a city and is an essential component of urban dynamics. For example, in the case of many traditional and modern places, which have developed their own branding (Nia & Suleiman, 2018), we can see that the vitality of some urban spaces is much more successful than that of other urban spaces, which don't have a specific identity. Indeed, several studies have sought to identify the interrelation between the contributions of urban aesthetics to the vitality of urban spaces (Jin et al., 2017; Rahbarianyazd, 2017; Ravenscroft, 2000; Ye, Li, & Liu, 2018). Kondo et al.,(2009) and Cerin & Leslie (2008) went further on to say that pleasing aesthetic perceptions of landscape demonstrate a strong association with increased levels of vitality and leisure time activity. Some other scholars have even indicated optimistic relations between the urban environment and physical activities(Frank & Engelke, 2005; Lopez & Hynes, 2006). Additionally, leisure-related health activities

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DOI: https://doi.org/10.53808/KUS.2021.18.02.2112-E

also appear to be frequently related to beautiful and innovative landscape features (Giles-Corti et al., 2005; Owen et al., 2004). Therefore, this teeming body of indications has postulated that aesthetic perception is positively associated with jogging and exercise in pubic urban spaces (Ball et al., 2001; Carrin et al., 1999).

Considering the concerns mentioned above, the question of "*what it means to aesthetically appreciate a city and how this appreciation leads to place vitality?...*" remains a daunting task in the urban design process. Given this claim, the aesthetic of the urban environment considers observers engagement and participation to have their own influence in space. This is exactly parallel with the Berleant and Carlson (2007) claims of "…the aesthetics of the city is an aesthetic of engagement". The aesthetic of engagement in this study has been referred to as the quality of people's participation in public urban spaces or so-called "vitality".

As Chion (2009) stated, in the case of San Francisco, the vitality of urban spaces is produced by the intercommunication of its citizens to create complex and diverse arrangements of places and activities. In another good successful example of urban vitality in Valiasr Street of Tehran, studied by Tahmasebi et al., (2020) it revealed that reducing the level of vitality to merely physical and environmental design factors not only improve the quality of public spaces but also promotes planning, regardless of the culture of any society. revitalization of Nervion Riverside of Bilbao and designing Guggenheim Museum designed by Frank Gehry and Pompidou Centre in Paris designed by Renzo Piano and Richard Rogers are other good examples of successful urban aesthetic design which led to the vitality of the context. In all the above-mentioned case studies restructuring urban context convert the place from lost space to a vital place that has never been before. This leads us to highlight our hypothesis of this study that there is a relation between urban vitality and aestheticization of the urban environment. In this regard, Montgomery (1998) conducted a theoretical analysis, investigating the notion that urban aesthetic design affects urban vitality. In respect of this, he recommended the use of small-scale business activities for a cheerful, busy street life, which would be enhanced by pedestrian walkways. He observed that the concept of "vitality" is the main factor in differentiating successful urban spaces from other less successful ones and that the integration of varieties of urban activities inevitably results in the development of flourishing urban spaces. In observing the main idea developed in this study through the lens of urban vitality we can see that the "successful urban spaces" refer to those spaces with a high aesthetic quality, which succeeds in its mission to increase the vitality of the urban space. In the process of creating a successful urban space, objective and subjective indicators of shaping an aesthetic, urban environment have been considered carefully (See Figure 3). Punter (1991), Relph (1987) and Canter (1977) emphasized the imperatives of memories, meanings and identity attached to space, in relation to the theory of the sense of space. They highlighted that attachments develop either through the occurrence of activities or the influence of the physical configuration of aesthetic forms.

The appreciation of the aesthetic, urban environment may also lead to its active involvement with vitality resulting from the aesthetics of urban spaces. Within this context, urban vitality is not simply a formal arrangement of urban space or the physical demonstration of urban components, but a social process linked to complex cultural and economic experiences, signaling the need for an in-depth comprehension of urban vitality from the aesthetic perspective.

Overall, this study has the fact re-organized views based on a few past arguments/propositions, e.g., Montgomery's and Carmona's studies of urban aesthetics. It argues theories existed in the field of urban design since (but mostly in) the late 19th century. Considering this theory which mostly focused on the aestheticization of urban spaces such as the "City Beautiful movement" (Bluestone, 1988), City planning according to artistic principles (Sitte, 1889) and Baron Haussman's proposal for renovation of Paris all refer to the urban designer's attempts to increase the quality of urban spaces which at the end led to the vitality of an urban environment. Nia and Atun's (2016) article published in the journal of *Urban Design International* on urban aesthetics presents a review of the trends of these theories and foresees a future trajectory. The main contribution of this article is to classify the relevant literature on urban vitality under the five main dimensions which haven't been classified in this scale previously. Classifying the literature of the indicators in shaping urban aesthetic quality by using a comparative systematic literature review to see which elements of urban

aesthetics has a common dimension with urban vitality is another contribution of this study. The study on the interrelation between dimensions of urban design and urban vitality which has been highlighted in this study is a new approach in urban aesthetic design which needs to be considered by urban designers during the design process. Study on the dimensions of urban vitality by referring to the dimensions of urban aesthetics will fulfill the hedonic value of its users and according to Figure 7, it will have a direct influence on the aesthetic understanding of the urban environment.

Thus, this study hypothesizes that the investigation into the interrelation between the dimensions of the urban aesthetic and the vitality of urban spaces will serve to enhance the knowledgebase of aesthetic design. The study will also provide new approaches for maximizing the effects of urban design on the vitality of public, urban spaces. Qualitative grounded theory is the main research methodology adopted for this study.

Materials and Methods

Grounded theory as a methodology for this research refers to a set of systematic inductive methods for conducting a qualitative study aimed towards theory development. The grounded theory offers specific strategies for handling the analytic phases of inquiry and provides explicit and sequential guidelines for conducting qualitative research. In this respect, this study, by hypothesizing that the aesthetic quality of urban environments creates vitality, considered qualitative grounded theory study as the main method with which to ontologically understand the different aspects and dimensions of urban aesthetics that affect the aesthetic quality of urban spaces.

In this regard, the most suitable method proposed for this study is to classify the dimensions of both dependent and independent variables of the hypothesis in order to see how these variables are working with each other. Therefore, by qualitatively analyzing the literature on urban vitality the study tried to assess these two main variables alongside each other. A systematic review of the literature has been considered as one of the data validation methods to built its theory of the interrelation between urban aesthetics and vitality. Qualitative assessment of the related literature and comparative analysis of the dimensions of urban aesthetics and urban vitality has been considered as the main tactic for assessing the relevant data. Exploratory data analysis has also be considered in this study as for induction approach since the essence of this study is exploratory. The following figure (Figure 1) illustrates the quantity of the literature and types of references that have been systematically studied.

By qualitatively analyzing the literature on the main Dimensions of shaping the urban aesthetic, the study will classify the main dimensions of urban design into 5 main dimensions in such a way as to logically interpret their interrelation with the dimensions of urban vitality.

In doing so, the study highlights that there is a connection between the indications of urban vitality and the aesthetic dimensions of urban design, which will be discussed in detail in this study. Overall, this work could be considered original, in that its focus and approach is different from that of other studies of a similar thematic content.

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Total references studies to find the interrelation between the indicators of both variables			
Total References	**Aesthetic Dimensions of Urban Design**	**Dimensions of Urban Vitality**	
35 *A=20 *B=20 *C=20 *D=20	Morphological Dimensions	30 *A=20 *B=20 *C=20 *D=20	Economic Vitality
20 *A=20 *B=20 *C=20 *D=20	Perceptual Dimensions	40 *A=20 *B=20 *C=20 *D=20	Social Vitality
30 *A=20 *B=20 *C=20 *D=20	Social Dimensions	30 *A=20 *B=20 *C=20 *D=20	Environmental Vitality
15 *A=20 *B=20 *C=20 *D=20	Temporal Dimensions	23 *A=20 *B=20 *C=20 *D=20	Functional Vitality
24 *A=20 *B=20 *C=20 *D=20	Functional Dimensions	18 *A=20 *B=20 *C=20 *D=20	Cultural Vitality

* A:Articles B:Books C:Book Chapters D:Other resources

Figure 1. Quantity of the literature studied on urban aesthetics and urban vitality.

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Urban Vitality

To an appreciable degree, urban vitality represents the interrelation between the form of places, which support human functions, their capabilities and their essential requirements. It is therefore imperative to understand to what degree urban spaces are socially successful. Montgomery(1998) posits that vitality levels can be calibrated by the number of people in and around public urban spaces, the upkeep of street facilities, the number of public social events during the year, and the degree to which a place is vibrant and alive. From the urban viewpoint, vitality is an important concept because it improves environmental pleasure, enhances hedonic street views, and promotes relationships, interactions and cultural exchange. In this way, it fosters and improves commerce and consequently, has a salutary effect on the incidence of crime. In view of this, it is possible to posit that a city's vitality indicator depends on rich choices of interesting places and things that are available for people to experience over time. Within this framework, therefore, the underlying urban images can be envisaged; this would include busy streets with numerous people actively engaged in a plethora of activities and facilities, events and programmes, providing an enabling environment for social diversification, the demonstration of talents and self-actualization.

In many recent studies, vitality has been described as being comprised of the sum of the visual aesthetic quality of the environment and the plethora of activities contained within it. Lynch(1960) defined vitality in terms of the desirability of a space and the support provided by the space for sustainability, biological needs and other vital functions. Following this, he provided a list of the five components of vitality: safety, profit, protection stability, harmony and maintenance as liveability. Jane Jacobs opines that the liveability of public spaces is dependent on the precipitation of social interactions and a myriad of events that commonly invigorate a pattern of community character in the inhabitants(Chemmayeff & Alexander, 1963). In his publication entitled, "Seven aims for the livable city", Salzano's definition of vitality, includes having a social life and an identity, along with the progress of society and prosperity (Salzano, 1997).

With reference to the above points, it is obvious that the concept of vitality is demonstrated by, 'a useful people density' with different objectives (which can be integrated into a coherent whole) in cities(Landry, 2000). The use of the word, "useful people density," in this context should, however, be differentiated from that of congestion, which conveys a negative aspect of quality. In this regard, it is worth

pointing out that, an ambience of vitality is indicative of a relatively densely populated city in which the people are actively engaged with the available facilities.

Conversely, congestion occurs when available infrastructures are deficient in meeting the needs of the urban population. Therefore, it is obvious that an optimum level of population density equals urban vitality. Lesser urban populations lead to, "lost spaces" and higher populations results in creating congestion, which has negative connotations. In his study, Watts(1931), tried to answer the question of, "How does population density affect the crime rate?". He realized that there is a positive relationship between the crime rate and the population size. So, with reference to the definition of urban vitality, we can see that an increasing crime rate is very likely to have a negative effect on the vitality of urban spaces. In contrast, even, the same study revealed that the lack of population in public urban spaces will also increase the rate of crime. Urban designers, therefore, need to establish the optimum figure in respect of, 'useful people density,' in order to enhance the vitality of urban spaces.

Whilst considering this fact, and by looking at the notion of lost spaces, which was developed by (Trancik, 1986), it is obvious that the lack of quality spaces is the key factor, in leading to 'lost spaces'. So, since these 'lost spaces' tend to have low populations and/or a negligent agglomeration of economic activities, we can conclude that the lack of the quality of urban spaces is the key characteristic that leads to 'lost spaces'(Ye et al., 2018). In effect, the best practice for urban designers is to identify the optimum zone for urban designing. Fulfilling the requirements of the optimum zone leads to vitally active urban spaces. A systematic review of the literature on urban aesthetics revealed that the quantity of public urban spaces has a direct relation with the vitality of urban spaces. Overall, this study has been classified the possibility of the contribution of its users into three main classifications which are lost spaces, optimum zone for vital urban spaces and negative congestion. It reveals the fact that urban designers may need to consider the quantity of the people which suppose to use the urban environment. If there was a low or high amount of people according to the definition of urban vitality the place will not be in the classification of the vital urban environment.

Overall, as illustrated in Figure 2, populations and social interactions, which may produce a vibrant society can be considered as key characteristics of the concept of social vitality. In this regard, this study has posited that if commercial activities co-exist with a pleasurable social interaction, vitality may arise in such contexts. The phrase, "useful people density," refers to the notion of urban vitality to find optimum density in the process of urban design. On the other hand, the terms, "congestion" or "crowdedness," as an extra agglomeration of economic activities and/or people in the public urban spaces, could be considered as a negative aspect in assessing the vitality of urban spaces (Kim, 2020). So, we, as urban designers, need to bear the phrase, "useful people density" in mind, during our design process. In the study done by Yue and Zhu(2019), for example, it was stated that "people may not be able to feel safe since it will be against the psychological understanding of social distance theory". Therefore, the vitality of the space will decrease. This is in accordance with the "Proxemics Theory" (Hern, 1991) which assesses human behaviour and social interaction based on population density.

It is obvious from the following that the concept/issue of vitality is a compromise between lost spaces and congestion. Therefore, urban designers must necessarily identify the main factors, which contribute to vitality. From this viewpoint, vitality is not simply contingent on how many people are in a space, but also on the influence and popularity of the people. In respect of this, Gehl (2011) pointed out that a mere compulsory gathering of large numbers of people for a mandatory process does not result in vitality; although a space may become lively when their continuous presence impacts on a wider spectrum of voluntary and social activities. The availability of numerous varieties of facilities/activities encourages the pedestrian's involvement in a lot of activities. Thus, the concept of vitality, itself, depends on the presence of mutually inclusive socio-economic and physical environment factors, which are, therefore, also the mainstream of urban vitality.

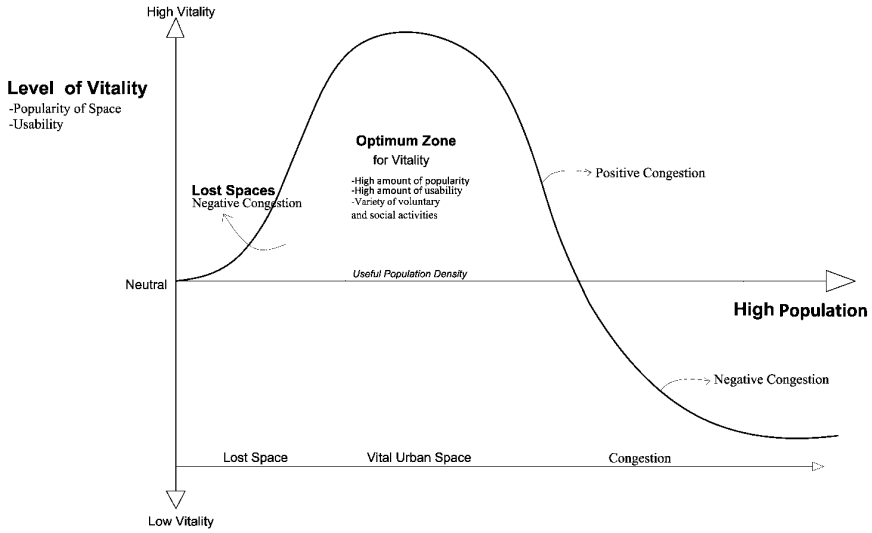

Figure 2. Optimum point for vitality based on population-Vitality Diagram (Developed by the Author).

Shaffer (1990) revealed, "community vitality as the capacity of a local social system to generate employment and income". In this regard, Lan, et al., (2020) stated that the agglomeration of commercial activities, which may lead to urban consumption, market freedom and economic efficiency, are the key factors in the economic vitality of urban spaces. Therefore, economic vitality in urban spaces is directly interrelated with mixed-use activities (Jacobs, 1961), retail sales (Mortazi Mehrbani et al., 2018) and active partitions (Montgomery, 1998).

Regarding the issue of cultural vitality in urban spaces, it is important to mention that respecting and appreciating a city and its people in respect of its public urban spaces, provides identity, memories and traditions. According to Cullen (1961), supporting arts and culture as a dimension of 'everyday community life' may lead to the cultural liveability of urban spaces. Thus, an increase in the concepts of imageability, Legibility and Sensory Experience are the key characteristics in creating the cultural vitality of urban spaces (Jameson, 1991; Montgomery, 1998; Nia & Suleiman, 2017). Therefore, urban designers need to consider that the key characteristics of culture such as handicrafts and symbols should be included in their design plans and process to enhance the functionality of urban spaces.

In this study, five main dimensions have been conceptualized for urban vitality. Leading indicators for promoting urban vitality were also classified and developed in Table 1, in such a way that its interrelation could be understandable for comparison with the dimensions of urban vitality.

Urban Aesthetics

The concept of urban aesthetics is a method for city identification and an essential factor in assessing factors leading to urban dynamics. To judge a city as, "beautiful" would mean that not only its buildings style, architectural details, the effects of traffic, noise and pollution are considered, but also the social interaction between its inhabitants and the quality of such interaction. The aesthetic value of urban space should be that it induces pleasure, personal reflection, relaxation, and observation (Philipp et al., 2002). The question of, '*what it means to appreciate a city,'* is certainly one of the challenging tasks facing urban designers. This question becomes even more profound with the realization that the observer's participation and engagement have his/her spatial influence. Engagement connotes the active participation of people in public, urban spaces, which contributes to and is a theme in the issues of urban vitality. Thus, premised on the notion of the positive association

between environmental pleasure and the aesthetics of urban spaces, Stamps (2000) went further on to consider the relevance of such studies on the aesthetic qualities of the perceived environment. Camillo Sitte, a pioneer of the empirical work in urban aesthetics, was primarily concerned with the issue of the "picturesque qualities" of the urban environment. Sitte et al. (1965) attempted to develop formulas for analyzing the aesthetic and visual attributes of historic cities in Europe, to define his theory of, 'Artistic Principles'. His principles include, 'shape, enclosure, monuments, and freestanding sculptural masses. His approach, to a large extent, reflects the 'psychology of form'(Gestalt Theory), which tends to organize parts of a form to create a visually coherent and ordered whole. He wittingly contemplated the third dimension imaginatively. His ideas, however, did not go any farther as they did not address the kinesthetic experience of the environment.

Lynch (1960) was primarily associated with his work on the mental image of the city. His visual quality was associated with apparent clarity or legibility, which leads to imageability. According to him, an imaginable city conveys the attention of the ears and eyes to higher sensitivity and participation (Lynch, 1960). Lynch denoted nodes, paths, landmarks, edges and districts as the elements defining the image of a city. In 1984, he went further to say that if cities were re-ordered, they could be more attractive and desirable places in which to live. His efforts have contributed immensely to the conceptual aspects of public urban design and, in so doing, to the urban aesthetic dialogue.

In his contributions to the aesthetic dialogue, Cullen (1961)reinforced the importance of continuity and contrast in achieving a more pleasing environment. He later stressed the importance of the art of relationship' between the environmental elements. Thus, he succeeded in asserting his personal opinion in the urban environment discussion. With reference to Cullen's earlier work and the way he was influenced by avant-garde movements, such as surrealism and Dadaism, he was not merely concerned with a 'pleasing environment,' but had a much more political agenda (at least before publishing The Concise Townscape).However, one of the most significant figures in the urban aesthetic discussion is Jon Lang. Lang (1987),who, by referring to the earliest classification of aesthetics, introduced by Santayana (1955), separated aesthetics into two main classifications viz. Formal Aesthetics and Symbolic Aesthetics.

A) The concept of the "*Formal aesthetic*" relates to the "appreciation of structures and shapes for their own sake," and it is closely connected to the Gestalt Theory of Perception. Scale, complexity, colour, hierarchy, spatial relations, order, shape, proportion, rhythm, illumination, shadowing and novelty, are all attributes of formal aesthetics. Lang, from a formal aesthetic point of view, essentially focused on order, clarity and complexity as a pre-requisite for the human gratification of the built environment.

B) The concept of the "*Symbolic aesthetic*" is related to the associated meanings implied by the environmental patterns that produce pleasure. It is germane to the issue of addressing, 'people's identity needs' (Lang, 1987). In exploring the aesthetics of the urban environment, Reed (2011) observed that visual nuances search results are comprehensible by interpreting the aesthetic of urban spaces. These nuances are visible inline, form, texture and colour, which often makeup the primary components of an environmental configuration. In this regard, Gestalt psychology also developed the notion of a spatial arrangement by re-interpreting the relationship between space and shapes.

Therefore, the aesthetic discussion on public spaces offers an approach (other than the pedestrian-centered approach), which is connected to physical life in public spaces. Likewise, McGlynn et al., (1985) pointed out other complementary factors viz: legibility, variety, personalization, permeability, visual appropriateness, robustness and richness, as public space qualities, whilst Jacobs and Appleyard (1987) brought awareness to other environmental qualities, such as 'environment for all, urban self-reliance, community and public life, liveability, identity, access and authenticity.

In referring to the above information, the most relevant aesthetic elements affecting the urban aesthetic quality are classified in the following figure. Dividing the aesthetic quality of the urban environment into two main parts, viz. 'objective' and 'subjective' will help urban designers to also classify the process of urban design into two main parts, namely, an expert aesthetic design approach and public preferences. This division

will automatically help to design public spaces, which are based on a variety of people's "tastes', which, in turn, will automatically lead to the creation of vitality in urban spaces.

Table 1. Five main dimensions of Urban Vitality.

Dimensions of Urban Vitality	Concept	Authors	Factors Lead to Vitality
Economic Vitality	-Agglomeration Of Commercial Activities.	Lan et al., (2020)	- Open Interconnection, Urban Consumption, Market Freedom and Economic Efficiency.
		Mortazi Mehrbani et al.,(2018)	-Retail sales.
		Doll, Muller, and Morley(2006)	-Nighttime Light Data.
		Jacobs (1961)	-Mixed-use Activities.
		Landry (2000)	-Innovation and Creativity.
		Montgomery(1998)	-Mixed Functions, Commercial Activities, Temporary Resorts and active Partitions.
Social Vitality	- Levels of social activity and social interaction. -Strong social cohesion.	Landry (2000)	- Communication and Collaboration, Useful People Density and Cultural Identity.
	-Good communications.	Jacobs (1961)	- Dense Populations and Social Interactions.
	-Community spirit and civic pride. -A wide range of lifestyles.	Lynch (1960)	- Fit, Access, Control, Efficiency, and Justice.
	-Vibrant society.	Gehl (2013)	- Circuit Life and Social Interactions.
		Lennard (1997)	-Social Justice and Social Interaction.
Environmental Vitality	-Environmental survival, safety and adaptability.	Landry (2000)	- Safety and Security, Accessibility, Readability, Diversity and Creativity.
	-Traffic congestion and green spaces.	Jacobs and Appleyard (1987)	- Safety and Comfort.
	-Legibility, sense of place and architectural uniqueness.	Lynch (1960)	-Security, Compatibility, Legibility, Imageability and Physical Diversity. - Takes biological and ecological criteria.
		Jacobs (1961)	- Variety of activities and Readability.
Functional Vitality	-Supplying several transportation options	Jameson (1991);Mutiiria, Ju, and Dumor(2019)	- Functional Diversity.
	-respecting human scale in designs. -Ergonomic Design	Lynch (1960) Pamir (2010)	- Support and Maintenance. - Balance Activity, Easy Accessibility and Increasing Functional Links.
	-Functional design -Connectivity and linkage	Montgomery(1998)	- Scale, Intensity, Permeability, Landmark. - Accessibility
		Lan et al.,(2020)	- Urban Public Transport and Communication.
Cultural Vitality	Respect for and appreciation of the city and its people. Identity, memories and traditions. -Handicrafts and symbols.	Montgomery (1998)	- Imageability, Legibility, Sensory Experience, Associations and Knowledgeability.
		Cullen(1961)	- Design Styles, Vistas and Landmarks.

As stated in Figure 3, the main Dimensions in shaping aesthetic urban quality can be classified into two main parts: a) objective, physical or expert-based, and b) subjective, psychological and public preference. Given this, the study revealed that the objective elements of the aesthetic urban space configuration can also be separated into two main parts.

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- Historical significance: 31
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<tr><td colspan="7">1. Sitte et al.,(1965)
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4. Zevi (1974)
5. Lynch(1960)
6. Cullen (1961)
7. Lynch (1984)
8. McGlynn et al., (1985)
9.Trancik(1986)
10. Jacobs and Appleyard(1987)
11. Kaplan and Kaplan(1989)
12. Rapoport (2013)
13. Carr, Francis, Rivlin, and Stone(2009)
14. Moughtin(2003)
15. Gehl (2011)
16.Smith, Nelischer, and Perkins(1997)
17. Alexander et al.,(1977)
18. Norberg-Schulz(1980)
19. Lawson (2001)
20. Jacobsen and Höfel (2002)
21. Burton and Mitchell (2006)
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23.Madanipour (2010)
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25. Mandal and Byrd(2017)
26. El-Ghonaimy (2019)
27. Kim (2006)
28. Graves (1951)
29. Heft and Nasar (2000)
30.Daniel (2001)
31. Appleton(1997)
32. Jacobsen and Höfel (2002)
33. Bourassa(1991)
34. Leder, Belke, Oeberst, and Augustin(2004)
35. Carbon (2010)
36. Costonis(1982)
37. Leder et al.,(2004)
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52. Weber, Schnier, and Jacobsen (2008)
53. Jack L. Nasar(1994)
54. Galindo and Rodríguez (2000)
56. Graves (1951)
57. Ferry(1993)
58. Burton and Mitchell (2006)
59.Reed (2011)
60. Stamps(2005)
61. Madanipour (2010)
62. Nasar(1998)
63. Herzog, Kaplan, and Kaplan (1976)
64. Lawson (2001)
65. Kaye and Murray (1982)
66. Fuladlu(2019, 2020)</td></tr>
</table>

Figure 3. Main Dimensions in shaping urban aesthetic quality.

The first part, which is mostly related to the physical and objective elements of shaping an urban configuration, can be further sub-divided into –Macro and Micro. The other classification sought to see how the previously classified objective elements of urban spatial configuration can be organized coherently. Therefore, it mostly considers the juxtaposition of the objective elements of urban spatial configuration. Figure 3 demonstrates these principles of the aesthetic juxtaposition as being split into two main dimensions which are static and dynamic. The second classification is subjective based, it primarily considers the psychology of aesthetics or public preferences. Qualitative analysis of the indicators shaping the aesthetic dimensions of urban design and the five aforementioned main dimensions of urban vitality (Figure 5) has shown that objective and subjective factors are aimed at increasing the quality of life.

Since the human cognition process is subjective, different social, ethnic and religious groups might have a different understanding of the issue of urban spaces. Urban designers, therefore, also need to configure the objective elements of urban design to create a space that will accommodate the differing and varied tastes and needs of the urban population. If we could create a space that respected the main dimensions of the aforementioned objective and subjective elements of urban aesthetic design, this could potentially invite/encourage a high level of active engagement by users with different cultural/ethnic/religious 'tastes'. Consequently, this development will introduce promote and encourage vitality in the urban spaces.

Thus, this paper has classified the main factors, which lead to the creation of vital urban spaces, and in so doing, it has demonstrated that the aesthetic understanding of urban space configuration is primarily based on public preference, which is mostly subjective. The discussion tested the alternative hypothesis that the dimensions of urban vitality and the aesthetic quality of the urban environment are interlinked.

The Interrelation Between the Urban Aesthetic and Urban Vitality

As previously stated, urban vitality is the extent to which the design of a city supports human activities, the biological needs and the vital actions of its inhabitants (Gizem Yetkin, 2020). This definition maintains that there is a working synergy arising from a unique assortment of entertainment and commercial opportunities within a dense social agglomeration of heterogeneous pedestrian populations. The study further highlights the impact of public, open spaces on the social cohesiveness and lucidity of cities, thereby reinforcing the assertion that such open spaces enhance social liveliness, as well as providing for the social needs of the urban population. In fact, public, open spaces of high aesthetic achievement are essential for the vitality of a city. Indeed, urban vitality is considered as a quality that impacts urban aesthetic design and, may, therefore, promote good quality convivial, urban environments.

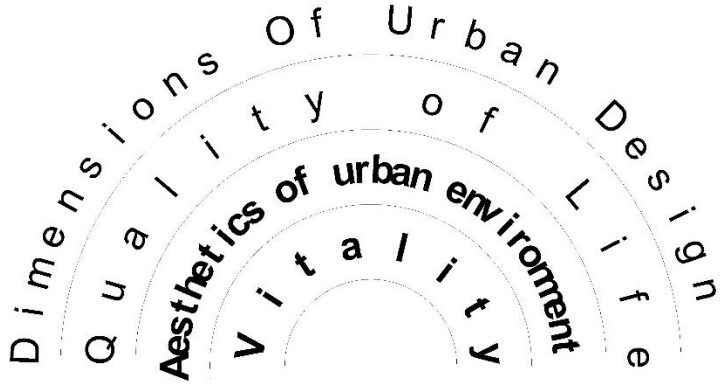

Figure 4. The interrelation between the aesthetic of urban design and vitality (Developed by the Author).

Figure 4 represents the interrelation between the aesthetic of urban design and vitality, in the sense that the dimensions of urban design work as a big umbrella, not only for the aesthetic quality of the urban environment but also for its vitality. It also tries to justify our hypothesis that the quality of urban spaces contributes to the concept of vitality.

The most important place for vitality is the common points between social, cultural and economic vitality. This suggests that places should be economically and culturally viable and should provide sufficient social support for their users. Borrowing the idea of the classification of the dimensions of urban design developed by Matthew Carmona (2010) in his book entitled: "Public Places Urban Spaces: The Dimensions of Urban Design", this study has classified all the dimensions regarding the aesthetic quality of the urban environment (see Figure 5) under the six main classifications, which, in this study, are the so-called aesthetic dimensions of urban design. Nia and Atun's (2016) study on the aesthetic dimensions of urban design concludes that there is a logical relation between the "dimensions of urban design" which has previously been developed by Carmona et al (2010) and the aesthetic dimension of urban design. Accordingly, this study by relying on the previously published literature by Nia and Atun (2016) tries to systematically review the interrelation between the dimensions of urban vitality and urban aesthetics.

Figure5 illustrates that the visual dimensions of urban design are more related to urban vitality. In contrast, functional vitality requires more consideration because of its connection with the morphological, temporal, functional and visual dimensions of aesthetic urban design.

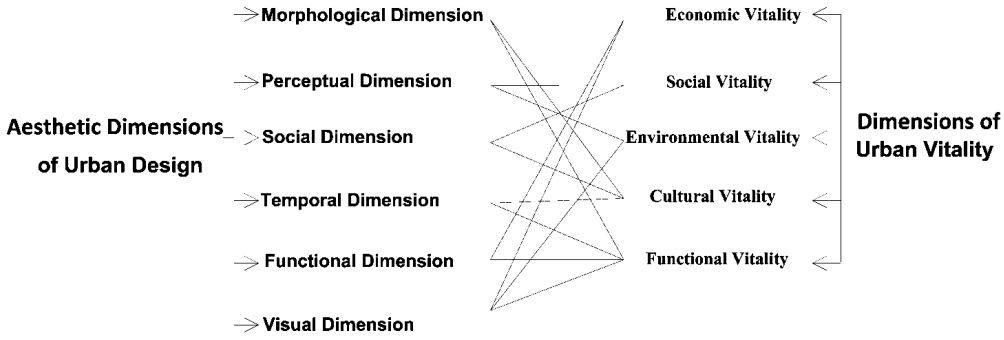

Figure 5. The interrelation between dimensions of urban design and urban vitality.

With reference to Figure 5, it can also be shown that a strong association exists between the vitality of public, urban, spaces based on an aesthetic understanding of the urban environment. A closer study of the public, urban, spaces further showed that they can be classified into social types or functional (Necessary Activities,) and optional activities (Gehl, 2011). The functional dimension mainly refers to the obligated work-related, routine, daily activities. This study also showed that it is the social and optional activities that are the principal dimensions of urban vitality, and that they are closely interrelated with the urban aesthetic.

The demonstration of the relationship between activity types and aesthetics in this study reveals that there is a connection between the types of activities and the vitality of urban spaces. In consideration of Figure 6, urban designers may need to consider that the amalgamation of a variety of functions is required in order to develop a vital urban environment. This could be considered as one of the key factors that justifies the hypothesis of our research. Figure 6 illustrates the interrelation between the aesthetic quality and the vitality of public urban spaces based on different types of activities. There is also a possibility of assessing the aesthetic quality of urban spaces based on the five main dimensions of vitality, to see how the vitality may change in different types of activities. Since this will be out with of the focus of this study, it will be suggested as a topic for further study to be considered by scholars.

The vitality of the urban environment may also increase if the aesthetic quality of the urban environment is sufficiently appropriate and/or adequate to motivate and encourage people to participate in active engagement. If this is not the case, then the chances of increasing the urban vitality are radically reduced. Hence, Lang (1987) posits that the lost urban spaces possess a reduced aesthetic quality. Accordingly, the point that the interrelation of the urban aesthetic and the vitality of the urban environment are related is illustrated. Furthermore, as is shown below, the vitality of the urban environment has a direct relation to the good, aesthetic quality of the urban environment.

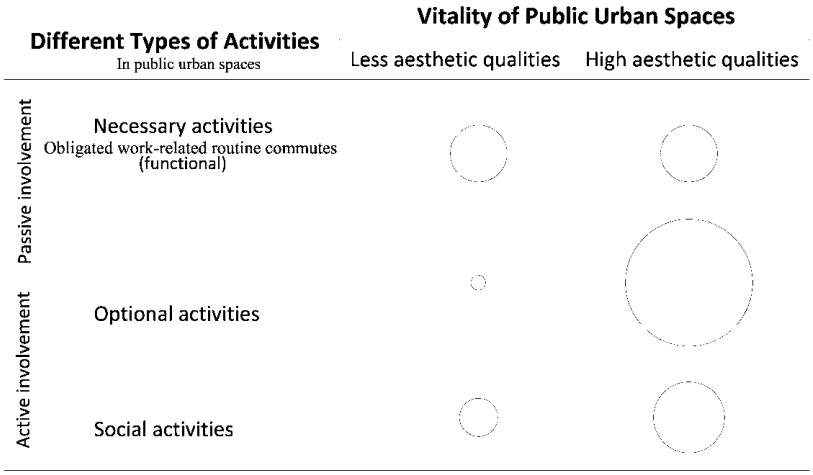

Figure 6. Interrelation between the aesthetic quality and vitality of public urban spaces based on different types of activities. (Developed by the Author based on Gehl (2011)).

As demonstrated in Figure 6, aesthetic satisfaction has a direct relation with the vitality of the urban environment. Maslow's Hierarchy of Needs also justifies this interrelation; using this hierarchical construct, public spaces associate strongly with the needs of the user, hence, a well-designed public space associates positively with people's needs. Meeting people's needs is, undoubtedly, a major aesthetic function of public spaces, whilst aesthetic satisfaction in an urban environment is a process, which leads to fulfilling the human requirement for generating a vital and meaningful life.

Maslow's Hierarchy of Needs equally examines how human needs are divided across a strata. It begins with physical needs (the lowest in the strata) and advances to more complex needs, such as social and belonging needs. Aesthetic needs are at the top of the hierarchy, indicating that there are other, more basic human needs to be fulfilled before gaining aesthetic satisfaction. Implementing Maslow's Hierarchy in urban design approaches demonstrated that, at its most basic level, accessibility and achieving people's most basic needs are the most indispensable aspects. This leads to the concept of "equity". "Equitable environments" are those in which a fair distribution across the strata of the components of society is possible. It provides for the needs of an entire array of users. Less equitable public environments are exclusive and less available to certain groups of people in a society, e.g., the elderly, the disabled, the poor, children, women and ethnic minorities. In continuing to describe the other human needs, Maslow categorized the second set of needs, which are the *aesthetic and cognitive needs*. Moreover, according to Maslow, people's self-esteem requires that places are aesthetically pleasing to encourage their use. Given this, figure7demonstrates the relationship between the vitality of the urban environment and the fulfillment of human needs. The correlation of the dimensions of urban vitality and the aesthetic dimensions of urban design has also been illustrated in conjunction with the six main Dimensions shaping Maslow's Hierarchy of Needs.

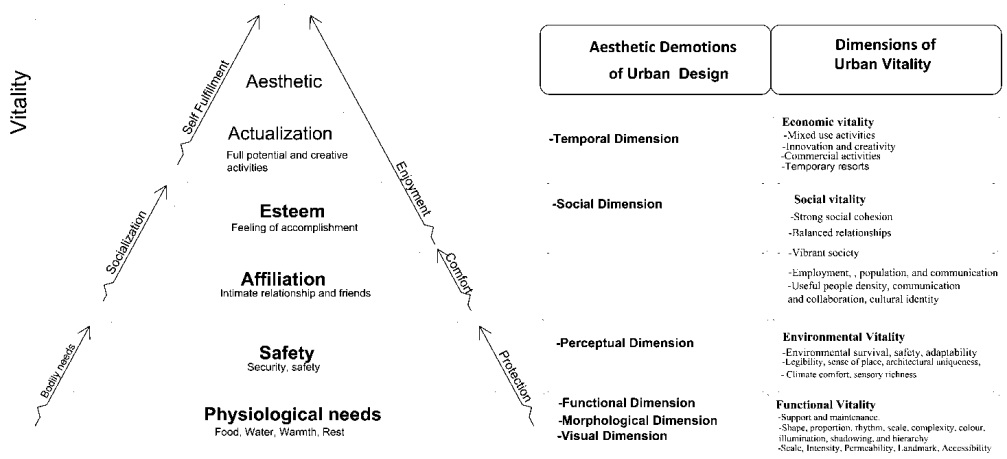

Figure 7. Correlation of the dimensions of urban vitality and the aesthetic dimensions of urban design in conjunction with Maslow's Hierarchy of Needs (Developed by the Author).

Therefore, based on the above discussion, it can be posited that the urban aesthetic is a main component of vitality. This is a kind of ramification or off-shoot of Maslow's Hierarchy of Needs, viz. that if the aesthetic needs are fulfilled, other pre-requisites for vitality, which is the main focus of concern in the qualitative design of urban spaces, can also be achieved. Hence, respecting people's aesthetic needs in urban spaces is tantamount to fulfilling other basic human needs in public urban spaces. The collaboration of these two is the most important factor in designing vitally rich urban spaces.

This is a qualitative study to classify the literature that exists in the field of urban aesthetic and urban vitality. Regarding the claim of this study, 'achieving satisfaction is an innate requirement of individuals to participate in and enjoy their environment (Ravenscroft, 2000). In this regard, if we could manage the configuration of urban spaces, we would fulfill one of the people's essential human needs, thus taking a step further in enriching of the aesthetic quality of the urban environment.

Regarding the claim of, urban designers should define the optimum zone for integrating the objective elements of urban design,' as has been illustrated in Figure 1, it is obvious that the organization of the public urban spaces might also have negative effects on the vitality of urban spaces. It means that a specific approach is required in the designing of urban spaces and urban designers should always be keen to identify those dimensions which have a direct effect on the vitality of urban spaces. In the event that an urban designer fails to apply those optimum requirements that lead to the creation of vital urban spaces, there is a high possibility that the context will subsequently convert to that of a *lost space* or that the context will be too densely populated in order to be conducive to producing or creating a vital environment, therefore, possibly culminating in a negative congestion situation. As aforementioned, the aesthetic design of urban spaces will increase the quality of urban spaces, which will consequently have a direct effect on people's active involvement in the context. As Dickie (1974) mentioned, the concept of working on the issue of human 'tastes', which emerged in the modern philosophy of aesthetics, will lead to the active involvement of people and subsequently, to the aesthetic appreciation of the spaces. Referring to this theory which has been briefly illustrated in Figure 4 and Table 1, it is recommended in this study that to increase the vitality of urban spaces urban designers need to consider the "taste" of its users.

In this regard, it can be stated that aesthetics is not primarily a cultural category, as Bourdieu (1987) mentioned, but different angles of the human need to be considered. The relationship between aesthetics and politics should also be taken into consideration in the aesthetic design of urban spaces (Gassner, 2019;

Rancière & Rockhill, 2013).Therefore, the amalgamation of different dimensions of urban design is the key to success in increasing the vitality of urban spaces.

Conclusion

The study shows that urban vitality is strongly related to the physical aesthetic qualities of spaces. In this context, a vital urban environment is the one that supports different types of human activities and the essential biological needs of its users. Extrapolating, therefore, it can be stated that a city is vitally active if the right choices of places and things are provided for people to relish and enjoy. From another perspective, it has also been shown that the concept of vitality is the sum total of the visual aesthetic superiority of the environment along with the diversity of the public activities it supports. This study maintains that desirability is the keyword for a vitally active, urban environment in as much as the aim of the aesthetic urban design is to prepare a desirable space for its users. This should lead to the satisfaction of the users. Implementing the dimensions of urban vitality has shown that achieving satisfaction is the main aesthetic need in designing vital, successful public open spaces.

Furthermore, the study conceptualized social vitality, economic vitality, environmental vitality, functional vitality and cultural vitality as the five main dimensions of urban vitality. The classification of these key factors and the comparison with Maslow's Hierarchy of Needs is a further contribution of this research. The study went further to show that there is a possibility for urban designers to reach their main objective - that of designing a vitally rich urban environment. This can be achieved when a compromise is reached between the main dimensions of urban vitality and the aesthetic dimensions of urban design. The study suggests that urban designers should define the concept of 'useful people density' in the integration of the objective elements of urban design. Integrating the complexity theory as another method of evaluating urban vitality based on the five main dimensions of urban aesthetic design, is suggested, in this study, as an area of future research.

Acknowledgement

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

Conflict of interests

The author declares no conflict of interest.

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