The Role of Sensory Richness in Improving the Environmental Quality of Urban Spaces (Case Study: Zandiyah Shiraz Complex)

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Extended Abstract

1. Introduction

Today, the design of urban spaces majorly depends on the sense of sight. Meanwhile, the other five senses have been overlooked by designers to the extent that those sensory drivers that are used to represent the identity and culture of the people such as the smell of bread and spices, the sound of coppersmiths' sledgehammer, etc. were gradually replaced by the sound of automobiles, the odor of smoke and so on. This has led to an undesirable quality in cities (Lotfi & Zamani, 2014). Therefore, it seems that knowing how the sensory richness affects the increase in quality of the urban environment is necessary to provide solutions for the design of modern urban spaces.

2. Review of Literature

In general, in this study, two main concepts of "sensory richness" and "urban environment quality" are considered. So far, in most research studies, each of these concepts has been analyzed separately, and In less research, the impact of both components on each other has been considered. In addition, researchers are most interested in measuring these components in new urban areas or neighborhoods, And less have been measured in traditional public spaces. Therefore, in this research, the effect of sensory richness components on increasing the environmental quality of Zandieh Shiraz collection has been considered. The quality of urban environment indicates the satisfaction or dissatisfaction of citizens with the social, cultural and physical conditions of the urban environment. And a high-quality environment conveys a sense of well-being and satisfaction to the population they inhabit through characteristics that may be physical, social, or symbolic (Barati and Kakavand, 1392, p. 27). On the other hand, the human experience of the urban environment is through many sensory channels of vision, hearing, smell, taste and touch, which creates a quality of the environment known as sensory richness (Sedaghat, 1396, p. 73). Which results in the formation of more spacious sensory experiences and more satisfaction than space (Bentley, 2008, p. 12).

3. Method

The present descriptive-analytical study was conducted with applied purposes. The theoretical foundations of the study was collected using library studies and documents; then, the effective criteria on the quality of urban spaces and sensory richness were extracted at four levels based on the data. Finally, a set of questionnaires were

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designed according to the fourth level criteria and the Likert scale (very low, low, medium, high, and very high) followed by the calculation of their reliability and validity. The data were analyzed using the SPSS21. One-sample *t*-test and Pearson's correlation were conducted. Given that the statistical society of this research is all users of Zandieh complex in Shiraz. According to the Cochran formula, the sample size was 365 people. And then, the sample was increased to 400 to raise the confidence level. Questionnaires were distributed based on simple random method.

4. Results and Discussion

To assess the extent of sensory richness of the drivers and the level of environmental quality in Zaniyah Complex of Shiraz in this study, one-sample *t*-test was initially employed to analyze the evaluation of the extent of each variable in these components. Finally, to evaluate the significant relations between these two components, Pearson's correlation test was used. Since a 5-point Likert scale was used in questionnaires, number 3 was obtained as the theoretical median and the dimensions of each variable were compared accordingly. For instance, the obtained visual diversity criterion in the environment's sensory richness was 2.87; subsequently, it is considered as the mean level because the value is close to 3. Furthermore, the mean accessibility criterion in the quality variable was 3.66. Therefore, as the criterion's mean is above 3, satisfaction regarding the accessibility and environmental quality of the complex was assessed to be at a high level. On the other hand, the correlation coefficient between sensory richness and quality increase of the environment is 0.195. This correlation coefficient shows a low significant relation between the two variables. In addition, given to the extent of significance, which is less than the error value of alpha (0.05), it can be observed that there is a significant relation between the sensory richness and the increase in the quality of the environment.

5. Conclusion

According to the findings of the study and the one-sample *t*-test results, the senses of smell and taste had the highest and lowest score with values of 3.52 and 2.59, respectively. Other senses (vision, touch, and hearing) were at the average level. Furthermore, in the environmental quality component, the semantic-perceptional and aesthetics criteria were of the highest extent with the values of 3.71 and 3.55, respectively which were followed by the functional and environmental criteria. The several recommendations in this study are listed below:

- Providing separate access points for drivers and pedestrians
- Providing diverse and suitable routes for pedestrians, bike riders, and the disabled
- Capabilities to hold social activities such as temporary exhibitions, festivals, etc.
- Diversity of fast food restaurants and the unique smells of confectionaries and chocolate shops, fruit stands, bakeries, grocery shops, restaurants, etc.
- Increasing the number of supervisors and the unofficial supervision even during night shifts
- Providing spaces for seating, conversations, and collective games
- Planting fragrant plants and flower gardens
- Having harmony between colors, materials, and height to prevent conflicts in the sense of vision
- Sound control using walls, vegetation, and reflection of disruptive sounds on the edges
- Providing suitable microclimates to encourage the presence of people during various times of the day and different seasons
- Planting fruit-bearing trees which are unique to the location such as citrus trees.

Keywords: Sensory richness, Environmental quality, Urban public space, Zandiyah Shiraz complex

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