European Online Journal of Natural and Social Sciences 2018; www.european-science.com
Vol.7, No 2 pp. 521-526
ISSN 1805-3602

Evaluation of Public Urban Space as a Context for Social Interaction

Fereshte Pashaei Kamali*, Sevgi Yilmaz
Department of Landscape Architecture, Faculty of Architecture and Design, Ataturk University, 25240, Erzurum, Turkey.
*E-mail: fereshteh.pashaei.k@gmail.com

Received for publication: 02 April 2018.
Accepted for publication: 06 June 2018.

Abstract

One of the contemporary critical issues in urban areas is to develop and improve the effective strategies for provision of opportunity for "social interaction" among citizens, eventually revitalizing contemporary or so-called modern urban communities. Several studies have analyzed specific physical factors of public urban space influence on social interaction. To understand the factors leading to social interaction, physical characteristics of urban space need to be considered along with the general socio-demographic characteristics of each city. In this study, the physical features and characteristics of selected public urban spaces in central district of Erzurum, Turkey, were categorized and examined based on the variables of connectivity, accessibility, and visibility, in relation to socio-demographic characteristics. The results of the analyses were finally combined, and compared to determine their relationship with the social interaction in public urban spaces.

Keywords: City, Environment, Social Integration, Urban Space.

Introduction

Public spaces present openness for the public and connote the idea that these setting are accessible to everyone regardless of age, gender, ethnicity, or other characteristics (Irwin & Erwin, 2012). As a specific term, “public space” was firstly applied in sociology and political philosophy scholarly works in 1950s. Then at the beginning of 1960s, the term was applied in the urban planning field and initiatively appeared in the article “The Social Function of Open Space” by Lewis Mumford in 1960 and the book “The Death and Life of Great American Cities” by Jane Jacobs in 1961 (Nadal, 2000; Xu & Xue, 2017). The more a city promises for the individual, the less it seems to have a public life; the more the city is built for public entities, the less the individual seems to count. The good urban environment is one that somehow balances these goals, allowing individual group identity while maintaining a public concern, encouraging pleasure while maintaining responsibility, remaining open to outsiders while sustaining a strong sense of localism (Larice & Macdonald, 2013; Yousefzad Farrokhi, 2017).

Low level of physical and recreational activities is more prevalent among historic center of cities, compared to new or modern districts. Many suggest that the lack of opportunities for near - home and at no-cost outdoor activities in historic districts, are among the factors that contribute to the inactive living conditions for community members. Whyte (1980) pointed out that people-watching is one of the primary activities shared by different classes of people in public urban spaces. Simple amusements, such as walking, talking, eating, and sports, also give a street diverse social life (Jafari, 2017). Qualified with the function of matter, culture, spirit, economy, and history, public urban space is a thorough introduction to the principles of urban design theory and mirror the characteristics and complexities of urban societies. Public urban spaces play important roles in promoting urban aesthetic appearance and economic development, which refer to objective, physical spaces with social and psychological dimensions (Yang & Xu, 2009). Particularly, the sociality

allows public urban spaces embrace people of multi-backgrounds and serve as important site of social interaction (Humphreys, 2010; Xu & Xue, 2017).

Throughout the past ten years, concerns on the issue of life quality among people living in historic districts have been given much attention. Growing number of urban managers, academicians as well as professionals concerned on the quality of life among historic district population suggested that neighborhood environment must be improved by facilities such as access to public facilities, amenities and recreational facilities. These are found to be among the principal indices of life satisfaction. Although most part of these studies have concluded that public urban facilities are influential in the life satisfaction of community members, very limited local references have investigated or even discussed the accessibility and opportunities that are available for the residents in historic center or central district of city. Hence, this study differs as it looks specifically into the availability of public open space and recreational provision in central district as the key urban areas of Erzurum, eastern Turkey. This study also was an attempt to explore the factors influencing perceptions of quality and its significant impact on access to public open space from both professionals and local residents.

Methodology

Among the public urban spaces located in central district of Erzurum, where downtown low-rise historic buildings are concentrated, 5 urban squares were chosen as the study area. A total of 297 points surrounded by historic buildings within the target area were selected. Erzurum has been one of the most significant commercial and military centers since antiquity and is now considered to be the most important city in the area, covering a historic district in city center with a great number of historic buildings and public urban spaces as shown in Figure 1.

Figure 1: A general view to city center in Erzurum.

According to Wilcox et al. (2007), application of simple regression analysis to explain the relationship between the role of internal elements of an urban space, socio-demographic factors, and the social interaction has its limitations. In order to comprehensively analyze and determine the

related factors from different levels (urban space level/neighborhood level), HLM7 software is suitable for creation of an HLM for analysis (Wilcox et al., 2007).

First, socio-demographic characteristics of target area at the urban and neighborhood levels were verified to determine whether they were appropriate for an HLM analysis or not. Second, the degree of significance of data was analyzed for social interaction rate at the urban space level. Third, the degree of significance was analyzed while taking the neighborhood level into consideration. Fourth, the factors related to the social interaction rate were measured by applying significant factors and socio-demographic factors at the urban space level. A field investigation was carried out from August to September 2017, and the physical factors of the selected urban spaces were observed and surveyed with reference to the existing data. Factors related to connectivity variable included the distance to the main street, the dimensions of the connecting street, and the public urban space type. Factors related to accessibility included population density, urban space depth, urban space type, walls and fences, security gate, main street width, and character of in-between spaces. Population density refers to the number of people living or working in the neighborhood surrounding the space. Space depth measures the interior depth of the urban space. Urban space type was classified as linear or concentrated. Walls and fences refer to the ratio of walls and fences surrounding the urban space. Street width was measured as 0 or 1 depending on whether the width was over 10 meters or under 10 meters, as 10 meters is considered to be the mean street width in the target area. In-between space assessed the availability of vacant or hiding spaces between walls and building entrances. In-between space here refers to the availability of vacant or empty space between building walls, fences or entrances. Existence of an empty space between a building and fence was nominated as 1; and if there was no space, it was measured by 0. Visibility related factors consisted of the number of ground-floor windows, garage opening Availability, and public pilotis. Parking type assessed whether parking spaces were available within the adjacent areas through a dummy variable. Pilotis measured the availability of accessible pilotis in houses or historic buildings. A classification of variables as well as measurement standards is illustrated in Table 1.

Table 1: Variable Standards

Variables	**Metric**
Social Interaction	1 = positive, 0 = negative
Urban Space Level Variables	
Urban Space Type	1 = Large, 2 = Medium, 3 = Private
Number of Intersections	Continuous
Distance to the Main Street	Continuous
Number of Ground-floor Openings from Buildings	Continuous
Parking Availability	1 = Available, 0 = Not available
Pilotis	Continuous
Urban Space Depth	Continuous
Urban Space Type	1 = Linear, 0 = concentrated
Population Density	Continuous
Security Gate	Continuous
Street Width	1 = over 10 m, 0 = under 10 m
In-between Space	1 = Present, 0 = Absent

Results

Table 2 indicates the descriptive statistics obtained for all research variables. The dependent variable used in this survey was the level of social interaction in selected public urban spaces. Therefore, a correlation analysis was conducted to test the level of multicollinearity between the characteristics of urban space. As each factor was intended to be determined conclusively through Pearson's correlation to make sure no variables affect the analysis results, an HLM analysis was selected to be conducted. In future studies, an unconditional model can be used to assess model fit and suitability, and a random-intercept model can subsequently be used to determine the overall relationship between all factors, including the socio-demographic factors.

Table 2: Descriptive Statistics of Variables

Variables	Mean	SD	Min	Max
Dependent variables				
Social Interaction	0.15	0.47	0.00	1.00
Public Urban Space Physical Level variables				
Street Type (C1)	1.89	0.66	1.00	3.00
Depth of Urban Space(C2)	2.73	0.72	1.00	5.00
Distance to Main street (C3)	165.86	96.05	10.00	414.00
Number of Ground-floor Openings (V1)	5.57	3.70	0.00	29.00
Parking Availability (V2)	0.69	0.46	0.00	1.00
Pilotis (%) (V3)	10.61	23.60	0.00	100.00
Street Depth (A1)	22.33	9.63	8.00	73.00
Urban Space Type (A2)	0.85	0.35	0.00	1.00
Walls & Fences (%) (A3)	31.17	26.66	0.00	92.00
Population Density (A4)	4.70	1.86	1.00	11.00
Security Gate (%) (A5)	2.10	1.63	0.00	9.00
Street Width (A6)	0.59	0.49	0.00	1.00
In-between Space (A7)	0.41	0.49	0.00	1.00
Socio-demography Level Variables				
Unemployment (S1)	0.47	0.51	0.00	1.00
Ethnic-heterogeneity (S2)	0.29	0.47	0.00	1.00
Historic Mobility (S3)	0.53	0.51	0.00	1.00
Population Aged 14–19 (S4)	0.59	0.51	0.00	1.00

Discussion

The results of the survey indicated that smaller dimension of public urban space (C2) and lower ratio of ground floor openings in adjacent buildings (V1) among visibility factors led to higher level of opportunity for social interaction. Regarding accessibility, a higher ratio of walls and fences (A3), more in-between public space (A7), higher population density (A4), and wider adjacent streets (A6) lead to higher level of social interaction. Furthermore, sociodemographic characteristics of the target area in neighborhood level had a more complex effect on physical characteristics at urban space level. Bigger dimension of the public urban space (C2) resulted in a lower rate of social interaction. May be, this is because the number of intersections between the main streets and the

public urban space was measured in this study by limiting the connectivity role of intersections. This phenomenon is aggravated further in area and neighborhoods with a higher population of people aged 14–19 (S4) and more uniform ethnic heterogeneity (S2). The finding that a lower number of ground floor openings (V1) exacerbates the social interaction rate corresponds with other similar studies. This is because fewer windows on the ground floor of buildings facing the urban area decreases passive surveillance, which results in a higher social activity rate. This problem is particularly apparent in older districts and neighborhoods with higher ethnic heterogeneity (S2), owing to the difficultly in establishing a sense of community between local residents in the neighborhood with a higher number of strangers or walking citizens, and that passive surveillance is highly dependent on such a sense of fellowship.

In most part of previous studies, a higher height of walls and fences (A3) is claimed to provide a safer urban space in historic areas. In Turkey, however, a higher ratio of walls and fences are not permitted in most areas, and this result contradicts that of past studies. In most European countries such as the United Kingdom − where crime prevention guidelines are strict and still in effect − for example see-through fences are usually installed, which ensure passive surveillance from both inside and outside while also providing a physical barrier against criminal activities, providing better opportunities for social activities. However, in Turkey, where higher walls are mostly installed, they provide a physical barrier, meanwhile reduce the passive surveillance; the contrary results from survey may be attributed to this discrepancy. Such results indicate that construction of high wall in Turkish cities work to reduce passive surveillance instead of increasing privacy and accessibility.

This study's results matched those of several similar studies conducted in Turkey all of which claimed that existence of in-between space heightens opportunity for social interaction. Higher population density (A4) leading to a higher rate of social presence and activity was another finding of the survey which is identical to the results of existing research in other parts of Turkey. Higher population density in the context of public urban spaces indicates that several activities take place closely together in the area. In most cases, as many houses are located adjacent to public urban space, outsiders face fewer limitations in accessing the public space disguised as visitors, and this situation provides better opportunities. This phenomenon is usually aggravated in areas with higher density and greater historic mobility (S3), which can be discussed in attribution to an extra social activity factor related to the sense of territoriality.

Contrary to findings of other studies that claim street width (A6) is not related to the social interaction in public urban space, narrower street width usually revealed lower rate of social activities in this study. This can be discussed as wider street width diminishes territoriality by increasing the access of non-local people, which heightens vulnerability of the area to crime or other unpleasant activities. Focusing on socio-demographic factors of the area, those features related to historic mobility (S3) were population density (A4) and street width (A6), whereas those related to ethnic-heterogeneity (S2) included the number of ground-floor openings (V1), depth of the public urban space (C2), and the ratio of surrounding walls and fences (A3). The factor related to the population of people aged 14–19 (S4) was the depth of the public urban space (C2) from the main street.

Conclusion

Previous studies on the factors related to social interaction in public urban space mostly have focused on either the physical characteristics of space in terms of individual space, or on the role of socio-demographic factors at the regional level. However, since social interaction in urban

environments is a complex phenomenon, the unique physical characteristics of each urban space need to be considered in conjunction with the real socio-demographic characteristics of target area at a regional or urban level. Therefore, the significance of this study was related to the complex analysis conducted on social interaction rate in public urban space in central district (downtown) with regard to both physical characteristics at the urban space level and demographic characteristics at the neighborhood level. The results of survey revealed that variables for connectivity, visibility, and accessibility—with the exception of a few variables— had the most significant role, and further explanation on the social interaction rate can become possible when socio-demographic factors are added to the study process.

This study also discussed how the specific environmental factors of public urban space can affect social interaction behaviors in different countries where the design guidelines are thought to prevent crime, providing more secure space for citizens and their social activities, and how historic areas with multiple public urban spaces are affected by socio-demographic factors of citizens in a complex manner. Accordingly, in the future studies, it is necessary to conduct a more precise socio-demographic investigation as well as to identify the characteristics of surrounding built elements, structures and environments when designing a public urban space.

As this study targeted a defined district located within a downtown metropolitan area in Turkey, it is limited by its restrictive sampling size and techniques, so, the sample of this study cannot be seen as representative of general public urban space across the country. Therefore, further research is necessary with diverse or an expanded area of investigation, and if analysis on the behavior of citizens in public urban space could be also incorporated by examining the unique regional factors as well as the actual factors that provide opportunity for social interaction.

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