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Introduction

Technological developments and industrialism a er the industrial revolution has caused migrations from rural areas to urban areas and as such has caused fast urbanization which has led to unplanned development of cities. People have started to use motor vehicles to reach far distances in the cities which have changed form and scale by spreading their boundaries. Especially a er the II World War, as the motored vehicles have become the dominant form of transportation, the road surfaces in cities have increased and in inverse proportion to this, available areas for pedestrians have decreased.

One of the biggest urbanization problems that we are faced with today includes not taking into account the usage of the city areas by the pedestrians. Especially the tra c problem that reaches greater heights in metropolitan cities and the fact that pedestrians are not able to nd any place on the roads for themselves has made it mandatory to take new planning decisions relate to transportation in our era. One of the most signi cant solutions created as part of this planning is the concept of a pedestrian area. e squares which can be shown as an example area for pedestrians have the functionality of social life. ese squares are totally devoid of vehicle tra c. Also they are places which meet the needs for all the activities of pedestrians.

In public squares which have dense usage and social content, there are di erences seen in the design principles due to fast developing technological activities, globalized world standards, and di erentiation of social life. New and di erent functionalities will cause the birth of di erent design principles. Furthermore, the users of the area alsoa1r design pria34u2ry. It is seen from the methods used in the studies that Sp social spaces. Professor Hillier who utilized the method has mentioned the information about the usage of the method in the analysis of social spaces in the works of “Space is the Machine”, (Hillier 1996) and Social Logic of Space”, (Hillier and Hanson 1984). In addition, many researches and studies have been carried out about this method [1-22]. Positive results are observed to be obtained from the investigated references in the area analysis performed with Space Syntax. If it is needed to give an example in the context of the work: one of the important projects is Jeddah City Plan. Jeddah, one of the largest cities of Saudi Arabia, is a city established near to Mecca in the Red Sea shores and all the city sights are produced with the analysis obtained from Space Syntax method. e Airport is also included in this (Figure 1).

One of the important open public squares which have been designed with Space Syntax is the Trafalgar Square. It has been determined through the Space Syntax Methods that the utilization of the square has increased.

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area. In addition, there are other e ects such as place of birth, seating period, transportation mode, cultural contexts, education, personality and social status has an e ect on how the person behaves in that particular area [1].

Area-oriented usage of Space Syntax method: Space Syntax is a method used frequently in the analysis of the social environments as previously mentioned. Motion analysis oriented part of this method, which contains many analysis types, is discussed. Comparison of the movement analysis performed based on the mathematical data in digital environment with the circulation axis obtained from the observation method and testing them with one another will be provided. erefore, Space Syntax method is bene ted by doing movement analysis. If the method needs to be investigated in detail; spatial index is a method used for examining the relationship between human and the environments that they have formed [7]. e relationship between the formal structure of the spatial dimension extending from building scale such as architecture, urban areas, transport areas to the city scale with

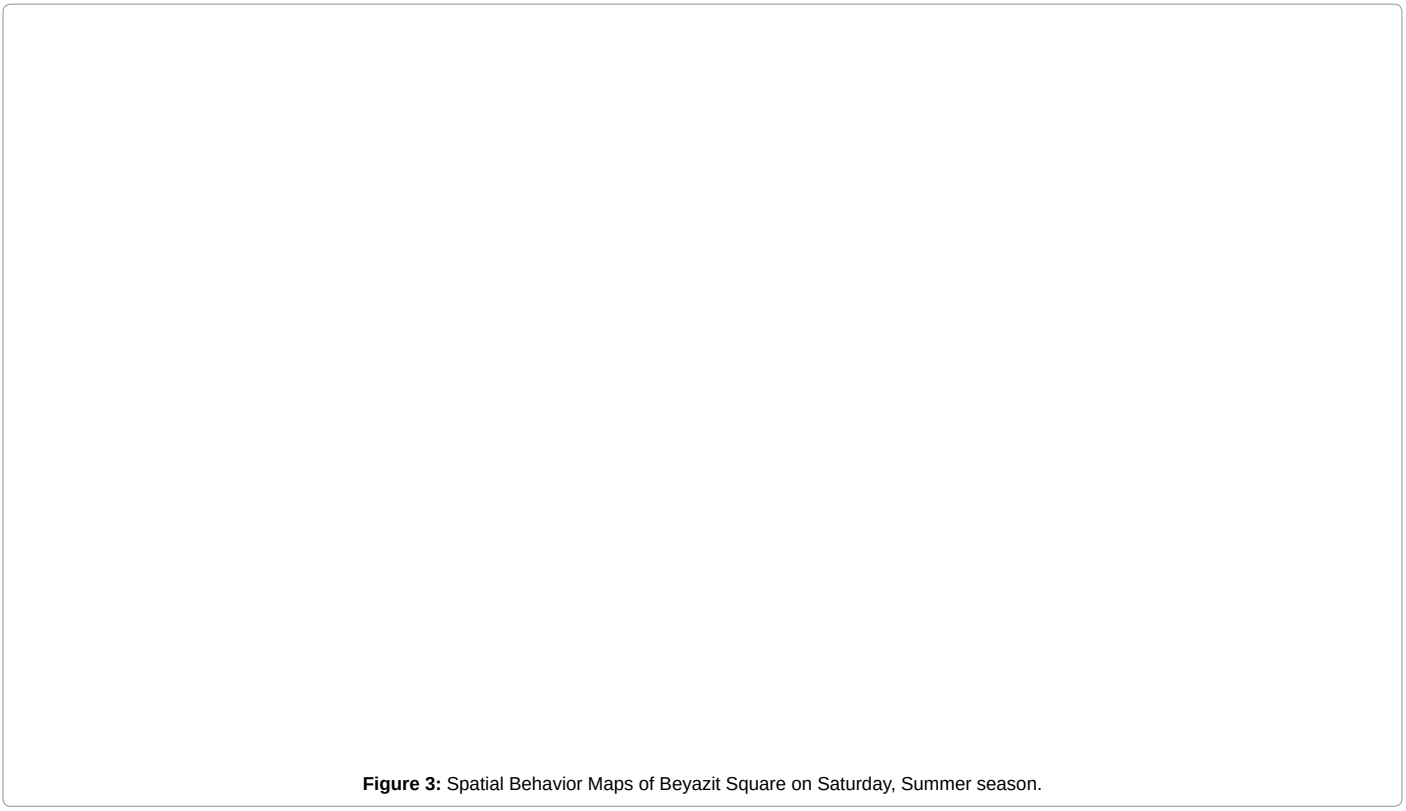

Figure 3: Spatial Behavior Maps of Beyazit Square on Saturday, Summer season.

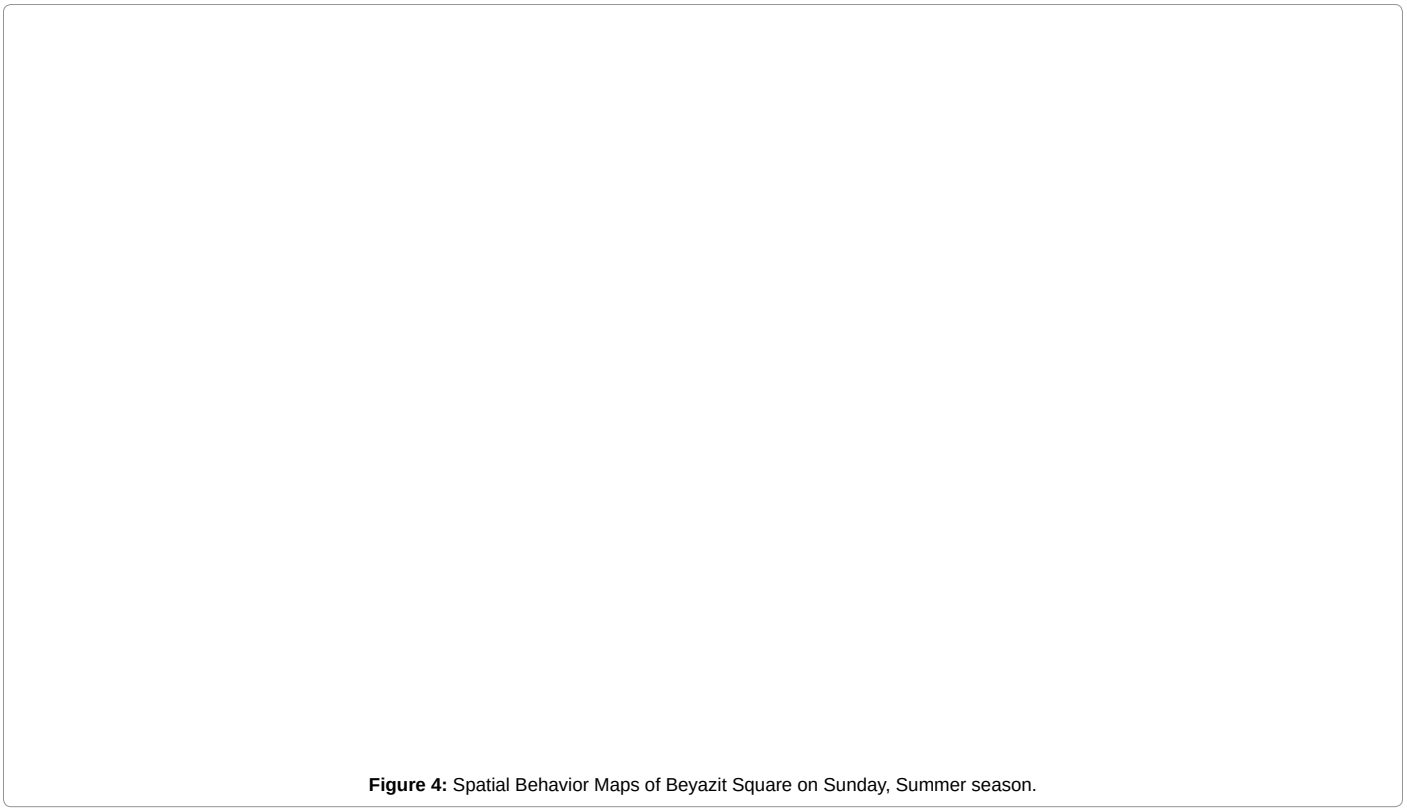

Figure 4: Spatial Behavior Maps of Beyazit Square on Sunday, Summer season.

movements and usages in the area from a mathematical point of view, to investigate the design of the area, to determine the e ciencies of the current design in the area and to nd the causes and solutions for these de ciencies. e accuracy and the density of the current location of the pedestrian circulation emerged from the observation method plays an important role in testing. us, the accuracy and density of the

naturally generated user axes in the observation method will be tested by space syntax method and programs.

With this method, movement analysis has been conducted for the square. Primarily, the maps which include the perimeters of the region as well as the axis which are fundamental to movement analysis have been drawn in Autocad environment (Figure 3). en the density analysis for the Space Syntax Method has been conducted with the Dept Map so ware. In the analysis, the densities of the axes have been formed as per their importance. e Space Syntax method has been used in the analysis of the utilization of the area by pedestrians [4].

In the studies performed with Space Syntax Method, the criteria explaining the natural movement in the square and revealing the usage value of the outdoors in the most accurate way is determined to be obtained by calculating the integration values [21]. Integration values are expressed numerically in the prepared maps and transformed to Spatial Integration Maps automatically by the program [22]. All axes in the Spatial Integration Map are colored as per the range of the integration values (Figures 6 and 7).

In the Spatial Integration Maps prepared for the study areas, axes are colored as per their densities by Dept Map program. In the prepared maps, all axes from the axes with high integration values to the lower axes are emphasized, dense axes are numbered and colored as the most intense red, while the least dense is colored as blue by the program.

As a result of the study performed with Space Syntax method in Beyazit Square, the average integration value of the research area is found to be 0,639205. As it can be seen from the integration map, axes having the highest Rn (global) integration value in the eld are:

Ordu Street having 0,770889 Rn value and represented with L 15 code, Ordu Street-Vezneciler (Sehzadebasi Street) axis having 0,768194 Rn value and represented with L 93 code, Ordu Street-Istanbul University axis having 0,760108 Rn value and represented with L 30

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