



REVIEWING COMFORTABILITY IN CITY SQUARES: A RESEARCH STUDY OF BEYLİKDÜZÜ ÖZGÜRLÜK SQUARE

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Abstract: Public spaces play a significant role in our social life. There are different types of public spaces and squares are one of the most important places in the cities that have influence on shaping our social activities from the past to the present. City squares are not just designed to spend time, in the past, squares were known as gathering locations to make important social decisions. A place where people share what is happening nearby and exchange information. Active and lively public spaces increase social interaction and sense of belonging among people. With the increase of population and urbanization in recent years, the quality of urban areas has been evaluated in terms of improving the quality of life of citizens. Squares are also important public spaces that are examined in terms of quality. In this paper, Beylikdüzü Özgürlük Square comfort parameters are studied. This square is located in western part of Istanbul. Although this area is not very old but it is important due to the connection between the two areas of Esenyurt and Beylikdüzü. Comfort quality indicators of this location are examined. A questionnaire was collected from 71 people living in the area for this research. Their responses were studied and interpreted in line with the purpose of the research.

Keywords: Public space, Square, Comfort, Beylikdüzü

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1. Introduction

Public spaces are areas where people from all classes of society meet, communicate, and interact. Streets, avenues, connection roads, passage routes, parks, and squares are public spaces that are accessible to everyone (Çelikyay and Karayılmazlar, 2016). As can be understood from different definitions, public spaces are associated with open spaces open to every citizen. For the city dwellers, the distinction between public spaces determines the identity of the space. These areas are not left as random gaps or transitions; it is important that creating spaces, preferred to be designed with planning decisions, will create a comfortable and safe environment which can offer meeting and strolling spaces.

City squares are the focal points of social activities with their different functions for the use of citizens in public spaces. As urban centers, they should be psychologically and emotionally responsive to recreation, entertainment, and physical needs as well as commercially active and culturally contributing qualities. Squares are free public spaces that can be used by all members of society from any social class, located in the heart of the city, and people are like the mainstream make it becomes alive. Among these, squares are essential public spaces dating back thousands of years. Many people have passed the city squares many times in their daily lives, sometimes stopped, and sometimes met with their friends there. Nowadays, people prefer to go home and rest after a day

at work because of the traffic density, crowding in the city, auditory and noise pollution. To study the square in terms of comfort is one of the most important criteria in evaluating the quality of the area. Examining the comfort features such as having a sitting and resting area in the square, staying away from noise pollution, and also considering aesthetically pleasing will help to obtain an area with appropriate criteria. In this study, it has been tried to examine the comfort features of Beylikdüzü Özgürlük Square and to offer suggestions for the improvement of this area.

2. Material and Methods

Beylikdüzü Özgürlük Square is one of the squares with high potential of social gathering and interactions. Connecting to the E5 highway with proximity to the Beylikdüzü Municipality building, and Beylicium and Marmara Park Shopping Centers, common hot spots for get togethers, are some of the reasons that makes this square noticeable. In recent years, this area has been evaluated by city planners and architects with the increase of migration to this region and population density growth in Beylikdüzü and Esenyurt areas.

2.1. Method

In this study, the characteristics of comfort in the region were investigated by various methods such as observation, on-site diagnosis, and questionnaire. In the first stage, photographs of various elements were taken



and studied. This study was conducted in November 2019. In the second stage, the data obtained through the questionnaire were analyzed. The purpose of this study in Beylikdüzü Özgürlük Square is to determine whether this area is efficient in terms of comfortability. In the design of this area, it has been achieved in terms of comfort and user satisfaction and how it can be evaluated. The survey is taken from regular pedestrians who are familiar with the square location and neighbourhood. Data collected and tabulated from the questionnaire forms and analyzed by SPSS.

2.2. Study Area

Beylikdüzü is located on the southern border of the European side of Istanbul and is adjacent to Büyükçekmece, Esenyurt, Avcılar districts and the Marmara Sea (Figure 1 and 2). The district takes its name Beylikdüzü from the historical and geographical features of the region (Erdönmez and Ataol, 2016). Beylikdüzü seems to become a desirable neighborhood for immigrants and has been growing in recent years. Especially, after the Marmara earthquake in 1999, the residents of Istanbul left their old buildings and moved to Beylikdüzü which accelerated population growth of the area. With the arrival of the metrobus, the second wave of immigration emerged.

There is a serious confusion about names, districts, and district borders regarding the Beylikdüzü region. Before the Beylikdüzü district was defined in 2009, the name "Beylikdüzü" was considered as a district that represented the entire plain in this region. In 2009, E-5 (The E5 highway is a section of the international D100 highway in the European side of Istanbul that starts from Buyukçekmece district) was accepted as one of the boundaries, and the part of this plain to the north of E-5 was connected to Esenyurt district and the part to the south was connected to Beylikdüzü district. As such, "Beylikdüzü" has now become the name of a new district, but it could not cover the entire region that was formerly called Beylikdüzü. Some parts of the area known as Beylikdüzü remained within Esenyurt and Büyükçekmece districts (URL 1).

Development of Beylikdüzü Özgürlük Square and Its Vicinity: The region, which includes Esenyurt and Beylikdüzü districts today, has been an area where Ottoman noblemen and Pashas were hunting and their hunting mansions were located. The present-day Beylikdüzü district was established in 2008 in the region divided by the E - 5 highway. The district has a beneficial location in terms of proximity to the E-5 highway and also very close to Marmara Sea. Housing settlements make up the majority of the region. Residents who lost their places after the 1999 Marmara Earthquake moved to this neighborhood. The new Zincirlikuyu-Beylikdüzü Metrobus line attracted more people to this area, therefore the second wave of population growth has taken place (Wikipedia, 2021). In general, there are public areas in the district that are spread throughout the settlement and reserved for the use of users of all ages

and where necessary arrangements are made. Figure 3 shows that the main and secondary access roads to Beylikdüzü in 1970 are the same as today.



Figure 1. Beylikdüzü, Istanbul (Source: Openstreetmap).



Figure 2. Beylikdüzü, Özgürlük Square (Source: Openstreetmap).

In 1970, the main route of the BRT line (today) was one of the main transport routes. Currently, this route is the metrobus transit line, which is the main line of Istanbul's east-west bus transit. Figure 4 presents green area next to square, Beylikdüzü Park, and the previous use of the park. Due to the high movement volume of the people in this region, and also after the completion of the Belikdüzü Municipality station construction, Beylikdüzü Özgürlük Square was built in 2012.

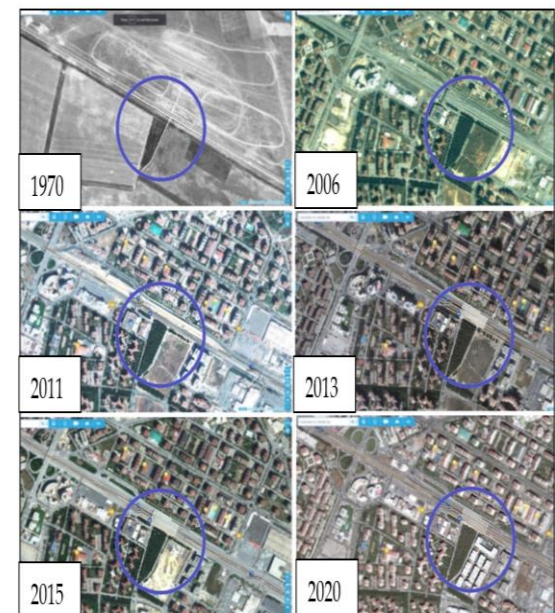


Figure 3. Beylikdüzü Özgürlük Square development (Source: Openstreetmap).



Figure 4. Beylikdüzü Özgürlük Square (Source: Google Earth).

Today, the existence of public transportation facilities, especially the metrobus line reaching Beylikdüzü, has made the district even more attractive. As of 2019, Beylikdüzü is the 3rd district in Istanbul after Esenyurt and Sancaktepe districts that receives the most immigrants (Beylikdüzü Kent Belleği, 2019). Beylikdüzü Özgürlük Square is located in the west of Istanbul, on the east-west line of E5. In 2011, there was only one pedestrian bridge at the current site on the E5 that connects the two sides of the motorway. After the construction of the square, Beylikdüzü Municipality metrobus station, which took its name because of its proximity to the Beylikdüzü municipality, was connected to the square with a ramp. Due to the debates over the division of Beylikdüzü and Esenyurt in recent years, the E5 highway divided these two areas into Esenyurt and Beylikdüzü and separated the region in these two areas which is depicted on the city maps.

3. Comfortability Concept in Public Spaces

In order to design squares in the cities, any information and knowledge about the city, its history, and the residents should be taken into account. Project for Public Space is a non-governmental organization founded in 1975, supported by academics and experts. All their activities and projects are published online at their website (URL 2). Considering: "What makes some places successful while others fail?" (Figure 5), Project for Public Space focuses on many public spaces around the world. Some answers to the question were sought by the organization and a diagram was created in this matter. It has been argued that a successful public space must contain four main elements. These elements are accessibility (Access and Linkages), people engaging in activities at these spaces (use and activities), comfortable and good image of the space (comfort and image), and finally sociability (URL 2).

While creating comfortable environments in the urban area; it is important to adopt design principles that (1) contain human scale and visually appealing elements, (2) are safe, easy to access, have human interactions, and being able to move freely, (3) contain appropriate design inputs for each type of user and thus support social diversity (Carmona, 2010). Gehl (2004) developed a pedestrian-centered approach to quality analysis of public spaces. He stated that the quality of public spaces

can only be seen with the eyes of a pedestrian walking at a speed of 5 kilometers per hour. It also defined the features that should be in a good city. The quality parameters used in this approach are shown in the figure 6.

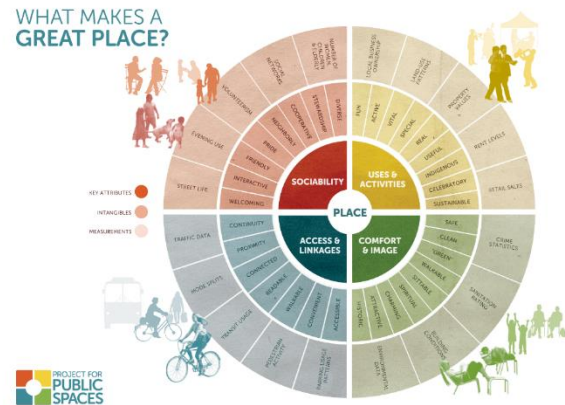


Figure 5. Qualifications required in a successful public space according to PPS (URL 2).

DESIGNING / DETAILING THE PUBLIC SPACES A KEY WORD LIST

P R O T E C T I O N	1. Protection against Traffic & Accidents	2. Protection against crime & violence (safety)	3. Protection against unpleasant climatic extremes
	<ul style="list-style-type: none"> - traffic accidents - fear of traffic - other accidents 	<ul style="list-style-type: none"> - lived in / used - streetlife - streetwatchers - overlapping functions - in space & time 	<ul style="list-style-type: none"> - wind / draft - rain / snow - cold / heat - sun / glare
	C O M F O R T	4. Possibilities for WALKING	5. Possibilities for STANDING / STAYING
<ul style="list-style-type: none"> - room for walking comfortably - un-tedious layout of streets - interesting facades - good surfaces - no obstacles - good accessibility to key points 		<ul style="list-style-type: none"> - staying zones - "Edge effect" - defined spots for staying - supports for staying 	<ul style="list-style-type: none"> - zones for sitting - maximized advantages - primary sitting positions - secondary sitting poss. - benches for resting
7. Possibilities to SEE		8. Possibilities for HEARING / TALKING	9. Possibilities for PLAY / UNFOLDING / ACTIVITIES
<ul style="list-style-type: none"> - seeing-distances - unhindered views - interesting views - lighting (when dark) 	<ul style="list-style-type: none"> - low noise level - bench arrangements - "talkscapes" 	<ul style="list-style-type: none"> - invitation to physical activities, play & entertainment - day & night and summer & winter 	
E N J O Y M E N T	10. Scale	11. Possibilities for enjoying positive aspects of climate	12. Aesthetic quality / positive sense-experiences
	<ul style="list-style-type: none"> - dimensioning of buildings & spaces in observance of the important human dimensions related to senses, movements, size & behaviour 	<ul style="list-style-type: none"> - sun / shade - warmth / coolness - breeze / ventilation 	<ul style="list-style-type: none"> - good design & good detailing - views / vistas - trees, plants, water

Figure 6. Quality parameters that should be in urban spaces according to Gehl (2002).

Gehl (1996, 2001, 2002, and 2004) presented an approach to the quality of public spaces and physical environment, depending on the activities in public spaces other than the pedestrian-centered approach. Three different activities carried out by Gehl (1996, 2001, 2002, and 2004) in public space were given. Necessary activities, Optional activities, and Social activities. Optional and social activities are important for the quality of the city. It has developed a pedestrian-centered approach to quality analysis of public spaces. The quality

parameters used in this approach are; Protection, Comfort and Three pieces of pleasure. A square should offer opportunities that can provide comfort for the people who walk through it. A bench or waste bin in the right place makes a big difference in how people choose to use this place. Lighting could improve certain activities while gates or pathways could also enhance the personality of a square. Folk art can act as a magnet for children of all ages to come together and enjoy the environment. No matter it is permanent or temporary, good opportunities will create a joyful environment for social interaction (İnceoğlu, 2007).

Many researchers and institutions (URL 2) have tried to put forward principles of successful urban space creation. Some of the ideas and principles for the success and quality of the squares are as follows: According to PPS20 (URL 2), there are ten principles for creating successful and high quality city squares including Image and Identity, Attractions and Destinations, Amenities, Flexible Design, Seasonal Strategy, Good Entry (Access), The Inner Square and The Outer Square, reaching out Like an Octopus, The Central Role of Management, Supported by Various Capital Resources (Diverse Funding Sources). The approach to quality in an urban space was established in 1999 by the leadership of the New Zealand Government and the Ministry of Environment under the name of the Urban Amenity Project. "A small design guide for the Ministry of Environment to create successful places for living, working and recreation" (Ministry for the Environment's shorter guide, creating great places to live, work, play) This project has been developed and carried out since the early 2000s with the regional agreements signed in 1991. Urban qualities are defined with the concept of "livability" in a city under the title of Comfort (Convenience). What are "amenities" in the work done? They have developed various definitions and approaches in response to the question; (amenities: defined as all the features that make a place comfortable and beautiful.)

Comfort consists of: 1) Comfort attributes - tangible and measurable issues such as physical sound measurements; 2) Comfort values - less tangible issues such as people's perception of sound, culture, perception, expectation, desire and tolerance. Landscape elements are roads, avenues, streets and squares in private or public areas and used for recreational purposes. In addition to providing comfort, these elements support and strengthen many basic activities such as sitting, protection, shelter, siege, counseling, transportation, description, lighting, communication, games and sports. Landscape elements make social life easier and gain the appreciation of the users, so these elements are also defined as urban equipment (Başal et al., 1997; Şişman and Yetim, 2004).

4. Reviewing and Analyzing Comfort in Beylikdüzü Özgürlük Square

Beylikdüzü Özgürlük Square is a busy area during the day due to the connection to the metrobus station. Residents of Beylikdüzü and Esenyurt mostly come to this station to use public transportation. This square is about 67 meters wide and 137 meters long. The typology of this square is rectangular. This area is congested as it is connected to the BRT station. The space of the square is surrounded by a large and spacious rectangle that creates a negative atmosphere in the environment. Due to the absence of a special sign called the square, the identity of the square is better known as the passage. In this study, the elements that are indicators of the comfort of the square, such as: Possibilities for walking, standing or spending time, sitting, enjoying the scenery, chatting opportunities, playgrounds, and sport activities were examined with the questionnaire and observation method. The people views who regularly come to this square on seating elements, lighting, walking pathways have collected through a survey and studied.

One of the reasons why this square is chosen to study is because it is connected to one of the main urban transportation roads. The region has seen an increase in immigration in recent years due to construction works growth. The questionnaire about comfortability of this square was collected from a total of 71 people who come in this square for different purposes at different times. The questionnaire was given as a five-point Likert, as 1- Absolutely Disagree, 2-Disagree, 3- Neither agree nor disagree, 4-Agree, 5-Absolutely Agree. 49.3% of the participants are in the 18-34 age group, 43.7% in between 35-45, and only 7% are between 55-64 years old. 43.7% of the participants have university degree, 31% studied up to high school, 15.5% have graduate degree, 7% doctorate, and only 2% has elementary education (Table 1).

Table 1: Demographic table

Gender	Age	Percentage
Men	18-34	16.9
	35-54	18.3
	55-64	2.8
Women	18-34	32.3
	35-54	25.35
	55-64	4.2

Evaluation of the present facilities for comfort: As well as meeting the aesthetic and functional needs of the pedestrians, the equipment elements are also functionally important. The equipment elements that facilitate and enhance the space to attract more pedestrians and allow interaction and communication between them are the elements that add a meaning to the space, complement and define it (Karayılmazlar, 2017). Considering this framework, it is seen that many criteria should be taken into consideration in the selection of equipment elements (Kántor and Unger, 2010).

4.1. Amenities for Sitting

One of the comfortability factors examined in the square is the sitting elements that gives the square a public space identity. Seating elements must be in accordance with the standards and made of suitable materials. It should be utilizable the entire year long. These benches should face towards pleasant views so that it would not be boring for people seating on them. Considering the population using this area, the number of rows of seats should be sufficient. The pavement of the seating areas should be different from what regular roads paved from. It is better not to design any level difference between seating areas and the rest of the square. Benches and other seating elements should be located at maximum 60 meters apart from each other considering the shade and sunny areas (Özdingiş, 2007).

All pedestrians with or without disabilities should be able to use the square comfortably, with easy access to the seating elements where they can rest. The materials of these elements should be selected in types that will not degrade by outdoor use or climatic conditions (Bulut et al., 2008).

Regarding the seating elements (Figure 7) in the square, the number of available seating amenities were questioned, whether there is enough chair or bench in the square. It was noticed that the disproportionate distribution and insufficiency of the seating rows negatively affected the comfortability of the square. 45.1% of the participants said I do not agree, 23.9% agree, 16.9% neither agree nor disagree, 8.5% strongly disagree, 5.6% strongly agree. Although there are plenty of seating elements in the square, most of the respondents disagree that is enough.



Figure 7. Beylikdüzü Özgürlük Square seating elements (Photo: Author).

When it comes to square comfort, it is essential to have enough space for pedestrians to get together and chat. For this reason, the participants were asked whether there was enough space to get together and have a conversation. The question is: "Talking places are enough in this square." The results indicate 32.4% of the participants disagree, 29.6% agree, 28.2% neither agree nor disagree, 7% strongly disagree, 2.8% strongly agree. According to these outcome participants agree that there are no seating benches. The maximum percentage is related to the absence of a seat. Based on the responses provided, pedestrians believe that there is not enough space to sit and chat in Beylikdüzü Özgürlük Square.

4.2. Lighting Elements

Lighting elements are very important for spaces like squares. The use of open spaces that are not adequately illuminated is decreasing and it is observed that the crime rate is higher in areas with lack of lighting. From this point of view, the importance of lighting elements in terms of creating security emerges (Karayılmazlar, 2017). Besides creating pleasant environment, lighting elements also play an important role in the safety of the square at night. Lighting is also important to find the way during the night and helps pedestrians to make sure which way they should take to get to their destinations. Proper lighting in both seating area and access roads in the square affects directly on nighttime availability of the square. Proper lighting will expand the usable area and add more space to the square besides increasing the security level of the area. The lighting elements quantity in Özgürlük Square was asked in this survey (Figure 8). "The lighting of this square is sufficient." 45.1% of the participants agree, 25.4% neither agree nor disagree, 15.5% disagree, 9.9% strongly agree and 4.2% strongly disagree.



Figure 8. Lighting elements of Beylikdüzü Özgürlük Square (Photo: Author).

4.3. Accessibility

Accessibility is the ability to access and benefit from the public space. This concept is focused on people with disabilities or special needs and their right to access. This concept might not make the whole environment accessible, but it converts or adds some special areas for disabled to benefit social life. Nowadays many public and private buildings and spaces like education centers, hospitals, and transportation lines are equipped and designed to be accessible for disabled individuals (Albrecht, 2006).

In this study area (Figure 9), the metrobus station is connected to the square with a ramp and the only access to the square is suitable for disabled people. Access from the streets around this square is directly possible at the same level. In the west area, there is a parking lot accessible by a ramp. Pedestrian access is available from four directions without level difference. Results from questionnaire regarding this element are presented. The related question asked was: "Is this square disabled friendly? (easy to access for visually impaired, hearing impaired, and wheelchair users)". The outcome is as follows: 47.9% agree, 28.2% neither agree nor disagree, 15.5% disagree, 5.6% strongly agree, 2.8% strongly disagree. Therefore, almost half of the respondents believe that this square is disabled friendly.

This outcome is biased as there was no disabled individual among the people who were questioned. As observed, there are no special tracks for visually impaired people such as tactile walkways, and no alerts for hearing impaired. The streets around could be very dangerous for disabled people and this is one of the main absent elements that should be considered.



Figure 9. Beylikdüzü Özgürlük Square accessibility (Photo: Author).

To make the square disabled friendly, accessibility comes first. The concept of accessibility often focuses on individuals in need and their right to access. With that being said, all the facilities including services and amenities should be available and accessible for all the pedestrians regardless of disability type or severity of impairment (Sungur and Yıldız, 2013). The convenient access to the square on foot is asked from the participants. 60.6% of the participants agree, 18.3% strongly agree, 12.7% neither agree nor disagree, 4.2% disagree and 4.2% strongly disagree. It is clear that most of the respondents in this survey agree that this area is easily accessible on foot. E5 Highway is one of the major public transportation routes in Istanbul. Beylikdüzü Özgürlük Square is connected to the metrobus line. As the square location is close to this station, it makes the public transport easy to get to. There are also other bus and shuttle stations around the square to transport passengers from nearby neighborhood to this main station. There are also other transportation modes like taxi and private drivers that transport people from/to the square. For this purpose, the participants were asked to evaluate access by public transport in the survey. The question was: "It is easy to reach this square by all kinds of vehicles and public transport." 59.2% of the participants agree with that, 19.7% strongly agree, 15.5% disagree, 2.8% neither agree nor disagree and 2.8% strongly disagree. Based on the results presented, it can be concluded that most of the respondents in this survey rated access by public transport easy.

4.4. Outdoor activities and amusement possibilities

Outdoor and social activities are important for the quality of the city. Cities with low life standards have less to offer in order to please and entertain the inhabitants. Considering our lives in this era that is bounded with stress, anxiety, and many other pressures we face in our daily lives, a city should offer exceptional recreational outdoor activities to maintain its residents in a good mental health state. However, these activities can only be done if the conditions allow, for example, if the city has

attractive and high quality venues. An agreeable city is like a lively party. People stay longer because they are having a good time (İnceoğlu, 2007). Squares are among the public spaces where many social activities take place. Celebrations, festivities, and remembrance events are held in squares of the cities around the world. In a square where the audience feels comfortable, children can play freely with their parents and friends, and social interaction occurs between those in the square (Figure 10). Group exercises in some squares will make the residents feel more belonging to their communities. Suitability of the square in order to have social activities like group exercise or festivals has been asked from the participants in this question: "This square is suitable for social activities." The responses of the participants are as follows: 50.7% agree, 25.4% strongly agree, 14.1% neither agree nor disagree, 9.9% disagree. More than half of agreed that this square is a decent place for social activities to take place. Teenagers usually come to this square for skate boarding as well. It is often used for training ground by many skaters as there are minimum bumps and obstacles around the area which is very desirable for such activities. Following the same topic, the participants were asked if they agree on: "This square is suitable for play and entertainment." 47.9% agree, 26.8% neither agree nor disagree, 12.7% disagree, 7% strongly agree, 5.6% strongly disagree. Participants also evaluated the area on the following topic: "This square is suitable for sports activities." 46.5% agree, 18.3% neither agree nor disagree, 18.3% disagree, 9.9% strongly agree and 7% strongly disagree. In general, the results obtained on whether the area is suitable for social activities, games, entertainment and sports, it was seen that most of the participants in the survey have a positive view of the square. The existence of a space that can be a place for social activities creates a sense of satisfaction and comfort for the residents and pedestrians of the neighborhood. After a long day at work people prefer to go back to their places and relax. Having a comfortable and convenient public space can encourage them to participate in social activities. Holding various events such as religious celebrations, seasonal festivals, cultural activities such as concerts make Özgürlük Square an interesting place to spend weekends or evenings all year long.



Figure 10. Beylikdüzü Özgürlük square social activities (Photo: foursquare.com).

4.5. Relaxing Possibilities

"Urban spaces should be responsive, democratic, and meaningful- Carr, Rivlin, Stone, Francis (1992). Spaces that respond to needs are places that can serve the needs

of users and are designed in this way. The top priority needs are public space comfort, rest, active / passive participation, exploration and humanitarian needs. From history, the squares have been the meeting place of the city's people or visitors, where they break away from the chaos of the city, find the opportunity to relax and rest, people meet up with one another and share the ongoing events happening in the city. Today, with the development of technology and communication, cities main squares are occupied by vehicles with heavy traffic. They somehow lost their main purpose among all the chaotic activities new cities and their residents brought in recent decades. In this respect, urban squares should be a place for social activities and should be able to offer a safe and relaxing environment. To get people's opinion in this matter, participants were asked on how they feel about the resting and relaxing factors in the square. The statement was as follow: "This square is a comfortable place to rest and relax." 52.1% of the participants agree, 21.1% neither agree nor disagree, 12.7% disagree, 7% strongly agree and 7% strongly disagree. More than half agree that this square is a place to sit and relax (Figure 11).

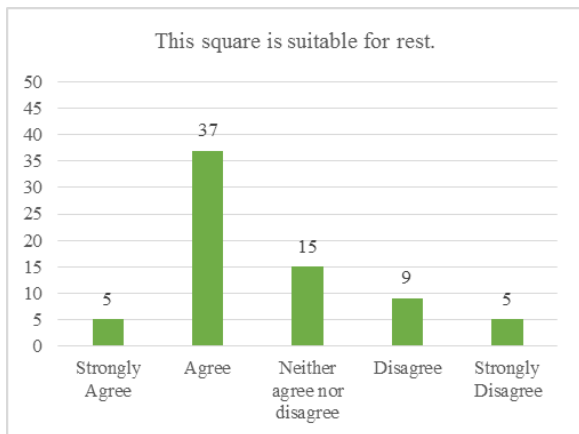


Figure 11. Assessment of the square in terms of possibilities for relaxing.

4.6. Low Noise Level

Nowadays, due to the increase of vehicles and heavy traffic in cities, many citizens complain about disturbing noises in public places. People prefer a public place to enjoy the quietness away from hectic environment a busy city can bring to them. This issue was brought up in the survey as follows: "This square is a quiet place." According to the answers, the following results were obtained: 38% disagree, 23.9% strongly disagree, 19.7% neither agree nor disagree, 16.9% agree and 1.4% strongly agree. Regarding the following topic, the results were answered by the participants as follows: "This square is very noisy." 43.3% agree, 21.1% neither agree nor disagree, 16.9% strongly agree, 14.1% disagree, and 5.6% strongly disagree. This shows that most participants find the square a noisy place. Regarding the proximity of this square to the main transit lines and roads, this result has been expected. In addition, the

passage of motorcycles and the presence of vehicles in the square are among the factors that cause noise pollution in the square (Figure 12).

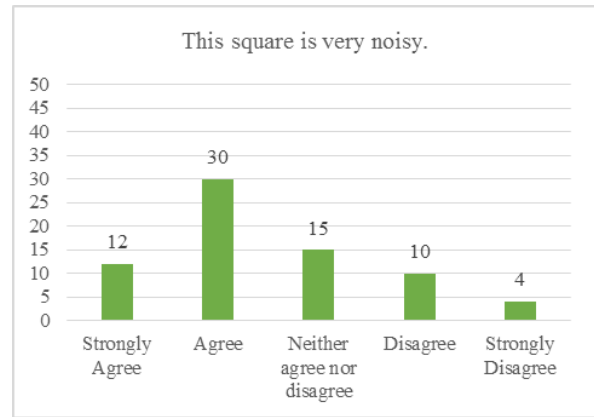


Figure 12. Assessment of the square in terms of noise.

Another expression was presented as follow: "What kind of noise disturbs you in this square: A) Vehicles (such as motor, bus, etc.), B) Skateboarders, C) Young people, D) Animals (such as dogs, cats, and pigeons). 76.1% said noises created by vehicles (such as motor, bus, etc.), 16.9% said none of the above, 4.2% said noises made by youth, 2.8% said skateboarders. As the results show, the presence of vehicles has increased the noise in this area. It is possible to block the paths where the motorcycles and private cars illegally enter to this area by some blockage or barriers in order to reduce the noise pollution of the square.

4.7. Pleasant views Possibilities

Eye catching views are another important feature a public place should have to attract the pedestrians (Figure 13). Eyesores have undesirable effects in cities. Dilapidated buildings, graffiti, litter, polluted areas, and excessive commercial signage such as billboards are some of the common examples that could exist around the square. Citizens like to be surrounded by aesthetically pleasing elements like trees, rivers, and mountains while enjoying a public place. Planting trees, constructing water fountains, and other aesthetic features will enhance the views and attracts more people to the area. In this regard, we examined the Beylikdüzü Özgürlük Square and asked the participants the following question: "There are beautiful views in this square." Results show that 31% of the participants Agree, 28.2% Disagree, 23.9% neither Agree, Neither Disagree, 9.9% strongly disagree, 7% Strongly Agree. This result was predictable as the only green space present in the square is the park and the rest is surrounded by E5 highway and the residential buildings.

4.8. Possibilities for walking

The walkways on the north side of the square are one of the encouraging reasons people prefer to take a stroll in this square (Figure 14). The south side of the square is also one of the attractions for walking because of the Beylikdüzü Park. The direct relationship between the

presence of pleasant views in the square and people choosing this square to walk around is proved by analyzing the data on SPSS. Participants responded as follows: "This Square is suitable for have a stroll." 49.3% Agree, 21.1% Undecided, 14.1% Disagree, 12.7% Strongly Agree, 2.8% Strongly Disagree.



Figure 13. Beylikdüzü Özgürlük Square interesting views, south side (Photo: Author)



Figure 14. Walking paths in the square

5. Results and Discussion

Squares are one of the most important urban areas where social interactions take place. If the squares have comfort standards, it will allow people to spend more time there. For this reason, the Beylikdüzü Özgürlük square of Beylikdüzü has been evaluated for this purpose by examining the comfortability parameters. Beylikdüzü Özgürlük Square is known as one of the active and busy squares in western Istanbul due to its location on the E5 highway.

Beylikdüzü Özgürlük square is studied in this paper and the questionnaire outcome is presented. Some suggestions made to improve the comfortability of this square considering the responses of the participants.

The following suggestions and recommendations are based on the results of the questionnaire.

To improve the social activities of the square:

- Adding more sitting facilities for pedestrians to talk and meet;
- Effectively distributing the seating facilities in order to have an easy access from every corner of the square;

Therefore, paying attention to the number and position of the seating elements can create more opportunities for people to walk in and socialize.

To enhance the visual aesthetics elements of the square:

- Adding protective elements to the seats considering the weather conditions in Istanbul, which could degrade these amenities;
- Applying creative patterns to the pavement, designing chairs with color variations, and building bandshells;

- Enhancing the landscape with sculptures, water foundations, and other artistic elements.

Other recommendations;

- Even though the square is well lit, it is recommended that more streetlights be installed so that citizens will feel safer at night. The square has lighting around it, but it becomes darker as you approach its center.
- As the street is filled with motorcycles and cars, creating an unpleasantly noisy atmosphere, it is recommended that arrangements be made to keep these vehicles out of the square. As vehicles can access the surrounding streets, preventing their entry to the square can reduce noise.

Most of the participants found this area suitable for play, sports activities, and spending time. Beylikdüzü Municipality organizes various social activities in this square to attract more people and increase the livelihood of the district. This feature can be considered as one of the positive points of the square due to the proximity of the square to the main road of Istanbul's east-west highway and easy access to public transit.

From the perspective of the participants, Beylikdüzü Özgürlük Square has a high level of comfort features and there is also room to improve. By examining what is lacking regards to comfortability in the square and taking necessary actions, it can be turned into a good public space for the residents in this neighborhood. This square owns sufficient space to add more comfortability features and is a place to invest because of the high potential due to access to public transport and a populated district.

Author Contributions

All the authors declare that they have all participated in the design, execution, and analysis of the paper, and that they have approved the final version.

Conflict of Interest

The authors declare that there is no conflict of interest.

Ethical Approval

A retrospective ethics permit is not required for the articles, which were produced from used master/doctorate or research studies before 2020.

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