User Perception on the Physical Quality of Sakarya Park in Famagusta

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ABSTRACT

Public open spaces have a considerable role cities and people's daily life. They provide such platforms that give social opportunities for getting distance from the daily city's conflicts. Designing public open space play significant role in rising the quality of life. There is a lack of well-designed parks in Famagusta, at the same time there are many problems in the existing parks. This research is concerned with evaluating and investigating on parks as public open spaces in Famagusta. Directing to construct public open space according to physical, functional and social aspects and stepping forward toward the other aspect that is the perception. This research utilize a case study and use a variety of different qualitative and quantitative techniques. These techniques included: theoretical framework, map analyzing, observation, site survey, interviews, and questionnaire. The theoretical framework assists to achieve the aim of this study by defined the main definition and the physical, functional, social, perceptual characteristics and the successful public open space based on the characteristics. The research evaluates all the public park in Famagusta by measuring the number five minute walk according to check list after that all the previous mention characteristics are studied in Sakarya Park. The findings of the evaluation illustrate that Famagusta should provide enough number of good quality public open space (park) which meet residents' needs of the parks in the city, moreover recommendation on physical, social, functional, and perception characteristics of Sakarya park.

Key words: Public open space, park, Sakarya Park, Famagusta

ÖZ

Kamusal açık alanlar şehirlerin ve insanların hayatlarında önemli bir rol oynamaktadır. Bu alanlar insanlara günlük çatışmalardan uzaklaşma ve sosyalleşme olanağı sağlamaktadır. Kamusal açık alanları tasarlamak günlük hayatın kalitesini artırmayı hedeflemektedir. Şu an Mağusa'da iyi tasarlanmış Kamusal açık park alanları olmamakla birlikte, var olanlardada sorunlar mevcuttur. Bu araştırma Mağusa'daki Kamusal açık park alanlarının değerlendirilmesi ve araştırılması için yapılmıştır. Kamusal açık alanları geliştirmek fiziksel, işlevsel ve sosyal açıdan algı yaratmayı hedef almaktadır. Bu araştırmada örnek bir saha çalışması, farklı betimsel ve istatistiksel yöntemlerle incelenmiştir. Bu yöntemler; teori çerçevesinde harita analizi, gözlem, alan araştırması, görüşmeler ve anket çalışmasından oluşmaktadır. Teori çerçevesinde amaç temel açıklamayı yapıp; fiziksel, işlevsel, sosyal, algısal özellikler ve başarılı kamusal alanları tanımlamaktır. Araştırmada, Mağusa'daki tüm Kamusal açık park alanları tek tek beş dakika yürünerek, hedef liste üzerinden değerlendirilmiştir. Bunun ardından da Sakarya Park uygulama alanı olarak seçilmiştir. Araştırma sonuçları; Mağusa bölgesinde var olan Kamusal açık alanların yetersiz olduğunu ve daha çok alanın geliştirilmesi gerektiğini ortaya koymaktadır. Buna ek olarak, Sakarya Parkının Alanının fiziksel, sosyal ve işlevsel açıdan özellikleri amaca yönelik geliştirilmesi için de örnek olarak çalışılmıştır.

Anahtar Kelimeler: kamusal açık alanlar, Parkı, Sakarya Parkı, Magusa

بسم الله الرحمن الرحيم

In The Name of Allah, The Most Beneficent, The Most Merciful

To those who form my deepest sense of place,
their warmth has sculpted my perception of the world.

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INTRODUCTION

Public space has been hugely recognized for its importance on different perspective. The importance of public spaces includes; the enhancement of life quality by providing comfortable public environment and vibrant social life, the improvement of the city image, and therefore the attracting of economic development projects. Cybriwsky (1999) stresses that the symbolic image of the city can be constructed out of the dominant public spaces. While, The Athens Charter (1973) pointed out the importance of public spaces in constructing a pleasant city that inhabitants dwell, work, and relax within.

Anything happens in the space takes the two forms of perceptual and structural. The structural aspect is essential and abstracted from the cultural and social dimensions of space. On the other hand, the perceptual aspect is recognized as very complicated and intertwined with the cultural relations. While constructing public open spaces, the design usually should aim to the second perceptual aspect (Dibaj & Soltanzadeh, 1988). Accordingly, in the design certain meanings and messages are embedded by the designer. This, however, ensures the importance of the perceptual aspect in constructing the experience of public space users.

Likewise, perceptual activity plays a vital role in our lives. First, it is a primary source of contact with the world - all its sights, sounds and smells, simple and subtle

meanings, and preferences and values. Second, it orients us in our surroundings, provides us with information, and is the basis for structuring our image of the environment (Ittelson, 1974).

1.1 Problem Statement

Public open space is one of the fundamental components of city structure. It offers free access for different groups and individuals to do their activities in it. As a human being, the need of socializing is one of the main factors to create public open spaces in during the stages of history. For this reason, public open spaces are the outcome of a combination between architecture, urban design, and planning in one way and the social standard from another way. The architectural and urban design processes generate the unique environment of public open spaces through complex political, social, and technical relations with the contribution of the citizen.

The current trend in our world is to provide communities with more high quality public open spaces. Thereby planners, designers, and architects can improve interaction between people and their urban environments. Public open spaces can cause different perceptions for users according to their social and cultural backgrounds. There are many types of public open spaces in the city such as streets, squares, and parks. This study will focus on parks as a type of public open space and Famagusta, Northern Cyprus, is the study area. Famagusta is an important city in Northern Cyprus. The main activities in the city are tourism, education, and construction. The growth of the city has been affected by the existence of Eastern Mediterranean University. This fast growth, without an established master plan, has caused problems for public open spaces in the city. There is a lack of well-designed parks in Famagusta, at the same time there are many problems in the existing parks such as their size, shape and

furniture. Varying sizes do not correlate to the size of the neighborhood. Park shape and size mostly follow the leftover land and follow the existing street. It means there is no designed public park on the master plan but its generate to follow the city growth. Also, parks are poorly furnished; many parks have a lack of sitting elements, proper lighting, waste bins, and what furniture exists is of low quality. Likewise, the materials of public open spaces have a low-quality that affect appearance and users safety. However, despite these weaknesses, many people are using the parks because it is important to them.

1.2 Limitation

Public open spaces in Famagusta have been a concern to researchers for some time. This concern started to develop after establishing the university which was a great chance to develop a deeper understanding of the concept of public open spaces and their qualities.

People in Famagusta, as observed by the author commonly are using public open spaces, such as squares, streets and parks. In the context of this research, the public open space focus is on parks. The author believes that the quality of the parks in Famagusta should be improved in a way to be able to accommodate the users and offer them an opportunity to engage in various activities, relax and enjoy nature.

1.3 Research Aim, Objectives, and Question

The aim of this study is to evaluate the quality of public open spaces in Famagusta, North Cyprus, focusing on the physical qualities of Sakarya Park as a case study. As well, it analyzes the effect of the physical quality of the public open space on users' perceptions and sense of place.

Based on the main aim of the study, six objectives were identified:

- To understand the main characteristics of public open spaces.
- To discuss the successfulness of public open spaces.
- To understand the perceptions of users in public open spaces.
- To understand the sense of place associated with public open spaces.
- To contribute to awareness of the value of public open spaces in Famagusta.
- To study the physical, social and functional qualities of the chosen case: Sakarya Park.

Accordingly, the research question was set:

- How do the physical qualities of public open spaces affect the users' perceptions and their sense of place?

1.4 Research Methodology

This study examines user perception of public open spaces in particular the park. Therefore, a case study approach is used along with quantitative and qualitative methods. The thesis begins with a critical literature review of the related studies. The subjects of perception and public open space in general and parks in particular are the key themes of the literature review leading to the introduction of assumptions and best practices. The findings from the literature review contribute to examining the case study.

The second phase of this study, analyzes the case: Sakarya Park in Famagusta. The case was analyzed by examining the perception of the user criteria. As a part of the research methodology, observation will be a major method of data collection, which present both qualitative and quantitative results. The quantitative part involves counting the people and notes the geographical location of users, whereas the

qualitative aspect will cover the public perception of the space as inferred by usage. In addition, observation includes gathering impressions of the environment, particularly looking and listening in a systematic and purposeful way to learn about a phenomenon of interest in the selected area. Moreover, a questionnaire survey was developed according to the literature and field observations aim to test users' satisfaction of the physical quality in the studied park.

1.5 Thesis Structure

The thesis consists of five chapters that represent the various means of data collection, methodology, and analysis to achieve the goals of the research.

The first chapter introduces the subject and a general overview of the thesis. Principally, it includes information about the contents of the thesis, where the case study is, and details of the problems statement. Subsequently, the aim of the study is clarified along with the objectives and research question. Finally, chapter one describes the methods used to achieve the objectives and answer the question.

The second chapter is a review of public open spaces which contains three sections. It starts by illustrating the definitions, typologies of public open spaces from different scholarly points of view, and the importance of public open spaces. The second section explores and evaluates the characteristics of public open space. Physical, functional, social, and perceptional characteristics are discussed. After that, the last part shows the successful public space according to the definitions and characteristics.

The third chapter review the park as public open space. At first, it reviews and discusses the definition and importance of park, then it provides an overview of park purposes, and then the last part focuses on approaches of park types and characteristics.

The fourth chapter introduces the case study of the thesis starting with the methodology of analysis and information about data collection techniques like observation, surveying, and questionnaire along with the tools of sketches, photographs, and maps. Following this introduction, the analyses of the public open spaces in Famagusta. Following the physical, social, functional and perception characteristics analysis, It ends with the summary of the chapter.

The last chapter presents an overview of the whole study, the results of study according to analysis, and recommendations to improve the current situation of public open spaces in Famagusta.

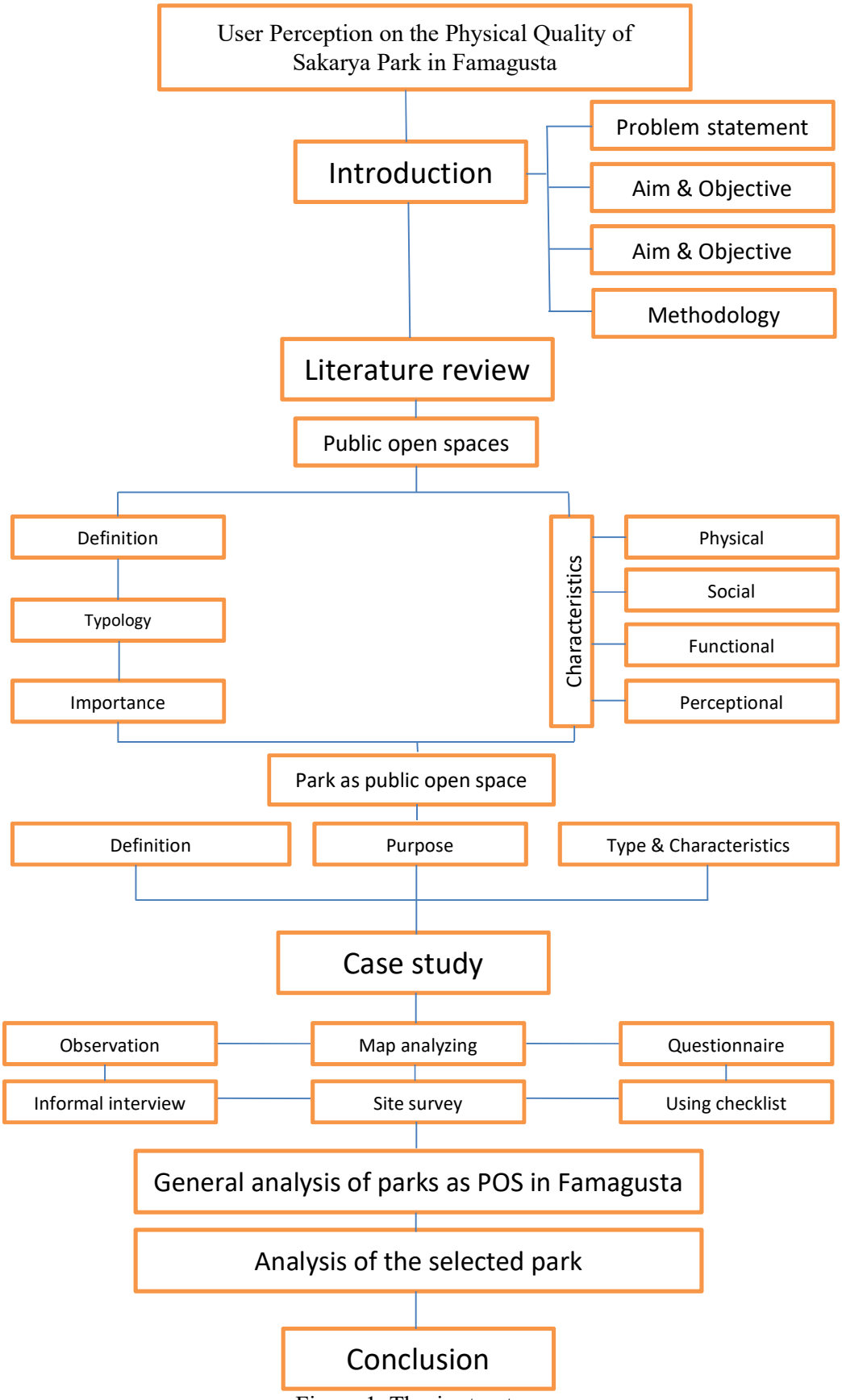

Figure 1. Thesis structure

Chapter 2

A REVIEW ON PUBLIC OPEN SPACES

Public open spaces have a considerable role cities and people's daily life. They provide such platforms that give social opportunities for getting distance from the daily city's conflicts. In these places people can have enjoyable activities every day, they can celebrate events, amuse themselves, or people can sit and relax there (Carr et al., 1992). Various kinds of public open spaces such as streets, squares, and parks are existing in cities.

Concept of public open space is reviewed and described in the current chapter so that the subject is clearly understood. It would be achieved by attempting to describe the thesis's first question: "How the perception and sense of place of users is influenced by the physical features of public open spaces?" The present chapter is composed of two parts. The definition, different typologies, and significance of public open spaces are provided in the first part. Four features of public open spaces including functional, social, physical and perception features are explained and discussed in the second part.

2.1 Definitions

The public open space is often defined as contending points of views and thoughts available in the literature. In fact, this concept has a multifaceted nature. As the first definition, public is defined as follows by Concise Oxford Dictionary (2004): "a section of the community having a particular interest or in some special connection," "open to or shared by all the people," "concerning the people as a whole." Specifically,

the term ‘public’ is used in various ways (for instance: public life, general public, public opinion, and so on). In these expressions, the term ‘public’ denotes a large number of people present in country or in community.

Public open spaces have several definitions (Wang, 2002). In 1877, the Metropolitan Open Space Act of London, U.K. presented a definition for public open spaces (Wang, 2002). It can be stated that it was one of the first definitions for public open space that defined it as any open or closed place. Wang (2002), within urban areas framework, strengthened definition of the public open space that can also be provided by universities as well as schools. One of the new definitions of urban open space is the space available between buildings in urban areas that the public can have access to it.

Robert Coles (1977) provided a definition of urban space quoted from Place and Placelessness: “Urban space is directly experienced by the people taking part in different types of activities in a physical place of a city”. “Urban space is the outcome of the process conducted in time and space, which is molded by form, topography, memory, history, and function formed into a totality larger than some of its smaller constituents, and obviously characterized by a collective aspect” (Ponsi, 1985, p. 223).

“There are many conducts and acts in this regard that give right props to the people. The result of all the parts is the whole play that is larger than their sum” (Rappoport, 1990, p. 149). Urban spaces shape the spaces for activity for many people that can freely utilize these spaces for various purposes such as social interaction, communication, as well as other urban activities, which give meaning to the physical place.

Public open space term is applied on any garden, traffic island, street, , , park, playground, promenade, fountain, public resort, river bank (it can be above or below high water mark), or any space that the public have access to it (Street, Drainage and Building Act, 1974). It is possible to define the public open space as the opened space being owned and used by all public members, regardless of definition of 'the public'. Such space is needed to deal with needs of people. Thus, the architects should well understand the role of these places. Most people have specific reasons for going to public open spaces like an instant wish for resting, having lunch and drinks in an open area (Carmona and Tiesdell, 2007). According to the Local Government Act of England 1976, public open space implies any open space, recreational place, garden, pleasure ground or square, parking, either enclosed or open, reserved or appropriate for public use or public access.

It is believed that public open spaces are crucial for a high quality of urban life. Public open space can be defined as "all the external places that are open to the sky with a natural climate" (Tang, 2004, p.15), or a place designed for specific purposes: aesthetic, practical, recreational, ecological, or agricultural functions (Girling and Kellett, 2005, p. 57).

According to the literature, many scholars defined public open space as physical space like land and water, which is not enclosed by buildings rather it is situated in an urban area (Gold, 1980; Cranz, 1982; Tankel, 1963).

As stated in the book, Public Space, public open space is regarded as a stage upon which the communal life drama is unfolded. The parks, streets, and squares of a city shape the ebb and human exchange. Housing different functions flow of like the

channel movement, public relaxation and play areas, and communication nodes, its flexibility is observed as a vital counterpart of more settled places and home life or work routine (Carr, Francis, Rivlin, and Stone, 1992).

A public open space implies an open area accessible to people and public, regardless of their sex, socioeconomic level, ethnical race, or age. It is also as the connected places such as sidewalks and streets. Today, there is a definition of virtual spaces available on internet, which is regarded as a new type of public open spaces. It develops social activities and the human interaction in an online manner (Unesco.org, 2018).

Jan Gehl, (1987), a Danish urban designer and architect, proposed a definition for open space as an external area permitting occurrence different kinds of activities as well as optional social activities. Necessary activities are activities like waiting for a bus, shopping, or going to school and work, which are almost obligatory activities. According to Gehl, optional activities are as those happening upon wish and time. Examples of optional activities are sitting, walking, sunbathing, or standing. It is observed that social activities have developed from optional and necessary activities: community activities, greetings, conversation and passive activities of hearing and watching and others that are dependent on one's presence or not.

Public open space can be defined in terms of the equality principle by which claims are assessed, and features of public open spaces are explored (Madanipour.2010). It can also be defined as an area that is accessible by everyone in an equal no matter of their age, social status, sex, ethnicity, level of income, physical abilities. Accordingly, these public spaces are required to be designed and constructed as the areas expressing

the equality principles through inclusive accessibility and democratic procedures. Therefore, public open space would become a better physical place with psychological and social value for the citizens. Participatory processes meet daily needs for public open spaces since resulting social and physical development is the outcome that establishes foundation for higher improvement of democratic practices (Madanipour, A. 2010 p: 242).

Sitte also considered the city as a set of complementary rooms, that is similar to a tangled Emphasized components of labyrinth, surprise, labyrinth closed views toward vistas, narrow and discontinues streets similar to those observed in medieval cities, vast squares, elements found in interior space such as staircase and passages in exterior Urban spaces are regarded as the "stage" of life. The buildings function as the landscapes. There is such a charm in details in the ancient and medieval cities that are absent in the modern cities (Broadbent, G., 1990). In public open spaces, there should be an area where urban dwellers can observe and take part in discussions with other residents in a natural neighborhood. The window of the city or living room represent an urban image. Such area generally has multiple functions, and can serve as an area for cultural, economic, and political functions. Similarly, "squares, streets, and places are designed specifically for this purpose. News move from public open space and building along the streets of the city to doorways of developing and onwards from room to room" (Benz, 1978: P-78).

In order to explain the public open space concept in absence of Imposing aesthetic Criteria, we were obliged to call all space types between buildings in cities and other locations as public open space. According to Krier, R., & Rowe, C. (1979), various elevations surround this space geometrically. Aesthetic attributes and fine legibility

character of these elevations permit perception of external space as urban public open space.

In book “find lost space”, Roger Transic defined public open space as "soft" and "hard" spaces. By definition, hard spaces are essentially compassed by architecture walls that are often used as main way to the natural surroundings, both inside and outside the city. Examples of soft spaces in urban context include gardens, parks, and linear greenways that provide opportunities for withdrawing from the constructed surroundings or for recreation. Hard spaces are focused as appropriate for the city. It is required that urban designers observe both types of space for motivation since soft space is more suitable for urban activities.

Marcus and Francis (1998) suggested such terms as public, semi-public, and semi-private for open spaces including open spaces that are publicly owned and accessible, like square spaces in a particular neighborhood. The spaces with private ownership and management and public access such as campuses of colleges and corporate plazas, and those spaces with private ownership and accessibility for a specific group of users, e.g., the place for elderly people are similarly included in that group.

Whereas, Lang, (2006) maintains that factors such as security, comfort, and social interaction are the influential factors of public open space. These factors that appeals individuals to the surroundings commonly has functional and physical conditions. The functional and physical attributes of public open spaces are associated with physical amenities, the accessibility conditions, and the surrounding land-use supporting the activities there. Research works have indicated that public open spaces that are actively and most visited are the environments in which individuals are able to have passive

participation in the surroundings through observing others. These places provide spaces for sitting, they are accessible by the public, possess public art and natural properties like waterfalls and water fountains underpinned by Urban Landscape Architect (1997).

Yusrafarah (2009) states that great public open spaces serve as the city's living room where individuals gather to enjoy each other and the city. In addition, he affirms that the outcome of the combination of great public open space and nice architecture is better living places. In these living places, prosperous and old life style is observed as a context for life occurrences. There is a symbolic and functional connection between historic buildings and public open spaces.

It is possible to define public open space in terms of 'interest'. Public interest means the benefits, general well- being, or welfare that is received and controlled by all community members, while private interest is defined as the benefits that are received and controlled by individuals. Thus, public space implies a space serving the public interest. The 'publicness' quality of a new public space can be assessed by inspection of its development and usages by these three criteria (Madanipour, 1995).

As stated by other scholars, there is no need for buying anything or paying cost for entering the area in the public open spaces. It is not required to be a member or describe the reason for visiting the places in public open space. Everyone can visit a public open space available in any area. Everything is public in a public open space, and everyone can see. These spaces have the function of gathering individuals together. People can meet each other in public open spaces, and they can see their neighbor as well as strange people (Dyer, Hadley 2010).

A public open space is used for cheery social celebration and as a setting for sorrowful intimacy, civil discussion, and a place for exercising the right of gathering and free speech, which are necessary and significant for good life as well as democracy (Child, 2004,by Abidin, I. Z., Usman, I., Tahir, M. M., & Yap, Y. C. 2010).

A public open space is a place of joyful social celebration as well as a ground for heartbroken communion, civic discussion and a place to exercise the right of assembly and free speech which is important to participatory democracy and the good life (Child, 2004).by Abidin, I. Z., Usman, I., Tahir, M. M., & Yap, Y. C. (2010).

Public open space involves individuals and its management, creative, and usage function. It can be viewed as the material context for non-familial social life from this perspective (Walzer, 1986: 470; Mitchell, 1996: 128). It offers free access for the public and settings for social interactions and activities. It also improves production and reproduction of society in a cultural and social setting. Public open space can be considered as the skeleton of the city. These spaces are the principal structures that districts, commercial centers, and institutional complexes depend on them (Heckscher and Robinson, 1977).

Nevertheless, Bridge and Watson (2000) assert that sustaining the concept of a single public is hard. As reported by Fyfe and Bannister (1996), if there is free and general access to public open space, then debating that any space has ever held such a position is difficult. The view of a public or community whose membership of a geographical area depends on rights of public and common access is completely problematic. Role of places for different social groups may different at different periods of time. There are many public places whose legitimacy depends on the place context as by the

individuals' social features. Zukin argues that there is not a single prevailing vision of the city's public, there is no vision of how provide equality in the needs of the 'public' and needs of 'space' in the symbolic economy … While neighborhood groups that represent 'the people' push for higher access to parks, conservancy groups that represent 'the parks' push for imposing more constraints on public use (Zukin, 1995, p. 266).

In the view of governmental institutions, the spaces with public access in the city along with their surrounding spaces constitute 'public open spaces'. Water fountains, green areas, passages, or any natural geological features are included by these spaces. Nevertheless, 'urban spaces' may include civil buildings, shopping centers, and urban plazas. The city offers a combination of urban spaces (civic settings) and open spaces (greenery) . This combination is a crucial factor for constructing a unique identity and character in the city, which as accomplished by using spatial properties like the landscape structure and townscape (Scottish Government, 2008).

Considering the public open space definitions proposed by the scholars and governmental institutions, it can be stated that public open space is the place with public access for all citizens serving various functions. Mainly, governance and protection of these places is done by the governmental institutions on the side of the public (Madanipour, 2010a). In other words, public open space is "space allowing access to all individuals to its activities that is controlled by a public power and it is afforded and managed in the public interest" (Madanipour, 1996, p.148).

It is useful to systematically define public open space and its 'public' dimensions. Using the description of private and public concepts proposed by Benn and Gaus (1983) with reference to agency, access, and interest provides a valuable experimental tool for defining 'public open space' and its publicness.

Gaus (1983) defines public open space as the possession of four 'access' attributes that are mutually supportive: information, physical, social, and discussions and activities, or intercommunications access (Table 1).

Table 1. The definitions of public open space regarding to craiteria of access by Benn and Gaus (1983).

Access	Public open spaces
• Physical Access	A space that is physically accessible to all
• Social Access	A space that is socially accessible to all
• Access to activities and discussions	A space where the activities and discussions on its development and use processes are accessible to all
• Access to information	A space where the information regarding its development and use processes is accessible to all
• Actor	A space that is controlled by public actors, and used by the public
• Interest	A space that serves the public interest

As defined by Madanipour, A. (2010), public open space is a space regarding the people as a whole, which is open to all, can be accessed or shared by all community members, it is prepared by the public authorities for the general use.

Table 2. Definition of public open spaces in literature by various authors (source: author)

no.	Scholars	morphology	physical	social	functional	perciptionnal	deferent ways of understanding public space
1	Wang, 2002	0	0		0		space available between buildings, public can have access to it.
2	Robert Coles (1977)		0		0		different types of activities in a physical place of a city
3	Rappoport, 1990		0		0	0	shape the spaces for activity, which give meaning to the physical place.
4	Street, Drainage and Building A	0			0		any space that the public have access to it
5	Carmona and Tiesdell, 2007	0		0			opened space being owned and used by all public members
6	the Local Government Act of E	0		0	0		any open space , reserved or appropriate for public use or public access
7	Tang, 2004,	0					all the external places that are open to the sky with a natural climate
8	Gold, 1980; Cranz, 1982; Tanke		0				physical space like land and water, which is not enclosed by buildings
9	Carr, Francis, Rivlin, and Stone			0			regarded as a stage upon which the communal life drama is unfolded
10	Unesco.org, 2018	0	0		0		open area accessible to people and public It is also as the connected places
11	Jan Gehl, (1987	0		0	0		external area permitting occurrence different kinds of activities and optional social activities
12	Madanipour.2010			0	0		equality principle area that is accessible by everyone
13	Sitte			0		0	an area where urban dwellers can observe and take part in discussions with other residents
14	Krier, R., & Rowe, C. (1979),	0	0			0	all space types between buildings. Aesthetic attributes and fine legibility character
15	Roger Transic		0				defined public open space as "soft" and "hard" spaces
16	Marcus and Francis (1998)			0	0		ownership and management and public access
17	Whereas, Lang, (2006)		0	0	0	0	security, comfort, and social interaction commonly has functional and physical conditions
18	Urban Landscape Architect (19		0			0	passive participation in the surroundings through observing others
19	Yusrafarah (2009)			0			individuals gather to enjoy each other and the city
20	Madanipour, 1995).		0	0			implies a space serving the public interest
21	Dyer, Hadley 2010			0			Everything is public in a public open space
22	Child, 2004			0			cheery social celebration and democracy
23	Walzer, 1986 Mitchell, 1996		0	0			material context for non-familial social life
24	Heckscher and Robinson, 1977		0	0	0		offers free access for the public and settings for social interactions
25	Scottish Government, 2008				0		the spaces with public access in the city
26	Madanipour, 2010a			0	0		place with public access for all citizens serving various functions
27	Madanipour, 1996			0	0		space allowing access to all individuals to its activities that is controlled by a public
28	Benn and Gaus (1983)			0			private and public concepts for defining 'public open space'
29	Gaus (1983)		0	0	0		information, physical, , social, and discussions and activities
30	Madanipour, 2010		0	0	0		space regarding the people as a whole, open to all, accessed or shared by all community

Urban spaces are as important as their transportation network system that becomes an additional function of handing messages. In addition to the factors previously mentioned, there exist many other principles that are also crucial for success of the public open space. Francis (1988, p. 57-58) claims that there exist many factors affecting a well-defined public open space including physical and social dimensions (Francis 1988, p. 57-58). Some general information regarding these factors is given in the Figure below.

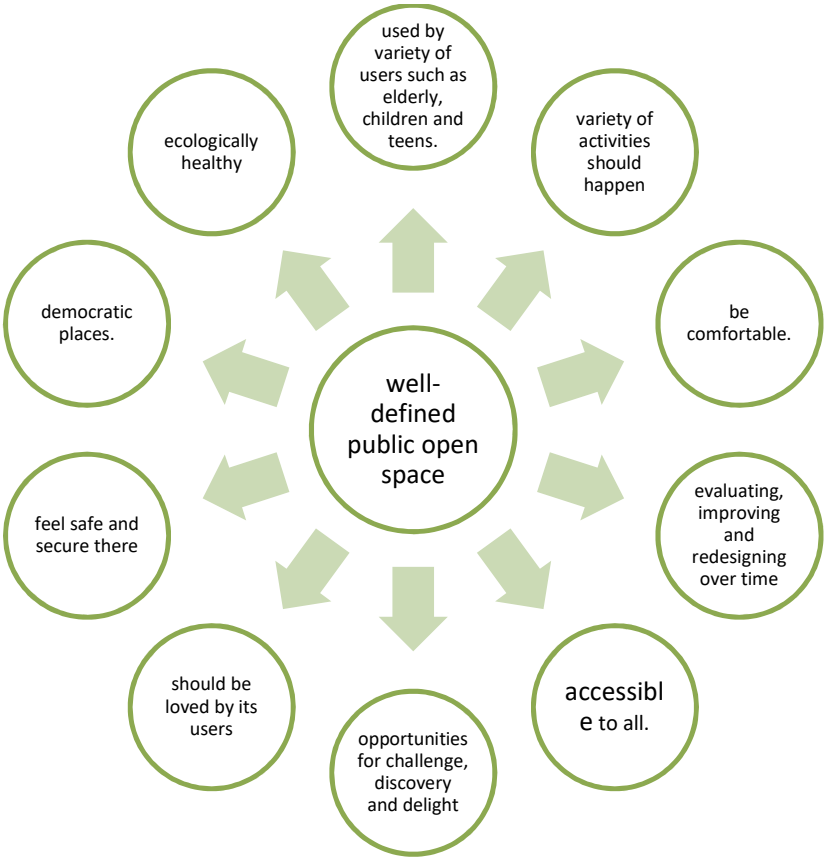

Figure 2. Well-define public open space according to Francis (1988, p. 57-58)

Hence, public open space is understood as exterior or interior space and its access by the public, being composed of squares, streets, gardens, plazas, and parks, providing user engagement with various activities for achievement of social life, being controlled and supervised by the government. As a result of the people influence and connection, their perception offers the space unique meaning is converted to a place.

Given the definitions proposed for public open space, it is important to review typology of public open space. Current section discussed multifaceted dimensions of public open space concept.

2.2 **Open Space Typologies**

Kevin Lynch (1981) established a typology for public open space by classifying it to plazas, square, linear park, original Park, playground, adventure playground, playing field, and wasteland. This typology emphasizes mainly hard landscape than green open spaces. In this regard, the London Planning Advisory Committee defined a ranking such as a district park, Local Park, Metropolitan Park, regional park, small Local Park, and linear open space (Llewelyn-Davies Planning, 1992). Further, The Institute of Leisure and Amenity Management classified a typology based on consequent to land use in rural and urban spaces that also covers visual and cultural value (ILAM, 1996). Although other scholars have created their own hierarchies or typology of urban open spaces, both typologies and hierarchies focus on land use and advanced groupings accordingly. Some authors believe that hierarchy approach fails to recognize the potential that smaller open space adds to the experience of users because people typically want to use public open space near to their home (Morgan, 1991).

For Krier and Rowe (1979), the previous classification is not valid. They list the basic forms that make up urban open spaces with a number of feasible differences and combinations. The aesthetic quality of each element of urban space is characterized by the structural interrelation of details. They argue that the classification shall attempt to discern this quality wherever it is dealing with the physical features of a spatial nature. Street and square are the two basic elements of this classification. The interior space category discusses the room and corridor. The geometrical features of both spatial forms are the same but are distinguished by the dimensions of the wall that surround them and function and circulation patterns that characterize them.

Carr et al. (1993), in their book “public space”, argue that urban public spaces are dynamic and essential to the sustainable progress of the city. These spaces are formed through two processes. The first one is by developing naturally via repeated use in particular ways or by attracting people for a specific purpose. The other process is planned public space emerged by the city planners, architects, or landscape architects. Such open public spaces are the result of serving an urban area of housing or neighborhood organizing (Carr et al., 1993).

Carmona et all (2008) argue that, there are many criteria proposed by different scholars to classify the public open space. Some of them discuss the typologies according to sociological characteristics and others do it by means of control. Table 3 presents the criteria of classifying the typology of public open spaces.

Table 3. Criteria for classify the typology of public open spaces (Carmona et all (2008)).

	characterstic	scholer	typology
1	From a sociological perspective	Wallin (1998: 109)	contemporary urban public space as 'dystemic space',
2	Focusing on the experience of space	Gulick (1998: 135–41)	public property-'semiotic'-public sphere'
3	In terms of power relationships	Kilian (1998: 115–16)	public space as the sites of contact-public space as the sites of representation
4	As a journey from vision and reality	Lefebvre (1991: 39)	Thus space typically begins as a representation of an articular type of space, with a particular range of uses, but is appropriated over time by other uses and activities.
5	By means of control	Van Melik et al. (2007: 25–8	secured public space- themed public space
6	In terms of their adaptability in use	Franck and Stevens (2007: 23)	loose space-Tight space
7	Through their exclusionary	Flusty (1997: 48–49)	stealthy space-'slippery space-crusty space-prickly space-jittery space
8	Reflecting degrees of inclusion	Sibley's (1995)	open and closed spaces
9	By their clientele	Burgers (1999)	erected public space-displayed space-exalted space-exposed space-coloured space-marginalised space
10	In terms of how users engage with space	Dines and Cattell (2006: 26–31)	everyday places-places of meaning-social environments-places of retreat-negative spaces
11	Through their physical / morphological character	Zucker's (1959)	closed,dominated, nuclear, grouped and amorphous squares,
		Sitte's (1889)	deep and broad squares
12	by function	Gehl and Gemzøe (2000: 87)	main city square, recreational square, promenade, traffic square, monumental square
		Carr et al. (1992: 79)	public parks-square and plazas-emorials-markets-streets-playgrounds-community open spaces-greenways and parkways-atrium/indoor marketplaces-found spaces/everyday spaces-waterfronts.

Wang (2002) classified urban public open spaces using four criteria each with many categories that cover most of the public open spaces (Table 4).

Table 4. Classification of public open spaces by Wang (2002).

Criteria	Category	Examples	
Natural/ Man-made	Natural	Scenery Site	
		Protected Area	Waterfall, mountain, forest, etc.
		Reserved Area	Forest, wetland, etc
	Manmade	Streets	
		Squares	
		Park and greenbelt	
		Indoor spaces	
Function	Residence	Community centre, greenbelt, pleasure ground for kids, etc.	
	Transportation	City entrance, crossroads, pedestrian street, etc.	
	Recreation	Park, amusement park, shopping centre, etc.	
	Work	Greenbelt in factory, municipal squares, etc	
Land Use Pattern	Residential Use	Public service facilities in a community, outdoor space in a community	
	Urban Public Facility Use	Cultural, entertainment, commercial, financial, historical, and municipal facilities that open to the public	
	Greenbelt	Public greenbelt, urban park, etc.	
Location	Municipal Level	Commercial service centre, cultural and entertainment centre, urban square, urban park, etc. All this service serve all the citizens in the city	
	District Level	District commercial centre, park, greenbelt, etc. All this serve people live in the district	
	Street Level	Community centre, outdoor facilities, etc. Those facilities serve people live around them	

Carmona et al. (2008) classified the public open spaces into four main types: positive space, negative space, ambiguous space, and private space (Table 5).

Table 5. Space typology according to Carmona et al. (2008).

Space type	Distinguishing characteristics	Examples
'Positive' spaces		
1. Natural/semi-natural urban space	Natural and semi-natural features within urban areas, typically under state ownership	Rivers, natural features, seafronts, canals
2. Civic space	The traditional forms of urban space, open and available to all and catering for a wide variety of functions	Streets, squares, promenades
3. Public open space	Managed open space, typically green and available and open to all, even if temporally controlled	Parks, gardens, commons, urban forests, cemeteries
'Negative' spaces		
4. Movement space	Space dominated by movement needs, largely for motorised transportation	Main roads, motorways, railways, underpasses
5. Service space	Space dominated by modern servicing requirements needs	Car parks, service yards
6. Left-over space	Space left over after development, often designed without function	'SLOAP' (space left over after planning), modernist open space
7. Undefined space	Undeveloped space, either abandoned or awaiting redevelopment	Redevelopment space, abandoned space, transient space
Ambiguous spaces		
8. Interchange space	Transport stops and interchanges, whether internal or external	Metros, bus interchanges, railway stations, bus/tram stops
9. Public 'private' space	Seemingly public external space, in fact privately owned and to greater or lesser degrees controlled	Privately owned 'civic' space, business parks, church grounds
10. Conspicuous spaces	Public spaces designed to make strangers feel conspicuous and, potentially, unwelcome	Cul-de-sacs, dummy gated enclaves
11. Internalised 'public' space	Formally public and external uses, internalised and, often, privatised	Shopping/leisure malls, introspective mega-structures
12. Retail space	Privately owned but publicly accessible exchange spaces	Shops, covered markets, petrol stations
13. Third place spaces	Semi-public meeting and social places, public and private	Cafés, restaurants, libraries, town halls, religious buildings
14. Private 'public' space	Publicly owned, but functionally and user determined spaces	Institutional grounds, housing estates, university campuses
15. Visible private space	Physically private, but visually public space	Front gardens, allotments, gated squares
16. Interface spaces	Physically demarked but publicly accessible interfaces between public and private space	Street cafés, private pavement space
17. User selecting spaces	Spaces for selected groups, determined (and sometimes controlled) by age or activity	Skateparks, playgrounds, sports fields/grounds/courses
Private spaces		
18. Private open space	Physically private open space	Urban agricultural remnants, private woodlands,
19. External private space	Physically private spaces, grounds and gardens	Gated streets/enclaves, private gardens, private sports clubs, parking courts
20. Internal private space	Private or business space	Offices, houses, etc.

Recently, the Department of Transport, Local Government, and the Regions have proposed urban open spaces and green spaces typology by defining two types of urban open spaces as civic space and green space. The green spaces are divided into eight categories: 1) Local green corridors, 2) Provision for children and young people, 3) Cemeteries and churchyards, 4) Natural and semi-natural green space, 5) Amenity greenspace, 6) Outdoor sports facility, 7) Parks, and 8) Gardens. On the other hand, civic spaces are divided into primary and secondary civic spaces.

This typology offers a global classification for planning and development of strategies of open space.

Table 6. Public open space typology according to City of London Open Spaces Audit (2013).

	Typology	Primary Purpose
Greenspaces	Parks and Gardens	Accessible, high quality opportunities for informal recreation and community events
	Natural and semi-natural greenspaces,	Wildlife conservation, biodiversity and environmental education and activities
	Local Green corridors	Walking, cycling or horse riding, whether for leisure purposes or travel and opportunities for wildlife migration
	Outdoor Sports Facilities	Participation in outdoor sports, such as pitch sports, tennis, bowls, athletics or countryside or water sports
	Amenity Greenspace	Opportunities for informal activities close to home or work or enhancement of the appearance of residential or other areas
	Provision for children and young people	Areas designated primarily for play and social interaction involving children and young people, such as equipped play areas, ball courts, skateboard areas and teenage shelters
	Cemeteries and churchyards	Quiet contemplation and burial of the dead, often linked to the promotion of wildlife conservation and biodiversity
Civic Spaces	Primary civic spaces	Provides open space amenity. Includes civic and market squares and other hard surfaces designed for pedestrians
	Secondary civic spaces	Provides both open space amenity and facilitates pedestrian movement
Under construction	Sites awaiting development	

The quality of space is not described by such typology and hierarchy because the experience of space by users is expressed in an individual way by which each user can give it differently for a particular space. Mostly, the typology has been given by

planner, designer for distribution of resources or determining the priorities of regeneration or development of public open space. Although such classifications may be helpful, the research consider a situation with respect to daily urban living and discuss a typology that considers the user as the focus of attention.

2.3 Importance of public open space

"Public spaces designed for people, that are healthy, lively, sustainable, and safe and democratic public spaces, that which provide a people people-friendly social realm, are able to complement modern, consumer–private-orientated lifestyles." (Gehl et al. 2009 p.109).

New urbanists prefer that mix uses (i.e., civic, public space, commercial, residential, and other) on the neighborhood level and incorporate it in each community. The main aims for such a tendency are to offer jobs near to their homes and give them a chance to walk and bike to their destiny. In the same time, mix used neighborhood can decrease the use of a vehicle and private transportation. Furthermore, according to these urbanists, design support identity of each place using the same characters of architecture style that follow the culture, geography, history, and climate (Congress for the New Urbanism 2000).

Importance of the public open space is well recognized from the viewpoint of raising the quality of life over the relaxed environment, because it is offering a pleasant environment for people to relax, work, and dwell (The Athens Charter, 1973).

According to Cybriwsky (1999), open public spaces represent the city itself and reflect the relationship between the citizen whether they have well related to the city or to

each other.

Darin-Drabkin (1977) points out that an ideal living environment needs public open spaces. From architecture and planner point of view, it is claimed that the public open space quality has a direct impact on the livability of the city whether it fail or succeed for living and business (Bacon, 1976; Carr et al., 1992; Jacobs, 1961; Vernez, 1987; Whyte, 1988). Carr et al. (1992) present how urban life affects the quality of public open space. They argue that public open spaces can offer a satisfying life for people and defend their rights and delivered specific meaning for their culture.

In the same context, a study on the USA in 2000 shows that the houses with the one or half block as a public open space provide a more positive effect their dwellers and give more value for the sale price (Bolitzer and Netusil, 2000).

The historical public open space are taking vital concern as the studied shows. There is evident proofing that from the earliest cites public open space create a playground for the desired activities of the ancient city beside the aesthetical matters (Oktay, 2002). Tibbalds (1992) claim a similar approach, interaction, and meeting place for the public realm, which is one of the main components of the built environment. Consequently, he argues that to reach wellbeing, a sense of comfort in active public open space is necessary. Besides, many scholars stress that public open spaces offer a healthier life. According to Thompson (2002), good public open spaces have a positive impact on the health of dweller by offering them access to green space “natural relief within the urban environment” (Ward Thompson, 2002, p.65).

Project for public space PPS (2000) argues that successful public spaces can play a

major role in constructing a solid sense of belonging (figure 3). In line with this result, Carr et al. (1992) describe how the public open space affects meaning. According to these authors, public space seems to root from cultural value and protecting satisfying people right.

Table 7. Importance of public open spaces according to different scholars (by author)

no.	scholar	the importance of public space
1	The Athens Charter (1973).	rising the quality of life
2	Cybriwsky (1999).	represent the city
3	Darin-Drabkin (1977).	ideal living needs
4	Bacon (1976) ; Jacobs (1961); Vernez (1987); Whyte (1988).	play segnificant role in livability of city
5	Carr et al (1992).	offer satisfy life for people
6	Bolitzer and Netusil (2000).	positive effect on the dweller & value forsale price
7	Oktay (2002).	acoording to history its one of the needs of human
8	Tibbalds (1992).	healthier life and comfortable feeling
9	Thompson (2002).	positive impact on health of dweller
10	PPS (2000).	role in constructed a solid sense of belonging

Figure 3. The benefit of great place by Ethan Kent, PPS 2011

2.4 **Physical characteristics of public open spaces**

The physical elements are important while designing public open space. Especially the form of public open space should be proportion to the human scale to provide a positive perception and sense of place. These elements such as lighting, tree, pavement, furniture, and the details of building are the same as form, it should be well designed and proportional to space so users can feel comfortable in the public open space. (Ewing & Bartholomew, 2013).

In his book Urban Design: Street and Square, Cliff Moughtin (2003) has offered an analysis of urban design that includes streets, squares, and buildings, in which he believes that these elements construct the public face of our cities. The book discusses the main features in urban design and adds to them making these principle concepts clearer. For instance, he has offered a reinterpretation of the seminal work of City Planning According to Artistic Principles by Camillo Sitte's. He analyses some concepts to further understand the architectural compositions. These concepts include; order, unity, balance, symmetry, scale, proportion, rhythm, contrast and harmony (Moughtin, 2003). According to the author, these concepts are a main tool to examine good aesthetic qualities of architecture and they can be used to study any street or square in the city. These concepts are not easily distinguished from each other, but actually they interact, overlap and reinforce each other. In defining city's order, Moughtin (2003) believes that it is the way users of public space read, perceive and understand the latter. Confirming Lynch's definition of legibility and imaginability of space. Perceptual order therefore is one of the main elements of imaginability "that quality in a physical setting which gives it a high probability of evoking a strong image in any given observer" according to Lynch (1960, p.9) and is related to the ease of the

parts of public spaces to be recognized and organized in a homogenous pattern (legibility). On the other hand, unity expresses the full understanding or realization of a concept in architecture and urban design; harmony of all the parts. Proportion, however, is the tool that brings unity and order together. This is achieved by giving due weight to the compositional elements. Accordingly, proportion is the relation between different parts that forms the system (a system can be one building or group of buildings). In contrast, scale compares different sets of proportions together. Architecture and urban design are most concerned about the measure of real size used for the built environment; the human scale. While the purpose of using proportions in the design to have harmony, harmony is defined as the use of one or more of the orders as dominant components of the building or more simply by the use of dimensions repeating simple ratios.

Numerous physical prescriptions have been recognized for making a good space; for example, William Whyte (1980) in his work concerning the location and physical qualities of space, Amos Rapoport (1990) on the size and shape of spaces, and Bill Hillier (1996) on the interconnectivity of spaces. Size, shape, connections, the character of elements within space, and their detailed designs were considered by Gehl (1996) as "factors that are important in determining the quality of public space and therefore the type of human activity they will sustain" (Carmona et al. 2008, p.14). According to Gehl (1996), these factors are both measurable and tangible. Although the design is important for creating cheerful spaces, the size and location of space and the way it is managed and animated are essential factors (Shaftoe, 2008). DEMOS (2005) state that many of the needs that contribute to the determination of how the public environment is perceived are often intangible. This finding reflects the diverse motivations, needs, and resources available to different groups and users.

Physical characteristics like size, furniture, shape, materials, and natural elements are all part of the urban form and control its appearance. According to Shaftoe, It is difficult to determine the ideal size of public open space because it is related to location and context that is different from one place to another. This author claims that all the small space includes breathing out are valuable places (Shaftoe, 2008).

Henry Shaftoe mentioned in his book “convivial urban spaces”, a successful public open space consists of seven main aspects. The first aspect is size, which should be neither too large nor too small. Public open space should offer plenty of sitting places such as benches and moveable chair. Moreover, the good public open space should have high-quality materials because it is subjected to high wear and tear. The design of public open space should considered horizontal surfaces not only for aesthetic reasons but also for the practical, in order to allow all users to move easily throw the spaces when there is level change. Furthermore, the materials should be well proportioned, asymmetrical, not completely rectilinear, and adaptable for all development and changes. Finally, public open spaces should offer plenty of variety and intriguing details with an attractive landscape including trees and plants.

As stated by Lynch (1971), the perfect size of small space should be within 12 to 24 m for both sides and around 100 m for big spaces. Similarly, Gehl (1987) advised that public open space dimension should not exceed the maximum range of seeing events and must be within the range of 70-100 m.

Gehl (2003) suggests “the maximum distance to distinguish facial expressions is about 25m” (Shaftoe, 2008, p.74). Elsewhere, Abley considers 135 m as the maximum distance to notice the movement of other users (Abley and Hill, 2004 cited in Shaftoe,

2008). In another study, Llewelyn and Davies (2004) advice the perfect cross-section for the public open space as 18-100 m.

Another characteristic of public open space is the shape. Although the importance of this element is as high as the other ones, some scholars support the formal shape while others support the organic shape. Generally, size and shape are controlled by the purpose of space and thus should be comfortable to host and accommodate users. For example, Gehl (1987), when mentioning the size of 70-100 m, prefers this size for a rectangular shape (Gehl, 1987). In comparison, Shaftoe (2008) prefers the use of bendy and curve shape for the design of public spaces because it offers a sense of curiosity and explores what happens in the round corner. Townscape (1961) references that to Gordon Cullen's, states that a successful design is controlled by the sequence of the different areas rather than the obvious shape. In addition to these points, the third dimension is an important point in urban form. Gehl (1987) and Madanipour (1996) argue that the height of the surrounding building should be proportional to space and avoid overlooking and overshadowing.

According to Shaftoe (2008), materials are among the essential preferable contexts in successful public spaces and using high-quality materials are is a key point to save money in the long run. Furthermore, materials with attractive colors attract more people.

Sitting elements and spaces are essential features in the public space for users. According to Whyte (1980), the setting should be chosen carefully and in high quality, otherwise, users neglect them. Fix sitting elements are not the necessary form but the moveable and good quality sitting elements are more preferable (Shaftoe, 2008).

Whyte (1980) proposes that the movable chair idea in public open space that offers more choice for the users about the place they can choose, for instance, gathering in the group and moving to the sun or out of it. Integration of natural elements water, tree, and plants in public space leads to their better functions (Shaftoe, 2008). It has been claimed that among these elements the most significant are trees, woody vegetation, and water features (Schroeder and Anderson, 1984). Furthermore, Kaplan and Kaplan (1989) argue that people in the public open space find greenery and trees physiologically and aesthetically pleasing.

Accordingly, Whyte (1980) claimed that water elements take a prominent status because it tempts people to spend plenty of time in the public open space. Studies on water features explain why it is considered as highly desirable for people. According to such investigations, water noise is pleasing because it helps to reduce the surrounding sound and offers environmental cooling system. Besides, water provides a vertical dimension for the public open space (Corbett, 2004). Generally, these elements and sound should be well controlled and designed to prevent them turning into negative effects (Whyte, 1990).

2.5 Functional characteristics of public open spaces

It describes how people work in the vacuum or how they use these places. In order for public space to be successful, it must absorb such activities. Before designing public open places, it is important to know how people will use these places. Bacon (1992, p.20) says that walking in public open places helps designers assimilate their entity.

Experienced designers can use their knowledge and experience to develop knowledge and sensitivity to people and places. The observation of the relationship between activities and spaces leads to knowledge of the methods of use and design of spaces.

White (1970) explored the factors that helped make spaces succeed by a focus on the way people use public spaces. Using 18 video files to see the number of people in these squares, they revealed that squares containing built environment such as sitting areas, water, and green areas are of higher attraction to people.

The Project for Public Spaces (2000) examined the function of public open areas such as activities and the relationship of these areas among the people. Also, it studies the site and its functions instead of expecting it (PPS, 2000).

Gehl (1987) classified activities in public open places as necessary activities, voluntary activities, and social activities.

- **The Necessary Activities**: These activities are necessary for daily life, where people are in all circumstances. For example, there are routine tasks like walking to school or market, bringing mail, or walking a dog. Gehl argues that these activities will occur also in bad weather condition because users have no option but to participate in in these type activities.

- **Optional Activities**: These activities consist of standing, sitting, and walking. These activities occur when outdoor climate is favorable. In contrast with necessary activities, optional activities are happening while the users have free time.

- **Social Activities**: These activities are based on meetings of people in public squares, streets, children's meeting for play, and a range of activities that bring people together. The higher the quality of the areas, the more the activities would be. In areas with poor activities, the frequency of activities increase only whenever the weather is pleasant (Gehl, 1996,2010).

According to Gehl (1987), social activity in public open spaces have a relationship with physical improvements. As a result, by improving the physical quality of public open spaces, the number of people in outdoor places is increased, resulting in the expansion of the average time spent outdoors and the spectrum of outdoors activity. The extinct of outdoor activities are also affected by climate conditions, which in turn affect the characters of outdoor activities. Plans for outdoor activities can be reduced, canceled, or rendered impossible if the climatic condition was not encouraging; i.e., when it is too hot, too cold, or too wet (Gehl, 2010). To enhance outdoor activities in public spaces, the need to provide protection burning heat or biting cold is emphasized by Shaftoe (2008). Shade and ventilation can provide cooling for hot climates, while the enclosure effect of low-rise buildings, along with suitable clothing and the availability of outdoor heaters, can contribute to warming up space for cold climates. In the worst scenario, friendly spaces can be entirely or partially roofed (Shaftoe, 2008).

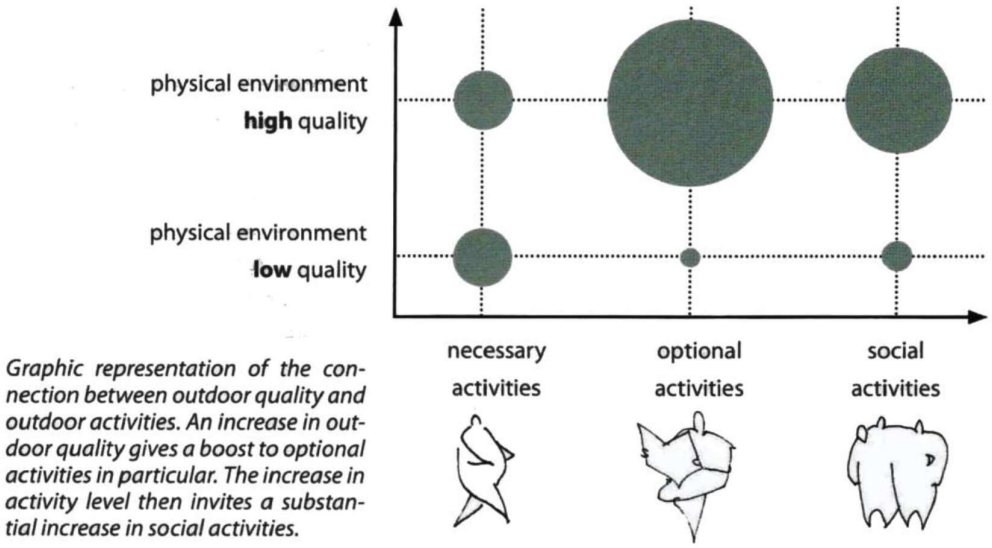

Figure 4. Importance of physical quality for activites in public open spaces (Gehl, 2010, p.21).

Whyte (1980) expresses a strong relationship between the qualities of city space and urban activities in his book "The Social Life of Small Urban Spaces". According to this scholar, simple physical changes can improve the use of outdoor spaces. He conducted an experimental improvement to a pedestrian street in Melbourne, Australia. He increased the number of seats by 100 percent and found an increase in seated activities by 88 percent (Gehl, 1987). In other experiments carried out in New York and other US cities, similar results were achieved by the Project of Public Spaces.

Gehl (2010) argued that the restoration of space, even the change in furniture and details, could contribute to the change of the pattern of use. He concludes that there is a strong connection between the use of city space, quality of space, and degree of concern for the human dimension. He proved that connection of his surveys in Melbourne and Copenhagen.

Gehl concludes that providing better public spaces results in an increase in their use. He describes his findings as "generally valid in various cultures and parts of the world, in various climates and in different economies and social situations" (Gehl, 2010, p.17). He stresses the fact that physical planning and design greatly affect the pattern of use in public spaces in the city. He states that improving the quality of city space, taking the human dimension in the design of public space into consideration, encourages people to spend more time. According to this author, "invitations to do something outdoors rather than just walking should include protection, security, reasonable space, furniture, and visual quality" (Gehl, 2010, p.21).

As for Whyte's analysis is based on observation, Carr et al. (1992) is based on the collection of research on the use of public open spaces. According to these authors, public spaces allow people to meet and establish strong social relations by offering various functions, are accessible to everyone, and provide accessible work in the neighborhood.

One of the most important factors in the design of public open spaces is taking into account the needs of people by designing large areas to accommodate their activities (Francis, 2003). According to Francis (2003), the success of public open spaces depends on the user needs. Whyte (1980, 1988) monitored the use and non-use of public spaces in New York City. Since then, people's needs have been identified by organizations such as PPS and UPI as an oasis of planning and management. (Francis, 2003, p.17).

2.5.1 Rights of users in public open spaces

There are many explanations for why people target public open spaces for their needs. Although people are allowed to use public open spaces, they need some sense of

control as a basic requirement. Accordingly, access and accessibility, variety and freedom of action are the right of user in public open spaces. (Carr et.al., 1992).

2.5.1.1 **Access and accessibility**

Access is defined as the ability to enter public space. This element has three components physical, visual, and symbolic. It provides a strong or vague picture for the ability to enter space and who have controlled the right of access.

- **Physical access**: This element mainly concerns the barrier and the concept of separation. Other spaces may block the entry for a special group like disable people by way of the designed stairs. Even automobiles can be seen as a barrier for these people. According to Whyte (1980), physically accessible space should be connected to the circulation path without any barrier. Cooper Marcus (1978) assumes two degrees of physical access: 1) popular indoor space with numerous entrances and 2) poorly designed spaces that can be entered from only one side.

- **Visual access**: The primary purpose of visibility is allowing users to feel comfortable to enter the space. On the other hand, visibility is one of the essential aspects to judge the safety of the space (Thompson, C. W. 2002).

- **Symbolic access**: It generally gives the existing of the signs meaning by offering the meaning for users' expectations. Gatekeeper is the clearest example for controlling the type of user. According to several studies, the gatekeeper offers more safety but is less welcoming. There are some other nonhuman factors associated with social-symbolic access. For instance, some types of design elements may act as a hint for the people desire. In this regard, shops and vendors are other types of symbolic accesses. Such accesses can provide different

perceptions for a different user. For example, barrier and gatekeeper for some people are perceived as a risky site but for others, they feel safer (Carr et.al., 1992).

2.5.1.2 **Variety**

Variety of activities within the public open spaces offer for people more reasons to use and visit public open spaces. Love (l973) has expressed the importance in internally differentiating the spaces of the public open spaces into different subspaces that includes variety of activities. Project for Public Space argues that having variety of social interactions is a goal of placemaking. By having variety, different cultural groups can meet with their peers in safe spaces. Therefore, people must be represented through familiar cultural symbols in public space. Furthermore, variety expresses the need to locate public spaces in areas where they can serve multiple communities. The most meaningful public space plans and programs strike a balance between official and vernacular uses, incorporating many different kinds of activities while simultaneously remaining flexible enough to accommodate values and preferences of different cultural groups as they evolve over time. Variety can also be in seen in the smallest details of public open spaces. This is, for example, the starting point of the 'triangle method' of urban researcher William H. Whyte (1980) in which certain elements (telephone mobile, bench, bin) are placed close enough to allow people to communicate. Where things are combined (playground, eatery, seating), meeting points are created. Diversity can also be achieved by offering sufficient activities, and by using various materials and color in the facades and underground. The more diverse, the more interesting it becomes to visit.

2.5.1.3 **Freedom of action**

This element represents the ability to perform the desired activity in public open space, regarding that it is a shared space. Responsible freedom provides the satisfaction of

people without misusing the rights of others. The challenges of this freedom are issued from users' expectation about the facilities offered by such spaces. On the other hand, to achieve freedom, lack of rule and regulation is important. Demonstration, railing, distributing leaflets, and speechmaking are types of freedom in some public open spaces (Carr et.al., 1992).

In addition to rules and regulations, the physical pattern of public space has an undeniable effect on people's ability to implement desired activities by offering multi choices and occasion for the user. Madden & Bussard (1977) found two types of space in Riis Park in New York: 1) "nonspecific" space including ball fields with the fence, few trees, and bleachers; and 2) "Specific" space, where fields are an important part of the park and recreation areas.

Another level of freedom of action is psychological comfort, which implies freedom from concern and worries. According to this type of freedom, users need to feel comfortable if they are using the space as they wish. There are three groups of users often restricted in public space by lack of comfortable, safe, and well managed of space: women, the elderly, and physically disable (Carr et.al., 1992).

2.6 Social characteristics of public open spaces

There is a solid relationship between space and society. Therefore, it is hard to imagine 'space' without the social content and, likewise, to imagine a society without an appropriate component. This relation is recognized as a continuous interactive process between them. Space is influenced in many ways by people and society. At the same time, people create and modify space (Carmona et al., 2003).

Dear and Walch (1989) argue that urban designers can affect the pattern of social life and human activity by modeling the built environment because social relations can be: Constrained by space (e.g., where the physical environment facilitates or obstructs human activity); Constituted through space (e.g., where site characteristics influence settlement form); Mediated by space (e.g., where the 'friction of distance' facilitates or inhibits the development of various social practices).

Several recent studies on human behaviors and the built environment emphasize that understanding patterns of interaction and predicting patterns of people in the built environment are linked to social factors. Carmona et al. (2010b) propose that the essential elements of urban design depend on understanding the relation between environment (space) and people (society), "a continuous two-way process in which people create and modify spaces while at the same time being influenced by those spaces in various ways" (Carmona et al., 2010, p. 133).

The relationship between culture and environment is influenced by the way people are continuously stimulated to decide on certain means to establish distinctive sociocultural contexts. Urban spaces are better perceived through understanding the local socio-cultural contexts and the cultural differences that shaped those (Carmona et al., 2003).

The presence of people in public open space, as well as their social interaction and public life, are affected by the feeling of safety and security. Gehl (2010) showed that there is a link between safety and security and the use of public space and its livability. Consequently, social interaction, sociability and public life, and safety and security are discussed further to enhance understanding of the social dimension of public open

space.

2.6.1 Need in public open space

The need in public open spaces has been discussed as comfort, relaxation, passive engagement, active engagement, and discovery. We may argue that to design and management of public space, it is necessary to understand the way public space rules people lives. Indisposed potential users create unfriendly memory of a place to be averted in the future. Many people go to public space for purposes such as serving an immediate need and many others go for the less obvious reason (Carr et.al., 1992).

2.6.1.1 Comfort

Comfort is one of the simplest and basic needs of humans. The acts of man for looking for a drink, food, and shelter from the sun are along with their desire for comfort satisfaction. From a physical aspect, frequently stated comfort elements are inappropriate location and arrangement, microclimate, shading elements, wide path, and well design of landscapes. In addition to physical comfort, public space should offer social and psychological comfort. According to the study of William Whyte on public open spaces and people behavior, physical comfort and connection are critical elements of comfortable open spaces: “sitting up front, in the back, to the side, in the sun. In the shade, in groups, oil alone” (Whyte 1980, p. 28). Social and psychological comfort is mostly concern safety and security in public, visual access, good lighting, and less barrier. Generally, the satisfaction of comfort in public open space can be measured by the time that people spend it there (Carr et.al., 1992, pp.95).

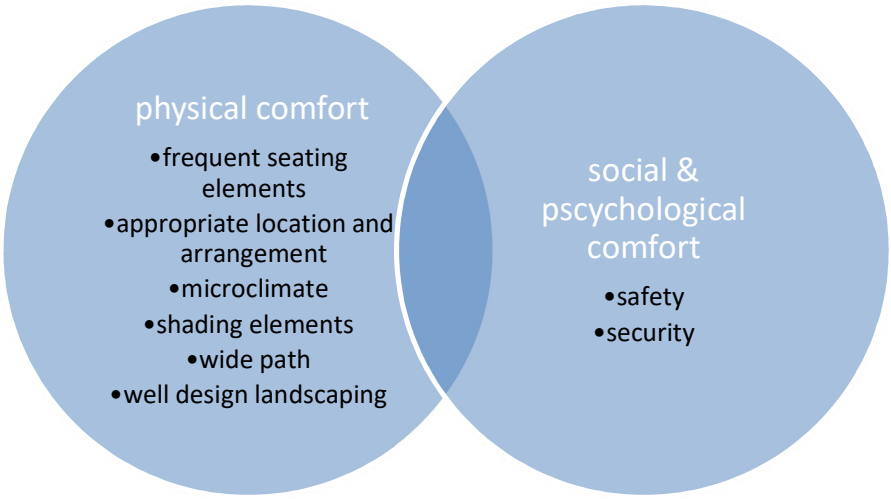

Figure 5. The aspects of comfort according to (Whyte1980)

2.6.1.2 **Relaxation**

Relaxation is more connected to psychological comfort. This entity connects body and mind and its moving peso to the sense of restfulness. According to Whyte (1980,1988), many people go small public open space like park and plaza searching for liveliness and other for engagement with the city life rather than overlooking it. Nager and Went-worth (1976) and Burden (1977) by interviewing people found that relaxation is the primary activity in public space. Relaxation has some requirements like the sense of separation, contrast with the opening, separation from vehicular traffic, and natural elements such as trees, water, friendly landscape, and opportunity for some privacy (Carr et.al., 1992,).

2.6.1.3 **Passive Engagement**

All the needs for public open space interact with each other. In this regard, passive engagement leads somehow to the sense of relaxation but it's run counter to the need for a confrontation with sitting although without doing any type of physical activity. Observing other people's activity and movement is an enjoyable moment for many people. William Whyte (1980) in his study about the common activity in small public

space indicates that “what apparently attracts people most is other people”. Another scholar, Cooper Marcus (1978), emphasizes that observation is the most popular activity of many people.

There is another passive activity that attracts users of public open space like watching general activities such as street performance and concert and the aesthetic qualities of a site such as a fountain, sculpture, landscape, and building façade.

2.6.1.4 **Active Engagement**

Active engagement connects people with places and people. Many people try to contact others when spending time in public space. According to Whyte (1980), “active engagement provides a linkage between people and prompts strangers to talk to each other”. He named this relationship as “triangulation”. Public open space creates an opportunity to contact not only with a stranger but also with a relative. Many families spend their time caring for their children to near public space not only to occupy them but also to enjoy their time communicate with the other. Another type of active engagement is the relation with the physical elements such as water and other elements. Furthermore, interest in daily exercise is another type of active engagement.

2.6.1.5 **Discovery**

Discovery is an enjoyable activity to cover human needs. Many people go to public space for satisfying their sense of exploration. Changing the perspective of the surrounding is one of enjoyable matter for people. According to Lynch (1963), contiguity and contrast of elements can gratify people by the delivered sense of pleasurable surprise. Travels are the most popular for discovering and finding some places that contrast with familiar ones. It even can happen at home when the location of familiar elements is changed.

2.7 **Perceptional characteristics of public open space**

Perceptual activity plays a key role in our lives. The main aspect of this concept is to be in contact with the world. All its smells, sights, and sounds have special meaning and value. On the other hand, it places us in our environments and gives us information about the surrounding as a basis for building the image of the environment (Ittelson 1974).

In the early 1960s, several attempts have been made to develop the perceptual dimensions that focus on the interaction between the human being and the surrounding urban environment. These dimensions include how humans value and perceive things and how they give meaning to certain issues in the urban built environment. We as human beings are always affected by the environment as much as we affect and change the face of the environment that we perceive with our senses by visualizing, hearing, smelling, and touching the things around us (Carmona et al., 2003). The psychological function that enables us to interpret the environmental stimuli is perception; which allows us as human beings to process the data gathered by the senses by forming a mechanism linking people with the environment through the sensory experience they receive from the environment (Rapaport, 1977). It has been argued by Eysenck (1984) that the complex process that involves interpreting the sensory information provides a variety of considerable processing mechanisms.

Perception as argued by deton (1992) is a combination of senses, feelings, thoughts, ideas, and theories. (Deton, cited in Qzeih 2019). It is an occasioned experience by the stimulation of sensory organs that are examined by cultural factors influencing the perceptual process, which considers both historical and anthropological evidence

(Dennis, 1951). What really encourage people to connect with the surrounding environment are their attitudes toward nature and the inner desire to build up a connection with that environment (Thompson 2002).

Perception may be quite taken for granted in everyday life but it is not just a physical reflex. Perception, or our relative use of the different senses and depth of perception, is a learned behavior; i.e., a skill. The body and mind, through trial and error and more formal education, acquires specific skills in perceiving and understanding environmental information (Hall 1969). Perception, according to modern psychology, is an active, personal, and cognitive process that utilizes and prioritizes the information captured by one's senses regarding the surrounding environment to assign meaning to this data.

In other words, the individual's perceptual processes transfer the abstract sensory experience into a meaningful one by constructing connections and meanings of the observed objects. This process is designed to happen simultaneously by the mind of the observes. So, one can conclude that this cognitive process utilizes the sensory experiences in addition to ones' ideas, imaginations and motivations to build a perceptual experience of the space. (Iravani; Khodapanahi, 2007).

Environmental psychology is a branch of psychology which deals with human perception about environment. In general, human selects and organizes the sensory data considering his/her needs. Hence, perception is a persistent procedure influenced by any factor that influences the thoughts inducing personal characteristics, attitude, cultural features, and values. From this point of view, perception and cognition are closely related. According to Motallebi (2001), the knowledge obtained from

environment is the result of interactions in human mind between “visual perception” and “cognitive experience”. Perception in environment concept is an active, persistent process by which information is collected from the environment (Lang, 1987) and it is converted into human’s reactions to design features such as form or structure (Naser, 2011).

The process of perception from sensory information to meaning can be considered as a judgment. For any judgment, there are two fundamental elements as the object to be judged and the subject who perceives the object (Grutter, 2006). In environmental perceptions, both the sensory experience and personal judgments are influential. The importance of personal judgment is highlighted in the literature by stating that even a very small difference between cognition and perception is important (Gifford, 1997). If stimulation is the antecedent of feeling, perception is a dependent of stimulation (Motallebi, 2001). More precisely, former knowledge, emotions, expectations, and cognitive experience are the variables which subordinate motivation, final decision, and willingness of the subject.

The importance of human’s perception in the stimulation has attracted the interest of many philosophers to investigate and simulate the process. In urban design, scholars have started studying the issue as early as 1960. In 1960, researchers in urban design and planning express emerging interests about exploring environmental perceptions. They have explored the role of design characteristics in the way people connect to the physical environment.

In the second half of the 20th century, three main theories have been introducing to explain the human perceptual experience. The first theory was the Gestalt theory of

Lynch in 1960s that forms a cognitive-based study (Lynch 1960; Downs and Stea 1973; Gould 1973; Nasar 1998). The second is the theory of the behavioral theory that deals with the assumptions (Webber 1964; Hall 1966; Barker 1968; Sommer 1969; Altman 1975). Finally, the third theory is the ecological theory of perception that concentrates on lived experience in relation to the urban built environment (Gibson 1966; Gibson 1969; Altman 1976; Berry 1976) (Table 10).

Table 8. The main theories on environmental perception.

Schools	Theorists	Intellectual basis
Gestalt Psychology	Kohler (1938) Wertheimer (1938) Koffka (1935) Arnheim(1960)	Perception and problem solving processes is the mostly considered by the Gestalt psychologist. They believed that perception is not a combination which is not constituted by elements that are consecutively integrated as meaningful concepts in the mind, but perception was known as a coherent whole consisted of a board or Gestalt.
Adaptive Psychology	Ittelson (1960)	They consider human's environmental experiences and the mutual communication between human and his environment as a basis and study the perception as such a adaptive process between observer and the environment.
Ecological psychology (Optical)	Gibson (1966)	Gibson set environment as the foundation of all data. He believed that environment data are received directly without the need for processing power in the human brain, through the "environmental lights" and human senses, acting as a "system".

Perception includes, as Rapoport (1977) argues, three different meanings; i.e., environmental evaluation, cognition, and perception. In environmental evaluation or preferences process, one can describe the perceiving the environmental qualities and therefore setting the preference, behaviors, and decisions. However, environmental cognition refers to the process of understanding the environment and the construction of mental maps of the latter. Finally, environmental perception is the process of explaining the direct sensory experience at a certain time and space. Thus, "perception deals with how information is gathered and obtained through cognition, how it is organized [although the two are closely related], and how preference deals with how it is ranked and evaluated" (Rapoport, 1977, p.31).

Ittelson (1978) conceptualized perception in four dimensions; i.e., cognitive, affective,

interpretative, and evaluative. He defined cognitive perception as the process of thinking and keeping the information, which then enables us to make 'sense' of the perceived environment. On the other hand, affective perception includes people's feelings in the process of perceiving the environment. Meanwhile, interpretative perception includes our memory in recalling saved information. Finally, evaluative perception incorporates people's moral principles and preferences. Some scholars believe that the difference between cognition and perception is translated into the role of direct and indirect knowledge (Rapoport, 1977). Others, on the other hand, Arnhiem (1969) for instance, think that it is hard to put each terminology in a separate form. He believes that both cognition and perception are complementary processes that need each other to happen but still different in principle (Arnhiem, 1969). Arnhiem (1969) further adds that one cannot point the difference between looking at the world directly and thinking about the world with the eyes closed. Moreover, Neisser (1976) agrees with the previous opinion that perception and cognition belong to the same unique cycle and they do affect each other.

From the previous discussion, one can conclude that scholars who believe that cognition and perception are two different processes and those who believe that the two processes interact are both correct. Henceforth, perception is more related to the sensory direct experience between the perceiver and the perceived environment. However, the quality of the perceptual experience is dependent on the skill, experience, and knowledge of the perceiver (Neisser, 1976). The quality of perception also depends on the physical, functional, or emotional quality of the perceived environment (Kaki, 2000). The variation of the three mentioned qualities leads to the highly personal experience of each perceiver (Kaki, 2000).

Two conclusions can be driven from the previous discussion. First, all senses without exclusion are involved in the sensation and perception process of the environment as discussed by Bacon (1974) and Lang (1994). Secondly, people although might share the same sensation, their perceptions certainly differ according to factors such as gender, age, ethnicity, duration of stay in the area, social environment, cultural background, and life pattern (Knox & Pinch, 2014). Therefore, the analysis of mental maps and images of places is essential while designing urban public open spaces (Carmona et al, 2003).

To define this concept, many factors are required to be describes. Robin (2007) lists these factors as perception, knowledge and the context of the subject being argued. Based on Gifford's (1997) approach, the underlying dimensions of perception are social, personal, and physical. The way a person perceives the space has been the main concern of several scholars. Their studies have influenced the fundamental concepts and theories in design and planning environment, such as Reed (1988) and Cherry (2010), describe how an individual's perception depends on various factors. Some of these schools are as follows:

- Personal characteristics of the perceiver such as attitudes, moods, motives, self, interest, cognitive structure (which is an individual's pattern of thinking), and expectations.
- Characteristics of the target such as appearance, sound, and size of the perceived target.
- Characteristics of the situation in which the interaction between the perceiver and the target takes place.

2.7.1 The concept of sense of space

The main two components of the term 'sense of place' are the senses and places. In

the Oxford English Dictionary, there are three main definitions that mentioned the word sense. The first meaning deals with the five senses. The second one refers to an emotion that is presented as a mental image in psychologies or as a judgment that can be good or bad. The third definition presents the ability in judgment about the abstract thing such as the content of feeling in the sense of the way. Feeling occurs when a thing is entirely perceived by a person. Based on this approach. Emotion towards the space is the imagination, judgment, and the feeling of involvement of the place. These factors generate a special sense in people about the place. From this perspective, the characteristics of the environment interact with people feelings and the sense of place is a complicated term associated with people.

Elaborative theoretical and empirical work has been underway to develop the notion of "sense of place". Sense of place is determined by the perceived meaning and background of the place. The relationship between the mental process of perception (including the feeling and emotion) and the environment is described by this concept. A space turns into a special place for a person with related emotional and behavioral features because of those feelings and meanings as the main components of sense of place. In addition to the personal-level feelings, an environment harmonized with cultural and social values provides a smooth atmosphere and enhances the sense of safety, belonging and relief. These features change the place into somewhere to evoke pleasant experience and express behavioral identity.

According to Ghaffari (1993), humans can receive and evaluate large amount of information from the environment, which they use it if they have enough time to sense it. Since the information is collected in huge chunks, the receiver has to create a total image in order to understand the formation. The elements and orders in the multi-type

lead to the creation of various feeling senses and understanding them. According to Steele (1980), this persecution is the way people transact with the environment that measures the sense of place of the deferent environment. This process between people and place look like any equilibrium in which they think in negative or positive values to the environment and then it comes back on them. In addition to the structure, psychological perception can be considered as the imagination of place. A complicated combination of the place and behavior, which is called an environment and things arouse to people, is produced by a sense of place. Some spaces are characterized by a powerful sense of place that affects distant individuals similarly (Steele, 1980).

The perception of environmental quality depends on two factors; the physical environment and the meaning people attach to the latter. People can possibly have the same sensation of their environment, but their perception would be different. These variations in perception of the environmental quality are due to the differences in factors such as age, gender, time spent in the space and personal lifestyle according to peoples' values, culture, and social background. In this context, Carmona et al. (2003) stressed that perception is not only a matter of biological process but also a social and cultural one.

While analyzing public open spaces, a sense of place should be considered. Accordingly, many scholars have given the sense of place special attention. In this regard, Relph (1976) identified three main components that define the identity of any space: physical setting, activities, and meaning. The emphasis of the previous opinion is on the meaning and activities in public open spaces. Hence, sense of place is highly dependent on what happens within it and the feeling attached to it, not merely its physicality (Jackson, 1994). Therefore, public open space can be defined as a container

holding different events that have meanings driven from the social and cultural context of the container, which finally results in understanding the place.

"The last 40 years have seen increasing interest in people's tie to, and conceptions of, places" (Carmona et al., 2010b, p. 120). This section reviews the place's concepts, its relationship with space, and the way we construct our sense of place. Many scholars, such as Relph (1976), Canter (1977), Punter (1991), and Montgomery (1998), have tried to highlight the importance of place by linking it to both environmental psychology and social psychology. Environmental research is very essential in the argument of place because it stresses the construct of place within social psychology (Canter, 1977, cited in Alameddine, 2005). In his book, 'Place and Placelessness', Relph (1976) were one of the firsts who connected a psychological and experimental sense of place. Relph (1976, p. 8) argues that "though, amorphous and intangible, whenever we feel or know space, there is typically an associated concept of place" (cited in Carmona, 2010, p. 120). Therefore, one can point the centrality of places in constructing meanings of the lived experiences.

Referring to Falahat (2006), mental perception is linked with the physical environment internal relationship. In other words, in order to connect people's perceptions and feelings to the environment, a sense of place is to be created to in the concept of environment background and meaning. Feelings an individual has about a place, convert the space into a special place with certain features connected to a person's emotions. Feeling the place provides peace and calmness for people and aligns with their sociocultural relations. Recalling previous pleasant experience makes people reveal their attitudes and behavioral identities.

Falahat's (2006) has named this process as "sense of place". "Sense of place" is the individual's feeling about the environment after perception and judgment. This feeling is created in different places ranging from a small and private place like a house to a populated public occasion like being a member of a nation. The sense of place affects the emotions about the place and is linked with the experience people have had being in the place. Through positive sense of place, people practice harmony with the environment. It also enhances satisfaction and helps better usage of the place. Among all the meanings claimed to be related with place and space, "sense of place" is the most related one which considers characteristics of the place as well as human values and perceptions (Foote and Azaryahu, 2009).

According to Hudson (1976), sense of the place is constructed by personal, social and diversity records features. This concept has been studied from aesthetics as well as scientific point of view. Phenomenology argues that the symbols in the place and the perception during daily activity are related to phenomenal recognition. From this perspective, the sense of place is created by this recognition in a similar way it is created by life. Thoughts and behaviors are the other contributing factors to sense of place related to social values and personal beliefs (Canter; 1977).

On the other hand, Brinckerhoff (1994) argues that generating pleasant sense of place not only enhances the connection and harmony between people and urban environment, but also contributes to sense of safety and satisfaction. The most critical fact about sense of place is that it is an antecedent of design features and at the same time the passion of the place. Hence, the concept is basically determined by the function of the place (Brinckerhoff; 1994). Natural elements are also believed to take part in the sense of place. Brinckerhoff (1994) has observed that natural places used

for daily and social activities are strongly related to the sense of place. Furthermore, Simon and Burns (1997) claim that a mixture of natural design elements and social/daily activities generates a quality sense of place no matter the place is as small as a room or as big as a continent.

"By imbruing them with meaning, people, both individually or in groups, change spaces into places. Some places are meaningful to people in groups or as a society or a nation as a whole. Other places may be especially meaningful for individuals" (Carmona, 2010, p. 120). Madanipour (2010) in his book "Whose Public Space?" differentiated between what is space and what is the place. In his point of view, space is an abstract or impersonal meaning. On the other hand, he believes that a place is considered as such if it was assigned a certain value, meaning, and interpretation (Madanipour, 2010a). He also highlights the fact that scholars are studying the changeability of spaces into places from different perspectives, following the steps of Jane Jacobs (The Death and Life of Great American Cities, 1961).

Carmona (2010) defined three basic elements to create an identity of place; i.e., physical setting, activities, and meanings.

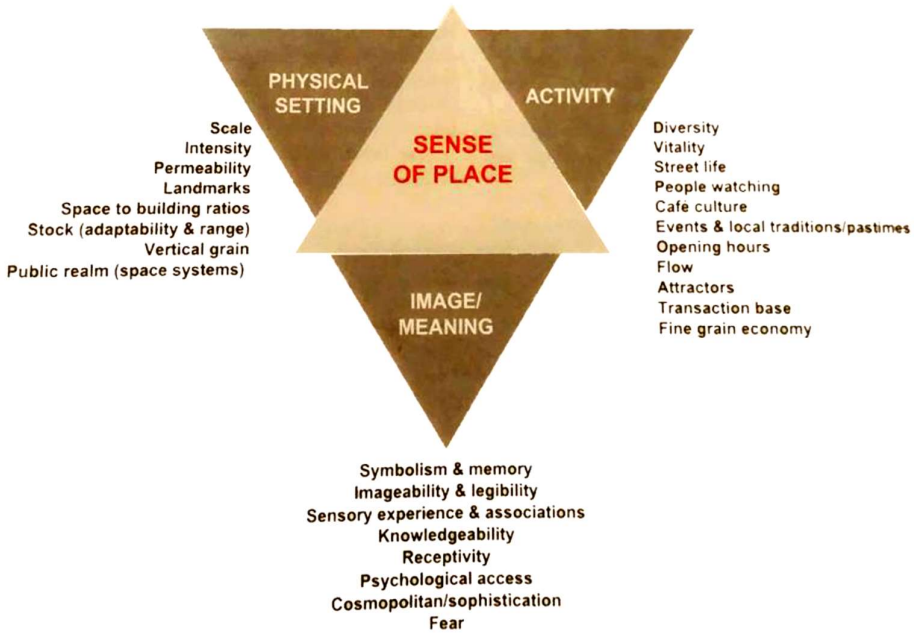

Figure 6. Sense of place. (Source: Carmona et all 2003. p.122)

However, understanding the meaning is relatively harder than understanding the physical setting or activities (Relph, 1976). For example, to describe a city, one can mention the buildings or other physical elements within. Similarly, if one wants to describe the activities of users, he can describe the movement of people by just observing them. However, the feeling beyond the described items is much harder to get or understand. Additionally, the fact that the feeling of the doer is different from that of an observer makes it harder to monitor the meaning (Carmona and Tiesdell, 2007). In other words, "while place meanings are rooted in the physical setting and in activities, they are not a property of them; rather, they are a property of 'human intentions and experiences' of those places" (Relph, 1976, cited in Carmona, 2010, p.120).

Based on the conclusion of Relph's work (1976), Canter (1977) in his book ('The Psychology of Place'), defined place as a result of a relationship between three

elements; activity, conceptions (perceptions and values), and physical attributes (details of size, shape, and color). He states that "we have not fully identified the place until we know what behavior is associated with, or is anticipated to be housed in it, what the physical parameters of the setting are, in addition to the descriptions or conceptions, which people hold of that behavior in that physical environment" (Canter, 1977, p. 159). He further ensures the importance of studying the three elements in an interrelated manner rather than independently. Canter (1977, p. 163) eventually highlights the fundamentality of this model especially for planners and urban designers, simply because, "designers are officially the modifiers and creators of physical form. But from the model, we can see that their task is to manipulate the physical attributes in such a way as to draw upon or create, the appropriate context for specifiable activities and conceptions" (1977, p. 163).

Punter (1991) and Montgomery (1998) adopt Relph's and Canter's approach to the concept of place and take it a step further and attempt to identify the sense of place in urban design thought. Montgomery (1998) clarifies the role urban design can play in developing and improving the 'sense' of a place in a diagram shown in Figure 9.

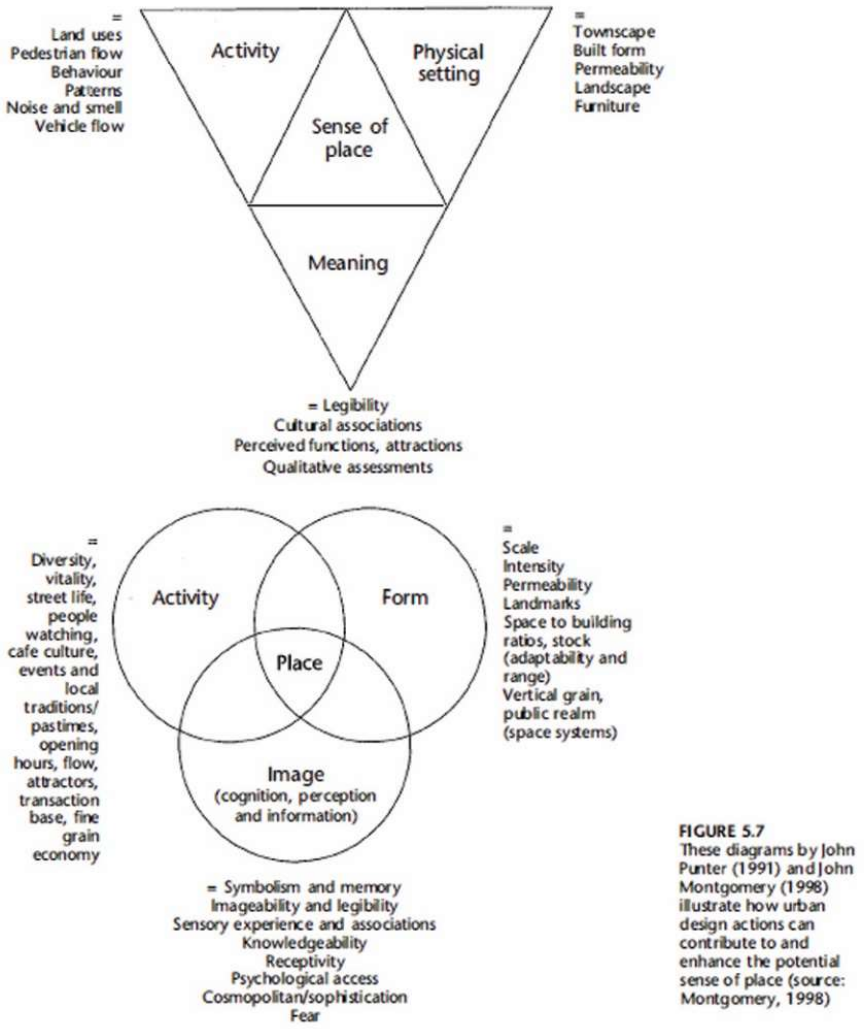

Figure 7. Design action and the relation with sense of place (Montgomery, 1998).

Different dimensions are identified in the study by Lang (1987, p. 77). This scholar recognizes physical, social, psychological, and behavioral elements, where the physical aspect relates to the terrestrial or geographical setting, the social aspect relates to the communication and interaction amongst individuals, the psychological contains images that people have in their heads, and the behavioral one deals with individuals' responses. The work of Alameddine (2005) regarding the role of public space in Beirut city echoes largely the components of the sense of place model as proposed by Canter (1977), Punter (1991), and Montgomery (1998). It distinguishes the physical, sociocultural, perceptual, and functional qualities of public space.

2.8 Summary of the chapter

The discussion in this chapter was mainly to emphasis two aspect of public open space, definition, typologies and importance of public open space; and characteristics of public open space.

Public open spaces are the lungs of the city and they play an important role in enhancing the quality of our urban life. The reviewed literature showed the multifunctional aspects involved in the concept of public open spaces. In the context of this study, public open spaces are defined as outdoor spaces that are accessible to the public where people can meet and engage with different activities.

The characters of public open space have been explored by investigating a wide range of literature related to the physical, functional, social, and perceptional characteristic. These characteristics are intertwined in a way that allows us to understand the spatial/physical aspects of public open spaces. According to the literature, there are many principles and potential points that we should take them in consideration to achieve a successful public open space. Moreover, designing and improving public open space should start with a complete analysis that considers all mentioned characteristics of public open space. Consequently, the researcher developed a checklist to evaluate the physical, social and functional qualities of any public open space that helps in the development process. (table 9)

Table 9. Characteristic of the public open spaces (by author)

Public Open Space Quality	Design features for POS				Recommendation and guidelines	Evaluate	Notes
	Physical	characteristics	size	not too big not too small	cross-section for the open space is between 18-100 meters		
			shape	curved shape	give sense of curiosity and intrigue to explore what happens in round corner		
				rectangular shape	it is more obvious for people		
				proportional with surround	the relation with the building and the street around the POS		
			furniture	sitting elements	proper and comfortable beside movable chairs		
				lighting fixtures	efficient lighting fixture to provide good lighting		
				trash bins	enough in number and well-designed		
				sports equipment	efficient sport equipment		
				shading elements	many types of shading elements offer enough shade for users		
				playground	quality of the offered games for children		
				signs and way-finding	proper signs to make easier way-finding		
			materials	attractive colors	the color should be pleasing and comfortable		
				vertical surfaces	It could be used for define different areas, show directions		
				high quality	it is benefecial because it is under a lot of tear and wear		
			natural elements	trees	offering shade and more green in POS		
				water elements	it is tempting for people to spend plenty of time in public open space and attracting them		
				plant	many type of plants to make the public open space more convenient		
	Functional	rights in POS	access	physical	avoidance of physical barriers - stairs and ramps -		
				visual	appears open from approach street - good visual access - no high wall faience		
				symbolic	symbolic access to all groups, visible from POS entries		
			freedom of action	emphasize multi space	minimize activity areas useable by only few people		
				zone active area	separate the noise area from other		
				protect special group	secure area for elder people		
			variety	subspaces	like sitting that's group or individual can use it separatly		
				a wide variety of activities	special event and different type of function		
	Social	needs	comfort	microclimate	open and sunny area beside shading place with some wind protection		
				seating	physical aspect comfortable frequent seating elements in appropriate location and arrangement, microclimate, shading elemer		
				park house	simple structure in central location include restroom and the equipment store		
				safety and security	all the area are open and have some view from housing		
			relaxation	sense of separation	it should be separate from vehicular traffic		
				landscape	sense of restfulness, sense of separation, contrast with opening, separation from vehicular traffic,		
				security	no risk make the users unrelaxed		
			passive engagement	observing	land scape and building façade.		
				viewing	Observing other people activity and movement -street performance and concert		
				involvement with nature	also the aesthetic qualities of a site such as fountain, sculpture,		
			active engagement	playground	children playground and sports field		
				communication	create opportunity to contact with stranger		
				movement	relation with physical element = daily exercise		
			discovery	pathway	compensate their sense of exploration		
				details	context in wall -paving- dramatic seasonal change in planet		
	Perceptional	sense of place	cognitive	perception	became aweaness of the place		
			behavioral	interaction with the place	the users are using all parts of the public open space		
					users are intract with the activites		
			emotions	satisfaction			
				meaning	culture of people should take in consideration		
				attachment	became part of their life		

Chapter 3

PARKS AS PUBLIC OPEN SPACES

The rapid and wild spread of cities and towns will lead to a quick demise of spaces, such as gardens, parks, and various green spaces, which play a crucial role in the liveliness of our societies. In today's highly industrialized world, we can resort to green spaces to depart from the roughness of cities and towns. We got totally familiar with the idea of "public open space" in the last chapter. The chapter will focus on parks as public open spaces. It is composed of three parts. The definition, significance, and different classifications of public open spaces are provided in this chapter.

3.1 Defining Parks as Public Open Spaces

Parks could be defined as a natural, semi natural or vegetated space for wildlife conservation or natural ecologies or human pleasure and entertainment. Frederick Law Olmstes define urban park as "a naturalize passive structure" (Rutledge & Molnar, 1986, p.4)

One should fully know the components and the historical background of urban parks in order to have a perception of how valuable public urban parks are for us. Reaching a consensus on defining "the park" is really challenging; however, park managers, planners, and users are trying their best in this regard. In 2008, Springgate suggested that there exists no conventional and generally acknowledged definition for the park. The concept of "the park" has highly developed with time as a representation of cultural and societal changes rather than a consistent set of regulation.

According to the definition of the European Council, open spaces and parks are public habitats for the local people (European Urban Charter, article 4, section 3). Based on the definition above, urban parks are major gathering places (rendezvous points) for leisure time. They are spaces for having conversations, communication, recreation, and amusement. Public parks are spaces in which you can hang out, start conversations with, or approach other people such as friends or strangers.

To enhance our mental and physical well-being, we can go to public urban parks that are considered perfect places for entertainment and human activities (Chiesura, 2004; Sturm & Cohen 2014; Gascon et al. 2015' Frumkin et al. 2017). Parks are one of the crucial components of any high-quality, sustainable, and vigorous society, which can offer essential items for human beings when they go out, finish work or school. In everyday life, parks play a substantial role, either being used actively or passively. Parks as public open spaces are also taken into account as one of the integral parts of municipal infrastructure just like sidewalks and streets, drainage equipment, fire-suppression and police equipment, water, and sewer lines, and so on. They guarantee adequate acquisition, construction, operation, and maintenance of resource. A universal and interconnected park system that can satisfy values and requirements of local inhabitants can promote standards of living of a society. Inhabitant can enhance their physical health, try various educational and leisure activities, and foster the integrity and quality of natural environments by merely going to parks. In addition, the tourism industry can take advantage of parks to attract visitors, leading to economic growth. Therefore, the next section will discuss the importance of parks.

3.2 **A Park's Purpose**

In an era marked by wild urbanism, climate change, consumerism, and eccentric lifestyles, we need to ask ourselves that why we build urban parks, a question that the International Institute for Environment and Development (IIED) (2013) has considered more critical than ever before.

Public parks may have a broad array of cultural, economic, personal, and social advantages. For instance, well-crafted parks provide an opportunity for us to lead a more vigorous life that is vital for human well-being by providing both active and passive amusement (Paffenberg and Lee 1996, Spangler 1997, Jackson and Kochtitzky 2001). Known as so-called "blending valves," public open spaces offer possibilities for human interaction, leading to a decrease in social isolation and an increase in the sense of solidarity (Leinberger and Berens 1997, Garvin and Berens 2001). In extremely urbanized regions, parks can provide many and varied benefits, such as decreasing flooding, pollution, and urban heat (Pincetl et al. 2003). By contributing to an increase in real-estate values, parks can add direct economic benefit to societies (Burgess et al. 1988, Lutzenhiser and Netusil 2001, Pincetl et al. 2003). Besides, one of the essential advantages of parks seemed to be intangible assets (quite hard to measure) such as a sense of wellness they give to inhabitants and even non-park goers (Cranz 1982).

Project for Public Space (PPS 2015) maintains parks are of great importance due to several special reasons as follows:

- Empowering standards of living of society, leading to its economic growth and fascination as a habitat and do business;

- Enhancing the appearance and quality and of public spaces of society, leading to the formation of a pleasing and favorable image of Laramie to tourists and investors;
- Providing regions and equipment for citizens of all ages in order to satisfy their leisure recreation and active requirements;
- Promoting a healthy social life by allowing citizens to use parks as well as do exercise and sports;
- Serving the interests of activity groups and local recreational leagues that make use of this equipment for social communication and sports activities;
- Strengthening the security and usage rate of available parks through making required and desired improvements;
- Establishing decision-making criteria to acquire and build new parks, including their design, financing method, location, distance, and type;
- Offering sufficient regions and equipment in immediate surroundings, such as type of parks and a wide range to address the needs of all citizens; and
- Conserving valuable aquifers (wellsprings), public open spaces, as well as other susceptible lands for the greater good and pleasure of generations to come.

The evident advantages of an urban park include shunning the urban overcrowding and noise pollution, as well as sensing the nature in the middle of a jumble of brick and asphalt. People can communicate with each other in urban parks. These communications and public places are vital to establishing robust community investment and involvement. Parks develop and sustain a high-quality life, guarantee the well-being of park-goers, and enhance the environmental and economic prosperity

of a region and society. According to the National Recreation and Park Association (NRPA), parks possess three values which make them basic services to societies, e.g., social significance, environmental and health advantages, and economic value. Similar to NRPA, the Ontario Federation of Parks and Recreation (OFPR) divides the beneficial impacts of urban parks into four categories, e.g., economic, environmental, personal, and social. Perception of the value of parks lays the ground for building parks that offer a lot of advantages to users while amassing worthy political and economic support.

A well-kept and well-designed park raises the value of the real estate in the immediate proximity of the space, enhances retail and commercial health, and entices employees, inhabitants, and businesses. Moreover, parks may revitalize and rejuvenate the locality and society to which they belong.

Public park equipment and programs contribute to physical well-being and promote an active lifestyle for adults, the elderly, and children. Community or local parks have an impact on the well-being of urban citizens by boosting physical exercise, offering a place to communicate with nature, and enhancing the quality of the environment, leading to health promotion. Parks encourage physical training. The Centers for Disease Control and Prevention (CDC) believes that the establishment and development of physically active spaces would lead to improved community health by increasing the percentage of those dwellers who exercise on a regular basis up to 25%. Teenagers and kids particularly cash in on urban parks. The primary focus of the Edinburgh OPENspace Research has been on the correlation between access to nature in childhood and the health advantages it brings (Travlou, 2003). Water features, vegetation, and places to hide and seek are among other characteristics of parks, which

can increase the chance of children to win the game. Pretty et al., (2005) proposes that involvement in nature and green spaces have a significant impact on health of the people during three levels of involvement, e.g. seeing natural surroundings; active involvement in and engagement with nature, and maintaining a close contact with adjacent nature and green spaces, namely by walking (p. 29). Getting in touch with nature mediated by parks contributes to a reduction in the level of stress, allowing the brain to recover itself (Kaplan & Kaplan, 1998). A reduction in mental exhaustion diminishes levels of disappointment, anxiety, and peevishness. Natural elements that can be found in urban parks may purify the air, enhance water quality, suggest an abode for wildlife, enable users to get in touch with nature and offer vegetative buffers to development.

In addition to health and economic advantages, public parks promote the community well-being of an urban region as well. As reported by the American Planning Association (APA), parks as third places are areas outside home and work and in which people try to communicate with each other. Third places encourage informal social intercourse that bolsters senses of place, safety, and community. Furthermore, these public places propose special equipment that lure people and offer social contact, including soccer law, fountain, or playing field. Parks represent the neighborhood quality of life. They make an identity for locals and a particular community. Besides, they create a feeling of connection for the people who reside, work, and play in there. Since parks are meeting places for the people irrespective of their economic status, age, or race, they provide an identical degree of access. Although there are different functions for parks in different cultures, they are considered as democratic places which grant access to users from different environments (population groups). Essential relationships between park-goers may encourage the approval of different cultures,

economic conditions, and demographics. According to a research done by the Project on Human Development in Chicago Neighborhoods (PHDCN) discovered that community participation in parks is related to reduced crime and hooliganism levels as there is a feeling of pride and ownership within and around the place. There is a significant relationship between the level of access to these green spaces and reduced levels of crime and juvenile offending. The most apparent advantage of public parks is that they provide users with social opportunity or chance to perform something in the desired place. No matter it is an individual activity or a group activity, parks allow people to participate in events or activities, have fun in the open air with family and friends, and make use of the space at their will. Public park spaces are required to fulfill their function, i.e., being public. This makes it possible for all user groups to enjoy themselves without regard to age, ethnic background, or economic status. Parks must provide different groups with the necessary capacity to take advantage of the space as they wish to succeed. The organization of the area so as to dissuade undesired activities, including alcohol and drug use, violence, or hooliganism is the other goal needing to be addressed. Eventually, parks offer a place in which individuals can get away from noise pollution and the overcrowding of the city. The next section will discuss the different types of parks based on their size and facilities.

3.3 Types and characteristics of parks

There may exist grasslands, trees, soil, and rocks, as well as constructions and different artefacts like fountains, playground or memorials. There are football (soccer), baseball, and basketball fields in numerous parks. A large number of parks may have pathways for biking, walking, and various other sports. Several others are constructed near water bodies or streams, which may have a boat dock area or a seashore. In cities, usually, there are sitting benches and sometimes outdoor grills and picnic benches. Huge parks

may have an area of several thousands of square kilometers with plenty of animals, natural rivers and mountains.

Parks are divided under different classifications. Classifying parks is important generally for organizing professional practices regarding design and maintenance of parks around the city. Classifications are important in guiding any process regarding parks and not to be rigid rules. These classifications should be manipulated and redefined according to each case and to each community needs.

Classically, classifications of parks are basing on size of park, its function, its geographic location and facilities within the park and sometimes the number of natural elements in the park. This research, however, focuses mostly on the artificial parks or man-made parks where the inclusion of natural resources such like lakes, waterfronts, etc. is not the focus. Figure 8 shows an example of classifying parks according to the previous criteria. Parks can be variously described as urban parks, nature parks, pocket parks, district parks, community parks, neighborhood parks, sporting fields, urban forests and the like Table 10. Parks, however, can be classified in other ways. Parks can be classified according to the activities happening within the park (e.g. cricket oval, skateboard park, bowling green), the responsible agency or party of the park (e.g. national park, state park, city park), park history (e.g. heritage rose garden or Bora Ring III park), park condition, history of the area in terms of land use (e.g. Victorian-era park or street-corner neighborhood park), targeted users or audience, landscaping and embellishments (e.g. sculpture park, dog park, bike park or Chinese garden) and the philosophy behind the park's development (e.g. recreation reserve or civic square) (Baud-Bovy, M. and Lawson, F., 1998). Combining these various factors can result in all sorts of combinations and permutations, rendering a standardized method of

classifying parks virtually impossible and rather pointless. However, as mentioned before, to achieve the aim of simplifying the argument, this research will mostly focus on parks according to their size and facilities.

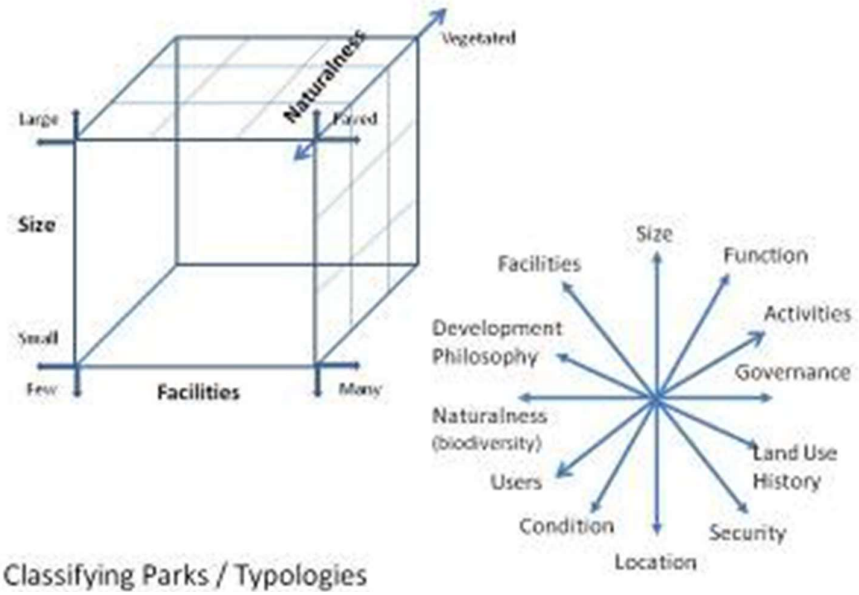

Figure 8. Operationalized of typologies (Byrne and Sipe, 2010)

Many researches of greenspaces have done an effort classifying parks into certain typologies. One of these scholars is Kevin Lynch; who has made an important contribution. He classified parks into greenbelts, green wedges, regional, suburban and city parks, linear parks, plazas, playing fields & lots and playgrounds as well as 'wastelands' as various types of urban green/open space. Many scholars later have built on and used lynch's classification. Several criteria from these classifications are instructive. They include: the philosophy underpinning park design; land use histories; the function, location, size, level of governance, and range of the park, and the facilities located within the park, as well as park safety. Two criteria stand out as most useful – size, and facilities. These criteria could be used to develop a simple typology as

illustrated inMany researches of greenspaces have done an effort classifying parks into certain typologies. One of these scholars is Kevin Lynch; who has made an important contribution. He classified parks into greenbelts, green wedges, regional, suburban and city parks, linear parks, plazas, playing fields & lots and playgrounds as well as 'wastelands' as various types of urban green/open space. Many scholars later have built on and used lynch's classification. Several criteria from these classifications are instructive. They include: the philosophy underpinning park design; land use histories; the function, location, size, level of governance, and range of the park, and the facilities located within the park, as well as park safety. Two criteria stand out as most useful – size, and facilities. These criteria could be used to develop a simple typology as illustrated in Table10 (Sister, Wolch, Wilson, Linder, Seymour, Byrne, & Swift, 2007).

Table 10. Park classification by Baud-Bovy, M. and Lawson, F., 1998

Type	Size (ha)	Typical Densities	Visit Length	Facilities	Naturalness	Image
Pocket park/ Playground/ Dog park	< 1	<50+ persons per ha	10 minutes – 1 hour	Few facilities – typically just play equipment and maybe benches	Few natural features – just a small grassed area with a few shade trees.	
Neighbourhood park	0.11 – 4.9	40 – 100+ persons per ha	30 mins – 1.5 hours	Limited number of sports facilities. Play equipment, picnic sites, BBQ facilities & green-space set aside for organised sport.	Larger areas of lawn, a field or two for organised sports and plantings of ornamental vegetation with shade trees. Some areas of impermeable surface.	
Community park	5 – 9.9	50 – 200+ persons per ha	30 minutes – 3 hours	Some active recreation or organised sports facilities. May include community centre.	Large areas of managed landscape, abundant lawn, shade trees and ornamental vegetation. Larger areas of impermeable surface.	
District park	10 - 24.9	50 – 1,000+ persons per ha	1 hour – 5 hours	Many sports facilities. Community centre, sports fields for football, soccer basketball courts, tennis courts etc.	Generous areas of managed landscape abundant lawn, shade trees and ornamental vegetation. Several grassed areas dedicated to organised sports. Several areas of impermeable surface.	
Regional park	25 – 500+	<150+ persons per ha	2 hours to 1 day	Range of facilities e.g. large scale recreational activities – field sports, archery, canoeing, nature trails etc.	Abundant natural features, mixture of managed landscapes and endemic vegetation. Much lower percentage of park is comprised of impermeable surfaces.	
Nature/ wilderness park/ National Park	25 – 1000+	<10 persons per ha	½ day to1 week +	Few if any active recreation or organised sports facilities.	Few managed features and largely dedicated to preservation of endemic species. May include a landscape feature such as a wetland, hills or canyon(s). May contain interpretative signage.	

Classifying parks into certain typologies helps specific policies, planning, management, and design to be more clearly directed at the use and capability of each park. It is important to distinguish the targeted audience in order to determine the needed size according to the population and to determine the needed activities and facilities according to the people and their density. Table 11 highlights a classification system that was developed by the National Recreation and Park Association (NRPA) in 1995 to distinguishes park typologies (Mertes & Hall, 1996), which highlights again one of the most important factors in classifying parks; size. In addition, NRPA's classification gives a glimpse of the expected needs of each type.

Table 11. Park classification by (Mertes & Hall, 1996)

Name	Size	Service Area	Description
Mini park	< 5 acres	Immediate surrounding area for unique or isolated recreational needs	Limited, isolated or unique space such as pocket parks
Neighborhood park	5 - 10 acres	¼ - ½ mile radius	Recreational and social focus of the neighborhood
Community park	30 - 50 acres	½ - 3 mile radius (2+ neighborhoods)	To meet community recreation needs while preserving the natural and unique landscapes and open spaces

All three previous categories of urban parks serve the purpose of getting away from the cityscape of automobiles, transit, commercial and retail strips, and the heat and pollution of these elements. As mentioned previously, each type of parks is unique, but all should satisfy the needs of the targeted population while enhancing the overall natural elements of the city and by offering a place so the inhabitants of the city can relax, gather as a community and find a recreational area.

NRPA further developed a detailed classification of parks in a hierarchal manner. Each type serves different group of people in terms of characters or/and population number. For instance, a neighborhood park should be designed differently than a school park. The requirements and the scope of each park differ. That why these classifications come in use especially in designing and implementation stages.. Table 12 explains each type and its needed size, location, and facilities according to NRPA (1995).

Table 12. Park classification by (NRPA 1995)

Classification	General Description	Location Criteria	Size Criteria
Mini-Park	Used to address limited, isolated or unique recreational needs	Less than a ¼ mile distance in residential setting	Between 2500 sq. ft. and one acre in size
Neighborhood Park	Neighborhood park remains the basic unit of the park system and serves as the recreational and social focus of the neighborhood. Focus is on informal active and passive recreation	¼ to ½ mile distance and non-interrupted by non-residential roads and other physical barriers	5 acres is considered minimum size, 5 to 10 acres is optimal.
School-Park	Depending on circumstances, combining parks with school sites can fulfill the space requirements for other classes of parks, such as neighborhood, community, sports complex and special use.	Determined by location of school district property.	Variable-depends on function
Community Park	Serves broader purpose than neighborhood park. Focus is on meeting community based recreation needs as well as preserving unique landscapes and open spaces	Determined by the quality and suitability of the site. Usually serves two or more neighborhoods and ½ to 3 mile distance	As needed to accommodate desired uses usually between 30 and 50 acres
Large Urban Park	Large urban parks serve a broader purpose than community parks and are used when community and neighborhood parks are not adequate to serve the needs of the community. Focus is on meeting community based recreational needs as well as preserving unique landscapes and open spaces	Determined by the quality and suitability of the site. Usually serves the entire community.	As needed to accommodate desired uses. Usually a minimum of 50 acres, with 75 or more acres being optimal.
Sports Complex	Consolidates heavily programmed athletic fields and associated facilities to larger and fewer strategically located throughout the community.	Strategically located community-wide facilities	Determined by projected demand. Usually a minimum of 25 acres with 40 to 80 acres being optimal.

The above standard is for each community to develop a park and open-space system plan based on an assessment of its own unique park and open space system needs and opportunities. A well-balanced system plan emerges based on local circumstances. To achieve a well-balanced plan system, the plan should include different types of parks ranging from large regional parks to a very small mini or pocket parks. Ruling agencies (federal, state, county, and municipal) are important players in providing this system. The following park descriptions are also proposed by NRPA (1995). They are not intended to serve as park standards, but instead are used as a framework for describing the components found in a park system. Communities should structure their park types based on individual community needs.

Table 13. Park classification (Sister, et all 2007)

	Service Area	**Typical Size**	**Acreage/ Population Ratio**	**Typical Facilities**
Mini Parks	0.25-mile radius to serve walk-in recreation needs of surrounding populations	0.25 to 1 acre	0.25 acres per 1,000 persons	Playground Picnic Tables with Grills (not under shelter) ½ Basketball Courts Benches or Bench Swings Open Play Area Landscaped Public Use Area
Neighborhood Parks	0.25 to 0.75-mile radius to serve walk-in recreation needs of surrounding populations	5 to 10 acres	1.5 acres per 1,000 persons	Playground Picnic Shelters with Grills Court Games Picnic Tables with Grills (not under shelter) Informal Play Field Benches or Bench Swings Volleyball 50% of Site to Remain Undeveloped Trails/Walkways Parking (7-10 spaces)
Community Parks	0.5 to 3-mile radius	30-50 acres	3 acres per 1,000 persons	Recreation Center Picnic Tables with Grills Basketball Courts Benches or Bench Swings Tennis Court (lighted) Nature Trails Baseball/Softball Fields (lighted) Restroom/Concessions Multipurpose Fields Parking Soccer Fields (lighted) Playgrounds Swimming Pool Volleyball Courts Amphitheater Disc Golf Observations Decks Lakes Picnic Shelters Paddle Boat/Canoe Harbor Picnic Shelters with Grills Fishing Piers/Boat Docks

				Specialty facilities may be added to or substituted for other facilities depending on community need or special site characteristics.
District Parks and Sports Complexes	serve the entire community Acreage/Population Ratio: 2.0 acres per 1,000 persons	40-80 acres	2.0 acres per 1,000 persons	Playground Picnic Shelter with Grills Basketball Courts Picnic Tables with Grills (not under shelter) Tennis Courts (lighted) Nature Trail Tournament Level Tennis Facilities Benches or Bench Swings Volleyball Courts Restroom/Concessions Multi-purpose Fields Parking Tournament Level Soccer Fields Service Yard Tournament Level Baseball/Softball Fields Alternate Facilities: Recreation Center Amphitheater Tennis Center Observation Decks Running Track
Regional Parks	Typically serve the entire country	Sufficient area to encompass the resources to be preserved and managed. Typically, a minimum of 200 acres; up to 1,000 acres	10 acres per 1,000 persons	Environmental Center Picnic Tables with Grills (not under shelter) Equestrian Center Restrooms/Vending Primitive Camping Beach Group Camping Swimming Recreational Vehicles Camping Boating Nature Trails Fishing Piers/Boat Docks Observation Deck Parking Picnic Shelters with Grills Caretaker's House

John Wiley and Sons in their *Planning and Urban Design Standards* (2006) have also suggested similar classification for parks. They highlighted also the importance of the main facilities and needs, in addition to the size and service area of each park type. Table 14 shows their classifications which is very similar in hierarchy with the NPRA (1995) classification of parks.

Table 14. Park classification by (John Wiley and Sons, 2006).

CLASSIFICATION	GENERAL DESCRIPTION	SIZE AND SERVICE AREA CRITERIA
Neighborhood Park	Neighborhood parks are the basic units of the park system and serve a recreational and social purpose. Focus is on informal recreation.	Typically 5 acres or more; 8 to 10 acres preferred, with 3 acres the desired minimum size. Service area is one-fourth to one-half mile uninterrupted by major roads and other physical barriers.
Community Park	Serves a broader purpose than neighborhood parks. Focus is on meeting community-based recreational needs, as well as preserving unique landscapes and open spaces.	Varies, depending on function. A minimum of 20 acres is preferred, with 40 or more acres optimal. Service area can be communitywide or several neighborhoods in given area of the community.
Large Urban Park	Large urban parks are generally associated with larger urban centers with large populations. Focus is on meeting wide-ranging community needs and preserving unique and sometimes extensive landscapes and open spaces.	Varies depending on circumstances. A typical minimum size is 50 acres (20.2 hectares), with hundreds of acres not uncommon, such as Central Park in New York City.
Youth Athletic Complex/Facility	Consolidates programmed youth athletic fields and associated facilities to fewer strategically located sites throughout the community. Also can provide some neighborhood use functions.	Varies, with 20 acres or more desirable, but not absolute. Optimal size is 40 to 80 acres (16.2 to 32.4 hectares).
Community Athletic Complex/Facility	Consolidates programmed adult and youth athletic fields and associated facilities to a limited number of sites. Tournament-level facilities are appropriate.	Varies, with 20 acres (8.1 hectares) or more desirable, but not absolute. Optimal size is 40 to 80 acres (16.2 to 32.4 hectares).
Park-School	School sites that are used in concert with, or in lieu of, other types of parks to meet community park and recreation needs. School sites often provide the majority of indoor recreational facilities within a community.	Varies, depending on specific site opportunities.
Regional Parks and Park Reserves	Larger-scale, regionally based parks and open spaces that focus on natural resource preservation and stewardship.	Typically a minimum of 500 acres (202.3 hectares) and up to several thousand acres or several hundred hectares. Service area is regional, which generally encompasses several cities.

3.4 Summary of the chapter

The discussion in this chapter was mainly to emphasis three aspects of park as public open space; definition, purpose, and typologies and characteristics of park. Parks are the lungs of the city and they play an important role in enhancing the quality of our urban life. The reviewed literature showed the multifunctional aspects involved in the concept of park as public open spaces. In the context of this study, parks are defined as a natural, semi natural or vegetated space for human pleasure and entertainment. The purpose of the park spaces afford people a range of personal, socio-cultural, and economic benefits. Last part of the chapter is park characteristics and typologies, its proposed a classification of the park based on the size and facility.

This chapter summarizes a classification for the types of parks. This is important in order to classify parks in a city, and design the parks according to their population, size and needs. As mentioned previously, classifying parks is not meant to set certain

rigid standards. However, classification of parks is essential as a first step in solving a design or a maintenance problem. Each type of parks and especially their size and facilities should be looked at from the locals' needs perspective, in addition to the available resources of the area. The following lines and table 15 present a summary of the observed classifications that includes mainly size, targeted users, and main facilities. The types of parks are:

- Mini parks are the smallest park classification (less than 5000 m2 area). These parks are located within walking distance (¼ mile radius within 5 mins period) of the serviced area, and they provide few recreational needs for the residents. Mini parks can include simple facilities that satisfy the simple needs of the limited users, such like: greenery area, sitting areas, and kids' playgrounds. Having these mini parks help in intensifying the development around the serviced area. Therefore, mini parks are very close and attached to the adjacent properties.
- Neighborhood parks are the most basic unit of the well-balanced park system. They are designed to serve neighborhood, so they are located usually within walking distance (½ - ¼ mile radius within 10 - 5 mins). Unlike mini parks, some of the neighborhood park's area is left undisturbed so it can act like a buffer from the surrounding properties. Neighborhood parks serve the neighborhood needs. Therefore, they usually include informal active and passive recreational activities and social activities, and facilities that serve all age groups. facilities of neighborhood parks include greenery areas with ornamental vegetations and shading trees, playgrounds for kids, sitting areas, walking areas, sport fields, BBQ and picnic areas.
- School parks are a type of parks that are a result of a joint use. School system

and the recreation department both collaborate to share the use of facilities and valuable land resources. School parks include more facilities than usual school stand-alone private park. They usually include more recreational facilities both indoor and outdoor. School parks vary in facilities according to the school type. For instance, elementary and middle schools provide the ideal setting for a neighborhood park, while middle and high schools follow the function of a community park or sports complex.

- Community parks are recreational opportunity for several neighborhoods or large sections of the community. A range of facilities is typically provided and may support active tournament competition for athletic and league sports or passive recreation. Therefore, facilities of community park are bigger in scale and might include recreation center or community centers, sport fields or/and sport centers. The community park might also include specialty facilities depending on community need or special site characteristics. Regardless of the nontraditional activities within community parks, 50% of the area of the latter is dedicated for passive recreation where greenery spaces, walkways, sitting areas, and picnic areas are provided. These passive areas are also used as buffer zone from the adjacent areas. Depending on the city and the naturalness of the city, community parks are preferred to have natural water features such like a lake, a river, or creek. Moreover, varying topography and vegetation are preferred. Accessibility in community parks are designed efficiently enough to ensure easy and clear accessibility for all users.
- District Parks and Sports Complexes function as the major source of active recreation in many communities. This type of parks is similar to the community parks but with higher support and focus on the tournament level competition.

However, passive activities are limited in this type of parks. Most of the park are dedicated for having sport fields. Therefore, the active facilities are taking larger areas than passive facilities.

- Regional parks finally are the largest type in classifying parks. They include natural features, diverse land formations, and the variety of vegetation and wildlife found in the region. This type of parks is usually not disturbed much with designs and facilities, but actually left for non-structured activities. The included facilities for mostly passive activities are environmental centers, camping, nature trails, observation decks, and picnic areas.

Table 15. Park classification according to size, targeted users, and main facilities (by author)

Classification	Approx. Size	Description	Available facilities
Mini Parks	< 5000 m^2	• located within walking distance ¼ mile = 5 mins around residential areas • Provide limited recreational needs for the served small population	• Small grassed areas • Few trees for shading • Playgrounds • Benches • Landscaped public use areas
Neighborhood Parks	20,000 m^2 – 40,000 m^2	• located within walking distance of the area serviced (½ - ¼ mile = 10 - 5 mins) • provide a variety of activities of interest to all age groups (informal active and passive recreational activities and social activities) • 50 % of each site should remain undisturbed, if possible, to serve as a buffer between the park and adjacent land users.	• Green spaces • Ornamental vegetations • Shading trees • Playgrounds • Sport fields • Picnic sites • BBQ facilities • Benches • Walkways
School Parks	Varies according to location	• Joint between school system and recreation department • Location is set according to the school district property • Provides recreational indoor and outdoor facilities to serve the public and school	• Elementary and middle schools provide the ideal setting for a neighborhood park • Middle and high schools follow the function of a community park or sports complex
Community Parks	120,000 m^2 – 200,000 m^2	• Provide for the recreation needs of several neighborhoods or large sections of the community • present opportunities for nontraditional types of recreation. • 50% of park should be developed for passive recreation. • undisturbed areas may serve as buffers around the park and/or act as buffers between active facilities. • should have varying topography and vegetation • Cleared areas should be present for siting active recreational facilities. • One or more natural water feature(s), such as a lake, river, or creek, are desirable. • strategically located in order to be accessible to all users within the neighborhoods it serves.	• Green spaces • Ornamental vegetations • Shading trees • Recreation Center or community center • Playgrounds • Sport fields • Picnic sites • BBQ facilities • Benches • Walkways • Restrooms • Multipurpose Fields Parking • Specialty facilities may be added to or substituted for other facilities depending on community need or special site characteristics.
District Parks and Sports Complexes	150,000 m^2 – 300,000 m^2	• Major source of active recreation in many communities (tournament level competition). • Passive recreation opportunities are usually limited, but may be found in undisturbed areas, often within surrounding buffers. • Most of the land will be developed for athletic fields • Sites should be reasonably accessible from major thoroughfares. • Buffers should be provided adjacent to residential areas.	• Green spaces • Ornamental vegetations • Shading trees • Recreation Center or community center • Playgrounds • Tournament Level Sport fields • Picnic sites • BBQ facilities • Benches • Walkways • Running tracks • Restrooms • Recreation Center Amphitheater
Regional Parks	800,000 m^2 – 4 Km^2	• Very large sites with natural features (natural water features such as beach areas, rivers, and creeks), diverse land formations, and the variety of vegetation and wildlife found in the region • The majority of the site should be reserved for passive recreation, with the remaining acreage used for active recreation. • Focuses on natural sites preservation	• Environmental centers • Camping • Nature trails • Observation decks • Picnic areas • Open fields for non-structured activities

Chapter 4

CASE STUDY

Based on the results of previous chapter, the strategy of this chapter is to evaluate the parks as public open spaces in Famagusta as a case study. After that, Mağusa Sakarya Park is analyzed according to physical, functional, social and perceptional dimensions. Besides, evaluation of user's perception of the physical quality in the selected area to determine their sense of place is also present in this chapter.

The methodology of analysis and the data collection are the first part of this chapter. The second part is general analyzing of parks as public open space in Famagusta to grade the park situation in the city. In the third section of the chapter, general information to introduce the selected area then all the analysis for the case study are described characters of park. The chapter is ending by a summary of the work in the last section of the chapter.

4.1 Methodology of analysis of the case study

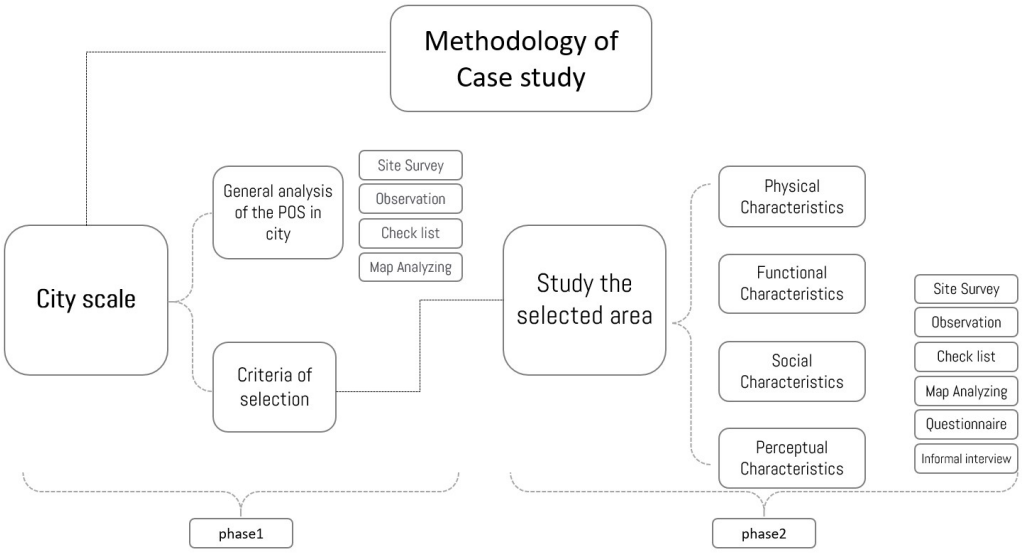

Figure 9. Methodology steps

Generally the methodology used within case study consists of two phases. The first phase is on city scale starting with analyzing all public parks in the city using different type of methods and tools to assist the quality of parks in Famagusta. The methods which were used in this stage are site survey, observation, map analyzing and checklist. These type of methods work with many supporting tools such as measurements, counting and photography. Later, the case study selection is done by a pilot study of conducting a questionnaire survey on 181 city dwellers to choose the most popular park in the city as a case study.

The second phase is studying the selected park. Physical characteristics, functional characteristics, social characteristics and perceptional characteristics of Sakarya park are analyzed by using various methods and tools which are site survey, observation, map analyzing, checklist, questionnaire survey and informal interview. Physical characteristics are analyzed in terms of size, shape, furniture, material, and natural

elements. For functional and social characteristics accessibility, park land utility, park activity, people presence and social activities analysis are done to understand the needs and expectations of people. Finally perceptional characteristics are analyzed in terms of people's satisfaction of the physical characteristics to measure their sense of place.

4.2 Data collection methods

According to the aforementioned there are six different data collection method as following:

4.2.1 Map analyzing

Maps are a tool that is used to represent graphically space by certain scale, scope, symbols and legend. They are used as directional tools originally. However, mapping is considered as a fundamental methodological tool that takes many shapes. Spatial maps are specialized to show geographical sites with their relevant context, in addition to their related spatial processes in space and time. Such maps are essential in conducting site analysis, place-based research, or/and urban planning and design tasks. Therefore, mapping is essential when a certain place is studied regarding its spatial characteristics and for designing new local relationships.

4.2.2 Observation

Observation is a research method, which deals with how to understand what people do in particular spatial settings. Bechtel et al. (1987) described observation as a method, which has five dimensions: behavior, environment, time, observer, and record of observation.

The focus of this research is investigating people's perception in the public parks of Famagusta, therefore to understand how people behave in these spaces, and what kind of activities (standing, sitting, walking or just hanging around) they were carrying out.

This observation took place at different times in July, throughout weekdays and weekends, and at different times of the day usually in the late afternoon due to climate reason. The observer recorded by symbols on one sketch plan the location of people in the spaces, and noted whether they were static or moving and what kind of activity they were engaged in. People were categorized by their gender and it was noted whether they were adults or children. In addition, a people count was undertaken at the entrances to the parks, in order to establish the volume of people using the public parks. Again, they were categorized and the information was recorded in tables.

4.2.3 Site Survey

Site survey is one of the main method for analyzing and determining physical characteristics of public open space. It can be measurement for parameters such as building heights, enclosure, lost space, enclosure etc. drawing and photographs are the main tools in site survey to observed the mention parameters. For other characteristics like functional and social, site survey is analyzing variety, accessibility and land use. Usually site survey is helping in evaluating of count such as number of the elements in the studied area.

4.2.4 Informal interviews

To be able to have high quality source of Data collection the research requires to visit many places such as municipality, community center, and Mokhtar office. While the researcher is collecting the data the informal interview happening with the in charged person and they provide a real fact or event about the case study.

4.2.5 Questionnaire survey

To test and analyze user perception and satisfaction regarding the physical dimension of the park, a questionnaire survey has been conducted.

Questionnaires, which are written in English and Turkish, are given to 155 users of

Sakarya Park including many society groups. 102 of the users are non-Cypriots, mostly students and 53 of local resident. All the residents are Cypriot people as the questionnaire classified and they are from different age categories 35 of them were women and the other were man. For the other groups, 50 of them are females and 52 males.

The questionnaire consists of three parts. First part is asking about general information to collect general information about the user, to check their satisfaction about the park in the city and to discover the reason behind vesting the park. The following part is asking about the perception of the users according to Ittelson theory (1978) identifies four dimensions of perception: cognitive, affective, interpretative, and evaluative. The cognitive part is related to the subject of the question (environment stimuli), whereas affective and interpretative related to the feeling and memory. On the other hand the evaluative dimension is value and priority to make good or bad (user satisfaction).

After conducting the field questionnaires with the users of the park, the answers were recorded in sheets. After that, Statistical Package for Social Sciences (SPSS) were used to analyze the relationship between different aspects of the park. The statistical analysis by SPSS has followed certain steps:

- Coding different variables
- Gathering the answers (obtained data) in raw data sheets
- Entering the data to the SPSS
- Cross reviewing the obtained correlations and tables

SPSS was chosen to be used in this research due to the large number of data obtained from the questionnaire. Usually, information is divided into groups to know the percentage of every group; this process is known as “category frequency” (Weisberg et al., 1996). This research has used tables, bar charts, and pie charts to represent the

obtained results.

4.2.6 Using a check-list to assess public open space qualities

This research has offered a theoretical framework that helps in analyzing and then designing the spaces according to the physical, social, functional context of the area. The checklist can be used to assist the quality of the public open spaces according to the observer by the help of other method technic

Table 16. The analysis methods and tools used in the case study

	ANALYSIS FEATURES	METHODS	TOOLS
Physical characteristic	Size	Site survey – questionnaire- Observation	Maps- measurement
	Shape	Site survey – questionnaire- Observation	Maps- photographs
	Furniture	Site survey – questionnaire- Observation	Counting- photographs
	Material	Site survey – questionnaire- Observation	photographs
	Natural elements	Site survey – questionnaire- Observation	Maps- photographs-
functional characteristic	accessibility	Site survey –Observation	Maps-photographs
	variety	Site survey –Observation	Maps-photographs
	Park function	Site survey –Observation	
social characteristic	People presence	Site survey –Observation	Diary- counting people -photographs
	Social activity	Site survey –Observation	photographs
Perceptional characteristic	Sense of place	Questionnaire- Informal interviews	SPSS program

4.3 General analysis of parks as POS in Famagusta

Famagusta city is located in Cyprus, the third biggest island Mediterranean Sea. It is the second most populated city in North Cyprus with about 54,000 persons situated on the eastern coast of Cyprus (Census 2011). The partial growth is shape the city due to unsent of master plan. The city growth was around the historical part. However, as a result of island`s division in 1974, military bounded big part of the city (closed Maras). For this reason the city development is toward to northern way where they established the university. There are many problem in the urban pattern of developed area due to exist of unplanned main road (Salamis Road) such as vacant land and lack of public open space.

The city consists of eight neighborhoods (Figure 10) and they are connected by Ismet Inonu Boulevard (Salamis Road). The development of the city has been done without a master plan, and thus, we can argue that there is a lack of well-designed public open spaces in the city.

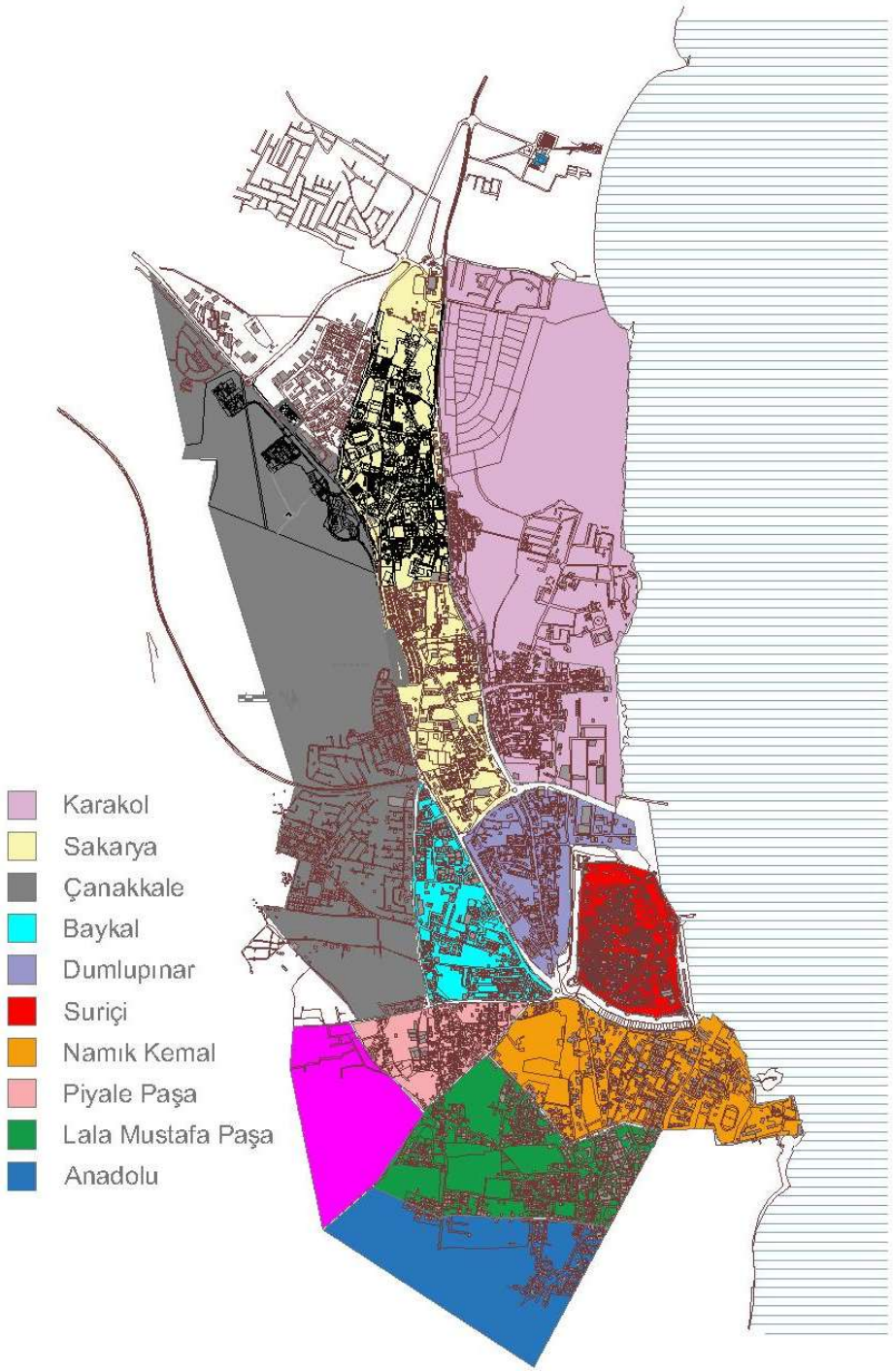

Figure 10. Map Showing the neighborhood in Famagusta

Famagusta has encountered numerous unique urban problems that can be deliberated on independently. This research is focus on park as public open spaces. There are fifteen parks in Famagusta; Figure 11 shows the locations of parks in the city. The

importance of this step is in helping the researcher to understand the general status of parks in Famagusta. This would include understanding the number of parks and whether they are efficient, and their approximate to people. The efficiency of parks number are analyzed according to the five minutes distance walk from surrounding neighborhoods.

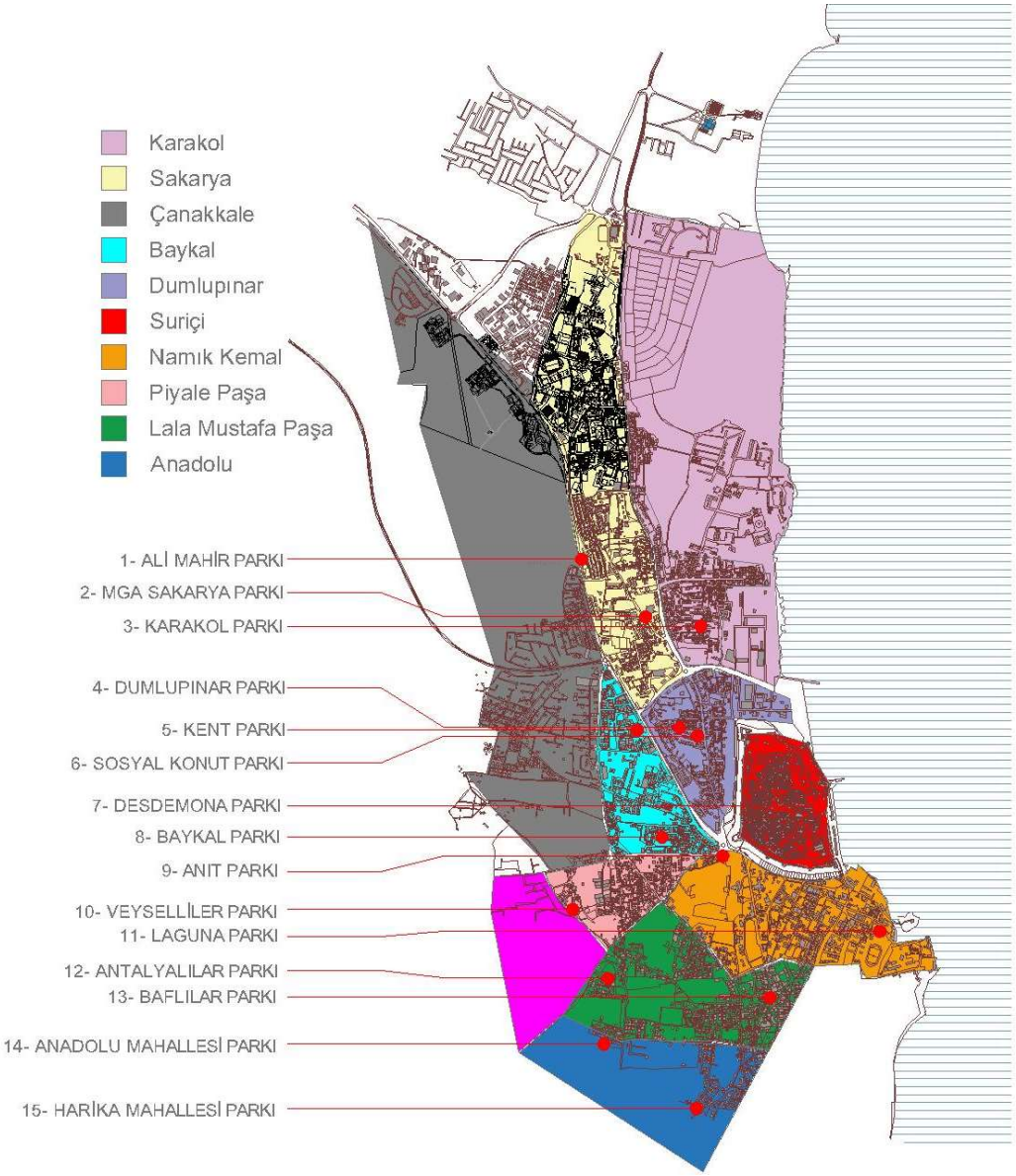

Figure 11. Map showing the locations of public parks in Famagusta (by author).

Table 17. Analyzing the quality of Ali Mahir Park ,Famagusta, North Cyprus (by author).

PUBLIC OPEN SPACE QUALITY					
Design features for POS					
Physical	characteristics	size	not too big not too small		
		shape	curved shape		
			rectangular shape		
			proportional with surround		
		furniture	sitting elements		
			lighting fixtures		
			trash bins		
			sports equipment		
			shading elements		
			playground		
			signs and way-finding		
		materials	attractive colors		
			vertical surfaces		
			high quality		
		natural elements	trees		
			water elements		
			plant		
Functional	rights in POS	access	physical		
			visual		
			symbolic		
		freedom of action	emphasize multi space		
			zone active area		
			protect special group		
		variety	subspaces		
			a wide variety of activities		
Social	needs	comfort	microclimate		
			seating		
			park house		
			safety and security		
		relaxation	sense of separation		
			landscape		
			security		
		passive engagement	observing		
			viewing		
			involvement with nature		
		active engagement	playground		
			communication		
			movement		
		discovery	pathway		
			details		
Perceptional	sense of place	cognitive	perception		
		behavioral	interaction with the place		
		emotions	satisfaction		
			meaning		
			attachment		

Analyzing the quality of public park characteristics, Famagusta, North Cyprus

1	ALİ MAHİR PARKI
Neighborhood:	Anadolu
Greenary Ration:	60%
Area:	12500m2

CONTENTS:

plenty of sitting elements, children playground, small shop, car parking, movable chair, deferent type of nature elements and shading elements.

Description:

the park has a good location with very good condition because it was renewed in 2018 and it's the favorite park for many citizens and students

note:

Table 18. Analyzing the quality of MGA Sakaria Park ,Famagusta, North Cyprus (by author).

PUBLIC OPEN SPACE QUALITY					
Design features for POS					
Physical	characteristics	size	not too big not too small		
		shape	curved shape		
			rectangular shape		
			proportional with surround		
		furniture	sitting elements		
			lighting fixtures		
			trash bins		
			sports equipment		
			shading elements		
			playground		
			signs and way-finding		
		materials	attractive colors		
			vertical surfaces		
			high quality		
		natural elements	trees		
			water elements		
			plant		
Functional	rights in POS	access	physical		
			visual		
			symbolic		
		freedom of action	emphasize multi space		
			zone active area		
			protect special group		
		variety	subspaces		
			a wide variety of activities		
Social	needs	comfort	microclimate		
			seating		
			park house		
			safety and security		
		relaxation	sense of separation		
			landscape		
			security		
		passive engagement	observing		
			viewing		
			involvement with nature		
		active engagement	playground		
			communication		
			movement		
		discovery	pathway		
			details		
Perceptional	sense of place	cognitive	perception		
		behavioral	interaction with the place		
		emotions	satisfaction		
			meaning		
			attachment		

Analyzing the quality of public park characteristics, Famagusta, North Cyprus

2 MGA SAKARYA PARKI

Neighborhood :	**Sakarya**
Greenary Ration:	**10%**
Area:	**12500m2**

CONTENTS:

not enough sitting elements, children playground, community center, car parking, sports fields, lack of nature elements, and exercising machine.

Description:

it's one of the biggest parks in the city, located in the most crowded area, the park has some problems in finishing materials and furniture but it has the potential to be the most popular.

note:

Table 19. Analyzing the quality of Karakol Park, Famagusta, North Cyprus (by author).

PUBLIC OPEN SPACE QUALITY					
Design features for POS					
Physical	characteristics	size	not too big not too small		
		shape	curved shape		
			rectangular shape		
			proportional with surround		
		furniture	sitting elements		
			lighting fixtures		
			trash bins		
			sports equipment		
			shading elements		
			playground		
			signs and way-finding		
		materials	attractive colors		
			vertical surfaces		
			high quality		
		natural elements	trees		
			water elements		
			plant		
Functional	rights in POS	access	physical		
			visual		
			symbolic		
		freedom of action	emphasize multi space		
			zone active area		
			protect special group		
		variety	subspaces		
			a wide variety of activities		
Social	needs	comfort	microclimate		
			seating		
			park house		
			safety and security		
		relaxation	sense of separation		
			landscape		
			security		
		passive engagement	observing		
			viewing		
			involvement with nature		
		active engagement	playground		
			communication		
			movement		
		discovery	pathway		
			details		
Perceptional	sense of place	cognitive	perception		
		behavioral	interaction with the place		
		emotions	satisfaction		
			meaning		
			attachment		

Analyzing the quality of public park characteristics, Famagusta, North Cyprus

3 **KARAKOL PARKI**

Neighborhood :	**KARAKOL**
Greenary Ration:	**50%**
Area:	**3110m2**

CONTENTS:

plenty of sitting elements, children playground, basketball field, and enough nature elements.

Description:

it's a neighborhood park with market next to it and it hosts some social activities. The sitting element and flooring material need some renovation.

note:

Table 20. Analyzing the quality of Dumlapinar Park ,Famagusta, North Cyprus (by author).

PUBLIC OPEN SPACE QUALITY					
Design features for POS					
Physical	characteristics	size	not too big not too small		
		shape	curved shape		
			rectangular shape		
			proportional with surround		
		furniture	sitting elements		
			lighting fixtures		
			trash bins		
			sports equipment		
			shading elements		
			playground		
			signs and way-finding		
		materials	attractive colors		
			vertical surfaces		
			high quality		
		natural elements	trees		
			water elements		
			plant		
Functional	rights in POS	access	physical		
			visual		
			symbolic		
		freedom of action	emphasize multi space		
			zone active area		
			protect special group		
		variety	subspaces		
			a wide variety of activities		
Social	needs	comfort	microclimate		
			seating		
			park house		
			safety and security		
		relaxation	sense of separation		
			landscape		
			security		
		passive engagement	observing		
			viewing		
			involvement with nature		
		active engagement	playground		
			communication		
			movement		
		discovery	pathway		
			details		
Perceptional	sense of place	cognitive	perception		
		behavioral	interaction with the place		
		emotions	satisfaction		
			meaning		
			attachment		

Analyzing the quality of public park characteristics, Famagusta, North Cyprus

4	DUMLUPINAR PARKI
Neighborhood :	KARAKOL
Greenary Ration:	10%
Area:	2815m2

CONTENTS:

the park is in very bad condition and it is on Famagusta municipality's agenda for renovation

Description:

it's a neighborhood park with market next to it and it hosts some social activities. The sitting element and flooring material need some renovation.

note:

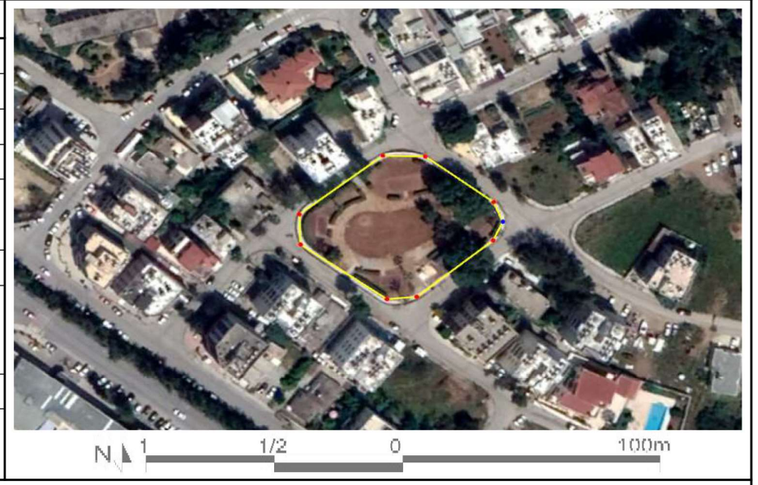

Table 21. Analyzing the quality of Kent Park, Famagusta, North Cyprus (by author).

PUBLIC OPEN SPACE QUALITY			Design features for POS		
Physical	characteristics	size	not too big not too small		
		shape	curved shape		
			rectangular shape		
			proportional with surround		
		furniture	sitting elements		
			lighting fixtures		
			trash bins		
			sports equipment		
			shading elements		
			playground		
			signs and way-finding		
		materials	attractive colors		
			vertical surfaces		
			high quality		
		natural elements	trees		
			water elements		
			plant		
Functional	rights in POS	access	physical		
			visual		
			symbolic		
		freedom of action	emphasize multi space		
			zone active area		
			protect special group		
		variety	subspaces		
			a wide variety of activities		
Social	needs	comfort	microclimate		
			seating		
			park house		
			safety and security		
		relaxation	sense of separation		
			landscape		
			security		
		passive engagement	observing		
			viewing		
			involvement with nature		
		active engagement	playground		
			communication		
			movement		
		discovery	pathway		
			details		
Perceptional	sense of place	cognitive	perception		
		behavioral	interaction with the place		
		emotions	satisfaction		
			meaning		
			attachment		

Analyzing the quality of public park characteristics, Famagusta, North Cyprus

5 **KENT PARKI**

Neighborhood :	**Baykal**
Greenary Ration:	**55%**
Area:	**7910m2**

CONTENTS:

plenty of sitting elements, children playground, small shop, car parking, exercising machine, deferent type of nature elements and basketball field.

Description:

the park is located next to the main bus terminal of the city and it's in very good condition in terms of material quality and function.

note:

Table 22. Analyzing the quality of Sosyal Konut Park, Famagusta, North Cyprus (by author).

PUBLIC OPEN SPACE QUALITY					
Design features for POS					
Physical	characteristics	size	not too big not too small		
		shape	curved shape		
			rectangular shape		
			proportional with surround		
		furniture	sitting elements		
			lighting fixtures		
			trash bins		
			sports equipment		
			shading elements		
			playground		
			signs and way-finding		
		materials	attractive colors		
			vertical surfaces		
			high quality		
		natural elements	trees		
			water elements		
			plant		
Functional	rights in POS	access	physical		
			visual		
			symbolic		
		freedom of action	emphasize multi space		
			zone active area		
			protect special group		
		variety	subspaces		
			a wide variety of activities		
Social	needs	comfort	microclimate		
			seating		
			park house		
			safety and security		
		relaxation	sense of separation		
			landscape		
			security		
		passive engagement	observing		
			viewing		
			involvement with nature		
		active engagement	playground		
			communication		
			movement		
		discovery	pathway		
			details		
Perceptional	sense of place	cognitive	perception		
		behavioral	interaction with the place		
		emotions	satisfaction		
			meaning		
			attachment		

Analyzing the quality of public park characteristics, Famagusta, North Cyprus

6 SOSYAL KONUT PARKI

Neighborhood :	**Dumlupınar**
Greenary Ration:	**80%**
Area:	**3160m2**

CONTENTS:

three sitting element and few trees beside the children playground and damage place for basketball.

Description:

the park is in very bad condition, there are no define paths and it has bad drainage that shows after a rainy day.

note:

Table 23. Analyzing the quality of Desdemona Park, Famagusta, North Cyprus (by author).

PUBLIC OPEN SPACE QUALITY			Design features for POS		
Physical	characteristics	size	not too big not too small	✓
		shape	curved shape	✗
			rectangular shape	✓
			proportional with surround	✓
		furniture	sitting elements	✓
			lighting fixtures	✓
			trash bins	✓
			sports equipment	✗
			shading elements	✓
			playground	✓
			signs and way-finding	✓
		materials	attractive colors	✓
			vertical surfaces	✓
			high quality	✓
		natural elements	trees	✓
			water elements	✗
			plant	✓
Functional	rights in POS	access	physical	✓
			visual	✓
			symbolic	✗
		freedom of action	emphasize multi space	✓
			zone active area	✓
			protect special group	✓
		variety	subspaces	✓
			a wide variety of activities	✗
Social	needs	comfort	microclimate	✓
			seating	✓
			park house	✓
			safety and security	✓
		relaxation	sense of separation	✓
			landscape	✓
			security	✓
		passive engagement	observing	✓
			viewing	✓
			involvement with nature	✓
		active engagement	playground	✓
			communication	✓
			movement	✓
		discovery	pathway	✓
			details	✓
Perceptional	sense of place	cognitive	perception	
		behavioral	interaction with the place	
		emotions	satisfaction	
			meaning	
			attachment	

Analyzing the quality of public park characteristics, Famagusta, North Cyprus

7 **DESDEMONA Parki**

Neighborhood :	**Suriçi**
Greenary Ration:	**80%**
Area:	**2200m2**

CONTENTS:

plenty of sitting elements, children playground, some historical monuments, car parking, movable chair, deferent type of nature elements, trees as shading elements.

Description:

the park has a very important location inside the old city of Famagusta and there is a constant care taken about the park quality because of touristic purposes.

note:

Table 24. Analyzing the quality of Baykal Park ,Famagusta, North Cyprus (by author).

PUBLIC OPEN SPACE QUALITY					
Design features for POS					
Physical	characteristics	size	not too big not too small		
		shape	curved shape		
			rectangular shape		
			proportional with surround		
		furniture	sitting elements		
			lighting fixtures		
			trash bins		
			sports equipment		
			shading elements		
			playground		
			signs and way-finding		
		materials	attractive colors		
			vertical surfaces		
			high quality		
		natural elements	trees		
			water elements		
			plant		
Functional	rights in POS	access	physical		
			visual		
			symbolic		
		freedom of action	emphasize multi space		
			zone active area		
			protect special group		
		variety	subspaces		
			a wide variety of activities		
Social	needs	comfort	microclimate		
			seating		
			park house		
			safety and security		
		relaxation	sense of separation		
			landscape		
			security		
		passive engagement	observing		
			viewing		
			involvement with nature		
		active engagement	playground		
			communication		
			movement		
		discovery	pathway		
			details		
Perceptional	sense of place	cognitive	perception		
		behavioral	interaction with the place		
		emotions	satisfaction		
			meaning		
			attachment		

Analyzing the quality of public park characteristics, Famagusta, North Cyprus

8 **BAYKAL PARKI**

Neighborhood:	**Baykal**
Greenary Ration:	**80%**
Area:	**2400m2**

CONTENTS:

the park has few sitting element only 3 and children play ground, trees and field for sports..

Description:

the sitting elements are in very bad condition and there is no proper way to reach the playground especially when it's raining, beside the bad condition of non-equipped sport field.

note:

Table 25. Analyzing the quality of Anit Park, Famagusta, North Cyprus (by author).

PUBLIC OPEN SPACE QUALITY					
Design features for POS					
Physical	characteristics	size	not too big not too small		
		shape	curved shape		
			rectangular shape		
			proportional with surround		
		furniture	sitting elements		
			lighting fixtures		
			trash bins		
			sports equipment		
			shading elements		
			playground		
			signs and way-finding		
		materials	attractive colors		
			vertical surfaces		
			high quality		
		natural elements	trees		
			water elements		
			plant		
Functional	rights in POS	access	physical		
			visual		
			symbolic		
		freedom of action	emphasize multi space		
			zone active area		
			protect special group		
		variety	subspaces		
			a wide variety of activities		
Social	needs	comfort	microclimate		
			seating		
			park house		
			safety and security		
		relaxation	sense of separation		
			landscape		
			security		
		passive engagement	observing		
			viewing		
			involvement with nature		
		active engagement	playground		
			communication		
			movement		
		discovery	pathway		
			details		
Perceptional	sense of place	cognitive	perception		
		behavioral	interaction with the place		
		emotions	satisfaction		
			meaning		
			attachment		

Analyzing the quality of public park characteristics, Famagusta, North Cyprus

9 ANIT PARK

Neighborhood:	**Namık kamal**
Greenary Ration:	**80%**
Area:	**15900m2**

CONTENTS:

plenty of sitting elements, children playground, small shop, car parking, movable chair, deferent type of nature elements, water element and shading elements. More over the existing of some historical monument.

Description:

tthe park has a very significant location next to old city and it has the potential to be the most popular in the city. The good quality of the finishing materials beside the level difference and various type of natural elements are making the park a focus for visitors.

note:

Table 26. Analyzing the quality of Veyselliler Park, Famagusta, North Cyprus (by author).

PUBLIC OPEN SPACE QUALITY					
Design features for POS					
Physical	characteristics	size	not too big not too small		
		shape	curved shape		
			rectangular shape		
			proportional with surround		
		furniture	sitting elements		
			lighting fixtures		
			trash bins		
			sports equipment		
			shading elements		
			playground		
			signs and way-finding		
		materials	attractive colors		
			vertical surfaces		
			high quality		
		natural elements	trees		
			water elements		
			plant		
Functional	rights in POS	access	physical		
			visual		
			symbolic		
		freedom of action	emphasize multi space		
			zone active area		
			protect special group		
		variety	subspaces		
			a wide variety of activities		
Social	needs	comfort	microclimate		
			seating		
			park house		
			safety and security		
		relaxation	sense of separation		
			landscape		
			security		
		passive engagement	observing		
			viewing		
			involvement with nature		
		active engagement	playground		
			communication		
			movement		
		discovery	pathway		
			details		
Perceptional	sense of place	cognitive	perception		
		behavioral	interaction with the place		
		emotions	satisfaction		
			meaning		
			attachment		

Analyzing the quality of public park characteristics, Famagusta, North Cyprus

10 VEYSELLILER PARKI

Neighborhood :	**Piyale Paşa**
Greenary Ration:	**0%**
Area:	**760m2**

CONTENTS:

sitting elements, some trees, and children playground.

Description:

the park is a playground and doesn't have any other services. There is a lack of diversity in park activities.

note:

Table 27. Analyzing the quality of Laguna Park, Famagusta, North Cyprus (by author).

PUBLIC OPEN SPACE QUALITY					
Design features for POS					
Physical	characteristics	size	not too big not too small		
		shape	curved shape		
			rectangular shape		
			proportional with surround		
		furniture	sitting elements		
			lighting fixtures		
			trash bins		
			sports equipment		
			shading elements		
			playground		
			signs and way-finding		
		materials	attractive colors		
			vertical surfaces		
			high quality		
		natural elements	trees		
			water elements		
			plant		
Functional	rights in POS	access	physical		
			visual		
			symbolic		
		freedom of action	emphasize multi space		
			zone active area		
			protect special group		
		variety	subspaces		
			a wide variety of activities		
Social	needs	comfort	microclimate		
			seating		
			park house		
			safety and security		
		relaxation	sense of separation		
			landscape		
			security		
		passive engagement	observing		
			viewing		
			involvement with nature		
		active engagement	playground		
			communication		
			movement		
		discovery	pathway		
			details		
Perceptional	sense of place	cognitive	perception		
		behavioral	interaction with the place		
		emotions	satisfaction		
			meaning		
			attachment		

Analyzing the quality of public park characteristics, Famagusta, North Cyprus

11 LAGUNA PARKI

Neighborhood :	**Namık Kemal**
Greenary Ration:	**30%**
Area:	**4115m2**

CONTENTS:

few sitting elements, children playground, car parking, and deferent type of trees and surfaces.

Description:

the park has a location next to the beach but there are a few residential buildings around it, the floor surfaces are in bad condition and it will be not accessible after a rainy weather.

note:

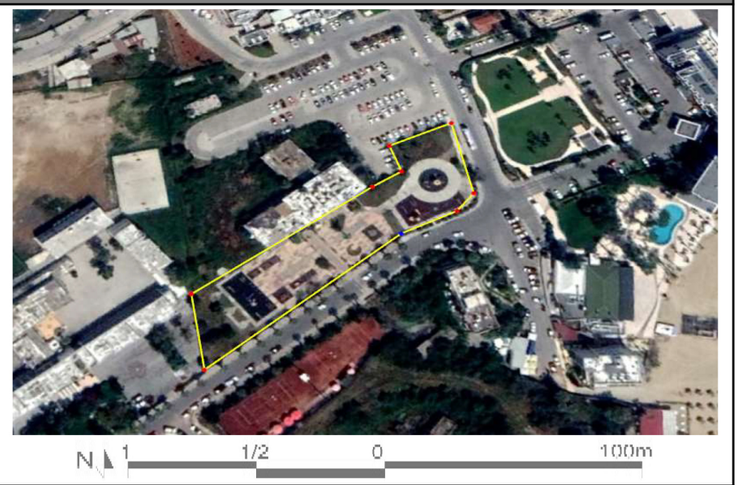

Table 28. Analyzing the quality of Antalyalilar Park, Famagusta, North Cyprus (by author).

PUBLIC OPEN SPACE QUALITY					
Design features for POS					
Physical	characteristics	size	not too big not too small		
		shape	curved shape		
			rectangular shape		
			proportional with surround		
		furniture	sitting elements		
			lighting fixtures		
			trash bins		
			sports equipment		
			shading elements		
			playground		
			signs and way-finding		
		materials	attractive colors		
			vertical surfaces		
			high quality		
		natural elements	trees		
			water elements		
			plant		
Functional	rights in POS	access	physical		
			visual		
			symbolic		
		freedom of action	emphasize multi space		
			zone active area		
			protect special group		
		variety	subspaces		
			a wide variety of activities		
Social	needs	comfort	microclimate		
			seating		
			park house		
			safety and security		
		relaxation	sense of separation		
			landscape		
			security		
		passive engagement	observing		
			viewing		
			involvement with nature		
		active engagement	playground		
			communication		
			movement		
		discovery	pathway		
			details		
Perceptional	sense of place	cognitive	perception		
		behavioral	interaction with the place		
		emotions	satisfaction		
			meaning		
			attachment		

Analyzing the quality of public park characteristics, Famagusta, North Cyprus

12 ANTALYALILAR PARKI

Neighborhood :	**Piyale Paşa**
Greenary Ration:	**40%**
Area:	**1375m2**

CONTENTS:

few sitting elements,children playgraound, sport equepments .

Description:

the park has an appropriate accessibility for the neighborhood in order to feed various activities especially for children coupled with the good condition of the flooring material.

note:

Table 29. Analyzing the quality of Baflilar Park, Famagusta, North Cyprus (by author).

PUBLIC OPEN SPACE QUALITY					
Design features for POS					
Physical	characteristics	size	not too big not too small		
		shape	curved shape		
			rectangular shape		
			proportional with surround		
		furniture	sitting elements		
			lighting fixtures		
			trash bins		
			sports equipment		
			shading elements		
			playground		
			signs and way-finding		
		materials	attractive colors		
			vertical surfaces		
			high quality		
		natural elements	trees		
			water elements		
			plant		
Functional	rights in POS	access	physical		
			visual		
			symbolic		
		freedom of action	emphasize multi space		
			zone active area		
			protect special group		
		variety	subspaces		
			a wide variety of activities		
Social	needs	comfort	microclimate		
			seating		
			park house		
			safety and security		
		relaxation	sense of separation		
			landscape		
			security		
		passive engagement	observing		
			viewing		
			involvement with nature		
		active engagement	playground		
			communication		
			movement		
		discovery	pathway		
			details		
Perceptional	sense of place	cognitive	perception		
		behavioral	interaction with the place		
		emotions	satisfaction		
			meaning		
			attachment		

Analyzing the quality of public park characteristics, Famagusta, North Cyprus

13	BAFLILAR PARKI
Neighborhood :	**Lala Mustafa Paşa**
Greenary Ration:	**40%**
Area:	**2000m2**

CONTENTS:

children play ground, exercising machine, three sitting elements, small theater

Description:

the park is in very bad condition. The surfaces, limited sitting elements, the sports machine and playground are all rusting.

note:

Table 30. Analyzing the quality of Anadolu Mahallesi Park, Famagusta, North Cyprus (by author).

PUBLIC OPEN SPACE QUALITY					
Design features for POS					
Physical	characteristics	size	not too big not too small		
		shape	curved shape		
			rectangular shape		
			proportional with surround		
		furniture	sitting elements		
			lighting fixtures		
			trash bins		
			sports equipment		
			shading elements		
			playground		
			signs and way-finding		
		materials	attractive colors		
			vertical surfaces		
			high quality		
		natural elements	trees		
			water elements		
			plant		
Functional	rights in POS	access	physical		
			visual		
			symbolic		
		freedom of action	emphasize multi space		
			zone active area		
			protect special group		
		variety	subspaces		
			a wide variety of activities		
Social	needs	comfort	microclimate		
			seating		
			park house		
			safety and security		
		relaxation	sense of separation		
			landscape		
			security		
		passive engagement	observing		
			viewing		
			involvement with nature		
		active engagement	playground		
			communication		
			movement		
		discovery	pathway		
			details		
Perceptional	sense of place	cognitive	perception		
		behavioral	interaction with the place		
		emotions	satisfaction		
			meaning		
			attachment		

Analyzing the quality of public park characteristics, Famagusta, North Cyprus

14	ANADOLU MAHALLESI
Neighborhood :	**Piyale Paşa**
Greenary Ration:	**20%**
Area:	**500m2**

CONTENTS:

sports equipment, children playground, sitting elements, and sport field.

Description:

the park is in good condition. It's offering many activities comparing with its small size. It has a proper location for the sitting elements.

note:

Table 31. Analyzing the quality of Harika Mahallesi Park, Famagusta, North Cyprus (by author).

PUBLIC OPEN SPACE QUALITY					
Design features for POS					
Physical	characteristics	size	not too big not too small		
		shape	curved shape		
			rectangular shape		
			proportional with surround		
		furniture	sitting elements		
			lighting fixtures		
			trash bins		
			sports equipment		
			shading elements		
			playground		
			signs and way-finding		
		materials	attractive colors		
			vertical surfaces		
			high quality		
		natural elements	trees		
			water elements		
			plant		
Functional	rights in POS	access	physical		
			visual		
			symbolic		
		freedom of action	emphasize multi space		
			zone active area		
			protect special group		
		variety	subspaces		
			a wide variety of activities		
Social	needs	comfort	microclimate		
			seating		
			park house		
			safety and security		
		relaxation	sense of separation		
			landscape		
			security		
		passive engagement	observing		
			viewing		
			involvement with nature		
		active engagement	playground		
			communication		
			movement		
		discovery	pathway		
			details		
Perceptional	sense of place	cognitive	perception		
		behavioral	interaction with the place		
		emotions	satisfaction		
			meaning		
			attachment		

Analyzing the quality of public park characteristics, Famagusta, North Cyprus

15 HARIKA MAHALLESI PARKI

Neighborhood :	**Anadolu**
Greenary Ration:	**20%**
Area:	**2500m2**

CONTENTS:

children playground, exercising machine, different type of trees, many sitting elements and sport field.

Description:

the park is in very good condition with proper surfaces and many types of sitting elements such as movable chairs and stationary seats and tables.

note:

For many years, architects, planners, and urban designers have used the 5-minute walking distance as a way of examining neighborhood walkability. A 5-minute walk corresponds to a quarter-mile, while a 10-minute walk is equal to about half a mile, depending on how fast you walk. A quarter-mile has for many years been assumed to be the distance that a person would walk, rather than choosing to drive. However, there is little research to back up this particular claim, and some recent research is beginning to shed more light on the walking habits of U.S. residents. A thorough 2012 study found that only 16 % of respondents reported walking, but that 65 % of their trips were longer than a quarter-mile and 18 % of trips were more than 1 mile (Yang and Diez-Roux 2012). The authors also found that there was a high degree of variability depending on the subgroup and walking purpose. We have much more to learn about the relationship between distance and walking behavior. In the meantime, the quarter- and half-mile walk theory can be a rudimentary way to examine density and relative proximity.

Figure 12. Five minutes distanc fom the parks in famagusta

According to the previous analysis of the parks in the city, it was noticed that there is a lack of parks in Famagusta as there are many neighborhoods with no near park, which makes it more difficult for people to reach the public parks and make them use their car if they want to reach any park (figure 12). As (table 17-31) shows, it was also found

that around 50% of the studied parks where suffering from a very bad physical, social, and functional qualities, which has resulted in the abundance of these parks. Therefore, the researcher has chosen to study the previous qualities on one park in Famagusta, in an attempt to set an analyzing method as an example that can be used later to evaluate the rest of the parks in Famagusta. Analyzing the situation of any case is considered the first and most fundamental step for any rehabilitation projects.

4.4 Criteria of Selection of Case Study

The new development of the city after 1986 are studied in this research because of the changing typology in new neighborhoods. According to (Onal et al, 1999) the Baykal district, for example, beside the construction of multi-story housing blocks, floor additions to the old residential blocks became a natural trend. A similar trend applied to the Sakarya district where there were almost no apartment blocks before. The Karakol district, which was once almost an empty area within the city with its orchards, gardens, and grain fields, had most of its share from these new trends due to its proximity to the University campus.

The main focus of this research is on public parks as a type of public open spaces in Famagusta. Initial observations of the cases revealed that people in Famagusta are in need for parks and this motivated the researcher to investigate the quality of the one selected park in the city.

The selection criteria for the case are size, social importance, and location. As part of quantitative data collection, the researcher did a pilot study and interviewed 185 people. This pilot study is important to study people's preferences. The results from the interviews showed:

- The frequency of park using as public space.
- The reasons behind choosing the park.
- The most popular park in the city.
- The value of the park as a public open space in people's lives in the city.

The researcher chose five deferent location in the city as (figure 13) shows aimed to attempt and cover the general preference for residents in Famagusta.

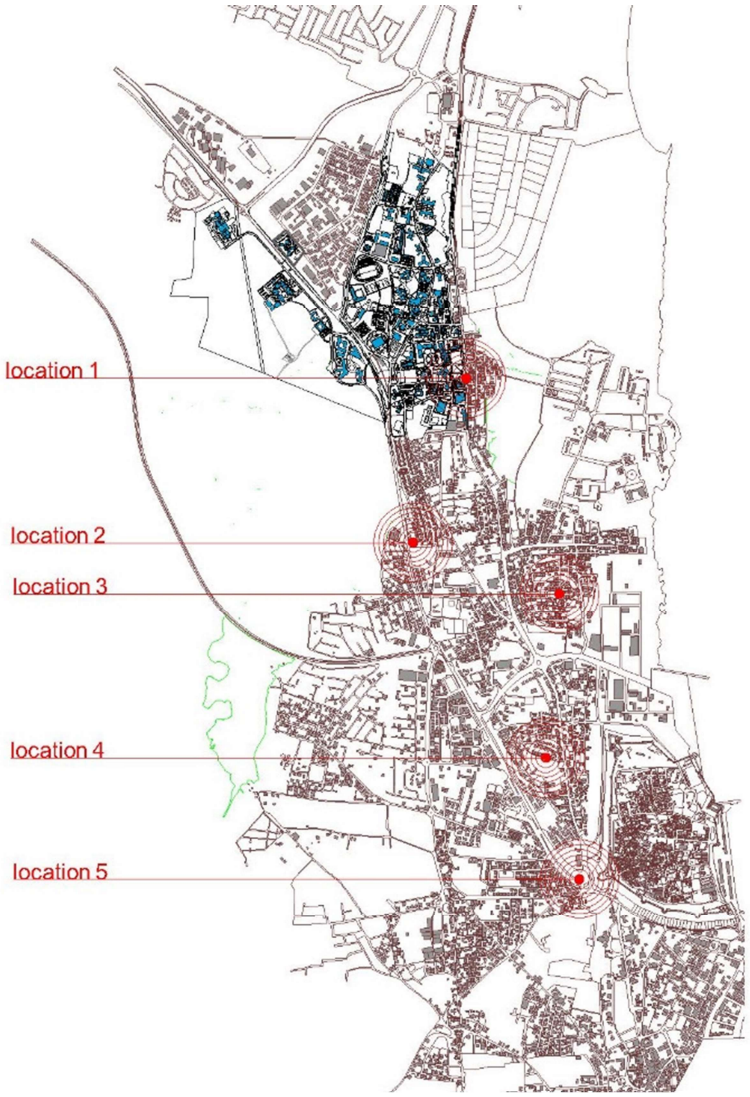

Figure 13. Location of the interviews for case study selection.

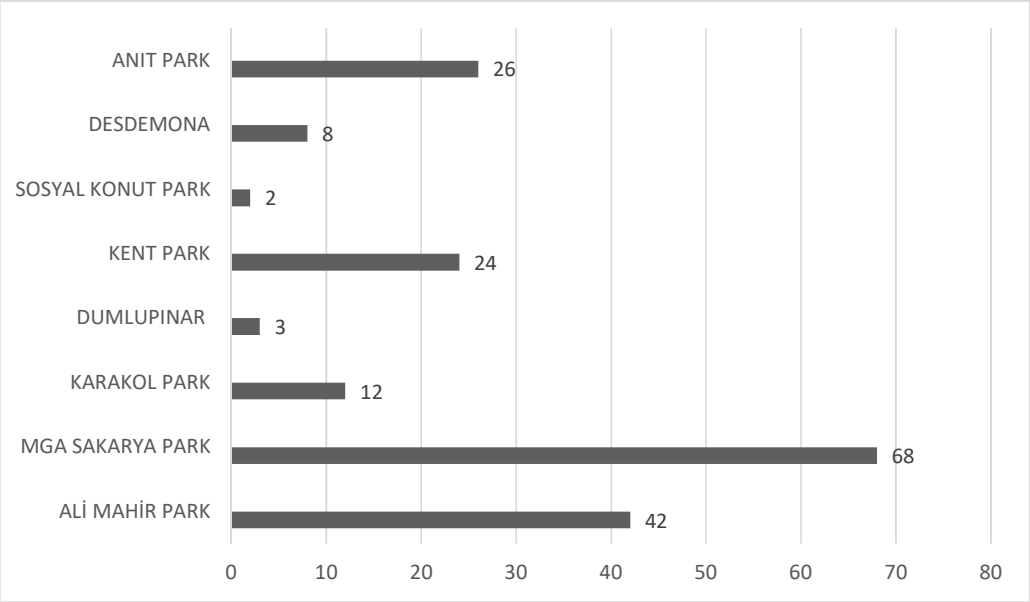

Figure 14. The popularity of parks in Famagusta.

According to the previous pilot analysis, the most popular park is Sakarya park. Thus, this park is selected to be studied as a case study in this research. The study starts with a brief introduction about the park, then an analysis of the physical, functional and social characteristics of the park.

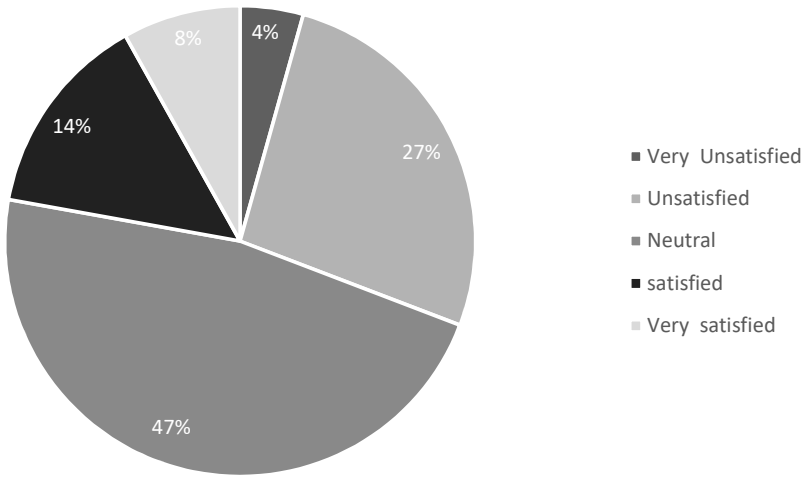

Figure 15. Rate of general quality of parks in Famagusta.

4.5 Brief information about the selected park

The selected park is located in a central location according to the new development of the city. It is also located on the main street in the city (Salamis Road). The significance of being attached to Salamis Road is that this road leads to the EMU university campus which is located to the north direction of the city. However, from the southern direction the road leads to the historical core of the city (Walled City of Famagusta).

Figure 16. Sakarya park, the panoramic view

The park has been created in different stage without plan, accordingly the lack of designed, lack of tree, lack of defined entrances, and different type of material with no harmony used in the park. The park consists of two football fields, two tennis fields, one basketball field, one volleyball fields, playground, and community center. There are many shops and many commercial buildings around the park, such as Lemar complex from the northern side and all coffee shops in front of the park from Salamis Road eastern side, and the western side is mostly residential.

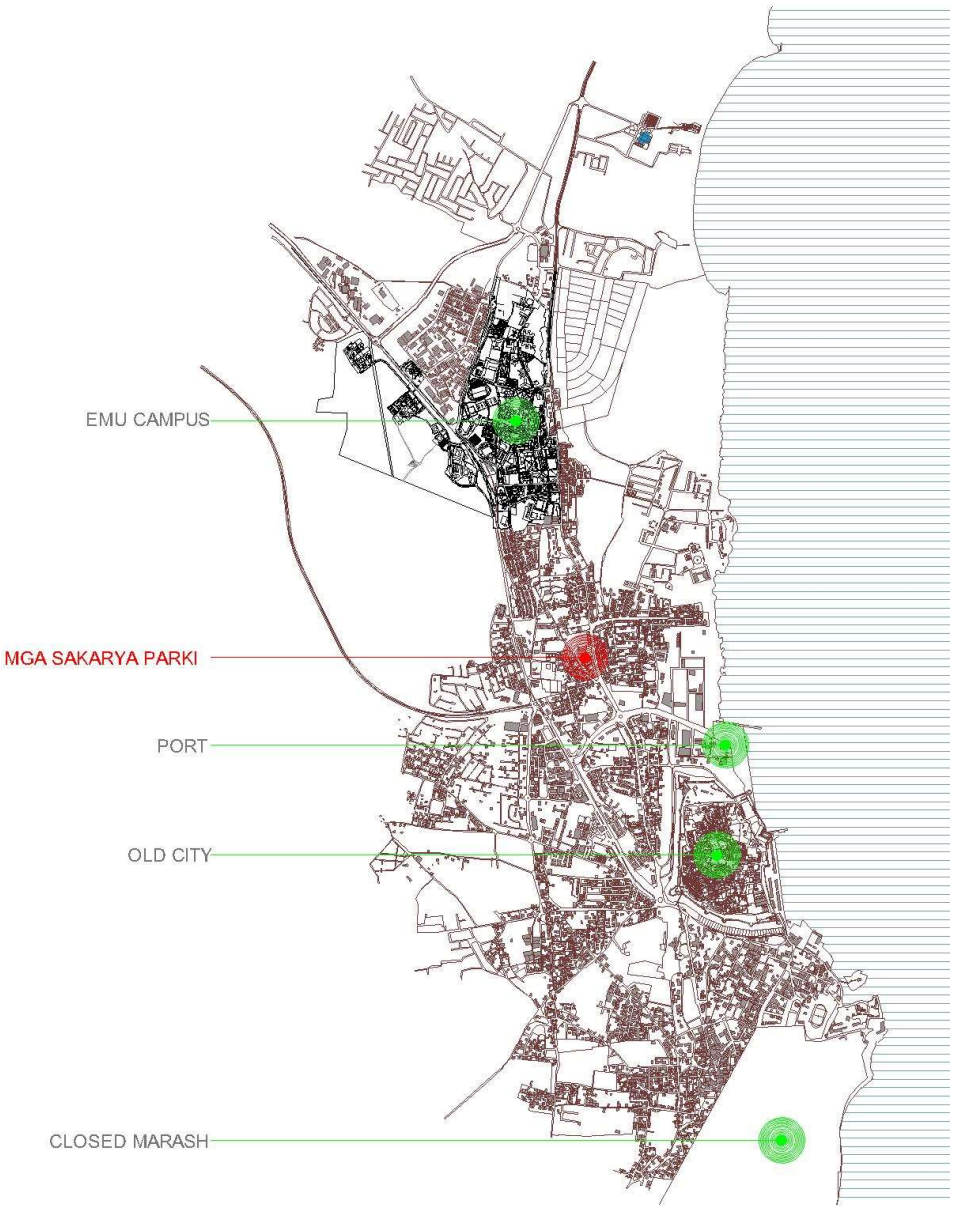

Figure 17. Location of Sakarya park in Famagusta

4.5.1 Physical characteristics of Sakarya Park

Physical characteristics of Sakarya Park are analyzed in terms of size, shape, furniture, materials and natural elements. The previous are collected by the observations of the researcher. In addition, the perception of people for those qualities are analyzed according to a questionnaire survey.

4.5.1.1 **Size**

According to the literature, there are no ideal size for the public open space; it is directly connect to the perception of users. Sakarya Park has somehow rectangular shape and the size of the park shown in map bellow Figure 18.

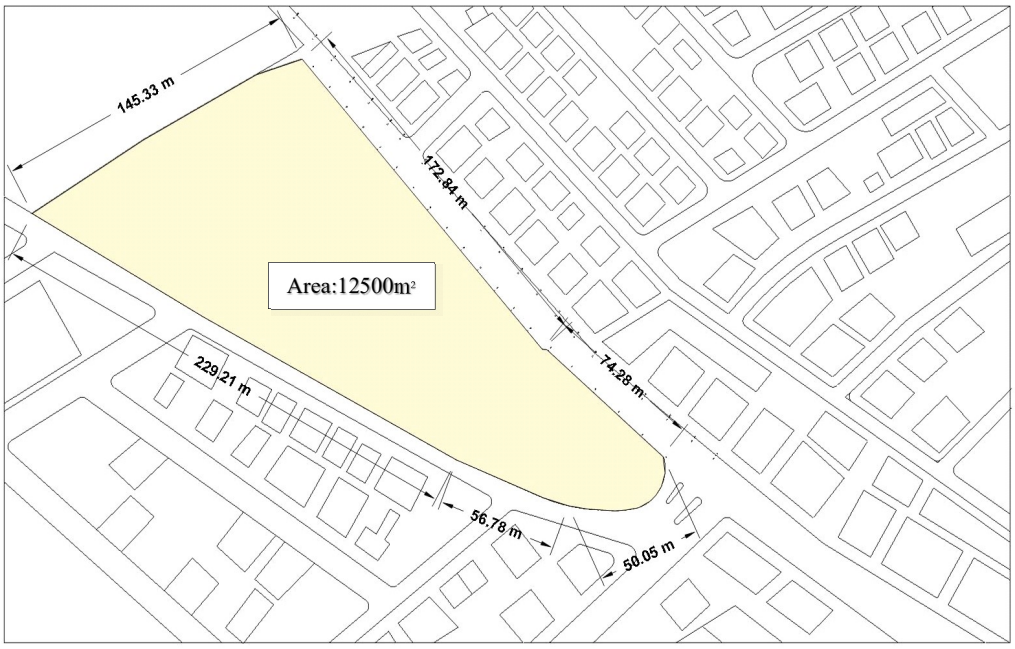

Figure 18. Size of the Sakarya Park (by autor).

The questionnaire survey shows that 4.5% are very unsatisfied with the size, 21.3% of users are unsatisfied with the size of Sakarya Park, and 46.5% of users was neutral with it. On the other hand, 23.9% of users are satisfied and 3.9% are very satisfied.

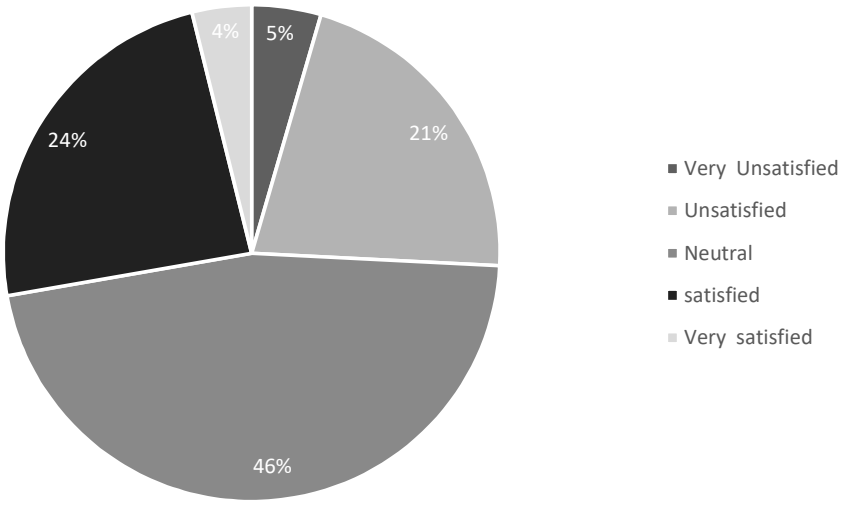

Figure 19. People's satisfaction about the size of Sakarya Park.

4.5.1.2 **Shape**

Generally, the shape of the park is controlled by the purpose of space and it should be comfortable to host and accommodate users. For Sakarya Park there are no formal shape, the park follows the street pattern of the city. As mentioned before in the size the importance of the shape is in the relationship of the park as public open space with the surrounding buildings' heights as illustrated in Figure 20.

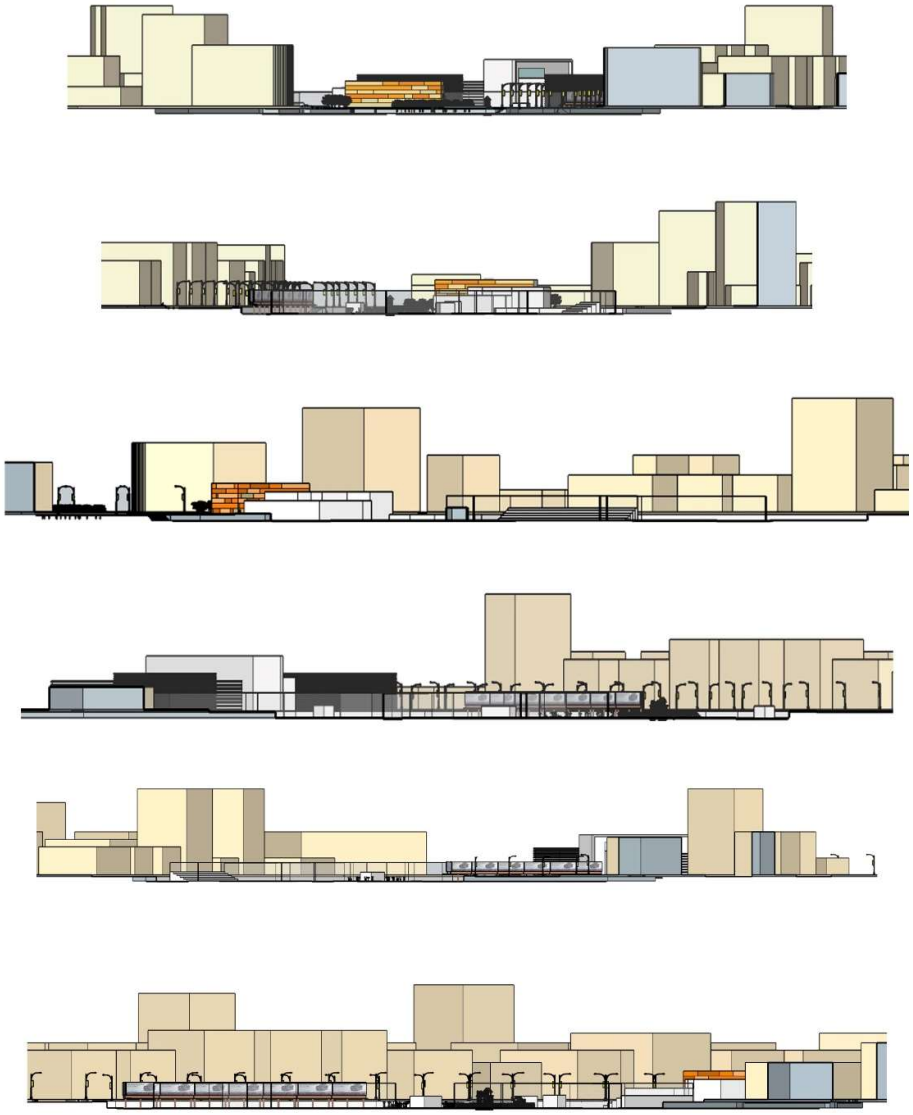

Figure 20. Different sections describe the enclosure of the park with neighborhood.

For instance, the east side with Salamis's road the edge has well-defined by trees and advertisement panel beside the level deference between the park and the street.

For Sakarya Park, there are define entrance and boarder from salamis street side on the other hand it has no define entrance and boarder from the other side of the park. Furthermore, the park somehow welcoming people in entrance point only the visual

barrier such as advertising panel, bus stop and the backstage of the basketball field make loss of the inviting feeling for the park. As well as entrance point there are loss in the end point of the park from lemar side it has no define edge it is just interaction with the land around it, that's give the feeling with un well designed public open space edge.

On the other hand, the questionnaire survey showed that 27.7% of users are not satisfied and 1.9% are very unsatisfied with the enclosure of the space, beside that 36.1 of users state that there are neutral with it. While 20% of users state that they was satisfied.

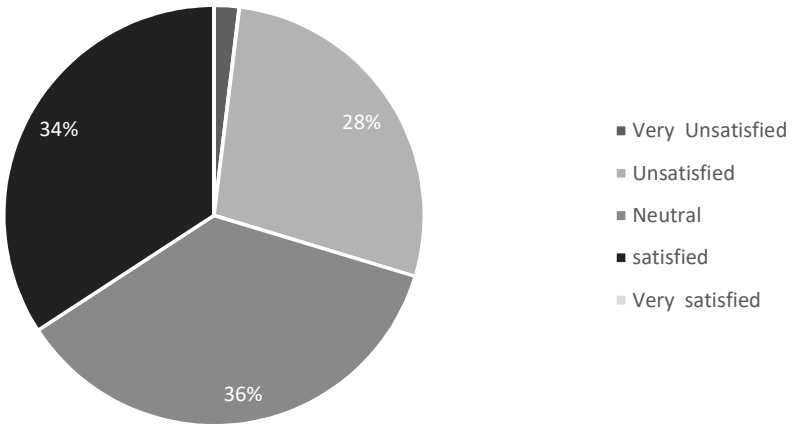

Figure 21. People satisfaction about enclosure of Sakarya Park.

4.5.1.3 **Furniture**

It is very crucial to provide enough and suitable furniture in public open spaces. According to site observation on Sakarya Park, the park is not well equipped in term of furnishing as Table 32 shows. Also, there is a need to have more furniture facilities such as public toilets, sitting elements, etc. as follows:

Table 32. Existing furniture in Sakarya Park.

NO	Type of furniture	Number	Note
1	Benches	18	14 for sports field and only 3 inside the children play ground beside 1 next to
2	Lighting elements	15	
3	Play ground	1	There are one place for children.
4	Temporary room	4	1 for the guard man 2 as storage and 1 As a small restaurant.
5	Sport equipment	36	There are 18 machine for each side.
6	Bins	12	They are is deferent place on the park.
7	Signs	4	2 of them in very bad condition and the rest are old and cracks.
8	Movable chair	10	Only for the coffee inside the community center.
9	Pike park	5	They use him for deferent purpose.
10	Shading elements	0	

- Sitting elements:

According to the conducted field observation and questionnaire, there are intense and obvious lack of sitting elements. In addition, the unsatisfactory of sitting elements are not only in terms of quantity (number) but also in term of quality (comfort).

Figure 22. The existing sitting elements in Sakarya Park.

Because of this lack in sitting elements people tried to have another alternative to cover this lack. Some of them are using the sports equipment and other using the edge of unfinished water element to sit.

Figure 23. Differnt place for sitting to cover the lack of sitting elements.

The questionnaire survey showed that 16.1% are very unsatisfied and 34.8% of users are not satisfied with the comfortability of the existing sitting elements, beside that 18.1 of users was neutral of the existing situation of the natural elements. While 25.8% of users state that they was satisfied and 5.2% saw very satisfied with the natural elements. After asking these people about their satisfaction of the sitting elements, many of them mentioned the lack of tables as well, which in its turn had limited their activities of eating and therefore their overall spent time in the park.

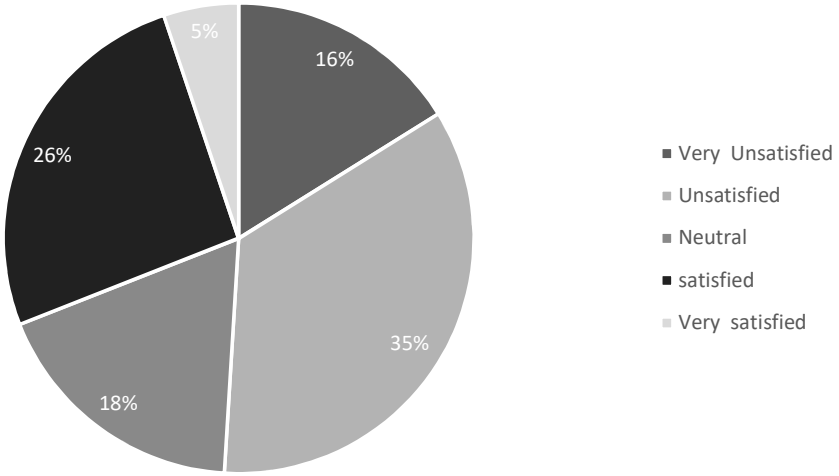

Figure 24. People satisfaction about comfortability of sitting elements.

- Lighting fixtures

The second analyzed furniture is the lighting elements in Sakarya Park. As the direct observation confirmed there are remarkable lack of lighting. It is important to mention that the existing lighting elements not only have poor quality resulting in weak lighting intensity, but they are also too ordinary for such well-designed public open space.

Figure 25. Exsting lighting elements.

According to questionnaire results, 28.4% of the users are satisfied with the condition of lighting in the park. While 31.6% state that they was neutral with it. On the other hand 28.45was not satisfied and 11.6 saw very unsatisfied with the efficient of lighting in Sakarya Park.

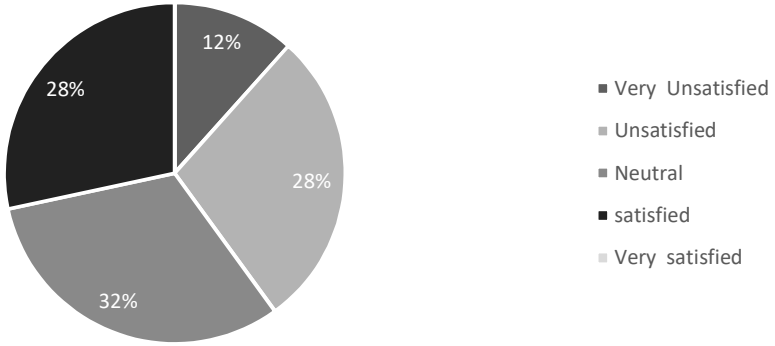

Figure 26. People satisfaction about efficiency of lighting.

- Trash bins

Another studied furniture are bins. The number of trash bins in the park is efficient and they are well located. However, observations showed that the quality of the available bins is very poor and needs an improvement in order to go along with the overall design of the park.

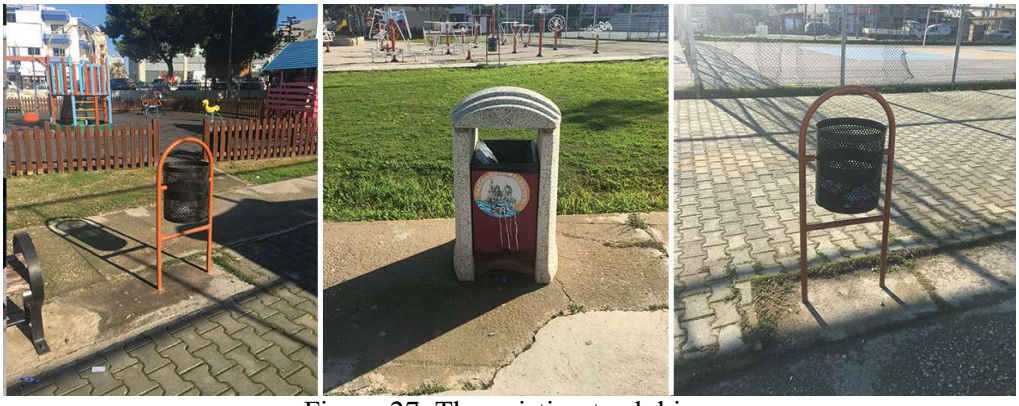

Figure 27. The existing trash bins.

- Sports equipment

According to the observation, the presence of sport equipment is one of the main reasons that attract users to the park. In term of quantity of the available equipment, there are efficient number of them. On the other hand, the equipment is not well located in the park as they are all in the same area.

Figure 28. Sport equipment in Sakarya Park.

According to the conducted questionnaire, 34.2% of the users are unsatisfied or very unsatisfied at all with the condition of sports equipment in the park. While 35.5% was satisfied with it. Beside 30.3% was in neutral with the condition of sports equipment. In addition, people showed unsatisfactory towards the type of each sport equipment as they mentioned the lack of some basic types such as; straight bars, stationary bikes, and dips bars.

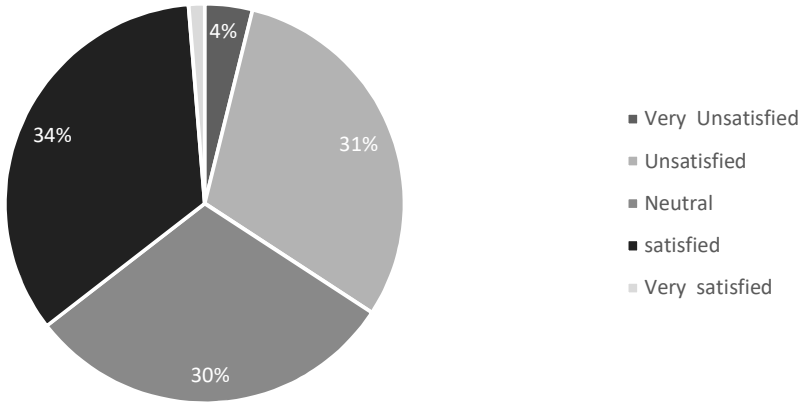

Figure 29. People satisfaction about efficiency of the sport equipment.

- Shading elements

As the literature shows shading elements one of the fundamental qualities of public open space and its leads to livable public open space. In the matter of shading elements there is no shading elements as observed in the park. The hot and humid weather in Famagusta demands such shading elements to protect the users from sun. However, the existing building (Famagusta ACADEMY) provides shading by its exterior canopy. In addition, there are three umbrellas owned by the small restaurant in the mentioned building.

- Playground

The children playground is one of the main activities offered by Sakarya Park. The quality of the offered games for children are very good according to the observation of the researcher.

The conducted survey shows that the playground is one of the main reasons why people visit the park. As shown by the results of users' perception, mostly people are

very satisfied (2%) and satisfied (38%) with the quality of playgrounds. On the other hand, 20% showed their un-satisfaction and 7% are very unsatisfied. However, 33% are neutral with it.

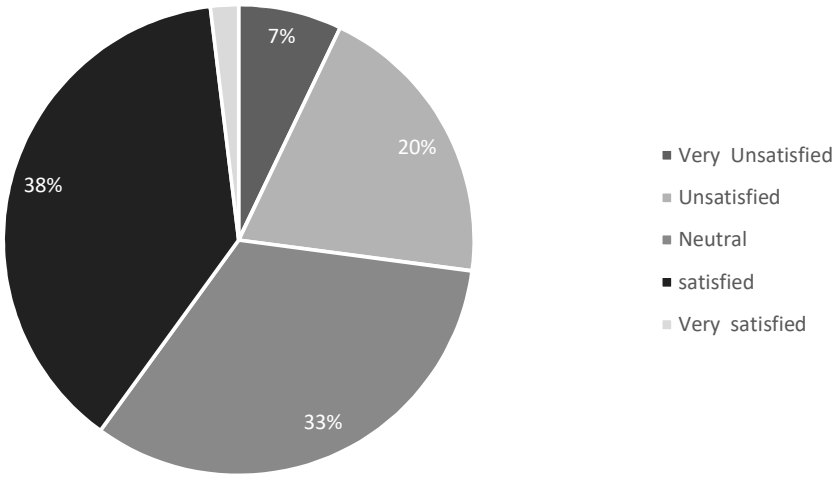

Figure 30. People satisfaction about quality of playground.

- Signs and way-finding

The observation of the park showed that there are only three sign boards with very bad quality. The signs are supposed to show the map of the park, general use instructions and the name of the park. However, the quality of them is not allowing to show the presented information.

Figure 31. The existing signs in Sakarya Park.

4.5.1.4 **Materials**

Material of flooring and other surfaces is one of the essential elements for physical characteristics of public open spaces. In Sakarya Park the surfaces are generally in good quality, however in some parts it is in poor condition. The studied flooring includes; flooring of the pathways, kids' playground, sports area, basketball and volleyball fields. The flooring of the pathways' is not well defined in terms of the users (pedestrians or bikers). However, the quality of their flooring is suffering from cracks in some places and needs maintenance. Another important factor which should be mentioned here is existence of no special flooring for disabled people, either visually or physically, in any part of the street which causes hard accessibility for disabled in the park. The flooring of the kids' playground is not suitable and not soft. As well as, the flooring of the sport area is also considered uncomfortable and dangerous since they are using hard interlocks as flooring. Finally, the basketball and volleyball field are suffering from cracks in the flooring and also from old uncleaned molded audience seating.

The conducted questionnaires were asking about the satisfaction of users on the colors of the materials used. 15.5% of the users were very unsatisfied and 29.7% were unsatisfied with the color of the material in the park. While 34.8% were neutral and 20% were satisfied with it.

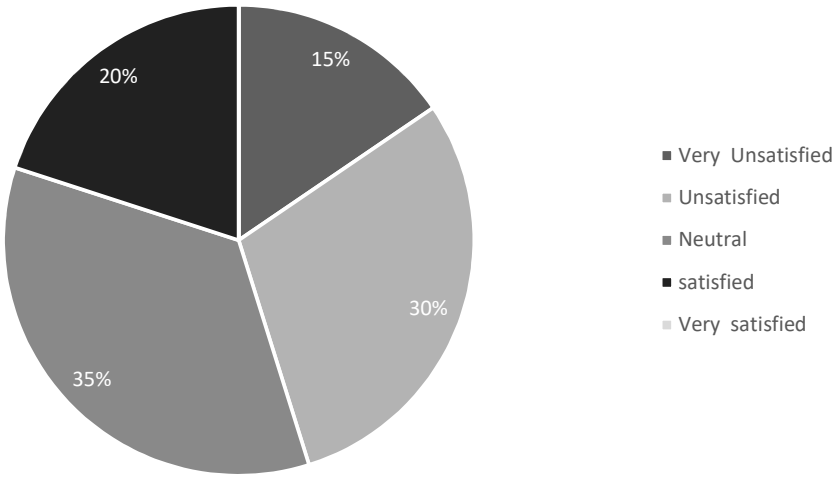

Figure 32. People satisfaction about color of the flooring materials.

The conducted questionnaires were asking about the satisfaction of users on the texture of the flooring materials used. 15.5% of the users were very unsatisfied and 40% were unsatisfied with the color of the material in the park. While 25.8% were neutral and 18.7% were satisfied with the texture of the flooring materials.

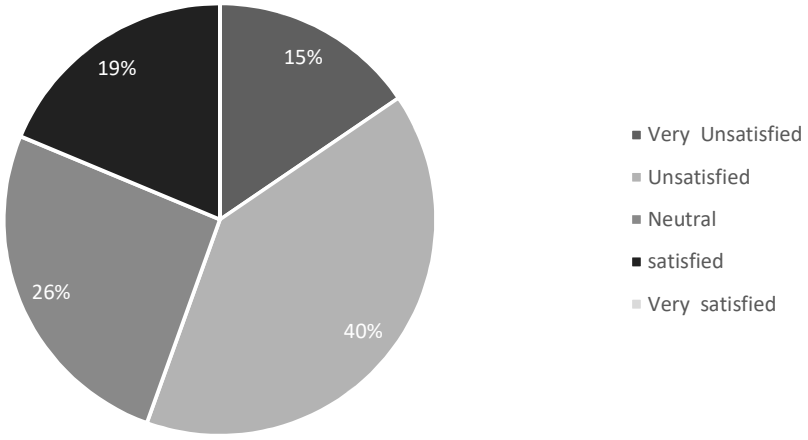

Figure 33. People satisfaction about texture of the flooring material.

4.5.1.5 **Natural elements**

Figure 34 is showing the vegetation distribution along Sakarya Park. Generally, the park has lack of proper landscaping. On the other hand, the existing natural elements have lack of variation in their size and type.

Figure 34. The vegetation distribution along Sakarya Park.

According to the questionnaire survey12.3% of users are very unsatisfied and 24.5% of users consider that the park has poor natural elements and they were generally unsatisfied. Beside that 25.8% of users was neutral of the existing situation of the natural elements. While 28.4% of users state that they was satisfied of the natural elements and 9% was very satisfied.

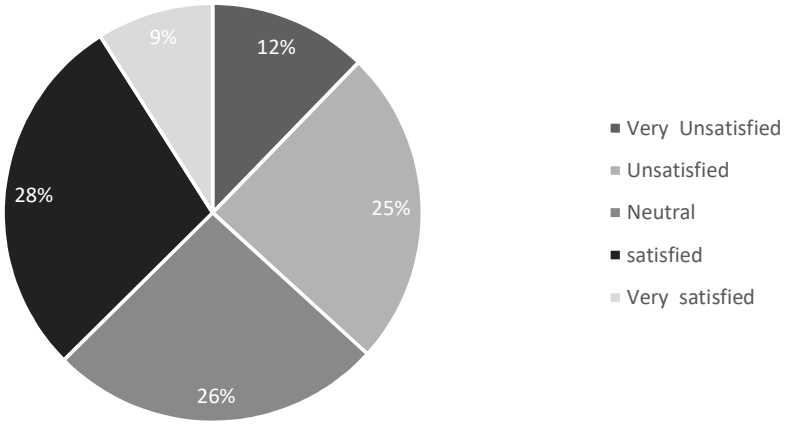

Figure 35. People satisfaction about availability of natural elements.

4.5.2 Functional characteristics of Sakarya Park

This part will analysis the accessibility, function of the park and the activity that's take a place on it.

4.5.2.1 **Accessibility**

In terms of accessibility to Sakarya park has special location to one of the fundamental crowded streets of the city (Salamis Road) as Figure 34 shows. This strategic location allowed more people to visit the park, making the accessibility much easier for users. Regarding the accessibility to public open space as found in literature there are three main components; physical, visual, and symbolic.

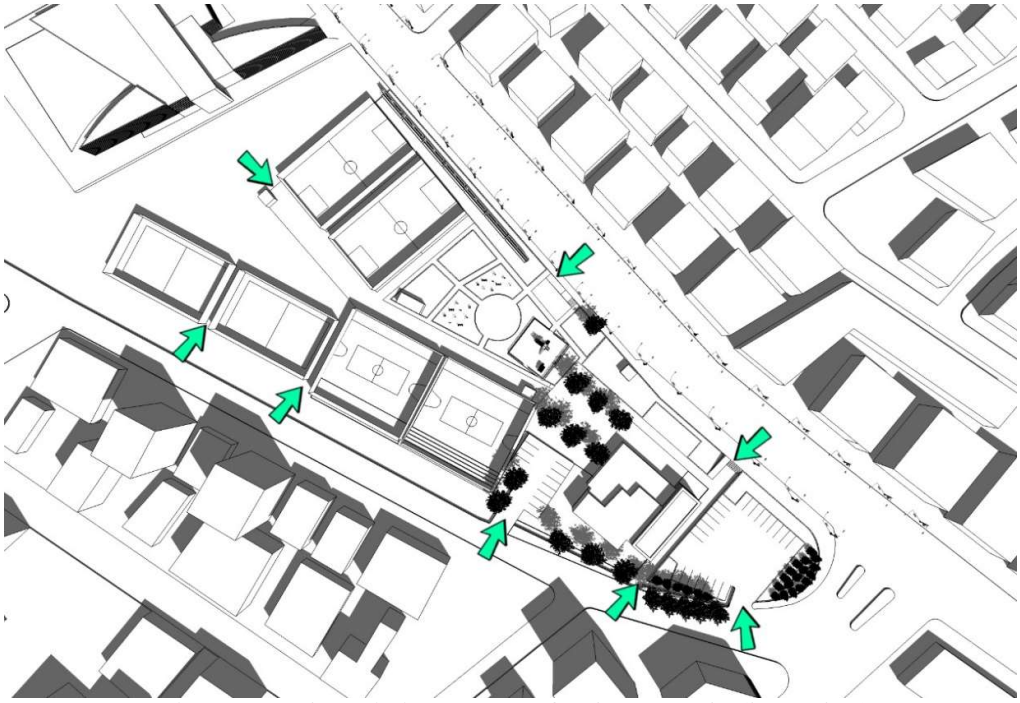

Figure 36. The existing access of Sakarya Park. (by author).

- Physical access:

The park has two main accesses on Salamis Road. These accesses consist of stairs and ramps because of the level difference as Figure 37 shows. In addition, there are five entrances from the western side of the park; two of them are devoted for cars' parking, one is for community center as Figure 36 shows, and the last two accesses are for pedestrian, but they are not formally designed as people use them to have a shorter journey from and to the park. From the northern side of the park, the access or entrance of the park is not defined but actually very loose due to the lack of boundaries of any kind around the park.

Figure 37. The entrance places in eastern side of Sakarya Park.


Figure 38. The entrance places in western side of Sakarya Park.


Figure 39. The entrance places in western and northern side of Sakarya Park.

- Visual access:

The primary purpose of visibility is allowing users to scan the place and feel comfortable before entering it. Sakarya Park have some weakness in this term. The existence of advertisement boards on the eastern side is blocking the view from the main street (Salamis Road). This actually prevent the park from attracting people from the street level. Regarding the visibility of the western side, the existence of the

community center, scalar of sport field, and the heavy trees are partially blocking the view of the park.

Figure 40. Barrier effecting the visual access of the park.

- Symbolic access:

Regardless of the physical and visual accessibility issues, the general feeling of the park is very welcoming. This is noticed by the way children run into the park as soon as they approach it. As well as, the sport matches inside the sport fields give an active and welcoming atmosphere for the park, which attract pedestrian attention to watch the players in the field for minutes. Some of the art pieces and status in the park give a mixed feeling for people. Some users, who are mostly foreign students, don't really understand the meaning of the art, instead they propose a feeling of fear because of the dark color of some.

4.5.2.2 **Park land utility (variety)**

There are various types of functions on Sakarya Park. According to the figure 41, the park is offering many services for the user, which increases the value of the park in the adjacent neighborhood and the city in general.

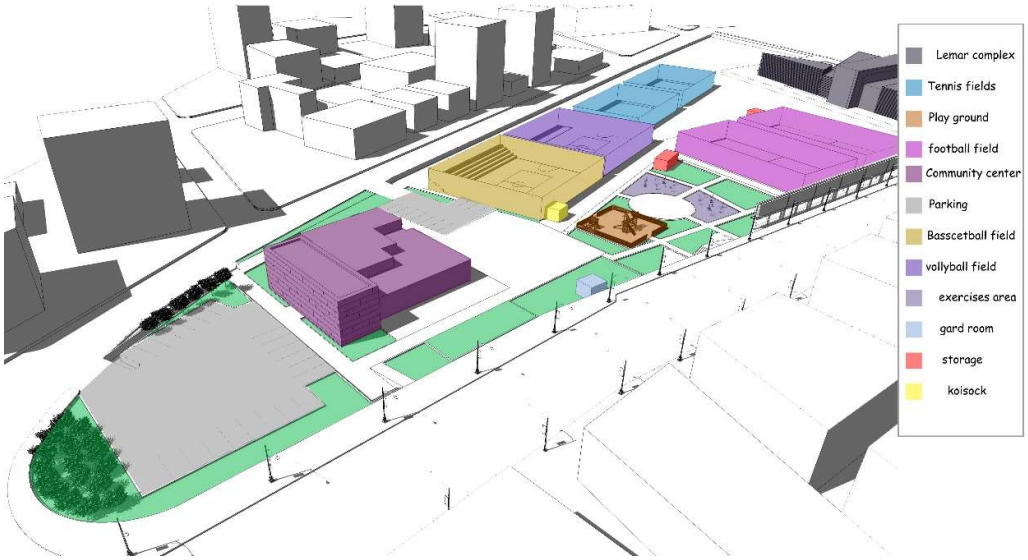

Figure 41. Sakarya park utility (by author).

For the neighborhood, the conducted questionnaires were asking people about the reason behind coming to the park, the utility of the park attract various type of people. The existing of the playground and sports facility make the park as potential place and encourage people to visit it. Most of the citizen are coming for their children, and some others coming for exercising. On the other hand, many group and individual are coming to Sakarya Park for the sport facility as the survey shows, 184 of people only mention the sport as a reason for coming to the park they was in 19 to 25 group age. All the green space that the park has it none of the users are coming for enjoy it.

4.5.2.3 **Park activity**

Sakarya Park is offering different services and activates as mentioned before. Activates in Sakarya Park are divided into three activities as defined by Gehl (1987); necessary, optional and social activities. Figure 42 shows the different type of activates taking place in the park as well as the number of people practicing each certain activity as found in the conducted survey.

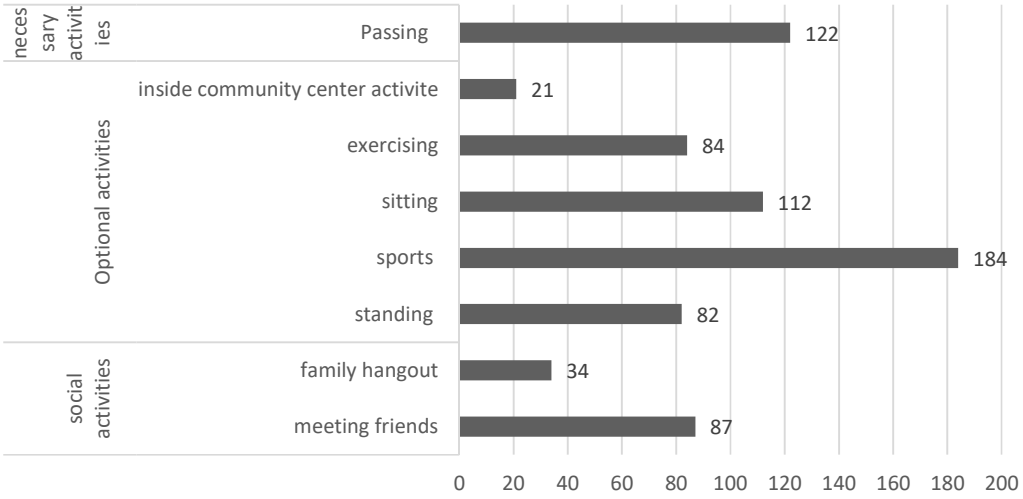

Figure 42. Number of users according to their activities.

4.5.3 Social Characteristics of Sakarya Park

This part will analysis the people presence and social activates of the park

4.5.3.1 **People presence**

Sakarya Park take an essential location according to the city and beside the active street next to it, so the park works as main connection for the street users. As a result of observations, the main users of the park are the students of university beside the elder citizen with their kids. On the other hand, it's important to mention that the majority of the users are school student who's registered in the community center but usually the use only the sports fields. Other type of users are people whose access to their homes or meeting their daily needs throw the park and also for walking, spending time.

The chart below (figure 43) showed the number of the user that using the public space in weekend through three deferent period of the day. The number showed in the chart is a result of sum up of four weekend.

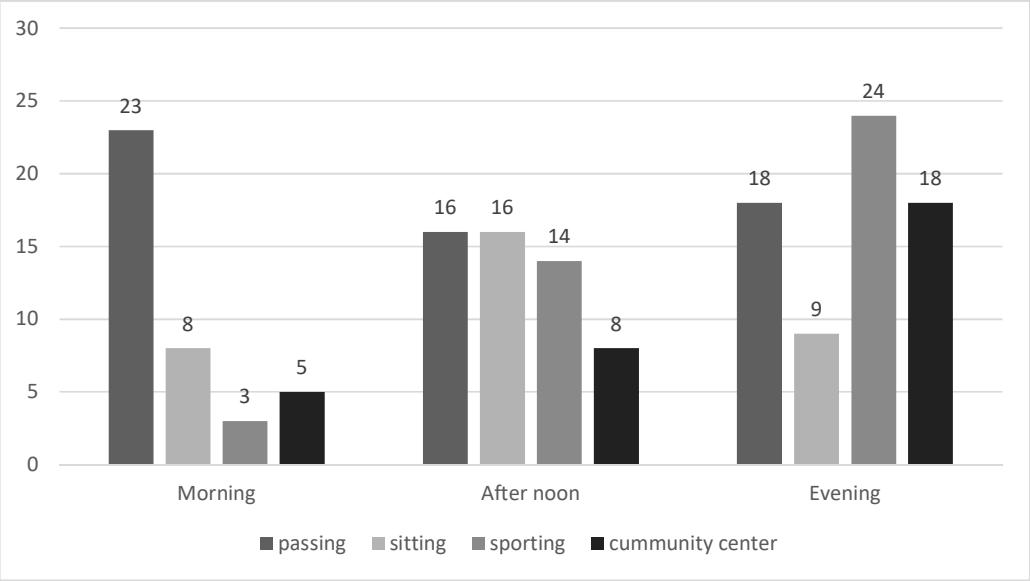

Figure 43. Number of people attendance in Sakarya Park during weekend.

On the other hand, (figure 44) below showed the number of the user that using the public space in weekday through three period of the day. As we can notice from the chart below there are significant change in the number of users specially people who use the park as shortcut and the users of the community center. The number of the people influence by university buses because of bus stop in the western side of the park. Many student are using university buses to move through the city, the location of the park next to must crowded street make the student use it as a faster pass to arrive to their destinations. Sitting in the park during the weekday is very low because of most people are working and there are a few elder who can come in the daytime. In the weekday the sport facility takes a good potential because of the courses that community center offers it for children during afternoon. In the evening many university student and young people are coming for deferent type of sports. For the community center, it has various type of users all the day and night because of the existing facility inside it for example, many young people coming there to spending time playing billiard and Ping-Pong and the number increases when there are some courses in the dancing hall.

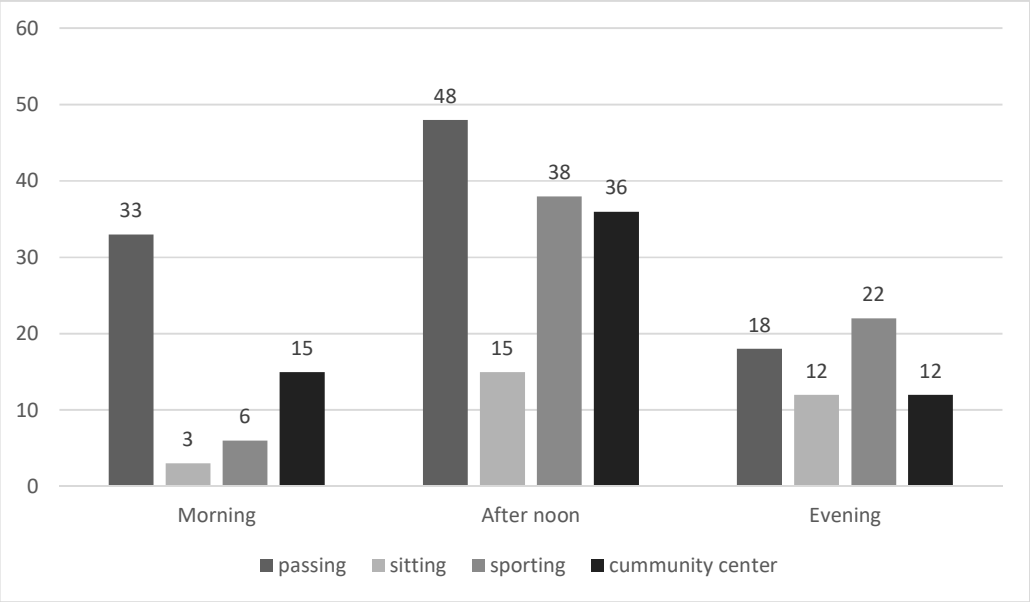

Figure 44. Number of people attendance in Sakarya Park during weekday.

4.5.3.2 **Social Activity**

The main social activities in Sakarya Park is provided by Famagusta Municipality Development Academy (Magusa Gelisim Akademisi). This community center enables individuals to become more participatory, productive, self-sufficient and active in social life. In addition, it supports the socio-cultural development of young generation.

Famagusta Municipality Development Academy is a center for contributing to sustainable human development suitable for all ages in line with the problems created by social change, urbanization and economic conditions. Famagusta Municipality Development Academy, which acts with an understanding of individuals, groups and society can cope with problems, enable individuals to become more participatory, productive, self-sufficient and active in social life, supports the socio-cultural development of young people. The main goals of the academy is to create a common study and production areas, to create a collective development that will contribute to the solution of the society problems, to increase the communication and solidarity

among the community, to help them have a free career, and to develop their hobby areas.

Table 33 shows the activities offered by Famagusta Municipality Development Academy during the week (Famagusta Municipality, 2018). The activities are including artistic activities such like; film club, wood painting, etc. On the other hand, many sport activities are offered by the academy such like; basketball, Zumba, etc. Educational activities for kids are also available such like; spelling.

Figure 45. Activates in Famagusta Municipality Development Academy in Sakarya Park.

Figure 46. Activates in Famagusta Municipality Development Academy in Sakarya Park.

Table 33. List of courses (retrived from Magusa Gelisim Akademisi)

FILM CLUB (SHORT FILM COURSE)	TUESDAY 19:00-20:00	DUES 50	AUDITORIUM
WOOD PAINTING	Tuesday 10:00-12:00	dues 30	classroom
FIRST STEP INTO ART	Friday(children) 17:00-18:00	dues 100	art workshop
BASKETBALL (GR 1)	5th grade and middle school Saturday 09:15-10:15	dues 60	Magusa Arena
BASKETBALL (GR 1)	1th grade & 2th grade Saturday 10:15-11:15	dues 60	Magusa Arena
BASKETBALL (GR 1)	2,3,4 classes Saturday 11:15-12:15	dues 60	Magusa Arena
RIBBON SURFACE	Friday 10:00-12:00 15:00-17:00	dues 30	classroom
ZUMBA	Monday & Wednesday 19:30-20:30 Friday 19:30-20:30	Student 50 adult 60	dance hall
GYMNASTICS (GR1)	Tuesday & Friday 17:00-18:15 (5-9)years old	dues 80	dance hall
ARCHERY	Wednesday & Friday 17:00-18:30 Monday & Thursday 17:00-18:30	dues 70	Magusa Arena
SPELL WITH CHILDREN	Thursday 14:30-15:30 (group 1) (main classes, 1-2-3-4-5 classes)	dues 100	classroom
BILLIARDS	individual training day is decided by the instructor	dues 30	billiards hall
MIXED CRAFTS	Monday 15:30-17:30 19:00-21:00	dues 30	classroom
PHOTOGRAPHY	Tuesday 17:30-18:30	dues 80	auditorium

Figure 47. Events in Famagusta Municipality Development Academy in Sakarya Park.


Figure 48. Events in Famagusta Municipality Development Academy in Sakarya Park.


Figure 49. Events in Famagusta Municipality Development Academy in Sakarya Park.

Beside the weekly activates offered by the academy, the latter also host social events such like; environmental causes, charity, artistic performances, etc. as listed in table 34. However, some of these events are in cooperation with other institutes in the city, to ensure providing the best quality of benefit to the community.

Table 34. List of social events (retrived from Magusa Gelisim Akademisi)

Name of the events	Date
Helping Street Animals	MAY 5
Let's Clean Together	APR 14
Art on the Street	APR 13
Famagusta City Memory And Museums In The Context Of Cultural Heritage	MAR 10
Meet Children's Festival	APR 22
BOOKS SALES FOR THE SECOND HAND	MAR 4
Çetin Amber Moment Tournament FINAL Match	NOV 25
Çetin Amber Moment Tournament FINAL Match	NOV 23
Helping Street Animals	OCT 22
Helping Street Animals	JUN 22
Mga & Ydı Big Men's League Play off Half Final Match	APR 9
Aid for Famagusta Street Animals	OCT 24
MGA and EMU COMPLAINTS	JUN 17
MGA - MEDITERRANEAN BILARDO MATCH	MAY 30
"After 40" Theater Show	APR4
"After 40" Theater Show	APR 2
8 March International Women's Day Events	MAR 4
Seminar on "Why Children Don't Listen"	FEB 9
MGA Basic Photography Training	FEB 3

4.5.4 Perceptional characteristics of Sakarya Park

Steele (1981) claimed that there exist some significant physical factors influencing the perception of sense of place including scale, proportion, enclosure, textures, edge, visual variety and color.

People's perceptions of environmental quality are affected by their physical environment, particularly through the meaning they attach to it. Although people share common sensations of their environment, the ways in which they perceive and evaluate those sensations are different. These differences in environmental perception are deeply influenced by many factors such as age, gender, length of residence in an area and lifestyle relating to their social and cultural environment and their values. Therefore, perception is not only a biological process, but is also socially and culturally learnt (Carmona et al., 2003).

To understand sense of place, one needs to analyze physical qualities, activities and meaning of the public open space. In the previous section, the physical qualities of Sakarya Park were analyzed based on the researcher's observations and the conducted survey with the users of the park. However, Jan Gehl (2010) proved that having good physical qualities of public open space leads to increment of the activities in it. The meaning of public open space is represented by users' perception. Accordingly, the data collected by the survey will be analyzed using Statistical Package for Social Sciences (SPSS) program. The results of the program will be used to understand and discuss the perception of users in Sakarya Park. Finally, by analyzing the previous mentioned aspects, one can understand the sense of place in Sakarya Park.

According to the results of SPSS, the majority (52.9 %) of Sakarya Park visitors are between the ages 19 – 24 years old. While the age group between 37 – 42 years old are the group which visit the Park less (3.2 %). However, 43.2 % of users visit the park between 2 – 4 times in a month. On the other hand, only 10.3 % of users visit the park frequently; around more than 9 times in a month. In general, 43.2 % of the interviewers stated that they are unsatisfied with the overall quality of Sakarya Park. While 27.1 % were unsure about their impression of the park, 21.3 % were satisfied with the quality of it.

While analyzing the correlations within section B (character of public open space), it is noticed that the strongest correlations in this group is between the perception of users on texture of the flooring material with the perception of users on enclosure of the public space and the perception of users on texture of the flooring material with the perception of users on size of the park. But, it is important to mention that this correlation is not strong enough (0.401 & 0.399) if it is compared with 1 as the highest

correlation. On the other hand, while analyzing the correlations within section C (components of public open space), it is noticed that the strongest correlations (0.502) in this group is between the perception of users on comfortability of sitting elements with the perception of users on the availability of natural elements in the park. However, another strong correlation happened between the perceptions of users on the quality of playgrounds with the perception of users on the efficiency of the lighting intensity (0.444).

By looking at the results of SPSS descriptive statistics, many relations were understood as follows:

1. Nationality
    a. Table (4&6) shows that regardless of the nationality, most of the questioned users were unsatisfied (Cypriots: 22/53 & other: 45/102) with the general quality of the park.
    b. Table (4&7) shows that regardless of the nationality, most of the questioned users were neutral (Cypriots: 21/53 & other: 51/102) with the size of the park.
    c. Table (4&8) shows that regardless of the nationality, most of the questioned users were neutral (Cypriots: 19/53 & other: 37/102) with the enclosure of the space in the park.
    d. Table (4&9) shows that Cypriots are mostly unsatisfied with the colors of the flooring (22/53), whereas other nationalities are neutral with the colors of flooring in the park (37/102). The difference of opinion is due to the fact that most Cypriots visit Sakarya Park with their family (with their children) and their use of the space is also different accordingly their need of exciting colors is higher than other nationalities who are mostly young students.
    e. Table (4&10) shows that regardless of the nationality, most of the questioned

users were unsatisfied (Cypriots: 21/53 & other: 41/102) with the texture of the flooring in the park.

f. Table (4&11) shows that Cypriots are mostly unsatisfied with the comfortability of sitting elements in the park (26/53), while other nationalities are satisfied with them (31/102). The difference of opinion is again due to the fact that most Cypriots visit Sakarya Park with their family (with their children) and their use of the space is also different accordingly their need of sitting elements and tables is higher than other nationalities who come for mostly sport activities.

g. Table (4&12) shows that regardless of the nationality, most of the questioned users were satisfied (Cypriots: 24/53 & other: 35/102) with the quality of the playgrounds in the park.

h. Table (4&13) shows that Cypriots are mostly satisfied with the efficiency of the sport's equipment in the park (28/53), while other nationalities are unsatisfied with them (38/102). The difference of opinion is again due to the fact that the most people who use the sports equipment are young non-Cypriots, whereas Cypriots visitors are mostly from older age groups and their use of sport equipment is less and different.

i. Table (4&14) shows that Cypriots are mostly neutral with the efficiency of the lighting in the park (21/53), while other nationalities are unsatisfied with them (30/102). Again due to the different family structure of Cypriots and non-Cypriots, it is noticed that non-Cypriots use the park more during the night time, therefore they have un-satisfaction towards the poor lighting intensity while Cypriots are just neutral about the issue.

j. Table (4&15) shows that Cypriots are mostly unsatisfied with the existence of natural elements in the park (18/53), whereas other nationalities are satisfied

with them (32/102). Again due to the different family structure of Cypriots and non-Cypriots, it is noticed that Cypriots who visit the park with their children need more shading to sit and monitor their kids playing and more greenery view due to their visual culture. While other nationalities are from different background and they may not require such needs.

2. Gender
    a. Table (1&6) shows that females are mostly unsatisfied with the general quality of the park (48/85), and (19/70) of the questioned males are unsatisfied. On the other hand, males are generally tend to be satisfied or neutral (22/70 & 22/70) with the quality of Sakarya Park.
    b. Table (1&7) shows that regardless of the gender, most of the questioned users were neutral (female: 37/85 & male: 35/70) with the size of the park.
    c. Table (1&8) shows that females are mostly satisfied with the enclosure of the space in the park (32/85). While males are neutral to the enclosure of Sakarya Park. The difference between the two perceptions are due to the location females spend most of their time in; which is the playground with their kids which in turn has a good enclosure by fences.
    d. Table (1&9) shows that females are mostly neutral with the colors of the flooring (33/85), whereas very few number of them are satisfied (9/85) comparing to a large number of unsatisfied and very unsatisfied females (23/85 & 20/85 respectively). On the other hand, males are divided between satisfied, unsatisfied, and neutral with the colors of flooring in the park (22/70 & 23/70 & 21/70 respectively). The difference of opinion is due to the fact that most females spend more time in the park sitting therefore, they have more time to focus on the color.

e. Table (1&10) shows that females are mostly unsatisfied with the texture of the flooring material in the park (42/85). While males' feelings of satisfaction and un-satisfaction to the texture of the flooring material of Sakarya Park is approximately equal. The un-satisfaction is due to the hard texture of the flooring material in both the playgrounds and sport ground.

f. Table (1&11) shows that females are mostly unsatisfied with the comfortability of the sitting elements in the park (42/85). While males' feelings of satisfaction and un-satisfaction is approximately equal. The difference of opinion is due to the fact that most females spend more time in the park sitting therefore, they have clearer opinion about that.

g. Table (1&12) shows that females are mostly satisfied with the quality of the playgrounds in the park (32/85). However, males are both neutral and satisfied with it (27/70 for each).

h. Table (1&13) shows that both males and females showed similar reaction between satisfactions, neutrality, un-satisfaction to the efficiency of sport equipment. This is because of the different age groups that did the survey.

i. Table (1&14) shows that females are mostly unsatisfied with the efficiency of the lighting in the park (29/85), while males are mostly neutral or satisfied with them (27/70 & 28/70 respectively). The un-satisfaction of females might be regarded to their feeling of fear in the low lighting intensity during night.

j. Table (1&15) shows that females are mostly unsatisfied with the existence of natural elements in the park (27/85), whereas males are mostly satisfied with them (26/70). Again due to the different purposes of visiting the park for females who come with their children and accordingly they need more shading to sit and monitor their kids playing and more greenery view to enjoy. While

males are mostly visiting for sport purposes, so they don't care much about the natural elements.

3. Age Group

This section will describe age groups as; group 1 (19 – 24), group 2 (25 – 30), group 3 (31 – 36), group 4 (31 – 36) and group 5 (over 43).

a. Table (2&6) shows that the majority of questioned users of group 1, 2 and 3, are unsatisfied with the general quality of the park (35/82 & 21/29 & 9/25 respectively). However age group 4 is fully neutral with the quality of Sakarya Park (5/5). On the other hand, the majority of group 5 is divided between very unsatisfied (4/14) and satisfied (4/14).

b. Table (2&7) shows that groups 1, 2, 3, and 5 are mostly neutral with the size of the park (32/82 & 21/29 &13/25 & 6/14 respectively). However, group 4 is satisfied with it (5/5).

c. Table (2&8) shows very different perspectives. Group 1 and 5 are mostly neutral with the enclosure of Sakarya Park (44/82 & 8/14 respectively). While group 2 and 3 are mostly unsatisfied (13/29 & 15/25 respectively). Finally, group 4 is satisfied with the enclosure (5/5).

d. Table (2&9) shows that group 1 and 5 are mostly neutral with color of the flooring material (32/82 & 6/14 respectively). While, group 2 and 3 are mostly unsatisfied (16/29 & 16/25 respectively). Finally, group 4 is very unsatisfied (5/5).

e. Table (2&10) shows that group 1, 3, and 5 are mostly unsatisfied with the texture of the flooring material in Sakarya Park (35/82 & 16/25 & 6/14 respectively). In addition, group 4 is very unsatisfied (5/5). While, group 2 is mostly neutral (14/29).

f. Table (2&11) shows that group 1, 2, 4, and 5 are mostly unsatisfied with the comfortability of sitting elements in Sakarya Park (22/82 & 13/29 & 5/5 & 8/12 respectively). But, group 3 is satisfied with the comfortability of sitting elements in the park (12/25).

g. Table (2&12) shows that group 1 is mostly divided between satisfied and neutral with the enjoyment of playground in Sakarya Park (28/82 for each). Group 2 is mostly neutral (14/29). Group 3 is mostly satisfied (20/25). Group 4 is mostly unsatisfied (5/5). Finally, group 5 is divided between satisfied, neutral and unsatisfied (4/14 for each).

h. Table (2&13) shows that group 1, 4 and 5 are neutral with the efficiency of the sport equipment (29/82 & 5/5 & 8/14 respectively). While group 2 and 3 are satisfied (12/29 & 13/25 respectively).

i. Table (2&14) shows that group 1 is divided mostly between unsatisfied (25/82) and neutral (25/82) with the efficiency of the lighting in Sakarya Park. Group 2 is mostly unsatisfied (12/29). Group 3 is mostly satisfied (13/25). Group 4 and 5 are mostly neutral (5/5 & 8/14 respectively).

j. Table (2&15) shows that group 1 is mostly neutral with availability of natural elements (29/82). Group 2 and 3 are mostly satisfied (12/29 & 11/25 respectively). Finally, group 4 and 5 are mostly unsatisfied (5/5 & 8/14 respectively).

4. Duration of stay

a. Table (3&6) shows that the more the user is satisfied with the quality of Sakarya Park, the longer duration they will spend in it.

b. Table (3&7) shows that the more time one spends in the park, the less satisfied with the size of the park they become, this is due to the better recognition of the

size with time passing. In other words, the user creates a fuller picture of the space around them and accordingly they judge the size.

c. Table (3&8) shows that the longer duration one spends in the park, the less satisfaction they have about the enclosure of it. Again the better understanding they build in their heads with time passing, affects their overall criticism about the place.

d. Table (3&9) shows that the longer duration one spends in the park, the less satisfaction they have about the color of flooring material in the park.

e. Table (3&10) shows that the longer duration one spends in the park, the less satisfaction they have about the texture of flooring material in the park.

f. Table (3&11) shows that the longer duration one spends in the park, the less satisfaction they have about the comfortability of sitting elements.

g. Table (3&12) shows that there are no clear relation between the duration of time spend in Sakarya Park and the quality of playgrounds.

h. Table (3&13) shows that the efficiency of the sport equipment doesn't affect the duration of staying in Sakarya Park. Whereas, the longer duration people spend in the park, the more unsatisfied they become about the sport equipment.

i. Table (3&14) shows that the longer time people spend in Sakarya Park, the less satisfied they become about the efficiency of lighting during the night.

j. Table (3&15) shows that the longer time people spend in Sakarya Park, the less satisfied they become about the availability of natural elements during the day.

4.6 Summary of the chapter

In this chapter Sakarya park has been analyzed according to three characters physical, fictional, and social which are gathered from the literature beside the perception of the users for the physical quality and how its effect the activity and play essential role in users behavior and drawing sense of place. After evaluating the park generally there are many weaknesses especially in physical dimension however the functional and the social characteristics are impacted by it.

Even though the research of the public open spaces in Famagusta shows that Sakarya park have potential to be the main public open space in the city in term of social and functional not because of the quality of it ,but in reason of the limited park in the city and the community center that's exist on it.

According to analysis Sakarya Park have potential to be the main public open space (park) in Famagusta, In term of physical quality, there are many weakness regards to furniture, material, shading elements, and existing of natural elements that's reflect on the perception of users and their satisfaction of the public open space.

The perception characteristics shows the relation between the perceptions of the physical quality and how it affects sense of place by showing and analyzing the result of SPSS program, by analyzing the previous mentioned aspects, one can understand the sense of place in Sakarya Park.

Chapter 5

CONCLUSION

Public open space is one of the fundamental components of city structure. It offers free access for different groups and individuals to do their activities in it. As a human being, the need of socializing is one of the main factors to create public open spaces in during the stages of history. For this reason, public open spaces are the outcome of a combination between architecture, urban design, and planning in one way and the social standard from another way. The architectural and urban design processes generate the unique environment of public open spaces through complex political, social, and technical relations with the contribution of the citizen.

The current trend in our world is to provide communities with more high quality public open spaces. Thereby planners, designers, and architects can improve interaction between people and their urban environments. Public open spaces can cause different perceptions for users according to their social and cultural backgrounds. There are many types of public open spaces in the city such as streets, squares, and parks. This study will focus on parks as a type of public open space and Famagusta, Northern Cyprus, is the study area. Famagusta is an important city in Northern Cyprus. The main activities in the city are tourism, education, and construction. The growth of the city has been affected by the existence of Eastern Mediterranean University. This fast growth, without an established master plan, has caused problems for public open spaces in the city. There is a lack of well-designed parks in Famagusta, at the same

time there are many problems in the existing parks such as their size, shape and furniture. Varying sizes do not correlate to the size of the neighborhood. Park shape and size mostly follow the leftover land and follow the existing street. It means there is no designed public park on the master plan but its generate to follow the city growth. Also, parks are poorly furnished; many parks have a lack of sitting elements, proper lighting, waste bins, and what furniture exists is of low quality. Likewise, the materials of public open spaces has a low-quality that affect appearance and users safety. However, despite these weaknesses, many people are using the parks because it is important to them.

The main aim of this study is evaluating the quality of public open space in Famagusta Cyprus and analyzing all the aspect and characteristic of Sakarya park as a public open spaces as well as detecting the influence of the physical quality on perception of users and how it change their sense of place. The question of this research accordingly is defined as "How do the physical qualities of public open spaces affect the users' perceptions and their sense of place?"

To achieve the aim of this study and answer the research question objective are understand the main characteristics of public open spaces, discuss the successfulness of public open spaces, understand the perceptions of users in public open spaces. To understand the sense of place associated with public open spaces, contribute to awareness of the value of public open spaces in Famagusta, and study the physical, social and functional qualities of the chosen case: Sakarya Park.

Chapter two reviewed and discussed the public open space concept to provide a wide understanding for the subject throw three section. The first section illustrates the definition, typologies from different scholar point of view and the important of public

open space, second section explore and evaluate the characters of public open space physical, function, social, and perception characteristics. After that, the last section shows the successful public space according to the definition and characters.

Based on the results of previous chapters, third chapter is evaluate all park in Famagusta then Sakarya Park according to physical, functional and social dimensions. Besides that, evaluation of users perception of the physical quality in the selected area to assist the sense of place on it.

Based on the theoretical framework and the case study, the findings of this research will be presented in two parts. The first part will summarize theoretical study on a public open spaces. The second part will summarize the practical study and give recommendation to selected area to make it as successful public open space . Finally, the research will conclude for final remarks for future studies.

5.1 Theoretical Findings

The second chapter emphasizes three aspects of public open space; definition, typologies and importance of public open space. It is important to understand the definition of public open space to assist the key issues of the scholars' definition. In the context of this study, public open space can be defined as an exterior space that is accessed by the public but controlled and supervised by the government and provides user engagement with various activities for the achievement of social life. It can take the form of squares, streets, and parks. As a result of people engagement with the space, their perception assign a unique meaning to the space that coverts the latter to a place. Spaces' typologies constrain urban planners and designers regarding their future development of the space. As discussed, the importance of public open space is rising

the quality of life and representing the city. Furthermore, it plays a significant role in providing livability in cities, inhabitants' needs, positive impact on health of dwellers, and solid sense of belonging.

After that the chapter explores the physical, functional, social and perceptional characteristic. These characteristics are intertwined in a way that allows us to achieve successful design dimensions of public open space.

Physical characteristics of public open space according to the performed literature include; size, shape, material, furniture, and natural elements. These elements should be designed in a way to be pleasant, comfortable and welcoming to the users. In term of size the module size of public open space should be considering the expected number of visitors in a way that the public open space is not too large to lose connectivity; social and visual between the users, and not too small in a way that make the users lose their personal comfort zone. While studying or designing the shape of public open spaces, the bendy and curve shape are more preferable. The curvature of the design creates a sense of discovery and series of vision. In addition, the shape should be proportional to space and avoid overlooking and overshadowing is the most important matter. However, finishing materials are one of the most important elements regarding physical qualities of public open space. High quality of material besides the attractive color are essential for ensuring the successfulness of the assigned function of the space. Furniture of the public open space should be designed well enough to be convenient for the users. Finally, the existence of natural elements; such as trees, water elements, and greenery in public open spaces is a fundamental components while designing the space. Natural elements in general proved its essential role in enhancing the overall health of users.

Functional characteristics are related to the activity of users for the public open space. Accordingly, three type of activities should exist in public open space. First, the Necessary activities that are essential for everyday life. Secondly, the Optional activities which consist of standing, sitting, and walking. These activities occur when outdoor climate is favorable. Thirdly, the Social activities that are based on meetings of people. In order to serve such activities there are some users rights in public open space such as access and accessibility, variety and freedom of action. Access and accessibility can be described as the ability to enter the public space; physically by having no barrier of separation, visually to judge the safety of the space, and symbolically to provide a hint to fulfill people's desire. On the other hand, variety is a user right that offers more reason for people to use the space by offering large range of activities. Finally, freedom of action is a user right to be able to perform any desired activity in public open space.

Social characteristics describe the way space gets influence in many ways by people and society at the same time. The relationship between people and public open space is a two-way relation; each affects the other. It is essential for public open space to provide certain social needs for the users, such as; comfort, relaxation, passive engagement, active engagement, and discovery. Comfort is one of the simplest and basic needs of humans. It can be measured by the time of occupying in public open space. Relaxation, however, is more connected to psychological comfort. Some requirements should be considered like the providence of one's sense of separation, separation from vehicular traffic, natural elements, and sufficient landscape. Passive engagement is the act of observing other users in public open space. Active engagement connects people with places and each other. Discovery is an enjoyable activity that satisfies people's sense of exploration.

Perceptual characteristics are defined as personal and mental process that is responsible for selecting and organizing the sensory information then assigning meaning to them in an active manner. There are two main theories to study perception in public open space: adaptive and ecologic. This research focuses on the adaptive theory. Adaptive theory considers human's environmental experiences and the mutual communication between human and his environment. The factors affecting perception are personal characteristics, characteristics of the target, and characteristics of the situation. Perception is considered as one of the most affecting factors in the sense of place. Perception is an essential tool in the creation of a secure and pleasing environment covering human needs.

Many concepts can be applied to design a successful public open space. However, this research focuses on the characteristics mentioned above. Moreover, designing and improving public open spaces should start with a complete analysis that considers all mentioned characteristics. Consequently, the researcher developed a checklist to evaluate the physical, social and functional qualities of any public open space that helps in the development process.

The third chapter emphasizes three aspects of park as public open space; definition and importance, park purpose, and park typologies. The first part, shows how its necessary to understand the definition of park to have well understanding about the subject it's defined as an area of natural, semi-natural or planted space set aside for human enjoyment and recreation or for the protection of wildlife or natural habitats. The second part discussed the purpose for making parks such as economic value, health and environmental benefits, and social importance. Furthermore, purpose of the park spaces afford people a range of personal, socio-cultural, and economic benefits.

Parks typologies are important in order to classify parks in a city this section to summarize a classification for the types of parks, its proposed a classification of the park based on the size and facility.

5.2 Practical Findings

This research has conducted an analysis to one of the public open spaces in Famagusta city; Sakarya public park. By utilizing both personal observations and questionnaires based on the theoretical background of the study, certain findings were found regarding physical, functional, social and perceptual characteristics:

- Physical characteristics:
  - The size of the park was suitable according to the users' needs;
  - Sakarya Park have good shape, good proportions with the surrounding buildings and good enclosure;
  - There are a lack of in quality and quantity of furniture elements in the park such like; sitting elements, trash bins, shading elements, lighting fixtures;
  - Some parts of flooring material are in poor condition, and some parts are not suitable such as flooring in sport equipment area and volleyball field;
  - The park has lack of proper landscaping and natural elements, as the ratio between hard and soft landscape inconvenient;
  - The efficiency of lighting levels are inferior standard or low quality;
  - There are efficient number of sport equipment, however the quality of them is poor and uncomfortable;
  - Playground have good quality and sufficient size.
- Function characteristics:
  - The western side of the park has an un-emphasized entrance; however, the number of accesses to the park is sufficient;

- Many elements like advertising panels, scalar of sport field, and heavy trees are blocking the visual access to the park;
- The general feeling of the park is very welcoming and there are some art pieces and status;
- The variety of available functions in the park attract various users;
- There are different types of offered activities serve the users' needs.

- Social characteristics
  - Regarding of the physical poor quality of the park, the park is highly used by the residents of Famagusta;
  - There is a lack of social activities and events in the park during the year;
- Perceptual characteristics
  - Generally the majority of people were satisfied about the physical quality regardless of the poor conditions of it; that is because of the variety of activities and the lack of other public open spaces (parks);
  - Nationality of the users has strong influence on the perception of them and their sense of place; local users are mostly satisfied with the park because they are use it more frequently, on the other hand foreign users preferred to have better quality of the provided services;
  - Gender has showed in-relativity regarding the satisfaction of the physical quality. However, females showed higher rates of un-satisfaction regarding the appearance of few elements;
  - People who felt satisfied with the park spent more time in it. However, they became more aware of some of the problems within the park.

5.3 **Recommendations**

By the end of this research, some recommendation to achieve successful design of

public open spaces are offered. This research has offered a theoretical framework that helps in analyzing and then designing the spaces according to the physical, social, functional context of the area. The case of Sakrya Park offers a good example for the assessment that can be performed to other parks in Famagusta. However, the specific context of each park should be considered. On the other hand, using the findings of the assessment can be used to increase and enhance the quality of Sakarya Park to meet the expectations and needs of Famagusta residents. These recommendations can include:

- Physical characteristics:
  - Better quality of furniture should be provided.
  - Enhancement of flooring materials and color of it should be done.
  - Landscaping and natural elements should be given a good attention. The park needs an increasing in the overall green soft landscape.
  - Enhancement to the lighting levels should be performed to provide better sense of safety for the users during night times.
  - Enhancement of the quality of sport equipment in the park.
- Function characteristics:
  - Emphasize the western entrance of the park.
  - Removing of the advertisement panels should be done to provide better visual accessibility to the park.
- Social characteristics
  - More social activities and events should be provided in the park to ensure the engagement of different age groups of Famagusta residents in the social experience of the park

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APPENDICES

Appendix A: Sample of Questionnaire of Pilot Study

Eastern Mediterranean University
Faculty of architecture
Master in urban design _ (2017-2018)

This questionnaire is designed in a way that you can make suggestions as part of your invaluable contributions to this work. We would very much appreciate if you could please spare some few minutes to complete the questionnaire. All answers will be treated in absolute confidence and used for academic purposes only. To this end, we would like to thank you very much for your valued and kind consideration.

Gender: M ☐ F ☐

- How frequent you are going to the park?
Ne sıklıkta parka gidersiniz?

- What is the favorite park for you? Why?
En sevdiğiniz park hangisidir? Neden?

- What the distance between your home and the park?
Bu park ile eviniz arasındaki mesafe ne kadardır?

- Which park is the most popular in Famagusta ?
Mağusadaki en popüler park hangisidir?

Mohamad Einieh
Master Research Student
Eastern Mediterranean University
Tel: **05428894490**
Email: **mohamad.einieh@gmail.com**

Appendix B: Sample of English Questionnaire

Eastern Mediterranean University

Department of Architecture

Master of Science in Urban Design (2017-2018)

Questionnaire on the perception of physical quality in public open spaces / Sakarya parks

This questionnaire is designed in a way that you can make suggestions as part of your invaluable contributions to this work. We would very much appreciate if you could please spare some few minutes to complete the questionnaire. All answers will be treated in absolute confidence and used for academic purposes only. To this end, we would like to thank you very much for your valued and kind consideration.

Mohamad Einieh
Master Research Student
Eastern Mediterranean University
Tel: **05428894490**
Email: mohamad.einieh@gmail.com

Section A- General Information:					
1- **Gender:**	Female: ☐	Male: ☐			
2- What is your age group?					
10 to 18 ☐	19 to 24 ☐	25 to 30 ☐	31 to 36 ☐	37 to 42 ☐	Over 43 ☐
3- How long do you stay in this park?					
Less than 1 hrs. ☐	1 to 2 hrs. ☐	3 to 4 hrs. ☐	More than 4 hrs. ☐		
4- What is your nationality?					
Cypriot ☐	Other ☐				
5- How many times do you go to this park in a month?					
never or 1 ☐	2 to 4 ☐	5 to 8 ☐	9 to 12 ☐	More than 13 ☐	
6- Please rate the general quality of this park in Famagusta.					
Very Unsatisfied ☐	Unsatisfied ☐	Neutral ☐	satisfied ☐	Very satisfied ☐	

Section B - Character of public space:					
Please rate the extent of your **agreement or disagreement** with the following statements about the					
7- Size of the park	☐ Very Unsatisfied	☐ Unsatisfied	☐ Neutral	☐ Satisfied	☐ Very Satisfied
8- Enclosure of the space (definition and surrounding elements)	☐ Very Unsatisfied	☐ Unsatisfied	☐ Neutral	☐ Satisfied	☐ Very Satisfied
9- Color of the flooring material (colorful/not)	☐ Very Unsatisfied	☐ Unsatisfied	☐ Neutral	☐ Satisfied	☐ Very Satisfied
10- Texture of the flooring material (soft/hard)	☐ Very Unsatisfied	☐ Unsatisfied	☐ Neutral	☐ Satisfied	☐ Very Satisfied

Section C – Components of public space:					
Please rate the extent of your **agreement or disagreement** with the following statements about the					
11- Comfortability of siting elements	☐ Very Unsatisfied	☐ Unsatisfied	☐ Neutral	☐ Satisfied	☐ Very Satisfied
12- Enjoyment of playground	☐ Very Unsatisfied	☐ Unsatisfied	☐ Neutral	☐ Satisfied	☐ Very Satisfied
13- Efficiency of the sport equipment	☐ Very Unsatisfied	☐ Unsatisfied	☐ Neutral	☐ Satisfied	☐ Very Satisfied
14- Efficiency of the lighting	☐ Very Unsatisfied	☐ Unsatisfied	☐ Neutral	☐ Satisfied	☐ Very Satisfied
15- Available natural elements (trees, grass, plants)	☐ Very Unsatisfied	☐ Unsatisfied	☐ Neutral	☐ Satisfied	☐ Very Satisfied

16- Please list the reasons of coming to this park:

……..

……..

……..

Thank you for your time.

Appendix C: Sample of Turkish Questionnaire

Doğu Akdeniz Üniversitesi
Mimarlık Bölümü
Kentsel Tasarım Yüksek Lisans (2017-2018)

Kamuya açık alanlarda / Sakarya parklarda fiziksel kalite algısı anketi

Bu ankete vereceğiniz cevaplar ve öneriler çalışmamıza önemli bir katkı sağlayacaktır. Anketi doldurmak için birkaç dakikanızı ayırabilirseniz çok seviniriz. Tüm cevaplar mutlak güvenle (absolute confidence) ele alınacak ve sadece akademik amaçlar için kullanılacaktır. Bu amaçla çalışmaya koyacağınız değerli katkı için teşekkür ederiz.

Mohamad Einieh
Yüksek Lisans Öğrencisi
Doğu Akdeniz Üniversitesi
Tel: **05428894490**
Email: **mohamad.einieh@gmail.com**

Bölüm A- Genel bilgi:					
1- **Cinsiyet:** Kadın ☐ Erkek ☐					
2- Yaş grubunuz nedir?					
10 – 18 ☐	19 – 24 ☐	25 – 30 ☐	31 – 36 ☐	37 – 42 ☐	+ 43 ☐
3- Bu parkta ne kadar süre geçiriyorsunuz?					
1 saatten az ☐	1 - 2 saat ☐	3 - 4 saat ☐	4 saatten fazla ☐		
4- Nerelisiniz?					
Kıbrıslı ☐	Diğer ☐				
5- Bu parka ayda kaç kere geliyorsunuz?					
Hiç ya da 1 ☐	2 – 4 ☐	4 – 8 ☐	8 – 12 ☐	12'den fazla ☐	
6- Lütfen bu parkın genel kalitesini Gazimağusa için değerlendirin.					
Hiç memnun değilim ☐	Memnun değilim i ☐	Nötr ☐	Memnunum ☐	Çok memnunum ☐	

Bölüm B - Kamusal alanın karakteri:					
Lütfen ilişkin aşağıdaki ifadelere "**katıldığınızı**" veya "**katılmadığınızı**" değerlendirin.					
7- Parkın büyüklüğüne	☐ Hiç memnun değilim	☐ Memnun değilim i	☐ Nötr	☐ Memnunum	☐ Çok memnunum
8- **Mekanın çevresine (tanım ve çevre elemanları)**	☐ Hiç memnun değilim	☐ Memnun değilim i	☐ Nötr	☐ Memnunum	☐ Çok memnunum
9- Döşeme (zemin) malzemesinin rengine (renkli / renkli değil)	☐ Hiç memnun değilim	☐ Memnun değilim i	☐ Nötr	☐ Memnunum	☐ Çok memnunum
10- **Döşeme malzemesinin dokusuna (yumuşak / sert)**	☐ Hiç memnun değilim	☐ Memnun değilim i	☐ Nötr	☐ Memnunum	☐ Çok memnunum

Bölüm C – Kamusal alanın elemanları/bileşenleri:					
Lütfen ilişkin aşağıdaki ifadelere "**katıldığınızı**" veya "**katılmadığınızı**" değerlendirin.					
11- Oturma elemanlarının rahatlığına	☐ Hiç memnun değilim	☐ Memnun değilim i	☐ Nötr	☐ Memnunum	☐ Çok memnunum
12- Oyun alanından aldığınız keyife	☐ Hiç memnun değilim	☐ Memnun değilim i	☐ Nötr	☐ Memnunum	☐ Çok memnunum
13- **Spor ekipmanlarının verimliliğine**	☐ Hiç memnun değilim	☐ Memnun değilim i	☐ Nötr	☐ Memnunum	☐ Çok memnunum
14- Aydınlatma verimliliğine	☐ Hiç memnun değilim	☐ Memnun değilim i	☐ Nötr	☐ Memnunum	☐ Çok memnunum
15- **Mevcut doğal çevreye (ağaçlar, çimenler, bitkiler)**	☐ Hiç memnun değilim	☐ Memnun değilim i	☐ Nötr	☐ Memnunum	☐ Çok memnunum

16- Lütfen bu parka gelme nedenlerinizi listeleyin:

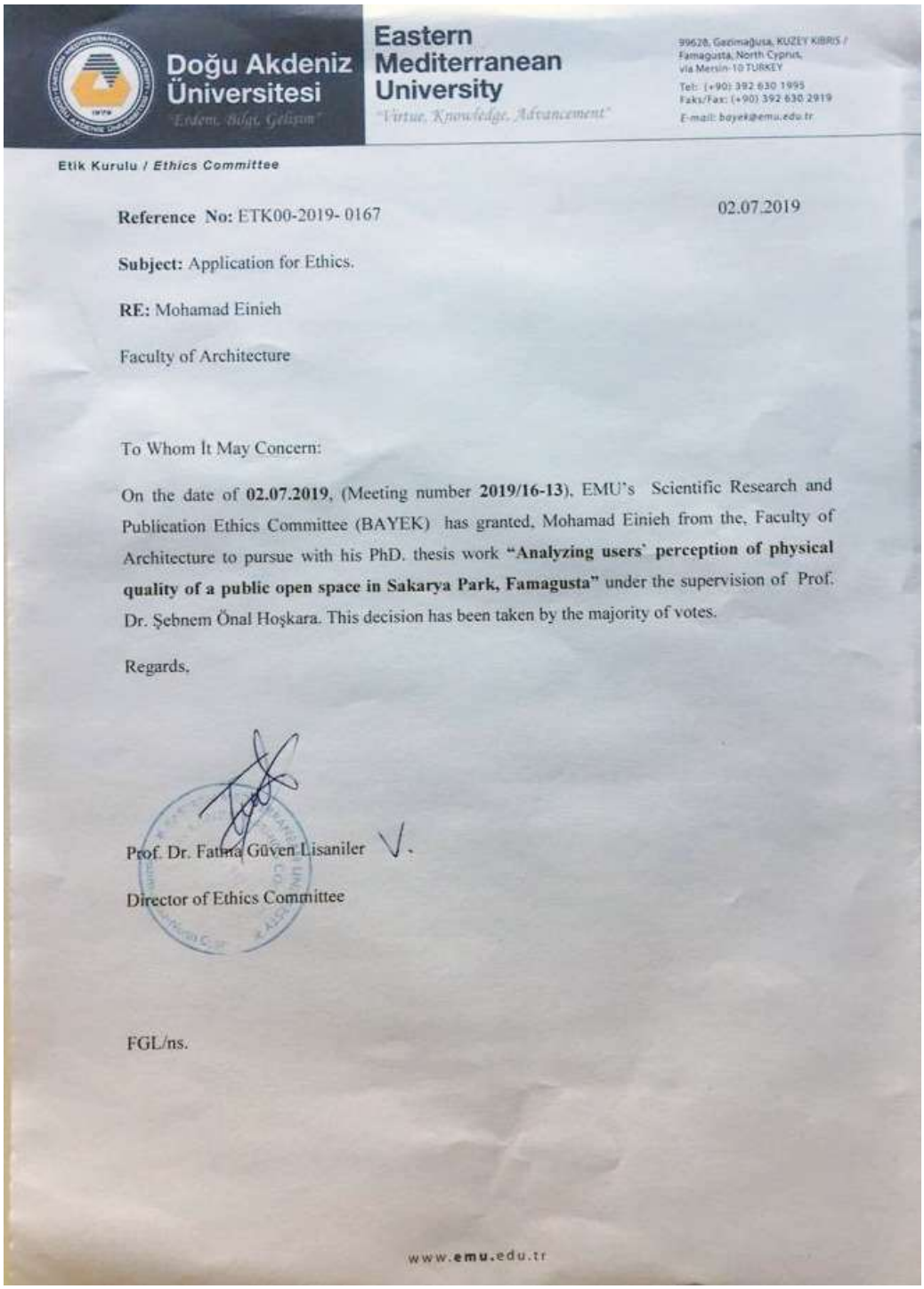
……

……

……

Teşekkürler.

Appendix D: Sample of Turkish Questionnaire



Doğu Akdeniz Üniversitesi
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Etik Kurulu / *Ethics Committee*

Reference No: ETK00-2019- 0167

02.07.2019

Subject: Application for Ethics.

RE: Mohamad Einieh

Faculty of Architecture

To Whom İt May Concern:

On the date of **02.07.2019**, (Meeting number **2019/16-13**), EMU's Scientific Research and Publication Ethics Committee (BAYEK) has granted, Mohamad Einieh from the, Faculty of Architecture to pursue with his PhD. thesis work **"Analyzing users' perception of physical quality of a public open space in Sakarya Park, Famagusta"** under the supervision of Prof. Dr. Şebnem Önal Hoşkara. This decision has been taken by the majority of votes.

Regards,

Prof. Dr. Fatma Güven Lisaniler

Director of Ethics Committee

FGL/ns.

www.emu.edu.tr

Appendix E: SPSS Tables and Results

1- Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Female	85	54.8	54.8	54.8
	Male	70	45.2	45.2	100.0
	Total	155	100.0	100.0	

2-What is your age group?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	19 to 24	82	52.9	52.9	52.9
	25 to 30	29	18.7	18.7	71.6
	31 to 36	25	16.1	16.1	87.7
	37 to 42	5	3.2	3.2	91.0
	Over 43	14	9.0	9.0	100.0
	Total	155	100.0	100.0	

3-How long do you stay in this park?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Less than 1 hrs.	65	41.9	41.9	41.9
	1 to 2 hrs.	86	55.5	55.5	97.4
	3 to 4 hrs	4	2.6	2.6	100.0
	Total	155	100.0	100.0	

4-What is your nationality?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Cypriot	53	34.2	34.2	34.2
	Other	102	65.8	65.8	100.0
	Total	155	100.0	100.0	

5-How many times do you go to this park in a month?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	never or 1	49	31.6	31.6	31.6
	2 to 4	67	43.2	43.2	74.8
	5 to 8	23	14.8	14.8	89.7
	9 to 12	4	2.6	2.6	92.3
	More than 13	12	7.7	7.7	100.0
	Total	155	100.0	100.0	

6-Please rate the general quality of this park in Famagusta.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Unsatisfied	11	7.1	7.1	7.1
	Unsatisfied	67	43.2	43.2	50.3
	Neutral	42	27.1	27.1	77.4
	satisfied	33	21.3	21.3	98.7
	Very satisfied	2	1.3	1.3	100.0
	Total	155	100.0	100.0	

7-Size of the park

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Unsatisfied	7	4.5	4.5	4.5
	Unsatisfied	33	21.3	21.3	25.8
	Neutral	72	46.5	46.5	72.3
	satisfied	37	23.9	23.9	96.1
	Very satisfied	6	3.9	3.9	100.0
	Total	155	100.0	100.0	

8-Enclosure of the space (definition and surrounding elements)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Unsatisfied	3	1.9	1.9	1.9
	Unsatisfied	43	27.7	27.7	29.7
	Neutral	56	36.1	36.1	65.8
	satisfied	53	34.2	34.2	100.0
	Total	155	100.0	100.0	

9-Color of the flooring material (colorful/not)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Unsatisfied	24	15.5	15.5	15.5
	Unsatisfied	46	29.7	29.7	45.2
	Neutral	54	34.8	34.8	80.0
	satisfied	31	20.0	20.0	100.0
	Total	155	100.0	100.0	

10-Texture of the flooring material (soft/hard)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Unsatisfied	24	15.5	15.5	15.5
	Unsatisfied	62	40.0	40.0	55.5
	Neutral	40	25.8	25.8	81.3
	satisfied	29	18.7	18.7	100.0
	Total	155	100.0	100.0	

11-Comfortability of siting elements

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Unsatisfied	25	16.1	16.1	16.1
	Unsatisfied	54	34.8	34.8	51.0
	Neutral	28	18.1	18.1	69.0
	satisfied	40	25.8	25.8	94.8
	Very satisfied	8	5.2	5.2	100.0
	Total	155	100.0	100.0	

12-Enjoyment of playground

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Unsatisfied	11	7.1	7.1	7.1
	Unsatisfied	31	20.0	20.0	27.1
	Neutral	51	32.9	32.9	60.0
	satisfied	59	38.1	38.1	98.1
	Very satisfied	3	1.9	1.9	100.0
	Total	155	100.0	100.0	

13-Efficiency of the sport equipment

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Unsatisfied	6	3.9	3.9	3.9
	Unsatisfied	47	30.3	30.3	34.2
	Neutral	47	30.3	30.3	64.5
	satisfied	53	34.2	34.2	98.7
	Very satisfied	2	1.3	1.3	100.0
	Total	155	100.0	100.0	

14-Efficiency of the lighting

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Unsatisfied	18	11.6	11.6	11.6
	Unsatisfied	44	28.4	28.4	40.0
	Neutral	49	31.6	31.6	71.6
	satisfied	44	28.4	28.4	100.0
	Total	155	100.0	100.0	

15-Available natural elements (trees, grass, plants)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Unsatisfied	19	12.3	12.3	12.3
	Unsatisfied	38	24.5	24.5	36.8
	Neutral	40	25.8	25.8	62.6
	satisfied	44	28.4	28.4	91.0
	Very satisfied	14	9.0	9.0	100.0
	Total	155	100.0	100.0	

Descriptive Statistics

Dependent Variable: No

3-How long do you stay in this park?	5-How many times do you go to this park in a month?	6-Please rate the general quality of this park in Famagusta.	Mean	Std. Deviation	N
Less than 1 hrs	never or 1	Very Unsatisfied	41.5000	47.37615	2
		Unsatisfied	85.9167	44.71416	12
		Neutral	85.2000	50.96105	15
		satisfied	45.0000	38.68678	4
		Total	77.9394	47.97000	33
	2 to 4	Unsatisfied	96.4000	43.07319	5
		Neutral	87.5714	48.30065	7
		satisfied	74.0000	49.09175	7
		Total	84.8947	45.59592	19
	5 to 8	Very Unsatisfied	80.8000	50.96764	5
		Neutral	106.6667	42.03173	6
		Total	94.9091	45.87909	11
	More than 13	Unsatisfied	61.5000	47.37615	2
		Total	61.5000	47.37615	2
	Total	Very Unsatisfied	69.5714	49.73549	7
		Unsatisfied	86.1053	43.07602	19
		Neutral	90.3929	47.62457	28
		satisfied	63.4545	45.92464	11
		Total	82.3385	46.38840	65
1 to 2 hrs	never or 1	Unsatisfied	73.4286	49.49548	14
		Very satisfied	57.5000	47.37615	2
		Total	71.4375	47.98329	16
	2 to 4	Unsatisfied	81.6154	43.30735	26
		Neutral	59.5000	39.77017	4
		satisfied	76.8125	45.54737	16
		Total	78.0217	43.32897	46
	5 to 8	Unsatisfied	64.5000	47.37615	2
		Neutral	94.1000	47.76435	10
		Total	89.1667	46.94065	12
	9 to 12	Unsatisfied	42.5000	47.37615	2
		Total	42.5000	47.37615	2
	More than 13	Very Unsatisfied	54.5000	47.37615	2
		Unsatisfied	59.5000	47.37615	2
		satisfied	64.5000	38.27662	6

		Total	61.5000	36.47602	10
	Total	Very Unsatisfied	54.5000	47.37615	2
		Unsatisfied	75.7174	44.57985	46
		Neutral	84.2143	46.98474	14
		satisfied	73.4545	43.15280	22
		Very satisfied	57.5000	47.37615	2
		Total	75.6047	43.98002	86
3 to 4 hrs	2 to 4	Very Unsatisfied	70.5000	47.37615	2
		Total	70.5000	47.37615	2
	9 to 12	Unsatisfied	47.5000	47.37615	2
		Total	47.5000	47.37615	2
	Total	Very Unsatisfied	70.5000	47.37615	2
		Unsatisfied	47.5000	47.37615	2
		Total	59.0000	40.89825	4
Total	never or 1	Very Unsatisfied	41.5000	47.37615	2
		Unsatisfied	79.1923	46.83932	26
		Neutral	85.2000	50.96105	15
		satisfied	45.0000	38.68678	4
		Very satisfied	57.5000	47.37615	2
		Total	75.8163	47.57173	49
	2 to 4	Very Unsatisfied	70.5000	47.37615	2
		Unsatisfied	84.0000	42.90532	31
		Neutral	77.3636	45.55057	11
		satisfied	75.9565	45.53568	23
		Total	79.7463	43.51257	67
	5 to 8	Very Unsatisfied	80.8000	50.96764	5
		Unsatisfied	64.5000	47.37615	2
		Neutral	98.8125	44.69037	16
		Total	91.9130	45.46518	23
	9 to 12	Unsatisfied	45.0000	38.79003	4
		Total	45.0000	38.79003	4
	More than 13	Very Unsatisfied	54.5000	47.37615	2
		Unsatisfied	60.5000	38.69970	4
		satisfied	64.5000	38.27662	6
		Total	61.5000	35.95325	12
	Total	Very Unsatisfied	67.0000	44.40045	11
		Unsatisfied	77.8209	44.11106	67
		Neutral	88.3333	46.92842	42
		satisfied	70.1212	43.63539	33

	Very satisfied	57.5000	47.37615	2
	Total	78.0000	44.88875	155

Descriptive Statistics

Dependent Variable: No

1-Gender	4-What is your nationality?	6-Please rate the general quality of this park in Famagusta.	Mean	Std. Deviation	N
Female	Cypriot	Very Unsatisfied	62.5000	39.77017	4
		Unsatisfied	87.2727	42.59799	22
		Neutral	77.7143	44.11241	7
		satisfied	55.5000	47.37615	2
		Total	80.7143	42.14092	35
	Other	Very Unsatisfied	41.5000	47.37615	2
		Unsatisfied	72.8846	48.55375	26
		Neutral	66.3846	42.47458	13
		satisfied	65.0000	46.58326	9
		Total	68.5200	45.69564	50
	Total	Very Unsatisfied	55.5000	38.92942	6
		Unsatisfied	79.4792	46.01341	48
		Neutral	70.3500	42.24524	20
		satisfied	63.2727	44.44343	11
		Total	73.5412	44.42183	85
Male	Cypriot	Neutral	117.1667	41.11164	6
		satisfied	82.4167	47.97435	12
		Total	94.0000	47.64946	18
	Other	Very Unsatisfied	80.8000	50.96764	5
		Unsatisfied	73.6316	39.75370	19
		Neutral	100.0000	47.81910	16
		satisfied	62.9000	38.01885	10
		Very satisfied	57.5000	47.37615	2
		Total	79.7500	44.16940	52
	Total	Very Unsatisfied	80.8000	50.96764	5
		Unsatisfied	73.6316	39.75370	19
		Neutral	104.6818	45.79289	22
		satisfied	73.5455	43.86313	22
		Very satisfied	57.5000	47.37615	2
		Total	83.4143	45.17454	70
Total	Cypriot	Very Unsatisfied	62.5000	39.77017	4
		Unsatisfied	87.2727	42.59799	22

	Neutral	95.9231	45.78475	13
	satisfied	78.5714	47.07067	14
	Total	85.2264	44.08804	53
Other	Very Unsatisfied	69.5714	49.73549	7
	Unsatisfied	73.2000	44.56589	45
	Neutral	84.9310	47.82926	29
	satisfied	63.8947	41.08919	19
	Very satisfied	57.5000	47.37615	2
	Total	74.2451	45.05540	102
Total	Very Unsatisfied	67.0000	44.40045	11
	Unsatisfied	77.8209	44.11106	67
	Neutral	88.3333	46.92842	42
	satisfied	70.1212	43.63539	33
	Very satisfied	57.5000	47.37615	2
	Total	78.0000	44.88875	155

Descriptive Statistics

Dependent Variable: No

3-How long do you stay in this park?	6-Please rate the general quality of this park in Famagusta.	Mean	Std. Deviation	N
Less than 1 hrs	Very Unsatisfied	69.5714	49.73549	7
	Unsatisfied	86.1053	43.07602	19
	Neutral	90.3929	47.62457	28
	satisfied	63.4545	45.92464	11
	Total	82.3385	46.38840	65
1 to 2 hrs	Very Unsatisfied	54.5000	47.37615	2
	Unsatisfied	75.7174	44.57985	46
	Neutral	84.2143	46.98474	14
	satisfied	73.4545	43.15280	22
	Very satisfied	57.5000	47.37615	2
	Total	75.6047	43.98002	86
3 to 4 hrs	Very Unsatisfied	70.5000	47.37615	2
	Unsatisfied	47.5000	47.37615	2
	Total	59.0000	40.89825	4
Total	Very Unsatisfied	67.0000	44.40045	11
	Unsatisfied	77.8209	44.11106	67
	Neutral	88.3333	46.92842	42
	satisfied	70.1212	43.63539	33
	Very satisfied	57.5000	47.37615	2
	Total	78.0000	44.88875	155

Descriptive Statistics

Dependent Variable: No

3-How long do you stay in this park?	7-Size of the park	Mean	Std. Deviation	N
Less than 1 hrs	Very Unsatisfied	80.8000	50.96764	5
	Unsatisfied	73.3333	45.96339	21
	Neutral	85.3448	48.17474	29
	satisfied	93.3000	43.35397	10
	Total	82.3385	46.38840	65
1 to 2 hrs	Very Unsatisfied	42.5000	47.37615	2
	Unsatisfied	87.5000	44.73660	12
	Neutral	77.2683	42.08624	41
	satisfied	72.4800	48.72894	25
	Very satisfied	64.5000	38.27662	6
	Total	75.6047	43.98002	86
3 to 4 hrs	Neutral	47.5000	47.37615	2
	satisfied	70.5000	47.37615	2
	Total	59.0000	40.89825	4
Total	Very Unsatisfied	69.8571	49.54940	7
	Unsatisfied	78.4848	45.34598	33
	Neutral	79.6944	44.61372	72
	satisfied	78.0000	46.95269	37
	Very satisfied	64.5000	38.27662	6
	Total	78.0000	44.88875	155

Descriptive Statistics

Dependent Variable: No

3-How long do you stay in this park?	8-Enclosure of the space (definition and surrounding elements)	Mean	Std. Deviation	N
Less than 1 hrs	Very Unsatisfied	107.6667	45.96013	3
	Unsatisfied	76.5517	49.76415	29
	Neutral	83.8333	46.53607	12
	satisfied	85.8571	43.09906	21
	Total	82.3385	46.38840	65
1 to 2 hrs	Unsatisfied	84.0714	44.94007	14
	Neutral	82.8750	43.66139	40
	satisfied	62.8125	42.29500	32
	Total	75.6047	43.98002	86
3 to 4 hrs	Neutral	59.0000	40.89825	4
	Total	59.0000	40.89825	4
Total	Very Unsatisfied	107.6667	45.96013	3
	Unsatisfied	79.0000	47.84150	43
	Neutral	81.3750	43.76614	56
	satisfied	71.9434	43.70769	53
	Total	78.0000	44.88875	155

Descriptive Statistics

Dependent Variable: No

3-How long do you stay in this park?	9-Color of the flooring material (colorful/not)	Mean	Std. Deviation	N
Less than 1 hrs	Very Unsatisfied	71.7143	46.41736	7
	Unsatisfied	77.5714	46.64796	28
	Neutral	87.2400	47.58351	25
	satisfied	99.4000	45.32439	5
	Total	82.3385	46.38840	65
1 to 2 hrs	Very Unsatisfied	68.3529	40.11381	17
	Unsatisfied	79.3750	43.51992	16
	Neutral	79.4138	49.21565	29
	satisfied	73.6250	42.11662	24
	Total	75.6047	43.98002	86
3 to 4 hrs	Unsatisfied	70.5000	47.37615	2
	satisfied	47.5000	47.37615	2
	Total	59.0000	40.89825	4
Total	Very Unsatisfied	69.3333	41.03516	24
	Unsatisfied	77.8913	44.61053	46
	Neutral	83.0370	48.17106	54
	satisfied	76.0968	43.11098	31
	Total	78.0000	44.88875	155

Descriptive Statistics

Dependent Variable: No

3-How long do you stay in this park?	10-Texture of the flooring material (soft/hard)	Mean	Std. Deviation	N
Less than 1 hrs	Very Unsatisfied	80.7727	45.96161	22
	Unsatisfied	76.3077	48.12215	26
	Neutral	97.5000	45.02160	10
	satisfied	88.0000	47.78424	7
	Total	82.3385	46.38840	65
1 to 2 hrs	Very Unsatisfied	52.5000	47.37615	2
	Unsatisfied	76.0278	42.25196	36
	Neutral	89.7143	47.65140	28
	satisfied	57.4000	36.34542	20
	Total	75.6047	43.98002	86
3 to 4 hrs	Neutral	70.5000	47.37615	2
	satisfied	47.5000	47.37615	2
	Total	59.0000	40.89825	4
Total	Very Unsatisfied	78.4167	45.71739	24
	Unsatisfied	76.1452	44.42302	62
	Neutral	90.7000	46.16037	40
	satisfied	64.1034	40.74778	29
	Total	78.0000	44.88875	155

Descriptive Statistics

Dependent Variable: No

3-How long do you stay in this park?	11-Comfortability of siting elements	Mean	Std. Deviation	N
Less than 1 hrs	Very Unsatisfied	72.6667	45.32659	9
	Unsatisfied	85.5882	45.70156	17
	Neutral	80.1905	48.07767	21
	satisfied	81.0000	48.64742	15
	Very satisfied	114.6667	45.96013	3
	Total	82.3385	46.38840	65
1 to 2 hrs	Very Unsatisfied	79.3125	41.93760	16
	Unsatisfied	72.6667	42.80382	33
	Neutral	68.2857	53.65853	7
	satisfied	77.9200	44.39587	25
	Very satisfied	81.8000	58.34124	5
	Total	75.6047	43.98002	86
3 to 4 hrs	Unsatisfied	59.0000	40.89825	4
	Total	59.0000	40.89825	4
Total	Very Unsatisfied	76.9200	42.36343	25
	Unsatisfied	75.7222	43.46910	54
	Neutral	77.2143	48.78096	28
	satisfied	79.0750	45.43939	40
	Very satisfied	94.1250	53.27137	8
	Total	78.0000	44.88875	155

Descriptive Statistics

Dependent Variable: No

4-What is your nationality?	6-Please rate the general quality of this park in Famagusta.	Mean	Std. Deviation	N
Cypriot	Very Unsatisfied	62.5000	39.77017	4
	Unsatisfied	87.2727	42.59799	22
	Neutral	95.9231	45.78475	13
	satisfied	78.5714	47.07067	14
	Total	85.2264	44.08804	53
Other	Very Unsatisfied	69.5714	49.73549	7
	Unsatisfied	73.2000	44.56589	45
	Neutral	84.9310	47.82926	29
	satisfied	63.8947	41.08919	19
	Very satisfied	57.5000	47.37615	2
	Total	74.2451	45.05540	102
Total	Very Unsatisfied	67.0000	44.40045	11
	Unsatisfied	77.8209	44.11106	67
	Neutral	88.3333	46.92842	42
	satisfied	70.1212	43.63539	33
	Very satisfied	57.5000	47.37615	2
	Total	78.0000	44.88875	155

Descriptive Statistics

Dependent Variable: No

4-What is your nationality?	7-Size of the park	Mean	Std. Deviation	N
Cypriot	Unsatisfied	84.9333	44.77797	15
	Neutral	83.5238	41.65167	21
	satisfied	87.5882	48.83014	17
	Total	85.2264	44.08804	53
Other	Very Unsatisfied	69.8571	49.54940	7
	Unsatisfied	73.1111	46.39078	18
	Neutral	78.1176	46.08368	`
	satisfied	69.8500	44.91076	20
	Very satisfied	64.5000	38.27662	6
	Total	74.2451	45.05540	102
Total	Very Unsatisfied	69.8571	49.54940	7

	Unsatisfied	78.4848	45.34598	33
	Neutral	79.6944	44.61372	72
	satisfied	78.0000	46.95269	37
	Very satisfied	64.5000	38.27662	6
	Total	78.0000	44.88875	155

Descriptive Statistics

Dependent Variable: No

4-What is your nationality?	8-Enclosure of the space (definition and surrounding elements)	Mean	Std. Deviation	N
Cypriot	Very Unsatisfied	107.6667	45.96013	3
	Unsatisfied	100.3571	44.19643	14
	Neutral	86.0000	42.38055	19
	satisfied	67.9412	42.80840	17
	Total	85.2264	44.08804	53
Other	Unsatisfied	68.6897	46.77767	29
	Neutral	79.0000	44.84727	37
	satisfied	73.8333	44.59885	36
	Total	74.2451	45.05540	102
Total	Very Unsatisfied	107.6667	45.96013	3
	Unsatisfied	79.0000	47.84150	43
	Neutral	81.3750	43.76614	56
	satisfied	71.9434	43.70769	53
	Total	78.0000	44.88875	155

Descriptive Statistics

Dependent Variable: No

4-What is your nationality?	9-Color of the flooring material (colorful/not)	Mean	Std. Deviation	N
Cypriot	Very Unsatisfied	81.8571	41.98186	7
	Unsatisfied	86.7273	42.89764	22
	Neutral	85.2941	48.22832	17
	satisfied	83.7143	49.15185	7
	Total	85.2264	44.08804	53
Other	Very Unsatisfied	64.1765	40.77719	17
	Unsatisfied	69.7917	45.50106	24
	Neutral	82.0000	48.77442	37
	satisfied	73.8750	42.08512	24
	Total	74.2451	45.05540	102
Total	Very Unsatisfied	69.3333	41.03516	24
	Unsatisfied	77.8913	44.61053	46
	Neutral	83.0370	48.17106	54
	satisfied	76.0968	43.11098	31
	Total	78.0000	44.88875	155

Descriptive Statistics

Dependent Variable: No

4-What is your nationality?	10-Texture of the flooring material (soft/hard)	Mean	Std. Deviation	N
Cypriot	Very Unsatisfied	94.2500	45.82498	8
	Unsatisfied	81.0000	41.38236	21
	Neutral	94.6111	47.78769	18
	satisfied	59.8333	36.94004	6
	Total	85.2264	44.08804	53
Other	Very Unsatisfied	70.5000	44.99185	16
	Unsatisfied	73.6585	46.20044	41
	Neutral	87.5000	45.65789	22
	satisfied	65.2174	42.38885	23
	Total	74.2451	45.05540	102
Total	Very Unsatisfied	78.4167	45.71739	24

	Unsatisfied	76.1452	44.42302	62
	Neutral	90.7000	46.16037	40
	satisfied	64.1034	40.74778	29
	Total	78.0000	44.88875	155

Descriptive Statistics

Dependent Variable: No

4-What is your nationality?	11-Comfortability of siting elements	Mean	Std. Deviation	N
Cypriot	Very Unsatisfied	78.0000	45.59240	7
	Unsatisfied	85.6154	42.62026	26
	Neutral	112.1667	41.54716	6
	satisfied	73.6667	43.24350	9
	Very satisfied	81.8000	58.34124	5
	Total	85.2264	44.08804	53
Other	Very Unsatisfied	76.5000	42.41843	18
	Unsatisfied	66.5357	42.95862	28
	Neutral	67.6818	46.94920	22
	satisfied	80.6452	46.62799	31
	Very satisfied	114.6667	45.96013	3
	Total	74.2451	45.05540	102
Total	Very Unsatisfied	76.9200	42.36343	25
	Unsatisfied	75.7222	43.46910	54
	Neutral	77.2143	48.78096	28
	satisfied	79.0750	45.43939	40
	Very satisfied	94.1250	53.27137	8
	Total	78.0000	44.88875	155

Descriptive Statistics

Dependent Variable: No

4-What is your nationality?	12-Enjoyment of playground	Mean	Std. Deviation	N
Cypriot	Very Unsatisfied	55.5000	47.37615	2
	Unsatisfied	89.3000	43.77226	10
	Neutral	90.5294	47.27065	17
	satisfied	82.2500	43.34417	24
	Total	85.2264	44.08804	53
Other	Very Unsatisfied	72.1111	45.17866	9
	Unsatisfied	77.7619	45.73500	21
	Neutral	71.8529	47.90023	34
	satisfied	71.4571	42.36074	35
	Very satisfied	115.6667	45.96013	3
	Total	74.2451	45.05540	102
Total	Very Unsatisfied	69.0909	43.61755	11
	Unsatisfied	81.4839	44.71381	31
	Neutral	78.0784	48.04616	51
	satisfied	75.8475	42.72600	59
	Very satisfied	115.6667	45.96013	3
	Total	78.0000	44.88875	155

Descriptive Statistics

Dependent Variable: No

4-What is your nationality?	13-Efficiency of the sport equipment	Mean	Std. Deviation	N
Cypriot	Unsatisfied	106.3333	39.82462	9
	Neutral	78.5000	45.89553	16
	satisfied	82.2857	43.80754	28
	Total	85.2264	44.08804	53
Other	Very Unsatisfied	64.1667	37.02657	6
	Unsatisfied	70.9737	45.31779	38
	Neutral	77.8710	48.09001	31
	satisfied	79.2800	44.28837	25
	Very satisfied	47.5000	47.37615	2
	Total	74.2451	45.05540	102
Total	Very Unsatisfied	64.1667	37.02657	6
	Unsatisfied	77.7447	46.10313	47
	Neutral	78.0851	46.85307	47
	satisfied	80.8679	43.63531	53
	Very satisfied	47.5000	47.37615	2
	Total	78.0000	44.88875	155

escriptive Statistics

Dependent Variable: No

4-What is your nationality?	14-Efficiency of the lighting	Mean	Std. Deviation	N
Cypriot	Very Unsatisfied	61.5000	47.37615	2
	Unsatisfied	101.5000	41.02485	14
	Neutral	81.0952	45.58388	21
	satisfied	79.3750	44.46253	16
	Total	85.2264	44.08804	53
Other	Very Unsatisfied	73.1875	46.46607	16
	Unsatisfied	63.9667	43.56959	30
	Neutral	78.7500	46.58137	28
	satisfied	81.3571	44.65275	28
	Total	74.2451	45.05540	102
Total	Very Unsatisfied	71.8889	45.29237	18
	Unsatisfied	75.9091	45.84545	44
	Neutral	79.7551	45.69123	49
	satisfied	80.6364	44.07398	44
	Total	78.0000	44.88875	155

Descriptive Statistics

Dependent Variable: No

4-What is your nationality?	15-Available natural elements (trees, grass, plants)	Mean	Std. Deviation	N
Cypriot	Very Unsatisfied	55.5000	47.37615	2
	Unsatisfied	77.7778	41.16760	18
	Neutral	97.4615	45.45623	13
	satisfied	84.1667	43.92314	12
	Very satisfied	91.1250	52.09726	8
	Total	85.2264	44.08804	53
Other	Very Unsatisfied	81.2353	48.52001	17
	Unsatisfied	73.5500	44.04480	20
	Neutral	70.0370	45.40119	27
	satisfied	77.2812	46.14370	32
	Very satisfied	59.5000	39.96373	6
	Total	74.2451	45.05540	102
Total	Very Unsatisfied	78.5263	47.78234	19
	Unsatisfied	75.5526	42.18345	38
	Neutral	78.9500	46.68166	40
	satisfied	79.1591	45.14624	44
	Very satisfied	77.5714	48.36832	14
	Total	78.0000	44.88875	155

Descriptive Statistics

Dependent Variable: No

5-How many times do you go to this park in a month?	6-Please rate the general quality of this park in Famagusta.	Mean	Std. Deviation	N
never or 1	Very Unsatisfied	41.5000	47.37615	2
	Unsatisfied	79.1923	46.83932	26
	Neutral	85.2000	50.96105	15
	satisfied	45.0000	38.68678	4
	Very satisfied	57.5000	47.37615	2
	Total	75.8163	47.57173	49
2 to 4	Very Unsatisfied	70.5000	47.37615	2
	Unsatisfied	84.0000	42.90532	31
	Neutral	77.3636	45.55057	11
	satisfied	75.9565	45.53568	23

	Total	79.7463	43.51257	67
5 to 8	Very Unsatisfied	80.8000	50.96764	5
	Unsatisfied	64.5000	47.37615	2
	Neutral	98.8125	44.69037	16
	Total	91.9130	45.46518	23
9 to 12	Unsatisfied	45.0000	38.79003	4
	Total	45.0000	38.79003	4
More than 13	Very Unsatisfied	54.5000	47.37615	2
	Unsatisfied	60.5000	38.69970	4
	satisfied	64.5000	38.27662	6
	Total	61.5000	35.95325	12
Total	Very Unsatisfied	67.0000	44.40045	11
	Unsatisfied	77.8209	44.11106	67
	Neutral	88.3333	46.92842	42
	satisfied	70.1212	43.63539	33
	Very satisfied	57.5000	47.37615	2
	Total	78.0000	44.88875	155

Descriptive Statistics

Dependent Variable: No

5-How many times do you go to this park in a month?	7-Size of the park	Mean	Std. Deviation	N
never or 1	Unsatisfied	74.3158	46.53798	19
	Neutral	84.6842	48.69868	19
	satisfied	63.0909	48.61780	11
	Total	75.8163	47.57173	49
2 to 4	Unsatisfied	84.1429	44.91261	7
	Neutral	77.7727	43.30093	44
	satisfied	83.2500	45.99348	16
	Total	79.7463	43.51257	67
5 to 8	Very Unsatisfied	80.8000	50.96764	5
	Unsatisfied	115.6667	45.96013	3
	Neutral	87.4286	45.88702	7
	satisfied	93.8750	47.42645	8
	Total	91.9130	45.46518	23
9 to 12	Very Unsatisfied	42.5000	47.37615	2
	Neutral	47.5000	47.37615	2
	Total	45.0000	38.79003	4

More than 13	Unsatisfied	60.5000	38.69970	4
	satisfied	54.5000	47.37615	2
	Very satisfied	64.5000	38.27662	6
	Total	61.5000	35.95325	12
Total	Very Unsatisfied	69.8571	49.54940	7
	Unsatisfied	78.4848	45.34598	33
	Neutral	79.6944	44.61372	72
	satisfied	78.0000	46.95269	37
	Very satisfied	64.5000	38.27662	6
	Total	78.0000	44.88875	155

Descriptive Statistics

Dependent Variable: No

5-How many times do you go to this park in a month?	8-Enclosure of the space (definition and surrounding elements)	Mean	Std. Deviation	N
never or 1	Unsatisfied	71.9615	49.32706	26
	Neutral	87.4286	41.38783	7
	satisfied	77.0000	49.10397	16
	Total	75.8163	47.57173	49
2 to 4	Very Unsatisfied	107.6667	45.96013	3
	Unsatisfied	89.7647	44.75144	17
	Neutral	77.3200	41.78788	25
	satisfied	70.9545	44.12696	22
	Total	79.7463	43.51257	67
5 to 8	Neutral	103.2143	45.55500	14
	satisfied	74.3333	41.72529	9
	Total	91.9130	45.46518	23
9 to 12	Neutral	45.0000	38.79003	4
	Total	45.0000	38.79003	4
More than 13	Neutral	64.5000	38.27662	6
	satisfied	58.5000	36.83884	6
	Total	61.5000	35.95325	12
Total	Very Unsatisfied	107.6667	45.96013	3
	Unsatisfied	79.0000	47.84150	43
	Neutral	81.3750	43.76614	56
	satisfied	71.9434	43.70769	53
	Total	78.0000	44.88875	155

Descriptive Statistics

Dependent Variable: No

5-How many times do you go to this park in a month?	9-Color of the flooring material (colorful/not)	Mean	Std. Deviation	N
never or 1	Very Unsatisfied	58.5000	43.37818	4
	Unsatisfied	82.4091	47.64917	22
	Neutral	73.9524	50.07941	21
	satisfied	57.5000	47.37615	2
	Total	75.8163	47.57173	49
2 to 4	Very Unsatisfied	78.0000	41.58125	9
	Unsatisfied	75.1000	43.69861	20
	Neutral	87.2000	46.91482	25
	satisfied	73.7692	40.52808	13
	Total	79.7463	43.51257	67
5 to 8	Very Unsatisfied	80.2000	47.50474	5
	Unsatisfied	67.0000	38.79003	4
	Neutral	93.8750	49.12793	8
	satisfied	115.6667	41.12258	6
	Total	91.9130	45.46518	23
9 to 12	Very Unsatisfied	42.5000	47.37615	2
	satisfied	47.5000	47.37615	2
	Total	45.0000	38.79003	4
More than 13	Very Unsatisfied	60.5000	38.69970	4
	satisfied	62.0000	37.26354	8
	Total	61.5000	35.95325	12
Total	Very Unsatisfied	69.3333	41.03516	24
	Unsatisfied	77.8913	44.61053	46
	Neutral	83.0370	48.17106	54
	satisfied	76.0968	43.11098	31
	Total	78.0000	44.88875	155

Descriptive Statistics

Dependent Variable: No

5-How many times do you go to this park in a month?	10-Texture of the flooring material (soft/hard)	Mean	Std. Deviation	N
never or 1	Very Unsatisfied	41.5000	47.37615	2

	Unsatisfied	79.6765	48.15173	34
	Neutral	69.5000	38.95724	4
	satisfied	71.6667	52.60703	9
	Total	75.8163	47.57173	49
2 to 4	Very Unsatisfied	82.8333	46.12795	12
	Unsatisfied	74.5000	39.85517	24
	Neutral	85.5185	47.12289	27
	satisfied	63.0000	38.68678	4
	Total	79.7463	43.51257	67
5 to 8	Very Unsatisfied	80.5000	46.45009	10
	Unsatisfied	69.5000	47.37615	2
	Neutral	115.6667	39.81206	9
	satisfied	64.5000	47.37615	2
	Total	91.9130	45.46518	23
9 to 12	Unsatisfied	42.5000	47.37615	2
	satisfied	47.5000	47.37615	2
	Total	45.0000	38.79003	4
More than 13	satisfied	61.5000	35.95325	12
	Total	61.5000	35.95325	12
Total	Very Unsatisfied	78.4167	45.71739	24
	Unsatisfied	76.1452	44.42302	62
	Neutral	90.7000	46.16037	40
	satisfied	64.1034	40.74778	29
	Total	78.0000	44.88875	155

Descriptive Statistics

Dependent Variable: No

5-How many times do you go to this park in a month?	11-Comfortability of siting elements	Mean	Std. Deviation	N
never or 1	Very Unsatisfied	85.7000	46.18814	10
	Unsatisfied	80.2857	52.58553	7
	Neutral	61.5333	46.78502	15
	satisfied	80.7647	48.47619	17
	Total	75.8163	47.57173	49
2 to 4	Very Unsatisfied	72.0769	41.07201	13
	Unsatisfied	75.9355	41.35935	31
	Neutral	95.3077	46.24281	13
	satisfied	80.8000	49.33255	5
	Very satisfied	81.8000	58.34124	5

	Total	79.7463	43.51257	67
5 to 8	Very Unsatisfied	64.5000	47.37615	2
	Unsatisfied	93.8750	47.42645	8
	satisfied	89.0000	47.24640	10
	Very satisfied	114.6667	45.96013	3
	Total	91.9130	45.46518	23
9 to 12	Unsatisfied	45.0000	38.79003	4
	Total	45.0000	38.79003	4
More than 13	Unsatisfied	60.5000	38.69970	4
	satisfied	62.0000	37.26354	8
	Total	61.5000	35.95325	12
Total	Very Unsatisfied	76.9200	42.36343	25
	Unsatisfied	75.7222	43.46910	54
	Neutral	77.2143	48.78096	28
	satisfied	79.0750	45.43939	40
	Very satisfied	94.1250	53.27137	8
	Total	78.0000	44.88875	155

Descriptive Statistics

Dependent Variable: No

5-How many times do you go to this park in a month?	12-Enjoyment of playground	Mean	Std. Deviation	N
never or 1	Very Unsatisfied	45.5000	47.37615	2
	Unsatisfied	83.7000	49.92450	10
	Neutral	75.0000	49.91177	28
	satisfied	76.3333	42.14262	9
	Total	75.8163	47.57173	49
2 to 4	Very Unsatisfied	74.3333	43.90330	9
	Unsatisfied	90.0000	41.85038	12
	Neutral	81.7500	46.37456	16
	satisfied	76.2000	43.96268	30
	Total	79.7463	43.51257	67
5 to 8	Unsatisfied	80.2000	47.50474	5
	Neutral	95.8000	49.33255	5
	satisfied	88.7000	47.06036	10
	Very satisfied	115.6667	45.96013	3
	Total	91.9130	45.46518	23
9 to 12	Unsatisfied	42.5000	47.37615	2
	Neutral	47.5000	47.37615	2

	Total	45.0000	38.79003	4
More than 13	Unsatisfied	61.5000	47.37615	2
	satisfied	61.5000	36.47602	10
	Total	61.5000	35.95325	12
Total	Very Unsatisfied	69.0909	43.61755	11
	Unsatisfied	81.4839	44.71381	31
	Neutral	78.0784	48.04616	51
	satisfied	75.8475	42.72600	59
	Very satisfied	115.6667	45.96013	3
	Total	78.0000	44.88875	155

Descriptive Statistics

Dependent Variable: No

5-How many times do you go to this park in a month?	13-Efficiency of the sport equipment	Mean	Std. Deviation	N
never or 1	Unsatisfied	77.5000	48.83958	24
	Neutral	62.4444	53.36457	9
	satisfied	80.8125	43.89870	16
	Total	75.8163	47.57173	49
2 to 4	Unsatisfied	84.6471	44.70590	17
	Neutral	80.4348	45.12390	23
	satisfied	76.0741	42.69924	27
	Total	79.7463	43.51257	67
5 to 8	Very Unsatisfied	67.0000	38.79003	4
	Neutral	88.3846	46.84823	13
	satisfied	116.1667	41.11164	6
	Total	91.9130	45.46518	23
9 to 12	Unsatisfied	42.5000	47.37615	2
	Very satisfied	47.5000	47.37615	2
	Total	45.0000	38.79003	4
More than 13	Very Unsatisfied	58.5000	47.37615	2
	Unsatisfied	67.5000	40.71445	4
	Neutral	54.5000	47.37615	2
	satisfied	60.5000	38.69970	4
	Total	61.5000	35.95325	12
Total	Very Unsatisfied	64.1667	37.02657	6
	Unsatisfied	77.7447	46.10313	47
	Neutral	78.0851	46.85307	47
	satisfied	80.8679	43.63531	53

	Very satisfied	47.5000	47.37615	2
	Total	78.0000	44.88875	155

Descriptive Statistics

Dependent Variable: No

5-How many times do you go to this park in a month?	14-Efficiency of the lighting	Mean	Std. Deviation	N
never or 1	Very Unsatisfied	70.5714	53.47541	7
	Unsatisfied	69.3750	47.40587	16
	Neutral	77.3125	48.03848	16
	satisfied	87.4000	48.20143	10
	Total	75.8163	47.57173	49
2 to 4	Very Unsatisfied	79.7143	45.20956	7
	Unsatisfied	85.4167	44.46779	24
	Neutral	73.2000	43.33784	20
	satisfied	79.4375	44.64821	16
	Total	79.7463	43.51257	67
5 to 8	Neutral	99.8182	45.83191	11
	satisfied	84.6667	45.87797	12
	Total	91.9130	45.46518	23
9 to 12	Unsatisfied	45.0000	38.79003	4
	Total	45.0000	38.79003	4
More than 13	Very Unsatisfied	60.5000	38.69970	4
	Neutral	54.5000	47.37615	2
	satisfied	64.5000	38.27662	6
	Total	61.5000	35.95325	12
Total	Very Unsatisfied	71.8889	45.29237	18
	Unsatisfied	75.9091	45.84545	44
	Neutral	79.7551	45.69123	49
	satisfied	80.6364	44.07398	44
	Total	78.0000	44.88875	155

Descriptive Statistics

Dependent Variable: No

5-How many times do you go to this park in a month?	15-Available natural elements (trees, grass, plants)	Mean	Std. Deviation	N

never or 1	Very Unsatisfied	75.0000	50.85273	12
	Unsatisfied	88.2857	47.98512	7
	Neutral	61.8889	49.07760	9
	satisfied	78.0952	46.98181	21
	Total	75.8163	47.57173	49
2 to 4	Very Unsatisfied	84.5714	45.17690	7
	Unsatisfied	76.2500	40.98507	20
	Neutral	82.6842	44.56463	19
	satisfied	76.2727	44.09102	11
	Very satisfied	81.6000	52.56995	10
	Total	79.7463	43.51257	67
5 to 8	Unsatisfied	80.2000	47.50474	5
	Neutral	103.2500	45.82498	8
	satisfied	88.7000	47.06036	10
	Total	91.9130	45.46518	23
9 to 12	Unsatisfied	42.5000	47.37615	2
	Neutral	47.5000	47.37615	2
	Total	45.0000	38.79003	4
More than 13	Unsatisfied	60.5000	38.69970	4
	Neutral	54.5000	47.37615	2
	satisfied	58.5000	47.37615	2
	Very satisfied	67.5000	40.71445	4
	Total	61.5000	35.95325	12
Total	Very Unsatisfied	78.5263	47.78234	19
	Unsatisfied	75.5526	42.18345	38
	Neutral	78.9500	46.68166	40
	satisfied	79.1591	45.14624	44
	Very satisfied	77.5714	48.36832	14
	Total	78.0000	44.88875	155

Descriptive Statistics

Dependent Variable: No

3-How long do you stay in this park?	12-Enjoyment of playground	Mean	Std. Deviation	N
Less than 1 hrs	Very Unsatisfied	59.1667	39.33150	6
	Unsatisfied	88.4615	47.47915	13
	Neutral	86.9500	50.82216	20
	satisfied	81.0769	44.57975	26
	Total	82.3385	46.38840	65
1 to 2 hrs	Very Unsatisfied	81.0000	49.97499	5
	Unsatisfied	76.4444	43.27643	18
	Neutral	74.3333	47.19844	27
	satisfied	71.7273	41.42936	33
	Very satisfied	115.6667	45.96013	3
	Total	75.6047	43.98002	86
3 to 4 hrs	Neutral	59.0000	40.89825	4
	Total	59.0000	40.89825	4
Total	Very Unsatisfied	69.0909	43.61755	11
	Unsatisfied	81.4839	44.71381	31
	Neutral	78.0784	48.04616	51
	satisfied	75.8475	42.72600	59
	Very satisfied	115.6667	45.96013	3
	Total	78.0000	44.88875	155

Descriptive Statistics

Dependent Variable: No

3-How long do you stay in this park?	13-Efficiency of the sport equipment	Mean	Std. Deviation	N
Less than 1 hrs	Unsatisfied	77.7083	48.47813	24
	Neutral	89.2778	47.41780	18
	satisfied	81.7391	44.74901	23
	Total	82.3385	46.38840	65
1 to 2 hrs	Very Unsatisfied	64.1667	37.02657	6
	Unsatisfied	77.7826	44.57879	23
	Neutral	71.1852	46.76293	27
	satisfied	80.2000	43.51963	30
	Total	75.6047	43.98002	86
3 to 4 hrs	Neutral	70.5000	47.37615	2
	Very satisfied	47.5000	47.37615	2
	Total	59.0000	40.89825	4
Total	Very Unsatisfied	64.1667	37.02657	6
	Unsatisfied	77.7447	46.10313	47
	Neutral	78.0851	46.85307	47
	satisfied	80.8679	43.63531	53
	Very satisfied	47.5000	47.37615	2
	Total	78.0000	44.88875	155

Descriptive Statistics

Dependent Variable: No

3-How long do you stay in this park?	14-Efficiency of the lighting	Mean	Std. Deviation	N
Less than 1 hrs	Very Unsatisfied	59.8333	39.91700	6
	Unsatisfied	80.8235	47.23377	17
	Neutral	78.5789	47.79739	19
	satisfied	92.4348	46.34047	23
	Total	82.3385	46.38840	65
1 to 2 hrs	Very Unsatisfied	77.9167	48.24079	12
	Unsatisfied	74.8400	45.81819	25
	Neutral	81.2143	45.77915	28
	satisfied	67.7143	38.45535	21
	Total	75.6047	43.98002	86
3 to 4 hrs	Unsatisfied	47.5000	47.37615	2
	Neutral	70.5000	47.37615	2
	Total	59.0000	40.89825	4

Total	Very Unsatisfied	71.8889	45.29237	18
	Unsatisfied	75.9091	45.84545	44
	Neutral	79.7551	45.69123	49
	satisfied	80.6364	44.07398	44
	Total	78.0000	44.88875	155

Descriptive Statistics

Dependent Variable: No

3-How long do you stay in this park?	15-Available natural elements (trees, grass, plants)	Mean	Std. Deviation	N
Less than 1 hrs	Very Unsatisfied	66.6667	47.46051	9
	Unsatisfied	88.8824	43.52569	17
	Neutral	88.8000	56.38883	5
	satisfied	82.4138	47.15515	29
	Very satisfied	81.4000	53.04998	5
	Total	82.3385	46.38840	65
1 to 2 hrs	Very Unsatisfied	89.2000	47.92541	10
	Unsatisfied	64.7619	38.76971	21
	Neutral	79.9355	46.59895	31
	satisfied	72.8667	41.81570	15
	Very satisfied	75.4444	48.78809	9
	Total	75.6047	43.98002	86
3 to 4 hrs	Neutral	59.0000	40.89825	4
	Total	59.0000	40.89825	4
Total	Very Unsatisfied	78.5263	47.78234	19
	Unsatisfied	75.5526	42.18345	38
	Neutral	78.9500	46.68166	40
	satisfied	79.1591	45.14624	44
	Very satisfied	77.5714	48.36832	14
	Total	78.0000	44.88875	155