



**THE POTENTIAL IMPACT OF THE COVID-19
PANDEMIC ON PUBLIC OPEN SPACE DESIGN: THE
CASE OF IZMIR IN TURKEY**

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Graduate School
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ABSTRACT

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Pandemic is the general name given to epidemics that spread and show their effects in a wide area, as in more than one country or continent in the world. The new type of coronavirus, which emerged in China in the last month of 2019, spread to the world in a short time. The World Health Organization declared a pandemic with a series of measures worldwide to prevent the rapidly spreading virus and to avert serious consequences. Various restrictions entering human life with the pandemic increase the interest in open spaces and human's relationship with nature. In this case, cities and urban design where epidemics spread rapidly became very important. Public spaces, one of the important elements of the urban environment, have become the current problem of architecture in line with the new needs arising with the pandemic. Because public space provides both a physical and social environment to society. Especially in the quarantine period, people's interest in nature has increased in densely populated areas due to closures and public spaces have gained importance. In this ongoing new normal process, the question arises whether the design of public spaces adequately

meets the needs of people. It is important that public spaces that cannot meet the concepts of social distance and physical distance, which have an important place within the framework of restrictions, are made efficient and usable in crises. In this study, the restrictions imposed by the Covid-19 pandemic and the potential impact of this situation on public spaces are analyzed for the city of Izmir, taking into account the pandemic situations experienced in the past. Izmir is a city where social life is very active and as a crowded city, it has very suitable content to investigate how public open spaces will be affected by the pandemic and how they will respond to the needs in the future. This thesis provides emphasis on urban planning and design-related solutions in crises such as the Covid-19 pandemic and provides the design of urban public open spaces in the Izmir region.

Keywords: Urban Design, Public Space Design, Social Distancing, Pandemic, Covid-19, Urbanism.

ÖZET

COVID-19 PANDEMİSİNİN KAMUSAL AÇIK MEKAN TASARIMINA POTANSİYEL ETKİSİ: TÜRKİYE'DE İZMİR ÖRNEĞİ

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Pandemi, dünyada birden fazla ülke veya kıtada olduğu gibi geniş bir alana yayılan ve etkisini gösteren salgın hastalıklara verilen genel isimdir. 2019 yılının son ayında Çin'de ortaya çıkan yeni tip koronavirüs kısa sürede dünyaya yayıldı. Dünya Sağlık Örgütü, hızla yayılan virüsü önlemek ve ciddi sonuçların önüne geçmek için dünya çapında bir dizi önlemlerle pandemi ilan etti. Pandemi ile birlikte insan hayatına giren çeşitli kısıtlamalar, açık alanlara olan ilgiyi ve insanın doğa ile olan ilişkisini artırmaktadır. Bu bağlamda, salgınların hızla yayıldığı şehirlerde kentsel tasarım ve planlama önem kazanmıştır. Kentsel çevrenin önemli unsurlarından biri olan kamusal mekanlar, salgınla birlikte ortaya çıkan yeni ihtiyaçlar doğrultusunda mimarlığın güncel sorunu haline gelmiştir. Çünkü kamusal mekân, topluma hem fiziksel hem de sosyal bir ortam sağlamaktadır. Özellikle karantina döneminde kapanmalardan dolayı yoğun nüfuslu alanlarda insanların doğaya olan ilgisi artmıştır ve kamusal mekanlar önem kazanmıştır. Devam eden bu yeni normalde, kamusal mekân tasarımının insanların ihtiyaçlarını yeterli düzeyde karşılayıp karşılamadığı sorusu ortaya

çıkılmaktadır. Kısıtlamalar çerçevesinde önemli bir yere sahip olan sosyal mesafe ve fiziksel mesafe kavramlarını karşılayamayan kamusal alanların kriz durumlarında verimli ve kullanılabilir hale getirilmesi önemlidir. Bu çalışmada, geçmişte yaşanan salgın hastalıklar göz önünde bulundurularak, İzmir kenti için Covid-19 salgınının getirdiği kısıtlamalar ve bu durumun kamusal alanlara olası etkisi analiz edilmektedir.

Anahtar Kelimeler: Kentsel Tasarım, Kamusal Mekan, Pandemi, Covid-19 salgını .



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CHAPTER 1: INTRODUCTION

1.1 Objectives

Throughout history, general health problems, diseases, and treatment methods have played an important role in the continuity of life for communities and humanity around the world. In the historical timeline, health-related issues were encountered in different societies in different parts of the world. With the advancement of science and technology, various theories on medicine and health have been put forward. Many scientists are discussing health problems affecting society, their causes, and treatments. Epidemics, which reach a global dimension and affect the world in general, are still a matter of debate.

People have had to struggle with many infectious, epidemics, and pandemic diseases such as plague, cholera, typhoid, SARS, Ebola, malaria, and tuberculosis. Some of the epidemics and pandemic diseases in question have been treated and brought under control. However, as a result of the reappearance of mutated viruses and the fact that urban areas are based on the periphery of rural areas, new variations from animals to humans occupy the world's health agenda. In other words, the border between the cities where the population is dense and the concreting increases, and the rural living areas, which are the habitat of animals and where the population density is low, disappear. For this reason, despite the developing technology, there is no definitive treatment for the possible infectious diseases that have come before and will enter the lives of societies in the future. The lack of definitive treatment for infectious diseases that killed millions of people and the uncertainty of the process of finding treatment proved that the threat continues with the emerging COVID-19 as a new virus.

Given the relationship between urban design and Covid19, it is easy to bridge the gap between societal health issues and architectural and urban design approaches. Especially social problems such as epidemic diseases become a subject of urban design with measures to prevent the spread of the disease. For example, today, the concept of social distance has an important place in human life to prevent the Covid-19 virus. The concept of social distance leads to the emergence of ideas about the deficiencies and adequacy of urban design and how it can change in the future for people to meet their physical and psychological needs in cities. Similarly, the residences that we spend much of our time at during the outbreaks, sometimes used as offices and sometimes as sports halls, are an example of the relationship between architecture and social health

problems. For this reason, there is a serious relationship between architectural and urban space issues and health that will be examined and addressed in the literature.

This study focuses on the epidemic and pandemic diseases in history and their relationship with urban design through the Covid19 pandemic, which is a problem today. This thesis aims to examine the epidemic and pandemic diseases that have reached a global dimension in the world and have different effects on human history and its interaction with public open spaces, which have been an urban design product throughout history. In terms of the literature, it is possible to find studies that address the intersection of urban design and some epidemic and pandemic diseases. However, these studies usually refer to a single disease or a specific city. For example, in cities where infectious diseases such as cholera or Spanish flu are intense, political and psychological resources can be found on how they affect people's social life. Although there are studies and resources on how pandemic diseases affect urban design, there is a gap regarding the impact of this thesis on public open spaces in Turkey and Izmir, which is considered as a case study. This thesis was prepared to fill this gap by associating it with epidemics and pandemics such as Covid 19.

1.2 Literature Review

In this thesis, the effect of public health on urban design is discussed. There is general information about epidemic and pandemic diseases that have had a great impact on societies in history, how the infectious disease is transmitted among people, and general information about treatment methods. For this reason, in addition to the resources related to architecture, urban design, and public open spaces, resources containing general information about epidemic and pandemic diseases were also examined. World Health Organization (WHO) resources were also used to obtain detailed information about epidemic and pandemic diseases and to reach up-to-date statistical data of Covid 19 disease. Detailed information on the relationship between infectious diseases and humans was obtained using medical historian J.N. Hay's book titled "Epidemics and Pandemics: Their impact on Human History". In this way, different perspectives were given to the research. In addition, various articles on infectious diseases were examined. On the architectural dimension, resources providing detailed information about public spaces and urban design were examined. To define the concept of public space, Jürgen Habermas's "Structural Transformation of Public Space", Hannah Arendt's (1998) "The Human Condition", and Richard Sennet's (2010) "The Fall of Public Man" were examined. The current meaning of the

concept of public space has been reached by understanding these three important works in the literature. In the next step, current authors were reviewed and associated with the pandemic.

1.3. Research Question

Within the scope of this thesis, the following research questions were asked to guide the research process before starting the public space research to be conducted in İzmir, and the research conducted on the subject during the inquiry process shaped the final version of these questions and gave direction to the research.

- 1.) How has the concept of public open space design evolved during the historical development of Izmir?
- 2.) What are the spatial reflections of pandemic diseases in public spaces in İzmir?
- 3.) What is the impact of the pandemic on the design works taking place in public open spaces in İzmir?
- 4.) How have usage preferences in public open spaces changed during the Covid-19 pandemic?
- 5.) How has the public open space design shaped in İzmir specifically after COVID-19?

The research question was formed when considering the behavior of people in public open spaces with the effect of the Covid-19 virus in Izmir. As a result of all these researches, the question “*How does the Covid 19 pandemic affect public space perception in terms of frequency of use and design elements?*” has emerged.

1.4 Significance of the Study

The Covid-19 pandemic continues to have negative effects on health, education, economy, and social life worldwide. In this case, countries are trying to ensure that these sectors continue to work more healthily with new structures and regulations.

While the distance education method was applied in the education system, working from home was adopted within the constraints in economic level. These regulations for the spread of the pandemic manifest themselves in the health sector with methods such as controlled patient recruitment and masks. Covid-19, which was declared as a pandemic by the World Health Organization in March 2020 with its spread all over the world, affected urban life in many areas and therefore became the area of interest of urbanism (Turan and Ayataç, 2020). A problem such as a pandemic must be handled within the framework of architecture and urban design, based on the understanding of urbanism, with the effect of the increasingly dense population today. In other words,

not only the changes to be made and the measures to be taken in the field of health, economy, and production, but also an important evaluation and change in terms of architecture and public space has been on the agenda. Tunçbilek (2020) emphasizes the importance of architecture as follows: While the World Health Organization (WHO) reported the outbreak of the COVID-19 virus in China, it was already approaching a global pandemic situation in January 2020 and due to infectiousness, the environment, urban space, and architecture have become the spotlight of quarantine areas. While lives have shrunk to the size of houses for humanity, public spaces have turned into spaces that are used sparingly and in a regular manner. This situation raises the question of how urban life can be sustained with concepts such as social distance and physical distance. Based on this quote, in these abnormal conditions, it is quite normal for people living in cities to socialize and take fresh air to protect people's psychological health. This need is provided by public open spaces, as the rate of spread of the virus increases in closed areas and poses a threat to people's health. The concepts of social distance and physical distance, which are a requirement of restriction, are evaluated within the framework of architectural dynamics, and the adequacy of public spaces for the crowd of people living in cities becomes a question. Public spaces enable people of all cultures and social statuses, individuals, and social groups to move towards liberation. So, in other words, the public space is a common ground where people perform functional and ceremonial activities in their routines or periodic activities, connecting the society. Many liberation movements flourished in public spaces. However, during the pandemic period, discussing the public space design in the architectural and urban design context and performing functional and ceremonial activities by preventing the spread of the virus is a situation that requires careful consideration. In this context, the design qualities, dynamics, and trends of public spaces in the city of Izmir have been examined within the scope of this thesis. In possible future crises, the potential impact of Covid-19 on urban planning and design and the changes that will take place are discussed.

CHAPTER 2: PUBLIC SPACE AND CITIES

In this part of the study, the aim is to comprehensively discuss the different meanings of public spaces without associating the concept of public space with a single feature. The reason for this is that the range of public spaces has expanded considerably from past to present and there is no clear single definition for this concept. In addition, it is observed that the definition is constantly changing when it comes to the concept of public space. There are many reasons why a place may be a public space. Therefore, it is important to approach the concept of public space from different perspectives, to understand the definitions of public space in history and current definitions.

When the literature is examined, it is observed that public space is generally discussed in political, economic, and socio-cultural dimensions. In this section, Arendt (1998), Sennet (2010), and Habermas' conceptions of public space will be discussed to understand the history of the subject. Then, the debates on public space that emerged in modern times will be discussed, which will reveal the basis of this study. In line with the researched sources, a discussion was held on the definition of public space. Afterward, the chapter, which started with the discussion of the definition of public space, evolved into a discussion of urban public space and open public space in line with current sources in the literature. In summary, in this section, the development and change of the concept of public space, which is discussed from different perspectives, as a norm in the historical process will be conveyed.

2.1 Definition of Public Space

The word public means a social segment that is formed around community-forming common interests and whose members interact to reach a consensus on these common interests. In simple words, "*public*" is something known to people and publicly available, relating to people in general. The public space, on the other hand, is a place open to the access of people in the most general sense. But public space has scientifically become an element of critical theory in political, social, and cultural moments. It has been the subject of many studies from past to present. Jürgen Habermas is a philosopher who analyzes the public space, which has been reshaped depending on the changing society and mentality of the modern period since the 17th century, and touches on three public space models for different historical periods. In his works, the validity of the representative public in the Middle Ages, the validity of the literary public before the French Revolution took place, and thirdly, the public

sphere of political or bourgeois society. It is considered as the basis of the modern public sphere as the process of formation and change of the bourgeois liberal public sphere. Habermas's (1991) thoughts and analyzes are taken into account in new debates on public space models or the concept of "public" for changing and developing societies. In this context, it is necessary to examine the bourgeois public sphere analyzed by Habermas (1991) and to start the chapter with Habermas's conceptualization.

Jürgen Habermas, a philosopher, sociologist, and political scientist has extensively studied the concept of the public. Habermas's (1991) most influential work on the concept of the public is "The Structural Transformation of the Public Sphere". While making concept analysis, Habermas (1991) refers to many incompatible meanings of the use of the concept of "public" in daily life and science. Habermas stated that this situation in the work as follows;

“Not just ordinary language (especially as it bears the imprint of bureaucratic and mass media jargon) but also the sciences—particularly jurisprudence, political science, and sociology—do not seem capable of replacing traditional categories like "public" and "private," "public sphere," and "public opinion," with more precise terms.” (Habermas, 1991, p.1).

The concepts in question, mentioned by Habermas, are also conceptual categories for disciplines such as political science, sociology, and law. According to Habermas, these concepts, which we cannot replace with more precise conceptual structures, but which we cannot do without resorting to them, are categories that have to be explained and clarified to understand the current order, whose organizing principle is still public.

In Habermas's work, the public sphere is defined as a free discussion space where individuals can leave their private spaces and participate in the discussion as equal citizens and have a say in social, cultural, and political issues. Habermas (1991) stated that we call events and occasions "public" when they are open to all, in contrast to closed or exclusive affairs—as when we speak public places or public houses. Habermas (1991) claims that since it was conceptualized in the 18th century by deriving the adjective "public", this category of the concept refers to a formation in bourgeois society. Habermas's concept of the public sphere is associated with the emergence of bourgeois society. Evaluating the concepts of public space and public

opinion through historical developments, the public that Habermas examines describes and idealizes is also the bourgeois public. He explains that the phenomenon that enables the liberation of the subject and paves the way for his/her self-realization is the birth of the "bourgeois public sphere". In this context, the bourgeois public sphere is important as the field for the formation of political will. This field, which emerged as a historical category specific to the bourgeois society, constitutes one of the normative elements of democracies in the sense that it enables the formation of a rational compromise between equal individuals for the solution of existing problems through discussion. In this sense, the public sphere is the space where citizens can determine their destinies through free discussion and where rational political will is obtained.

While Habermas (1991) analyzes the period of the emergence of the bourgeois public, Arendt (1998) evaluates the public-private distinction over the ancient Greek period. The similarity between the ideas of Arendt (1998) and Habermas (1991) is that they explain the emergence of the distinction between public and private spheres depending on some historical developments. Arendt (1998) discusses the operational activity and thoughts of individuals and offers an ethical perspective on the concepts of public/private space. Arendt (1998) explains the relationship between human activity and society in her book titled "The Human Condition" as follows;

“The fact that people live together is a precondition for all human activities, but it is the only act of human activity that cannot even be imagined outside of human society. Even if a being working in complete solitude is not a human being but a flour manufacturing laboratory in the strictest sense of the word, labor activity does not require the presence of others. This particular relationship between action and being with is the basis of Aristotle's zoon policy, formerly seen in Seneca and later standardized by Thomas Aquinas.” (p.40).

In this context, Arendt (1998) participates in the discussion of public space and private space, based on Aristotle's thought. In Arendt's philosophy, the relationship between public and private emerges as a distinction for the first time with the emergence of the city-state. With the emergence of city-states, individuals faced the separation of the self and the public, and they belong to these two orders of existence.

“ The distinction between a private and a public sphere of life corresponds to the household and the political realms, which have existed as a district, separate entities at least since the rise of the ancient city-state; but the emergence of the social realm, which is neither private nor public, strictly speaking, is a relatively new phenomenon whose origin coincided with the emergence of the modern age and which found its political form in the nation-state. ” (Arendt, 1998, p.28).

As can be understood from this quote, Arendt (1998) also mentions the "social realm" as distinct from the "public" and "private" realm. The public and private realms are associated with the emergence of the city-state. The existence of the social realm is associated with the modern period. Arendt (1998) positions the social in a place between public and private, negating the social realm.

While defining the public sphere in Arendt's (1998) *Human Condition*, she focuses on the facts of work, labor, and action. For work and action to take place, plurality is needed and plurality is realized through activities in the public realm. The public space is where people meet on common issues without any plan. According to Arendt (1998), the 'private' is associated with the human condition. For this reason, the good or bad in a person's action is a reflection of a private situation. The "public" is not directly related to good and evil, it is indirectly related. Human actions represent freedom in the public realm.

Richard Sennett (2010) approaches the public domain from a different perspective than Arendt (1998) and Habermas (1991). Richard Sennet (2010) discusses the decline of the 18th-century style of publicity from the beginning of the 19th century in his book *“The Fall of the Public Man”*. Sennet (2010) focuses on the changing meaning of the public space. According to Sennett (2010), the public and private domains evolve and change over time. Sennet (2010) expresses this thought in the book with different analyzes for each period.

“...By the end of the seventeenth century, we see that the opposition between "public" and "private" took on a form similar to its current usage. ... The issue of who the "public" includes and where the "public" is, started to come to the fore both in London and Paris at the beginning of the 18th century. ” (p.32).

In this context, the public and private domains are evolving situations. Exploring the

social environment is associated with childhood. Sennet (2010) states that there were no sharp boundaries between adults and children in the 17th century, and these sharp boundaries were drawn from the beginning of the 18th century. In addition, he states that in this period, the boundaries of the public sphere were determined as the 'playground for adults'. (Sennet, 2010, p129). In this way, the person who acts in the public space, which was perceived as the playground of adults in the eighteenth century, is the public person. In the 19th century, with the new lifestyle and institutions brought by capitalism, public space lost its meaning over time, sociability left its place to individuality, and the behavior of individuals in public completely changed. The crisis of public life that emerged in the 19th century coincides with the introversion of individuals and capitalism in public space. The process of the disappearance of functions by changing the qualities of public spaces emerges as the withering away of public life.

While Habermas (1991) focused on the bourgeois public, Arendt (1998) argues that the public in Ancient Greece focused on the definitions of public/ private space and the social realm. Habermas (1991) and Arendt (1998) discuss the private of the bourgeois through the concept of "public". Habermas (1991) and Arendt (1998) discuss the private of the bourgeoisie over the concept of "public" and focus on the political aspect of human activities in the public/private space. Sennett (2010) states that the public sphere disappears as the public man collapses in line with the new production relations and politics. In addition, Sennett (2010) touches on the transformation of the public space through architecture, roads, streets, and urban design, how this situation transforms individuals, how it collapses the public person and the disappearance of the public space.

Madanipour (2003) interpreted the definition of public space through functional and symbolic purposes;

“ A more accurate definition of public space, however, may be based on the observation that public spaces of cities, almost anywhere and at any time, have been places outside the boundaries of an individual or small group control, mediating between private spaces and used for a variety of often overlapping functional and symbolic purposes. ” (p.99).

By that, he signified the difference of urban public spaces as multi-purpose spaces

from the private spaces of individuals. According to the theory of the public sphere, formulated by Habermas (1991) and having great influence in the literature, it is a public space independent of the private space, where an interactive conversation can take place. On the other hand, Madanipour (2003) argues that the symbolic purpose and functional purpose that emerge as a result of effective communication, that is, he refers to the complex reality of the public/private distinction. In line with Habermas's (1991) approach to communication theory, Madanipour does not associate the modern public space with personal privacy. Madanipour (2003) defines public space as follows;

“Rather than association with personal and intimate, public spaces of cities, almost anywhere and anytime, can be described as places outside the boundaries of an individual or small group control, mediating between private spaces and used for a variety of often overlapping functional and symbolic purposes. ...these spaces are considered public if they have been provided and managed by public authorities, and have concerned the people as a whole, being open to them and being shared by all members of a community.” (p.204).

The public space, which is a social space, is the whole of the reactions and emotions of the individuals as a part of a society, formed in the symbol-laden space surrounding them. The individual attributes symbolic meanings to the space through the sense of belonging to a group or a place. Sharing between individuals and society reveals common symbols. The concept of "symbolic interaction" emerges when this flow of thought in the public sphere, discussion environment, and the meanings we attribute to the physical environment are taken into account.

Kevin Lynch (1961), in his book *The Image of the City*, discusses the permanence of the place in the mind and emphasizes the integrity of identity and construction. In Lynch's studies in terms of the legibility and image of the city, people's environment and relations with other people were observed while on the move. In this book (1961), the appearances and memorability of cities are divided into five basic elements of visual perception; *paths, edges, districts, nodes, and landmarks*. These five concepts, which determine the legibility of the city, determine the adaptation process of the individual to the environment and at the same time ensure that the individual is in "symbolic interaction" with the environment.

“While the complexity of the modern city calls for continuity, it also furnishes a great delight: the contrast and specialization of individual character. Our study hints at increasing attention to detail and the uniqueness of character, as familiarity develops. The vividness of elements, and their precise tuning to functional and symbolic differences, will help to provide this character. The contrast will be heightened if sharply differentiated elements are brought into close and imageable relation. Each element then takes on an intensified character of its own.” (Lynch, 1961, p.109).

In this context, symbolic meaning carries the traces of tradition, past, and common memory with the values it contains and the images it evokes. Symbolic meaning consists of symbolic values of communicative/interactive visual elements. From this point of view, we can state that in addition to physicality in the public sphere, people exist in a symbolic environment consisting of social objects and a common language. Lynch (1961) signified the "ideal image"/memory created by the interaction between man and space. On the other hand, Sennett (2010) talks about the model of publicity based on the image of theater in his book titled “The Fall of the Public Man”. The study is based on the symbolic performance in the public spaces of modern urban society and the expression/representation style of the civilized/urban individual. According to Sennett (2010), the ideal image/memory created by Lynch within the framework of relations in the city no longer exists.

Another important theorist, Jane Jacobs (1964), in the book "The Death and Life of Great American Cities", focused on the social interaction of public spaces and emphasized the importance of these spaces, especially streets, in urban memory. In parallel, Jacobs and Lynch have researches and claims about how society experiences space and how the resulting urban space is produced. The works of Kevin Lynch (1961) and Jane Jacobs (1964) stated that the urban environment shapes human behavior, temperament, and knowledge of the individual. The peculiarity of the social life in urban spaces is that these spaces are open to the public, bringing together people who do not know each other in a sincere and at the same time private sociality, and in most cases, people do not feel uncomfortable getting to know each other in this way (Jacobs, 2009). Apart from the physical elements that make up the perception of the environment and the image of the public space, the sociological dynamics that shape

the perception of the individual are also important inputs of the urban design process. As it can be understood from the theorists and the views put forward, the meaning and perception of the urban public space are constantly developing and changing. At this point, when we talk about the urban public space, a debate arises over the spatial definition of the public space.

Urban public spaces are open or closed spaces arranged for public use. Carr *et al.* (1995) defined public space as a stage where social life is played and these spaces are parks, squares, market places, streets and roads, playgrounds, public spaces, green spaces. Tekçe (2021), on the other hand, argues that in the discussions on the subject of public space within the framework of the urban agenda, designs rather than individual uses, and the economic values created by the public space or created by the public space come to the fore. In other words, the number, location, and economic value of public spaces in the city come to the fore and are evaluated. However, although urban public spaces have a great physical value, they have an important role in contemporary life. In this respect, public spaces are an important need in the context of the city, and the way the public subject experiences changes the perspective of the public space.

In recent years, there are different approaches and doubts about the public space conceptualized by other theorists. Some thinkers argue that theories such as communicative rationality reveal a single universal understanding of the "public". One of these authors is Nancy Fraser. In the article titled "Rethinking the Public Sphere", there are criticisms of Habermas's (1991) adoption of the idea of the public sphere. This study comprehensively exemplifies the critical dialogue with Habermas (1991) and the main points of criticism of radical thinkers discussing democracy today (Özbek, 2004, p20). Fraser (1990) expresses the necessity of a new form of the public sphere as follows;

“ The object of the inquiry is the rise and decline of a historically specific and limited form of the public sphere, which Habermas calls the "liberal model of the bourgeois public sphere." The aim is to identify the conditions that made possible this type of public sphere and to chart their devolution. The upshot is an argument that, under altered conditions of late twentieth century "welfare state mass democracy," the bourgeois or liberal model of the public sphere is no longer feasible. Some new form of the public sphere is required to salvage that arena's critical function and to

institutionalize democracy.'' (p.58).

In this context, the political, economic, cultural, and global changes at the end of the twentieth century changed the perception of public space in a different direction and differences emerged in the way of administration. Deindustrialization and suburban growth mean that cities must compete for capital investment and fundamental changes in the political economy of cities have resulted in a transformation in the way public space is produced (Schmidt, 2010, p454). Many factors affect the change and transformation of the public space. Gökğür (2017) touches on the main factors related to the change and transformation of the public space in the historical process in a comprehensive way. According to Gökğür;

'' These areas, which preserve the memory of cultural and social development, have faced dynamic changes under social and economic pressures, and as a result, they have gradually lost their characteristics and have changed. Changes in the public domain, which gradually diminishing as a physical space, can be regarded as commercialization and deterioration of traditional public space.'' (Gökğür, 2017, p.17).

As can be understood from the quote, social and economic pressures transform and even disrupt the public space. This change and transformation are associated with some basic factors. The change and transformation in question; evaluated in the context of global factors, local factors, and market economy factors (Gökğür,2017, p8-14). Global factors include the privatization of urban functions and the emergence of new centers in cities. In other words, the privatization of the administrative functions in the cities has led to the privatization of the public space. At the same time, the change in the urban function hierarchy has brought public spaces to the point of collapse.

Among the global factors, the market economy factor is the most important and comprehensive issue. Because it is claimed that public spaces for consumption will emerge in the urban space where new economic forces dominate (Gökğür, 2017, p14). From this perspective, market forces become a decisive influence on the use of public space. As public investors and market forces emerge, new questions arise about the separation of public space from "private space". About this situation, the reason for

the privatization and erosion of the public space is the shopping malls, which have become quite widespread today. Malcolm Voyce (2006) discusses the privatization of public space through the Sydney example. It is argued that the developments in the city do not coincide with the need for a "democratic" public space.

“...the development in Hornsby does not coincide with the need for an open and ‘democratic’ public space. Rather, what has developed is a privatized space, which reduces and controls diversity. This new type of physical space creates a discursive ‘rupture’ with older accounts of public space, which were based on equality and open access.” (Voyce, 2006, p.269).

In this context, shopping malls damage the public space's openness to everyone. Shopping centers are very effective in the privatization process and erosion of public space. Political scientist Margaret Kohn also thinks that the privatization of the public sphere continues.

“ It is practically truism to say that the disappearance of public space is caused by privatization. Privatization in the narrow sense describes the sale of state-owned assets to individuals or corporations. Direct sales, however, are fairly uncommon. Usually, the process is indirect; private ownership comes to predominate as commercial spaces such as shopping malls and theme parks gradually replace public places such as a town square.” (Kohn, 2004, p.4).

In this context, the common point of the authors, who see shopping centers as the reason for the privatization of public space, is that they argue that shopping centers should be considered equivalent to public spaces. In other words, it is observed that shopping centers do not have features such as public spaces being open to everyone's access, not being charged a fee, and allowing freedom of expression. However, some authors find these approaches insufficient as an opposing view. Chiodelli and Moroni (2015) argue that some traditional criticisms of shopping malls are not entirely convincing. It is seen that they listed their claims in the summary part of the article they wrote;

“1) shopping malls do not necessarily entail a privatization of public space, nor

necessarily any erosion of the public sphere; 2) because they are not public spaces, they cannot be considered equivalent to them; 3) they are highly open access (compared to many other kinds of both private and public spaces), and the limits they impose on some political activities are, under certain conditions, acceptable.’’ (Chiodelli and Moroni, 2015, p.1)

As regards the quotation, shopping malls offer new collectives to the community and do not privatize public space. As can be seen, the evaluation of these spaces as public spaces stands out as a different discussion topic.

As it is understood from the literature research, the public space, which has been defined in different ways from past to present, constitutes the experiences of individuals and is at the base of life practices. While the decisions made in the urban context are actively changing, the perspective on public space is changing and public space is being redefined. All emerging definitions of public space include physical and social characteristics. So, the definition of public space is also related to the social relations within the city. Amin (2008) stated that;

‘‘Urban public spaces are important dynamics for the active participation of those living in the city as social beings, as well as being a political formation and awareness area.’’ (p.22).

Public spaces, which have an important place because they are areas where individuals socialize, stand out as places where society and space interaction take place and where individuals meet their social needs. The period of the COVID-19 pandemic and its aftermath is a period in which the contexts of publicity and public space are redefined. The Covid-19 pandemic has brought with it curfews, the closure of socializing areas, the restriction of the use of open public spaces, and the closure of socializing areas. At the same time, the definition of public space and its perspective on public space is changing. Güneymen (2021) stated that;

‘‘The fact that the encounter of the other and the individual in the society has become controlled in the urban public space has brought about the redefinition of the context of the public space and the reshaping of spatial, social, and political relations in the public space.’’ (p.78)

The requirements of the Covid-19 pandemic and the regulations brought about the definition of the concept of public space while re-emerging the debate, also brought up the discussion of public open spaces, which is the subtitle. In this context, public open spaces, whose importance has increased, come to the fore. It is possible to exemplify the open public spaces in the city as the components of the urban transportation system consisting of streets, avenues, boulevards, squares, highways, and parking lots, which are subject to public ownership, as well as open and green spaces (Güneymen, 2021, p78.) Individuals continue their lives with the activities and experiences in the outer spaces within the urban physical environment. Correspondingly, public open spaces that are supported by the physical environment by the society emerge. Public open spaces have been physically reshaped under the Covid-19 pandemic conditions. With the Covid-19 pandemic, public space experiences have changed, and concepts such as social distance, working from home, and the experiences in the private space of the individual have overlapped with the concepts of private and public. While talking about the changes and inequalities in the use of space with the Covid-19 pandemic, Honey-Rosés (2020) also touches on how the perception of public space has changed.

“Knowledge economy workers may make more use of parks, promenades, and green spaces, whilst those who cannot work from home will be more exposed working in public spaces and streets. Some public spaces may cease to be placed for social mixing by class, education level or income. The structural production of spatial segregation in public spaces creates political and moral dilemmas for future design and investment in urban space.” (Honey-Rosés, 2020, p.3).

As can be understood from this excerpt, the living conditions and sanctions brought by the Covid-19 pandemic bring a different perspective to the definition and perception of public space. Because, while defining public space, it is seen that many authors in the literature define urban common areas as open to everyone's access. With the global epidemic, new debates have emerged on the definition of public space. These new discussions on public spaces draw attention to the rethinking of design and planning areas in the context of the city after Covid-19.

Within the framework of this study, the views on the change and transformation of the

concept of public space from past to present were examined. The perspectives and discourses of different authors were integrated into public space. According to the information obtained from the literature, Gökğür's and Çelikyay's (2017) approaches to public space were focused on. Gökğür (2017) defines public space in its simplest definition as an unstructured space serving common interests, where various functions required for urban life exist (p1). In other words, there is mobility and access in public spaces. Actions such as social, cultural, and sportive activities, shopping, gathering, waiting, dispersal takes place in the public space. In addition, the public spaces where commercial functions take place are open to everyone. In parallel with this view, Çelikyay (2017) defines public spaces as spaces where everyone has the right to use (p37). Based on these definitions, in Honey-Rosés'(2020) study on the Covid-19 pandemic, it is emphasized that social and class inequality in the use of public space has deepened. In this context planners and designers who organize the public space spatially are expected to create spaces that provide equal tenure to all citizens. These spaces are perceptible and legible, safe and comfortable, healthy living environments with unhindered access, compatible with the needs and tendencies of the society. At this point, when the public spaces, which we accept as open to everyone, are examined within the framework of the requirements of the Covid-19 pandemic, it is necessary to understand the public open spaces, which is a sub-title.

2.2.1 Public Open Space

The public open spaces of the city are the areas where the society has the most intense relationship with its environment. Public open spaces, which are outdoor use areas in the city, are open to everyone's access and are places of mobility. These spaces allow people to get closer to nature and include urban spaces outside buildings such as parks, streets, green spaces. According to Tonnelat (2010);

“Streets, parks and recreation areas, plazas and other publicly owned and managed open spaces as opposed to private residential and work space. However, the recent evolutions of the forms of urban settlement and the growing number and variety of semi-public spaces managed by private-public or entirely private partnerships questions this notion inherited from a legal perspective.” (p.1).

In this context, there is a debate on public open spaces today. Özbek (2000) emphasizes that urban open spaces have the feature of cohesiveness. In this context, urban open

spaces have gained importance against the quarantine conditions that negatively affect people in this process of the Covid-19 pandemic. Public open spaces in the city are very important for people to mingle and socialize in a healthy environment when they are faced with becoming isolated.

Urban open spaces are divided into different types according to different characteristics. At the same time, it assumes various roles when used with different functions. Çelikyay and Karayılmazlar (2018) stated that;

“Urban open spaces, which are characterized as unstructured urban outdoor spaces, are used for specific purposes. While some of the spaces are functional, some of them are complementary.” (p.85).

In this context, open spaces used by individuals to socialize also allow the air flow necessary for the city and create a positive psychological effect by hosting natural elements in areas where urbanization is intense. In parallel, Kaczynski and Henderson (2007) see public open spaces such as parks and green spaces as essential built environment arrangements that provide opportunities for a variety of physical activity behaviors such as recreational walking and playing sports.

The important issue in this thesis is how the perception of public open space has changed with Covid-19, and in this sense, the relationship between the way of experiencing the public open space and physical activity is very important. There are studies on associating the access, size and design features of the public open space with physical activities. Kaczynski and Henderson (2007) state that in 50 quantitative studies, public open spaces such as parks are more associated with physical activities. There are also qualitative studies about public open spaces. In a study by McCormack et al. (2010), it was revealed that qualitative features such as safety, aesthetics, accessibility, care and proximity in public open space support the relationship between physical activity and public open space. During the Covid-19 pandemic process, these features and roles of public open spaces have changed. In this context, the changing public open space perception is shaped by the requirements brought by the Covid-19 virus.

2.3 Historical Evolution of Public Space

In the historical period, urban public spaces have important functions and roles in the life of humanity. These important roles determined the economic functioning,

organization, and spatial features expressing social freedom, and spatial structures. Because all over the world, space production consists of a process that continues and does not stop throughout history. In the rapidly changing and developing world, societies feed a sense of ownership of the existing space and shape it according to the new needs that arise. According to Gökğür (2018), “Public Space is located in an urban or non-urban community and includes a concrete area such as a square and a street. Public space is the soul of the city, the ambiance of the city. These areas are tools to transform the city physically, socially, and symbolically, to reshape it. ” In this historical process, public spaces have been carried to a concrete space, although they have many abstract meanings.

The concept of the public expresses integrity and gathering in the historical process. Cities, on the other hand, are social spaces that bring people of different cultures, religions, and political views together. Urban public spaces, on the other hand, appear at a time when private and public spaces were separated from each other in antiquity. The private areas owned by the individual in the Greek city-state and the common areas that the public uses freely express this distinction to us. Explaining this situation, Habermas (1998) states that the concept of public space is a result of the division of life into two as public and private at the end of the 18th century and that the roots of this distinction were shaped in the Greek city-states in the Ancient Age. That is, he refers to the separation of the “common” polis from the “individual” Oikos in the Ancient Greek city-state. In this sense, the first structures showing the quality of public space were formed in the ancient period. In this period, it is a right to use the public space by its function, and this right has been granted to citizens.

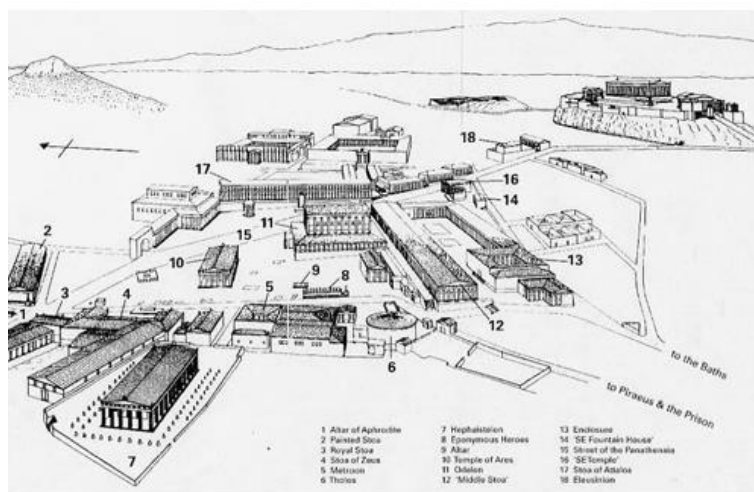


Figure 1. Ancient Greek Agora in Athens (Source: Öztürk, 2020)

In ancient Greece and Rome, public spaces, squares, or plazas were of primary importance as they were the discussion nodes of the city. This use of public spaces, which started in the ancient period in the West, appears in urban structures called Greek cities. Agoras are democratic spaces where votes for urban administration, used for politics, and issues reflecting the understanding of justice are discussed in ancient Athens. However, this situation may also differ in Greek cities, which differ in management understanding. Acropolises, on the other hand, are public spaces starting from the highest point of the city, where trade and religious activities take place. In the development of Greek civilization, public spaces show a transformation towards agoras, which are more religious and spiritual spaces (Gül, 2016). Agoras have become places where people meet, meet, and socialize. Homer (2014) first referred to the agora as a public urban space and he stated that the agora is not only a place where people socialize but also that being civilized is a part of an integration with the city. In terms of urban design, public buildings surrounded the agoras, which were open to the public. Although the reorganization of public spaces and the theater around the agora or its vicinity appear in almost every Greek city-state after 320 BC, it is seen that the autonomy of the city gradually decreases since the cities are generally subject to kings. This situation prevented the people from freely making politics and having a say in the administration in these urban spaces. The people, who are a part of the city, have begun to exhibit an introverted attitude. In this period, the functions and structures of urban public spaces are changing and some of these spaces are used as concert halls. In this case, it can be said that the functions of using public spaces as places of interaction and creating public opinion have decreased. In the Hellenistic period, as a result of the decrease in the functional use of the people in terms of their purposes and usage, the public spaces that entered the service of the king appeared as structurally magnificent and elegant spaces.

With the collapse of the Roman empire after the 5th century, changes occurred in urban life in Europe. Large and powerful cities were plundered at the end of the 400s due to the attacks of the looting tribes and internal turmoil, a vacuum of public authority was formed in the cities and people left the cities. In the Middle Ages, commercial, political, religious, and administrative public spaces such as the agora, forum, theater, temple in the Ancient Age disappeared, only the Church and the market square, which are generally connected, took their place. With the decline of the state, the church got stronger and the number of urban public spaces decreased (Prienne, 2000, p39-41).

However, there has been an acceleration in urban growth as small settlements continue their commercial activities. Each settlement has the order within itself (Mumford, 1961, p255). It is seen that public spaces were largely eliminated in the Middle Ages. As a result of all these events, it is seen that the authority in public spaces has been shaken and people are moving away from the cities.

Towards the end of the 14th century, authority in the public sense began to gain strength again. With the power of secular rulers, piazzas started to appear in Italy. The idea of Piazza advocates those commercial activities are not appropriate and is a respectful understanding of the civic life lived by the people. In the Renaissance, piazzas were tried to be likened to the classical period both artistically and politically. With this understanding, medieval artists and architects had the opportunity to exhibit the city, its richness, and public spaces. The context between art and power has played an effective role in modernization. With the coming to the forefront of art, the situation of designing a proportional and measured urban space emerged in the 15th century. Italian piazzas opened a part of the city, allowing the urban design to relax. The architectural elements in the public areas in the commercial and market city center have been unearthed with sculptures and monuments. At the end of all this style of understanding, the return to urban life and reconstruction of the public space has also begun. With the development of capitalist production relations, a new kind of public space understanding, which is needed by the traders and industrialists who are getting stronger within the scope of social transformation, has emerged (Timur, 2008, p40-47). As a result of all the events, transportation developed and the city grew in population and space, and as a result of all these, modern urban planning understanding emerged. Sennet (2010) states that following the great revolutions that erupted at the end of the 18th century and the rise of national industrial capitalism in more modern times, there were fundamental changes in the ideas of the public and the private. In addition, Sennet (2010) claims that the struggle of their societies for public order in the city of the 18th century and the tensions between the public and private spheres constitute the conditions for a holistic culture.

Public spaces had different functions in the medieval and near centuries. However, we can say that the biggest change in the viewpoint of the public space took place with the Industrial Revolution. Because industrialization has affected not only European cities but also America and other world cities on a global scale under colonization and capitalization phenomena. The concept of public space now includes different

components and factors. After the early 1980s, public spaces in the developing areas of cities have become important tools in the marketing of the local (Madanipour, 2000). It is the sports tournaments, festivals, fairs, cultural activities, and festivals planned for the promotion of the cities that are intended to be explained from local marketing. These organizations popularized public spaces. The increase in popularity of public spaces with such activities has had a positive impact on the city and has also contributed to economic improvement thanks to investors. According to Ercan, public spaces have been used as important catalysts in urban transformation and revitalization projects since the early 1980s (Ercan, 2016, p197). In the cities that developed rapidly after the industrial revolution, diversity is seen in the types of public spaces. After 1980, to revitalize the centers of post-industrial cities and to attract commerce back to the city centers, three new public spaces, namely urban shopping centers, privatized squares, and aboveground or underground pedestrian networks, were produced (Ercan, 2016). These produced public spaces are areas with commercial concerns and economic returns. It is seen that the economic features of these privatized and commercialized public spaces are dominant.

As can be seen, public spaces have assumed important functions for cities and people's lives throughout history. Events taking place in public places have different levels of diversity according to their culture, city, and geography. This major change in the industrial revolution can be attributed to the great development of technology, the increase in mechanization, and the globalization that developed with all these events. As a result of the management of public spaces with a certain policy after industrialization, it is seen that the psychological and social characteristics of the public space remain in the background and economic emphasis comes to the fore. So, there is a direct proportion between the change and transformation in people's private lives and the public spatial structure. The perspective changes in the use of public space and this way, the attraction power to private life increases with alienation. Concerning the background of the psychological and social role, according to Sennet (2010) today public life has turned into a formal obligation. He tried to establish the link between the transformation that took place in public spaces and the collapse of the public man in his work titled "The Fall of Public Man", which he treats as the bonds of unity and communication between people who do not have family or close ties.

CHAPTER 3: CITY SPACE AND PANDEMICS/EPIDEMICS

3.1 Epidemic /Pandemic Diseases Definition and Concepts

'Epidemic' is a fairly general term used to describe any issue that gets out of control. In the medical field, when a disease is seen to become widespread in a region, a community, or a group of people, this situation is considered to be an 'epidemic'. Pandemics are infectious diseases that have the potential to spread worldwide and cause many deaths on a global scale. In other words, 'pandemic' means a geographical epidemic over regions and groups. It is used for diseases that affect a whole country or the whole world. The social and economic order of the countries affected by the pandemic is deteriorating. It is a combination of the Greek words pan (everyone, all) and demos (community, public). (Maital and Barzani 2020).

Microorganisms known to exist before human history have affected people in many areas such as economic, cultural, and social areas. The diseases caused by such creatures spread rapidly in society and turned into epidemic or pandemic diseases. These species caused the deaths of people and the radical change of social structures or measures to be taken. The most known of these epidemic or pandemic diseases and those reaching global dimensions are infectious diseases such as plague, smallpox, typhus, typhoid, cholera, influenza, tuberculosis, Ebola, and SARS. The cause and solution of these infectious diseases that threaten humanity have sometimes not been fully found or tried to be prevented by alternative measures. The introduction of the germ theory has been a turning point, and antibiotics, which are very effective weapons in the fight against microbes, have started to be used by human beings who can identify the enemy (Yurdakul, 2015). Although there are many treatment methods, epidemics and pandemics are a threat to humanity due to reasons such as hygiene and living conditions. Despite significant advances in medicine, Mathers claims that roughly a quarter of human deaths worldwide are attributed to infectious diseases and parasites. (Mathers et al. 2008). In the 21st century, when technology has advanced considerably, the crisis created by the COVID-19 virus, which societies were caught unprepared for, and the pandemic it created, support these statements.

3.2 Important Pandemics Before the 20th Century

A plague is a bacterial infection that is mainly transmitted by fleas and has serious consequences that can lead to death in a very short time. The bacterial organism that causes the plague is called *Yersinia Pestis*. Today, it is most commonly seen in small

rodents found in rural and semi-rural areas of Africa, Asia, and the Americas. *Yersinia Pestis* is transmitted to humans or animals by being bitten by fleas that feed on infected rodents. People who handle infected animals can also become infected directly from these animals. The plague bacterium, *Yersinia pestis*, is transmitted to humans through the passage of fleas on previously infected animals and their bites. These carrier animals commonly include mice, dogs, squirrels, rats, and rabbits.

Plague has emerged at different periods in the past and is a highly deadly contagious disease. The plague, which emerged in different periods, caused the death of many people. In the earliest known records, the plague was not considered a contagious disease under the conditions of that period and religious meanings were loaded. People considered this contagious disease as the wrath of God (Martin, 2011). There are many types of plague pandemics that have appeared in history. The pandemic, which occurred again in 1348, is perhaps the strongest of all plague pandemics, in that it wiped out almost a third of the population of Europe (Genç, 2011, p125). The virus, which was carried by mice at that time, remained in the rodent population for a long time. Contagion started with increasing animal deaths and the transmission of infected fleas living on mice to humans. Death from plague usually occurs suddenly (Elliot, 2006).

In the Middle Ages, Europe was heavily affected by the plague. While the plague negatively affected the psychological state of the people, it also affected life in political, cultural, economic, and social terms. When the demographic effects are examined, one out of every three people died and the population of the continent decreased greatly (Ramankutty, 2006). Although most of the dead were commoners, King of England III. Edward's daughter, Princess Joan, and King XI. People from the upper strata, such as Alfonso of Castile, also lost their lives (Genç,2011). In other words, the infectious disease spread to the upper class as well as the people living in poverty and misery. The effects of the plague on the economy were also quite serious. With the decrease in the population, the number of people to work has also decreased. Wages have been raised for the work of workers. There was a great need for workers because, in general, workers living in villages were more exposed to the effects of contagious disease and the mortality rate was higher in areas where rodents live more and interact with humans than in urban areas. This has happened in many different parts of working life, such as real estate and production. Genç (2011) states that the destruction caused by the plague in the economy has reached an international

dimension and the maritime trade has stopped, food prices have increased, taxes have risen, and the prices of products related to the disease have risen considerably. The plague epidemic also caused various effects culturally. Artists depicted the image of the plague in their works, and various descriptions of the spread of the plague were used in literary works. While searching for ways to prevent the disease and trying to reach various resources, resources were translated into other languages as a result of the loss of life of people who knew different world languages.

As a result, the plague pandemic occurred in different periods, but the great plague in Europe between 1348 and 1351 is the most frightening, devastating, and longest-lasting disease in the history of epidemics. Because, as can be seen from various sources, it has had social, economic, cultural, and psychological effects on a global scale. The formation of weak social relations to prevent the spread of the disease, the stopping of commercial life, the decrease in the population reveals the dimensions of the plague.

Cholera is a disease that spreads as a result of the contamination of food and drinks by a bacterium called *Vibrio cholera*. Cholera is one of the most dangerous diseases that cause severe diarrhea, cause dehydration in the body, and can be fatal if left untreated. Cholera is usually transmitted to the body by contaminated seafood, food, and drinking water. Cholera remains a global threat to public health and an indicator of inequity and lack of social development. Researchers have estimated that every year, there are roughly 1.3 to 4.0 million cases, and 21 000 to 143 000 deaths worldwide due to cholera (WHO).

Cholera emerged in the 19th century after the plague ended in Europe. The disease, which spread from India by both land and sea, has killed many people. The first cholera pandemic occurred in India in 1817. The spread of this first pandemic to other countries of the world was realized through trade (Hays, 2005). The second pandemic that most affected North America and Europe occurred in 1846. This is due to the significant growth of trade globally and human migration (McNeil, 2000). The third pandemic, which emerged in 1846, expanded its spread and also affected South America. Shortly after this, the fourth wave took place, which affected the United States (1873) and Spain (1863). Towards the end of the 19th century, the cholera pandemic, which started again in India, spread all over the world and affected all societies. However, fewer deaths occurred thanks to the measures taken after Dr. Snow developed a method to prove how the cholera pandemic spreads and it was understood

that it spread through water (Waller, 2014). The last pandemic, the seventh cholera pandemic, was seen in Indonesia in 1961, and a new type of virus was formed by spreading to other developing countries (Figure 2). Although it is known that the effect of the last pandemic that has emerged, continues, as a result of the change of infrastructure in cities, the development of sewage systems, and the progress of health systems thanks to technology, there is no destruction like in the past.



Figure 2. Map of the seventh cholera pandemic, 1961-1970 (Source: Bakar, 2017)

Tuberculosis (TB) is a contagious lung disease that spreads from one individual to another through the air. It is caused by bacteria that spread from person to person through microscopic droplets released into the air (WHO). Tuberculosis is caused by bacteria called Mycobacterium Tuberculosis. Tuberculosis is a treatable and preventable disease today.

Tuberculosis was known as an inherited disease until Doctor Robert Koch discovered it. Although its emergence appears to be an infectious disease, the incubation period is not as short as cholera. Finer (2003) claims that tuberculosis emerged in the 16th century when cities had unhealthy conditions and people were in poverty. With the increasing population, the number of cases increased, and among the people, tuberculosis was called the great white death. Tuberculosis, which causes death when it infects people with a weak immune system, has become a nightmare for people who are malnourished and do not have hygienic conditions.

3.3 Important Pandemics in the 20th century

The Spanish flu is also known as the 1918 influenza pandemic. The influenza pandemic was caused by the H1N1 influenza A virus and is a deadly flu strain. The virus, which emerged in 1918, infected approximately one-third of the world's population at that time (WHO, 2003). The pandemic has been experienced in four successive waves, and the number of people exposed to the contagious disease has reached 500 million (Taubenberger,2006). The first and second waves of the Spanish flu occurred in 1918, the third wave in 1919, and the last wave in 1920. In this case, it was recorded in history as one of the deadliest pandemics in human history.

The influenza pandemic first emerged in the United States, but the reality was not reflected in the reports on the number of deaths, considering the psychology of the people and the chaos that would occur. The Spanish media, on the other hand, was free on this issue, and the world was under the impression that the flu had a huge impact on Spain. This has resulted in the influenza pandemic being named the Spanish flu, although historically and scientifically it was insufficient to pinpoint the geographic origin of the pandemic and there are differing views on its location (Taubenberger,2006).

Ebola virus is a virus that has spread regionally in African countries, has no vaccine, and has caused an epidemic. Ebola virus disease (EVD), which has symptoms such as high fever, internal and external bleeding, is fatal. The Ebola outbreak first appeared in Guinea in 2013 and has spread to neighboring countries such as Liberia. Later it spread to different parts of the world (WHO, 2014). Outbreaks have occurred in Nigeria, Mali, the United States, Spain, the United Kingdom, and Italy, with the highest number of cases in 2014 (WHO, 2014). Although the Ebola epidemic is a disease that has a long-term effect and requires treatment, although people show symptoms of recovery, it becomes active by showing itself again in the body of an infected and recovering person or partner. The virus, which has a storage period in the body of a person who has had the disease and survived, has caused great concern (Seema, 2016).

The Ebola virus takes its name from the Ebola River in a village where it first appeared. In the 1970s, the Ebola virus epidemic was seen in remote villages in the central and western regions of Africa, where health services were inadequate and living conditions were difficult. The virus, which was seen in the Congo and Sudan in 1976 in the form of an epidemic, also affected many African countries such as Nigeria and Uganda. The

results of the research show that fruit bats are the natural host of the virus (Gostin, 2014). The initial transmission of the virus to humans is thought to have been through animals such as fruit bats and monkeys. It is claimed that animals carrying the Ebola virus transmit the virus to humans both through blood and contact, and through consumption of their meat without being cleaned and cooked sufficiently. The Ebola virus is transmitted from animals to humans, but human-to-human transmission is also possible. The spread of the disease among humans occurs through blood and all kinds of bodily fluids. Contact with body secretions such as saliva, urine, and feces of an infected person and having sexual intercourse with a person carrying the virus cause transmission of the virus. It is much easier for the Ebola virus to spread in cities and countries with poor health services.

The SARS virus is a zoonotic viral infection, meaning that the virus is transmitted from a vertebrate animal to a human. Since the causative agent of the disease is a coronavirus (CoV) in the Coronaviridae family, which causes severe acute respiratory failure, this disease is also called SARS-CoV. Coronaviruses are a type of virus that causes upper respiratory tract infections in animals and humans. Generally, it can be said that the diseases caused by coronaviruses are severe in animals and mild or moderate in humans. Sars-CoV was recorded as the first case of coronavirus causing severe symptoms in humans (WHO, 2004).

The SARS virus emerged after acute pneumonia and respiratory failure were detected in a patient in Hanoi in February 2003. SARS-CoV was described by the Italian epidemiologist Doctor Carlo Urbani and entered the medical literature (Reilley, Van Herp, Sermand and Dentico, 2003). According to the research, it was determined that the first SARS case was in Foshan city of Guangdong province of China. The rapidly spreading disease has spread to about 24 countries such as Hong Kong, Taiwan, and Canada within a month. The origin of the virus is not known exactly. However, it was determined that the main host of the animals that caused its spread was the genus of the horseshoe bat (Rhinolophidae) family, and the intermediate host was the civet cats (Viverridae) (Chan-Yeung and Xu RH,2003). Symptoms of SARS, which are similar to the flu, were determined as fever, fatigue, headache, myalgia, dry cough, shortness of breath, and diarrhea (WHO). Sars-CoV is very similar to the current COVID-19 disease in terms of symptoms and transmission.

Like other infectious diseases, the Sars virus has affected human life economically, psychologically, culturally, and socially. This situation has occurred because people

stay away from crowded areas and it is dangerous to travel. In addition, there has been a backlash and discrimination against countries where the virus has spread (Duffin, 2008). The measures taken for the Sars virus are related to hygiene and social distance.

3.4 Past Epidemic/Pandemics and the Response of Public Space

Epidemics and pandemics have become an important and contemplative part of globalizing cities and urban dynamics. Pandemics temporarily halt production in countries and cities, create psychological problems in people who are confined to their homes, increase unemployment, cause individual, institutional, and state bankruptcies, and cause the cancellation or postponement of many activities, events, and projects. As a result, all societies, all social classes united on the same front, and it became clear how vital it was to find more innovative ways to overcome problems. From the past to the present, cities have experienced many changes due to epidemics and pandemics, considering the historical development process. Because cities that are getting crowded and away from nature have played a major role in the spread of infectious diseases and have also become living spaces that need change and development. Ergönül (2020) expresses that people find themselves in a period where discussions are beginning to be made about how sufficient all the efforts to create more livable cities are. The fact that the countries of the world, which are developed in terms of medicine, technology, and economics, are completely vulnerable in such an epidemic supports this statement.

In architecture and urban design, the concepts of public space have an important place, and any place other than some private spaces such as residences, squares, streets, parks, cafes, where people can gather and come together is called public. The public space is a common ground where people perform functional and ceremonial activities in their routines or periodic activities, connecting the society. Spaces, which have the functions needed by people in the formation process of cities, were built in an interrelated manner within the city. When the population starts to increase in cities, a process of development and change occurs. At this point, public spaces also have important features. Public spaces have the power to direct and influence urban development. The most important point is that public spaces can be used to create healthy cities. Creating a healthy urban space means maintaining a balanced relationship between frequently used spaces and population density (Kayacan and Özel, 2019). The relationship of infectious diseases with cities emerges at this point. Because as the density of people in public spaces increases, the risks brought by

epidemics and pandemics reach serious dimensions.

Urban public spaces, which form defined spaces other than the built environment in cities, are tried to be transformed into more human-friendly, lively-friendly livable spaces with human-oriented spaces, pedestrian-friendly cities, and similar approaches, as a solution to the chaos created by the crowding and disorder in today's cities. As a result of all these experiences, the question of how the use and design of public spaces such as parks, streets, and green spaces change in crises such as a pandemic comes to mind. Because, cities are not monolithic administrations: they include many interconnected systems, often leaving urban ecosystems susceptible to their weakest parts (Salkin, 2020). As a health problem, the Covid-19 pandemic has created various discussion topics in the field of education, while at the same time it has led to the emergence of new ideas on urban planning and design. Each factor gradually affects the other.

Outbreaks can also be expressed as uncontrolled diseases that occur unexpectedly in a geographic area and affect most of the population, which can last for months or years. When outbreaks spread from a specific geographic region to the world, it is called a pandemic. The covid-19 virus is one of the last pandemics experienced. Cities are the places where the effects of global crises are mostly seen, as they are areas with dense housing and crowded population density. In a study conducted on the Covid-19 pandemic under the name of Pandemic Focused "Proactive Smart Cities", it was concluded that many of the world's cities were not planned and built against crises such as pandemics (Yılmaz, 2021). On the other hand, Özcü and Atanur (2020) point out that the cities do not have sufficient equipment in crises, the public spaces have decreased significantly because of social and physical factors, and public spaces are under the pressure of capital and privatization. These evaluations are put forward because observations indicate that urban planning in general and, in a narrower sense, public spaces needed in crises should be designed for all kinds of situations that human beings will experience.

Before the Covid-19 pandemic, there were various pandemics and crises in world history that had an impact on urban planning and public spaces. Outbreaks such as plague, cholera, tuberculosis, and Spanish flu have an important place in this regard due to their effects on cities. When discussing the effects of past pandemics on cities, there are several important infectious diseases and densely populated cities that should be mentioned. There is an important relationship between the cholera pandemic and

New York City. However, to explain this relationship, it is necessary to briefly talk about the period of the pandemic and to understand the conditions of the city.

Before the war of independence in 1775, the city of New York was very important geographically and economically (Figure 3). After the war, it also gained political importance. During the War of Independence, the city of New York became one of the areas where the war was felt and experienced the most, and as a result, even the borders of the city were opened to construction with new urban planning (Başaran, 2020). Different urban planning was needed in the city of New York, whose population increased uncontrollably after political urban planning (Mackay, 2010). As a result, the commission authorized by the city council completed the new planning for New York in 1811, and in this new plan, it was aimed not to create any unused space and to have enough capacity to accommodate the dense population (Figure 4). The plan that the commission worked on included three large public spaces: the municipal reservoir, the demonstration area, and the market area. However, in figure 5, it is seen that recreation areas with a similar size to these public spaces are not included. During this period, a canal was dug due to economic concerns and it was used for containers in the lands near the water (Schuyler,1986).



Figure 3. New York City plan, 1777. (Source: Lester, 2016)



Figure 4. The Commissioners' Plan of 1811 provisional map. (Source: Jaffe,1995)



Figure 5. Greenwood Cemetery. (Source: Bachmann, 1852)

The events observed in New York during this period caused the city to have unhealthy conditions. In particular, conditions have emerged in which an infectious disease such as cholera can easily spread. In addition to the cholera disease, the infectious disease called yellow fever also affected the city. It is believed that cholera, which occurred in the 1850s was spread due to air pollution. Dr. Snow plotted the addresses of those who died of cholera disease on the map prepared by him and discovered that the cholera virus was spread through water resources. (Kavas and Peker, 2020) (Figure 6). The problem of polluted water in the city caused the death of thousands of people (Figure 7).



Figure 6. John Snow's Cholera Map. (Source: Clarke, 2019)

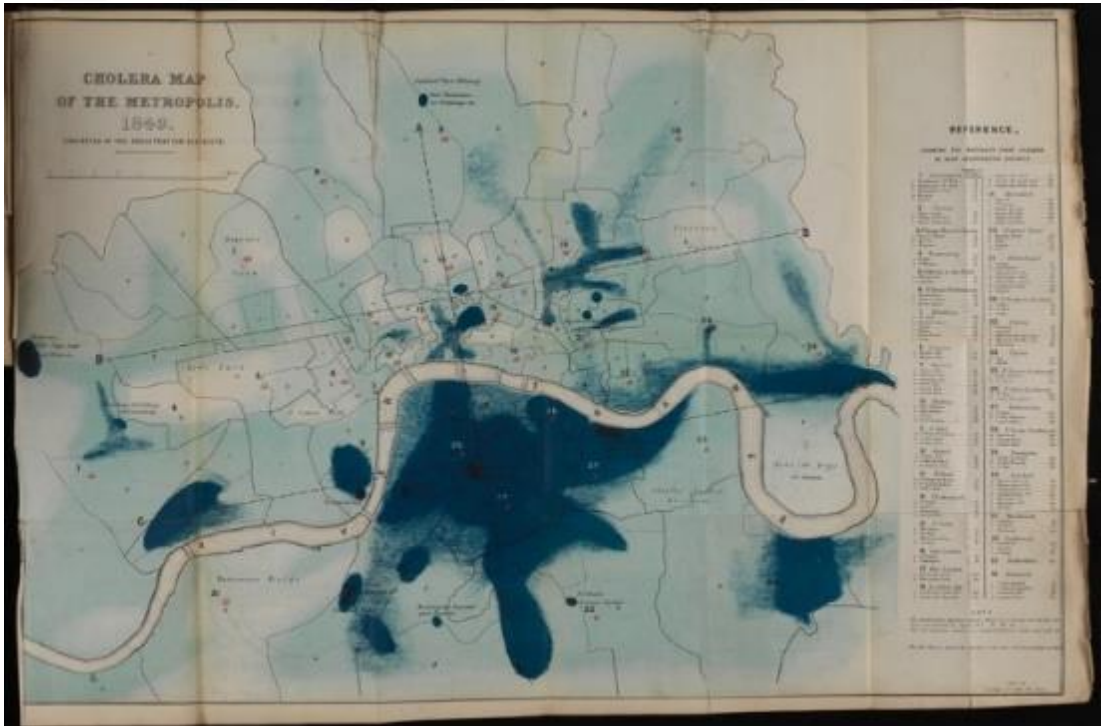


Figure 7. Cholera Map of the Metropolis, 1849 (Source: Welcome collection, 1851)

Gandy (2003), explains this situation in New York with scientific data, emphasizing that the city, which has been struggling with the yellow fever pandemic since 1791, experienced approximately 3 thousand losses in 1832 due to the cholera pandemic. Meanwhile, the Park Movement in England had an impact in New York as well, and media pressure arose as people became uncomfortable with the city's unhealthy conditions and pollution. In this case, the city, which has been built and has economic concerns, has caused interest in rural areas as a result of the loss of green of the lands. In fact, at the point where this situation has come, it is seen that by the 1830s, the cemetery areas that were named "America's first parks" in the city began to be designed due to the intense interest in rural areas (Britton, 2014). The Croton waterway (1842) and Central Park (1857) projects were presented to the city as a solution by the managers whose economies were affected by the situation (Heckscher, 2008). Downing claimed that every American visiting London would be embarrassed by the fact that no city in their country has urban parks. The design of various parks in England has been influential in New York City and has led various names in the art world to express this situation. In their book, "Central Park: A visit to one of the world's most treasured landscapes," Burnham and Packard emphasized that a series of parks and public gardens throughout Manhattan can alleviate the sweltering air of the city's crowded, hot streets (Burnham and Packard, 1993). Such statements highlight the need for public open spaces in New York. The planning of Central Park, which has a worldwide reputation today, has been of great importance in this respect. Central Park, designed by Olmsted, was established considering how people would feel good and socialize in the city, taking into account their psychological state. Olmsted emphasized that the main goal of establishing parks is to make life in cities healthier and happier by creating certain effects in people's minds (Barlow and Alex, 1972). The effect that will occur is based on observations on how people can be rescued from their psychological state in ordinary urban life conditions.

Flannery (2020) stated that New York's cholera response ended up "spurring urban design elements such as wide boulevards and parks that transformed New York and other major cities into the iconic metropolises we know today." During the epidemic, the bad weather of the metropolitan city and the crowded city life led to the planning and construction of Central Park, which was designed by Frederick Law Olmsted and will design more than 100 public parks. During the pandemic, it is seen how important accessible large green spaces are for the mental and physical health of city residents.

What open public space examples that have a positive impact on human health will respond to needs in an unpredictable situation such as an epidemic and pandemics. The pandemic has brought a new perspective and has become powerful potential energy for change in the revision of the urban design.

Issues such as the expansion of megacities, industrialization, migration from rural life to cities destroy natural habitats and green spaces. Ebola, one of the outbreaks that emerged as a result of this situation, has turned into a pandemic like Covid-19. Ebola spread from Wuhan when the habitats of animals were damaged as a result of increased urbanization. With globalization, the disappearance of borders, the interaction of cities more, and the unpreparedness of states against such epidemics have also brought this crisis to a global dimension (Karlı and Çelikyay,2020). In cities in South Africa, the density of urban dwellings during the pandemic caused logistical problems in providing food and water to quarantined people. The fact that streets, squares, and other open public spaces were not considered within the urban plan negatively affected the quarantine process (Campbell, *et. al*,2017). The pandemic during the Ebola virus is also evidence for the design of urban life to more green spaces, healthy cities that will provide physical distance, and the design of open public spaces.

Urban planning and public space design contain the public health problem. The pandemic process that comes after COVID-19 is in a very important position in this respect. Pandemic degrees, which have been expressed as pandemics and epidemics throughout history, have seriously affected the development of cities and have caused very sharp and permanent transformations in cities in every period they emerged (Karlı and Çelikyay, 2020). The most important point of the changes to be made in urban planning after the pandemic is that it provides the opportunity to be experienced to be a guide to future disasters, epidemics, and politician urban structures.

3.5 Importance of Public Space for Health of Urbanities

Urban planning emerges as a reflection of culture, technological developments, and major crises in the historical process. Urban planning with livable and healthy conditions is a field of work where different disciplines work together. Today, increasing urbanization, population, and environmental and health problems arising due to this; the livability of cities, the quality of urban life, and the criteria that make cities livable became the subject of study. This situation has led to questioning the design of public spaces where people can interact with nature, especially in the gloomy

urban environment. Health has played an important role in the design of public spaces from past to present. While cholera epidemics in the 19th century enabled the use of modern urban sanitation systems, industrialization led to the introduction of light and air-related housing arrangements as a precaution against respiratory diseases in overcrowded slums in Europe (Şengül, 2010). Today, it is observed that there are various changes in the usage and design of cities and public areas with modernization and digitalization. For example, designs with internet access are now made even in public open spaces. The pandemic, which is the subject of this thesis, has led to thinking about public space designs by social and physical distance rules and changes will be observed in the future.

The relationship between health and urban planning has been revived since the 1990s and this area has become a deep-rooted area of expertise with an active academic community and strong academic publications (Şengül, 2010). Because the COVID-19 problem experienced today is not the first epidemic problem the world has encountered. Epidemics such as the plague, black death, Spanish flu, and cholera have led to significant changes in the identity and functioning of cities. These pandemic situations, which leave important marks on urban life, emphasize the importance of urban design in protecting the health and preventing the spread of epidemic diseases. Public spaces used by crowded human communities are risky environments for the spread of epidemic diseases because of people interacting with each other. However, the first choice of people who want to socialize by moving away from closed areas in line with the restrictions has also been public open spaces. As a result, new projects and designs have become the current subject of architecture to protect health in public open spaces. One of the examples of this new normal design thinking is the project named "Parc de la Distance" proposed by Austria-based studio Precht (Figure 1). Designed as a public open space, this project benefits from the distinctive effect of landscape architects. The idea behind the "Parc de la Distance" design is that it is based on a labyrinth where people will move for 20 minutes while doing so, with the help of defined entry and exit points, minimizing the chance of encountering. The increase in the social distance defined as 1.5 m in the fixed position among the users on the move enables the preference of single walking tracks. In this way, while minimizing the spreading rate of the epidemic, it is also ensured that people socialize within the restrictions and protect their health.



Figure 8. Parc de la Distance (Source: Studio Precht, 2020)

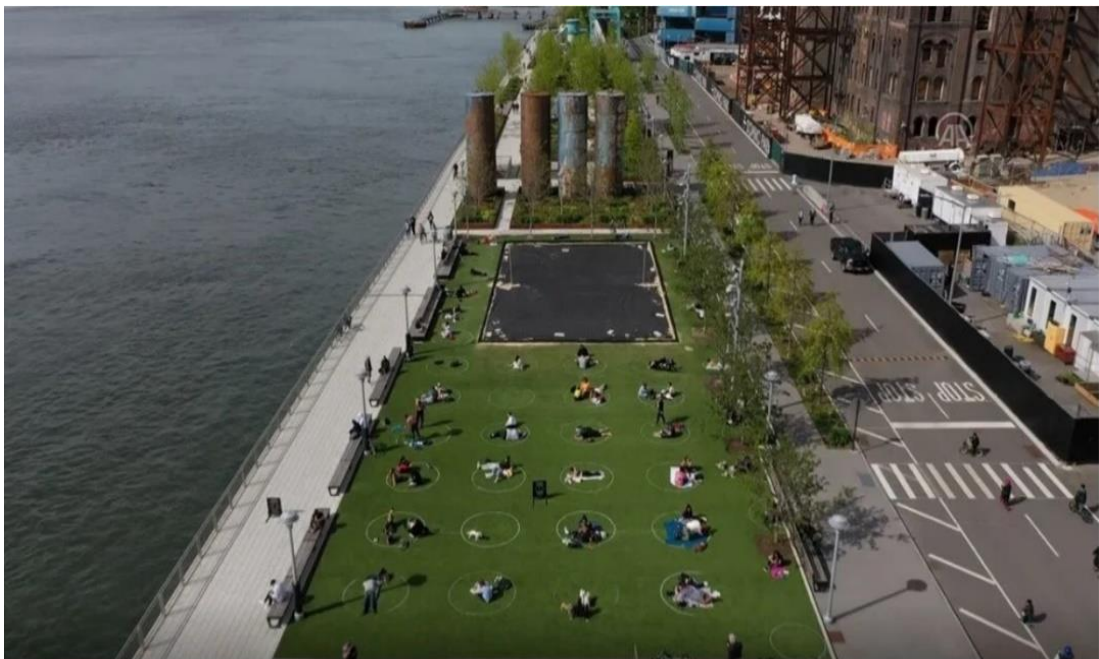


Figure 9. Domino Park, in Williamsburg, New York (Source: Anadolu Agency, 2020)

One of the creative solutions for social distance in the coronavirus epidemic was implemented in Domino Park in Williamsburg, New York. To maintain the physical distance between them, the circles seen in figure 9 have been drawn. People spend time in restricted areas. In this way, the risk of transmission of the virus is minimized.



CHAPTER 4: PUBLIC SPACE AND COVID-19 PANDEMIC IN IZMIR

4.1 New Pandemic: COVID-19

The coronavirus, also known as the unofficial Wuhan coronavirus because it was first seen in the Wuhan region of China in early December 2019 and was identified by the authorities in that region, is a contagious virus that causes respiratory tract infections and can be passed from person to person. The first case emerged in 2019 in Wuhan, China. The disease, which has been contagious since 2019, continues to spread with various variations and has caused a worldwide pandemic (Lu et al., 2020). The death rate caused by the coronavirus was announced as 3.4% on March 3, 2020 (WHO). While the number of confirmed cases in 2021 was 184,085,127 worldwide, the number of deaths was stated as 3,983,658 (WHO).

All the features of the new SARS-CoV-2 virus, namely Covid-19, are also seen in other associated coronaviruses in nature. Covid-19 is related to the original SARS-CoV and there is a clear link between the two (Andersen, 2020). Although the symptoms of coronavirus vary according to the immune system of people, the general symptoms can be said as fever, cough, fatigue, difficulty breathing, loss of smell and taste. All or some of these symptoms appear within 14 days in a person who has been in contact with the coronavirus.

The fact that Covid-19 has gained a global dimension and continues to spread has caused a series of joint measures to be taken all over the world. Among these measures, the use of masks, ventilation of closed areas, covering the mouth and nose area with a mask, paying attention to hygiene rules, and washing hands frequently are among the life-threatening ones. In addition, in this period, the concepts of social and distance have taken place in human life throughout the world. This situation is called the new normal. To maintain physical and social distance and prevent the transmission of the virus, various workplaces have switched to working from home and made arrangements in working hours. Quarantine rules were applied in periods when the spread of the virus could not be prevented.

As with other pandemics, the Covid-19 pandemic has had economic, social, cultural, and psychological effects on the world. This situation was not different in Turkey. The first official Covid case in Turkey was detected on March 11, 2020 (Daily Sabah Newspaper, 2020). 4 days after this date, the first death due to Covid-19 occurred. In

April 2020, in the statement made by the Ministry of Health, it was officially announced in the media that the Covid-19 virus was spreading to Turkey. Following this statement, the measures came one after another. While education and training life was interrupted, religious activities held in mosques were stopped.

Entertainment centers were closed, sports competitions were stopped, and restrictions were imposed even on activities such as picnics held in open spaces by people living in Turkey. To prevent the spread of the disease, a ban on intercity travel was imposed, while international and domestic flights were stopped by the state. Quarantine has been declared in the regions where the cases are seen intensely. The Covid-19 pandemic has also affected life in cities, and the economy has been directly affected by these measures.

4.2 Thinking the City Through COVID 19 – Urban Design and Public Spaces

In March 2020, people's lifestyles around the world changed and they started to work from home within the scope of quarantine measures. The Covid-19 pandemic, which shows that changes need to be made in many areas, has brought up the question of whether there will be changes in the designs of cities and public spaces. Thus, this situation has caused architects and city planners to produce new ideas and create various discussion topics as a result of the impact of the Covid-19 pandemic on cities. This situation stems from the effect and power of architecture to make urban life as possible as before and to correct the collective trauma in the city.

Cities are the areas where the population is concentrated, trade is carried out actively, and hosts the economy. At the same time, the development and growth in the country occur as a result of the mobility in the cities. In this case, the population density of cities makes people vulnerable to stress sources such as various epidemics, pandemics, and natural disasters. Today's research and published resources are about how to take precautions against these stress factors and include improvement, planning, and design measures in cities (Sharifi, 2020). Matthew and McDonald (2006) state that although infectious diseases are not affecting cities for the first time, there are not enough resources in the literature regarding this situation. In the past sources, while the impact of pandemics on cities was discussed over inequalities in cities, the emphasis on urban planning and public spaces has increased after the Covid-19 pandemic. In this context, the Covid-19 pandemic provides an opportunity to put forward ideas about how cities are affected by pandemics, how to reduce their effects, and how future cities should be planned.

With the pandemic, there were serious differences in the cities. It has been observed that noise pollution, air pollution, and sea pollution have decreased especially in big cities with severe lockdown in Turkey. However, some animal species not seen in the cities were encountered. Although these are temporary changes, it has been seen that it is possible to make this situation permanent for people living in cities. A mid-April survey in the UK found that a clear majority would welcome these changes as permanent, while just 9% want a complete return to normal' (Honey-Rosés *et. al.* n.d., 2020, p8). These temporary changes in cities became a source of inspiration for future urban design and planning. During the pandemic, pedestrian and bicycle lanes have been expanded in some cities around the world, and some public open spaces have been closed to traffic. At least seven U.S. and Canadian cities, including Portland, Minneapolis, and Calgary, have temporarily stopped or limited access to vehicles on certain corridors to help walking, biking, and outdoor respite-taking happen following social distancing guidelines (Bliss, 2020). In addition, Bogotá, Mexico City, and Berlin have also expanded bike lanes in this period. Although these changes and practices may seem temporary for cities, they reflect the needs of people during the Covid-19 pandemic. It can lead to permanent changes in cities.

One of the most influential factors in a pandemic is population density. Because the rate of spread of the virus and the risk of transmission increase in dense cities. The probability of people being infected increases in direct proportion to the population density (Gandy, 1999). As Gandy said, considering the linear relationship between the number of cases and the density of the city, it is seen that the Covid-19 virus has a greater impact in densely populated cities. This situation has caused the green areas in cities to come to the fore with the effect of Covid-19. According to Honey-Rosés (2020), many of the questions urban planners will face post-pandemic will be about how to manage green spaces that society, in general, will more value and appreciate. Greener cities can be more resilient and resilient to future pandemics, in addition to their proven physical and psychological benefits.

“A pivot toward healthy cities is likely to be accompanied by a more serious effort to make cities greener. Yet the pandemic may change the type and distribution of green spaces we want, as well as our expectations about what green spaces should provide.”(Honey-Rosés, 2020, p9)

In this context, green spaces as public open spaces in cities have served as a shelter for people during the pandemic process. The change in the dynamism of the city has increased the importance of open and green spaces in the city in terms of protection from the virus and avoiding the risk of contamination. According to Forman (1995), cities with small networks of green spaces such as Valencia and Nantes are more prepared to provide accessible opportunities to get close to nature.

With Covid-19, cities have been using technology more effectively. Smart cities are an important topic that is useful in tracking the spread of the Covid-19 virus and infected people. The use of smart city technology by countries makes it possible to examine people infected with the Covid-19 virus with mobile devices and remote sensors. These data are processed in the digital environment, enabling quick action to be taken and minimizing the negative effects of the pandemic (Inn,2020). South Korea is one of the countries that has fought the Covid-19 pandemic well, using smart technologies. Using technology effectively, the development of kits to test people infected with the Covid-19 virus, the rapid collection of information on quarantine with the smart technology system, and the emergency response by observing the movements of infected individuals have played an important role in the fight against the pandemic (Shaw, *et. al*, 2020). In the same way, the pandemic has been fought in China. To follow the spread of the Covid-19 virus, cooperation has been made with technology companies in smart cities such as Songdo (Shaw, *et.al.*, 2020). As seen in the countries in question, the idea of smart cities has very positive results in terms of the relationship between the city and public health. Because these countries, where the Covid-19 virus emerged and the virus spread rapidly in the early stages of the pandemic, reduced the number of cases in a short time and minimized its effects.

While many countries in the world implement measures such as social distance, digitalization is very important in a matter such as a pandemic. Developing cities technologically and applying sustainable methods will have positive results for future cities. Examining these data is an important point for rapid response to pandemics and epidemics.

To sum up, the Covid-19 pandemic has had many economic, social, and cultural effects in cities and public spaces. There will be changes in urban design to minimize negative effects. Eltarabily and Elghezanwy (2020) argue that the optimal design for cities in the current crisis is based on three main factors that consider the city as smart, sustainable, inclusive, and consider social design (Figure 10). The findings show that

cities will be less affected by future pandemics, natural disasters, and any crisis.

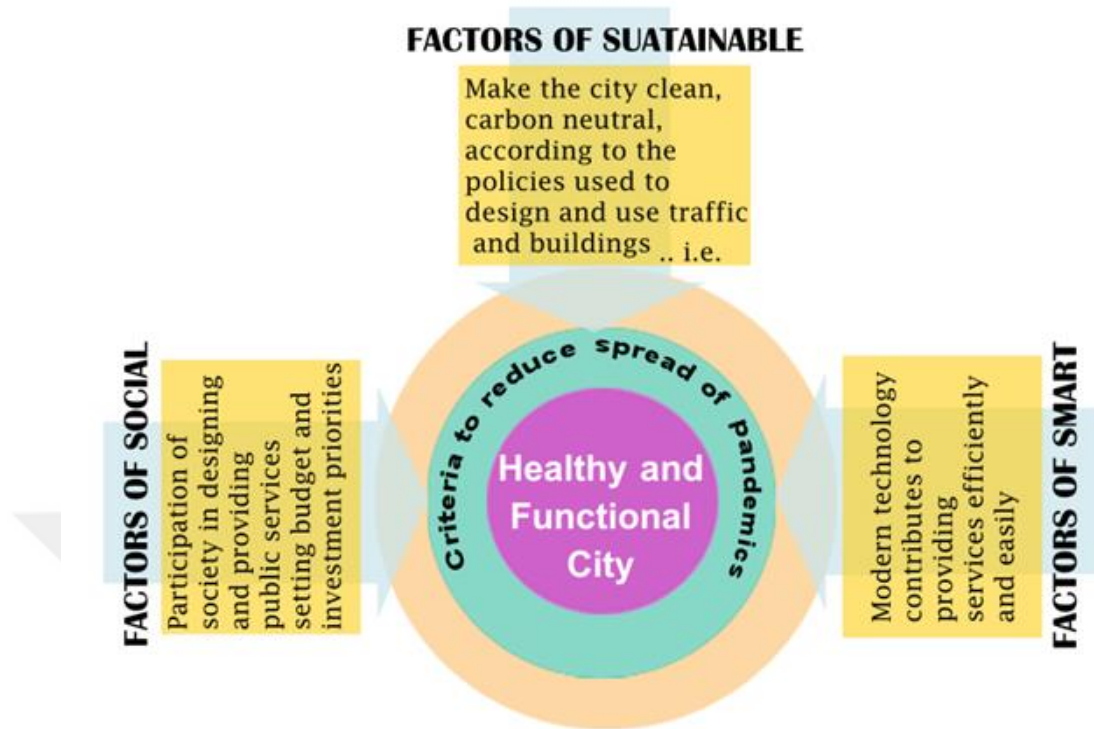


Figure 10. Healthy and Functional City (Source: Eltarabily and Elghezanwy, 2020)

The COVID-19 pandemic is more than just a health crisis, it is the beginning of an era that forces people to change their current behavioral patterns (Tuğaç, 2020). Considering livability standards, user comfort, and user behavior in public spaces is a very important issue for the spatial characteristics of urban open spaces. However, during the pandemic, spatial features do not have the qualities that can meet the user behavior and comfort in the open space. The situations experienced during the COVID-19 process reveal the importance of planning and the urgency of planners to produce new planning approaches after the pandemic, the lack, and necessity of solutions that can be developed for working life and public life in the field of planning (Öztaşkarlı and Çelikyay, 2020). With the COVID-19 pandemic, the importance of flexible-mixed-use open and green spaces in providing urban sustainability and resilience has been understood. In this respect, allocating more space to open public spaces in concrete cities, designing green areas and axes that allow social distance, and adjusting the dimensions of the sidewalks if necessary are among the issues that should be on the agenda.

4.3 The Impact of Covid-19 on Public Spaces in Turkey

Reflections of cultural and technological trends and even major crises are seen in the planning of cities. While cholera epidemics in the 19th century led to the use of modern urban hygiene systems, lighting and air-related housing arrangements were implemented as a precaution against respiratory diseases in overcrowded slums in Europe during industrialization (van der Berg, 2020). In Turkey, on the other hand, it has been affected by the pandemic and the restrictions imposed in dense cities have increased the interest in open spaces and the relationship with nature.

The provinces where the Covid-19 virus is most common in Turkey have been densely populated cities such as Istanbul, Ankara, and Izmir (T.R. Ministry of Health, 2020). Due to the high risk of transmission of the Covid-19 virus in public spaces, especially in dense cities where the number of cases is high, residences have turned into safe areas for people. Although this situation creates debates on housing design, it is a very important issue to plan future-ready, sustainable, and resilient cities where people do not have to quarantine in houses. So much so that, from a time when cities were attractive due to factors such as education, health, work and social life offered to people, and migration from rural to urban was seen as a sign of high status, it is known that today those who have the opportunity and people who have relations with rural areas return to their villages during the pandemic process (Çam, 2020). In other words, people have turned away from crowded places to a calmer and more peaceful lifestyle to get rid of the effect of the virus.

During the pandemic process, various measures are taken to prevent the spread of the Covid-18 virus in public spaces with various sanctions. As a result of the rapid spread of the Covid-19 epidemic around the world and its return to a pandemic, the areas that people want to reduce their use in many countries have been business centers, public vehicles, parks, gardens, shopping centers, public service buildings, entertainment venues, historical places, which are the most frequently used areas of people's daily lives (Çam, 2020). The impact of the Covid-19 pandemic on public spaces in Turkey was also reflected in the same way. The places in question were either closed or allowed to be used with time restrictions. As it is known, these sanctions applied to urban spaces are to prevent the spread of the Covid-19 virus and to reduce the number of infected people. However, these measures separated the city in terms of spatial and class. While the middle and upper classes living in the city centers were applying the "stay at home" rule, those who could not stay at home, that is, the poor people living

on the outskirts of the city had to commute to work. In his article, Keil (2020) defined the pandemic as the first pandemic of an urbanized planet but also defined it as the pandemic of the periphery. In his article, Keil (2020) defined the pandemic as the first pandemic of an urbanized planet but also defined it as the pandemic of the periphery. In addition, he mentioned that the least protected and most invisible regions carry the burden of the virus. The fact that the poor population is not connected to the texture of the city and is vulnerable brings a different perspective to the effects of the pandemic on Turkey. For example, in a busy city like Istanbul, people who can reach an open space at any time on the coastline, as well as people who are pushed to the periphery of the city and live-in districts with the highest number of cases, such as Esenyurt, Esenler, and Bağcılar, have to use public transportation to reach public spaces. This situation has caused Istanbul to become one of the cities where the virus cannot be controlled with its dense construction problem and dense population (Şentek, 2020). It has been revealed that access to green areas is of critical importance during the epidemic process. The World Health Organization states that the green area per capita should be 9m² as a condition of living in healthy cities (WHO). While each country re-plans this in their standards, the green area per capita in Turkey has been determined as 7m² as a result of this planning. In the cities where the population density is high, the lack of green spaces where people can breathe, narrow streets, transportation networks, rent-oriented urbanization, and dense construction have caused curfews (İnal, 2020). It is seen that the effects of cities and public spaces are great both in the formation and spread of the pandemic. Access to parks and green spaces as public spaces and the size of these spaces are very important to prevent people from getting infected.

The World Health Organization (WHO) has published a guide titled “Strengthening Preparedness for COVID-19 in Cities and Urban Environments: Interim Guidance for Local Governments”. This publication highlights the existence of four key items that local authorities of cities and other urban settlements should focus on to prevent the spread of COVID-19 and to resilience and preparedness for events of a similar devastating nature (WHO, 2020, p7-10). First, coordinated local plans must be made for effective responses to health risks and impacts. When this article is evaluated in terms of public spaces in Turkey, the lack of designs that will keep people's physical distance and minimize the risk of infection comes to the fore. In this period when people were confined to their homes, the need for public open spaces, in particular,

increased in busy cities in Turkey, but the lack of design elements to maintain physical distance in public spaces supported the idea of quarantine. The second article mentions both risk and crisis communication and community participation that encourages compliance with measures. At this point, it is the fines that have to be paid to the state due to people who refuse the curfew. Third, in this publication, WHO mentions approaches and measures appropriate to public health, such as physical distancing, masks, and hygiene. As the starting and distribution place of the urban circulation, the squares are the meeting and activity points of the citizens associated with the city as a whole, through avenues, streets, and pedestrian ways (Aydemir, et.al, 2004). At this point, Tandoğan (2018) emphasizes the selection of appropriate materials in public open spaces according to the situation. Outdoor furniture can be designed according to highly contagious diseases such as the Covid-19 virus. In the study published in "The Journal of Hospital Infection" by researchers in Germany at the beginning of February, based on research on coronaviruses such as MERS-CoV and SARS-CoV, at least some coronaviruses that infect humans can be found on surfaces such as metal, glass, and plastic for up to 9 days. It is emphasized that it maintains its contagious feature until it is transmitted (Gray *et al*, 2018). In Turkey, although many studies have begun on the impact of the pandemic on public spaces, there is no study related to the pandemic on furniture or products in public spaces. Even surfaces in public spaces are disinfected, but there is no evidence that the Covid-19 virus has completely disappeared. The last article talks about access to health care and basic services for COVID-19.

As a result, public vehicles, which are frequently used by people and recommended to reduce traffic congestion and air pollution in metropolitan areas, have become very risky areas during the pandemic process for access to public spaces. Therefore, the effect of the Covid-19 pandemic on public spaces has been to turn them into ghost spaces due to curfews. Eker (2020) defines ghost space as an underutilized or abandoned public space in an urban area, and its primary reasons are poor design, lacking environmental quality, and accessibility. In Turkey, public spaces in cities are not inaccessible, but the measures implemented for a while due to the impact of the Covid-19 pandemic have made public spaces inaccessible and devoid of quality time. Oflaz (2020) mentions the importance of green and open spaces by explaining that people who want to escape from the suffocating effect of cities generally prefer places that give people rest and peace such as green spaces, streams, or lake sides. The effect

of the Covid-19 pandemic is also seen in green areas, which can also be used as a gathering area in cities.

4.4 Pandemics/Epidemics and the Responses of Public Space in Izmir

İzmir has been exposed to various epidemic diseases in the historical process and deaths have occurred due to these infectious diseases. Many epidemic diseases such as cholera, plague, tuberculosis, malaria, typhus have been observed in İzmir for centuries and it has been fought against infectious diseases. The reason for these epidemics is that it is the busiest commercial city in Western Anatolia, economic depressions, wars, and, in addition, the inadequacy of municipal works in the city (Gülçiçek, M. 2020). Pandemics that are effective in the world have also affected İzmir in many ways and it is seen that the reasons stated for the contagious diseases reaching İzmir are common with the reasons seen in the world.

When all the reasons are taken into consideration, one of the most effective causes of the contagious diseases spreading in İzmir is trade. In the 19th century, Izmir was one of the largest trade centers of the Ottoman Empire and at the same time, it has a very important position in terms of world trade geologically (Martal, 1999). Due to this location, İzmir faced losses above the general average in plague epidemics and suffered from plague epidemics in more than half of the 18th century (Özyılmaz, 2021). The virus, which was carried through trade, spread in the city of Izmir and caused many deaths. In İzmir, which spent 54 years fighting against the plague in this century, eight severe and five more severe epidemic periods were experienced.

The pandemic that was effective in Izmir at the beginning of the 19th century was the plague. The plague pandemic affected the city with the effect of scum in the city, food shortages, and being a port city (Gülçiçek, 2020). Today, the quarantine rules we have experienced due to the Covid-19 pandemic were also applied in İzmir in the 19th century due to the plague epidemic. In the plague pandemic, measures such as quarantine, disinfection works, and burial of deceased people in areas far from the city were implemented (Mesut and Kılıç, 2017). With the measures taken, it was observed that the plague disease was almost over after 54 years.

The plague, which continued at regular intervals in Izmir until the end of the 19th century, was replaced by cholera. The cholera pandemic, which emerged in İzmir in 1831, spread to the geography where İzmir is located, with the developments supporting inter-country mobility such as the increase in transportation opportunities after the emergence of steamships in the 19th century and the entry into service of the

Suez Canal (Kuneralp, 1996). In this case, it was inevitable for the city of Izmir to experience the pandemic.

The fight against the cholera pandemic in Izmir has gained an international dimension. Özyılmaz (2021) expresses the reason for this as follows: The administrators in İzmir had been in an intense effort against cholera without any discrimination. However, since the return of the city, which is an important port of the Mediterranean like Izmir, to normal conditions as soon as possible is especially important in terms of trade, aid activities for the fight against cholera in Izmir gained an international character (Özyılmaz, 2021, p103). Preventing the cholera pandemic would lead to the improvement of İzmir's economy and the opening of trade routes. Thus, global trade would continue in Izmir, which was a port city. In this case, as seen in most pandemics, quarantine and hygiene rules were also applied in İzmir.

In the following years, İzmir became a city where other epidemic diseases such as tuberculosis and flu spread. The geographical location of İzmir, environmental factors, people's living conditions, belief bases have been effective in the spread of diseases. As seen in the cholera pandemic, one of the most important factors is economic factors. The rate of encountering pandemics in countries and cities with poor economic conditions is increasing, and death rates are proportionally higher. Problems such as inadequacies in urban structuring, sewage problems, access problems to clean water resources, and inadequate infrastructure, which cause the spread of communicable diseases, are also seen in İzmir (Gülçiçek,2020). In addition, Özyılmaz (2021) stated that the living conditions in İzmir, social relations, migration of those who left their homes due to the fear of epidemics, crowded life under bad conditions, and inadequate hygiene conditions in the city caused these diseases to spread and continue for a long time. In the city, people were staying at home, as they do today in the Covid-19 process, for fear of being infected. The pandemics experienced in Izmir in the past made us question the urban design and public open spaces at that time. This was a problem even in those times when there were no high-rise buildings and shopping malls, and people felt the need to migrate by escaping from the streets and avenues.

It has been observed that some infectious diseases experienced in İzmir have an impact on urban planning and structuring. To avoid malaria, people did not settle near the swamps or the people living near the swamps left these settlements. The "Cellat Lake" is located near the Selçuk District of İzmir and has created a large marsh. The Cellat

Lake, which turned into a swamp, played an important role in the spread of malaria which is an infectious disease (Gülçiçek, 2020). For this reason, people living around the lake migrated to other villages and rural areas. The effect of the epidemic on this region is the decision to dry the lake. During Mustafa Kemal Atatürk's visit to Izmir in 1931, it was decided to drain the swamp. The draining of the swamp, which started in 1935, was completed in 1940 (Karayaman, 2008). The lake's lack of sanitary conditions caused the spread of the malaria pandemic, and the malaria pandemic caused the lake to dry out. The importance of green areas has increased in tuberculosis disease. Sanatoriums were opened in forest areas and it was decided to treat patients in these areas (Gülçiçek, 2020). The health camp, which was established on Karşıyaka Yamanlar Mountain, is located within the borders of the state forest, at an altitude of 732 meters above sea level, on an area of 42 hectares. The area, which was used by the İzmir Tuberculosis Association until 2000, consists of facilities such as a casino, swimming pool, and re-functioning studies continue (Aydeniz and Manav, 2015). A region that was planned with the effect of the pandemic affects the future of the city by coming to the present day. In addition, the establishment of the treatment center in a green area due to the malaria pandemic once again emphasizes the importance of public open spaces.

4.4.1 General Overview of Public Spaces in Izmir

With its location, climate, natural beauties, and history, İzmir is an important city in Turkey. The economic, sociological developments experienced and the effects of technology have caused İzmir to take its current shape. After the 1950s, there has been an intense migration from rural areas to cities in Turkey. The reason for this is industrial developments and as a result, job opportunities in cities. With the rapid progress of technology and mechanization, infrastructure, green space, and urban facilities could not keep up with this process, resulting in unplanned and inadequate cities (Doğan, 2021). Especially with the effect of modernization, while the planning of the city went towards multi-story construction, the silhouette of the city began to change with high-rise buildings and the city began to spread with the increasing population.

4.4.2 The Impact of Covid-19 in İzmir

Izmir, Turkey's third-largest city, ranked second after Istanbul when the first Covid-19 pandemic numbers were announced in March 2020 (Republic of Turkey Ministry of Health, 2020). With the high number of Covid-19 cases, some cultural, social, and

economic consequences have emerged in İzmir. Thus, as in other cities of the world, various responsibilities have been imposed on the administration and the public to prevent the spread of the Covid-19 virus.

One of the effects of the Covid-19 pandemic in Izmir is the psychological state of people. Although not much attention is paid to the psychological effects since the bodily effects are deadly or quite destructive, the psychological effects can have a much longer recovery time than the physical effects (Ahorsu, et.al., 2020). The increase in the number of cases in Izmir has increased the pressure of the Covid-19 pandemic on students, healthcare workers, and educators. For this reason, while the education was suspended, the working conditions in the health units put the health workers in a difficult process and caused psychological effects to emerge. The fact that healthcare professionals are in constant interaction with infected people in hospitals and other healthcare units is one of the biggest factors in the psychological state that occurs. In addition to the busy working hours and the inability of health workers to go to their families, the fear of catching the Covid-19 virus has affected their social lives. In the article titled "The fear of COVID 19 scale: Development and initial validation", it is claimed that individuals' fear of Covid-19 is directly related to the rate of infection, catching the disease, and death rate (Ahorsu, et.al., 2020). Controlling the psychology of people working in difficult conditions in such a situation, providing the necessary support, is an important issue for reducing the Covid-19 cases in İzmir. For this reason, a support line for healthcare professionals was established in cooperation with the Turkish Psychiatric Association. When the vaccination studies started, health workers were included in the priority group.

During the Covid-19 pandemic, security studies were carried out to minimize the spread of the epidemic in Izmir, which has a dense population. Intense areas of İzmir such as Kemeraltı, Alsancak, and Konak Square have been affected by the Covid-19 pandemic. Kemeraltı Bazaar was a very busy area before the pandemic, but it was closed for a while due to the danger of Covid-19. However, while there was no closure, the police and gendarmerie teams increased the inspections of streets and avenues, parks, coastal areas, bazaars, and shopping centers in İzmir. With the decision of the İzmir Provincial Hygiene Board, no long-term activities are allowed in the coastal and recreation areas (Ekizler, 2020). These various restrictions have been implemented in areas such as streets, avenues, bazaars, and green spaces to prevent the spread of the Covid-19 virus in Izmir. While the inspections for masks and social distance were

intensified in İzmir, where new types of coronavirus cases increased, relatively calm was experienced on the streets and avenues (Ekizler, 2020).

4.4.3 The Impact of COVID-19 on Public Space in Izmir: Policy Responses

The most important point in the Covid-19 pandemic is the rapid spread of the coronavirus. The areas whose use has decreased as a result of the rapid spread of the Covid-19 epidemic and turning into a pandemic are public spaces that are frequently used by people in their daily lives. The main places where people interact socially and physically at any time are urban spaces. The pandemic has affected the urban population the most as a result of human interaction. The rural population is less affected in the areas with low relation to the city. According to the daily data shared by the Ministry of Health, cities with the highest incidence and death rates are cities such as Istanbul, Ankara, and Izmir, where the population density is high. (T.R. Ministry of Health, 2021). The insecurity of the urban public space during the pandemic has caused the most reliable places to be protected from the danger of pandemics to be residences. In this case, new ideas on urban design were produced. In this section, the activities of the Izmir Metropolitan Municipality and other community organizations in the field of urban public design during the Covid-19 epidemic period are included.

The local government has undertaken important responsibilities in the process of combating the pandemic in İzmir. First of all, people have stopped contacting each other, especially in urban areas, because the risk of transmission of the Covid-19 virus is high. That is, the lockdown was applied. However, since this quarantine situation greatly affects daily life and human health, step-by-step normalization was appropriate. In the study titled "*The psychological impact of quarantine and how to reduce it: a rapid review of the evidence*", the negative effects of quarantine on human health are discussed by many authors (Brooks, *et. al*, 2020). In the article, the possible effects of quarantine are stated as follows;

“Quarantine is often an unpleasant experience for those who undergo it. Separation from loved ones, the loss of freedom, uncertainty over disease status, and boredom can, on occasion, create dramatic effects. Suicide has been reported,⁵ substantial anger generated, and lawsuits brought⁶ following the imposition of quarantine in previous outbreaks. The potential benefits of mandatory mass quarantine need to be weighed carefully against the possible psychological costs.⁷

Successful use of quarantine as a public health measure requires us to reduce, as far as possible, the negative effects associated with it.'' (Brooks, et.al, p.912).

In this context, it is necessary to take into account the negative mental consequences that may arise when evaluating the possible benefits of mandatory quarantine practices. However, ending the quarantine process before the pandemic ends has revealed the need for design solutions that facilitate social and physical distancing in cities against the Covid-19 crisis.

When evaluated within the scope of the Covid-19 pandemic, the responsibility of Izmir Metropolitan Municipality, which is the local government body of Izmir, has increased. Izmir Mayor Tunç Soyer claims that;

'' Izmir Metropolitan Municipality has succeeded in taking many measures, such as disinfection of public spaces, against the new type of coronavirus pandemic, before a case has been seen in Turkey, and has started to carry out comprehensive studies by establishing a Scientific Committee immediately. Izmir Metropolitan Municipality started the "Crisis Municipalism" application, a method applied for the first time in Turkey; has put into effect all measures, precautions, and works within the scope of the directive issued in this context.'' (Izmir Metropolitan Municipality, 2020, p.2).

In this framework, Izmir Metropolitan Municipality started the "Crisis Municipalism" application, a method applied for the first time in Turkey.

When the quarantine process was ended and the normalization process began, densely populated cities like Izmir focused on new solutions. People tended to use private vehicles to maintain physical distance. Public vehicles, which are frequently used by people in urban areas and have a positive effect on traffic congestion and air pollution, have become very risky areas during the pandemic process. With the sudden decrease in the use of public transportation in cities due to the COVID-19 pandemic, there has been a serious interest in bicycle transportation from local governments to prevent the increase in automobile use (Figure 11). The cycling development platform is updating the status on the digital platform, including the coastal strip cycle paths, other cycle paths, and outer district cycle paths (Figure 12). Another importance of these bike paths is that the electric scooters supported and implemented by the city can be used without risk. People use electric scooters instead of using public transport at a certain

point.



Figure 11. A bicycle trail, Izmir (Source: Izmir Metropolitan Municipality, 2017)

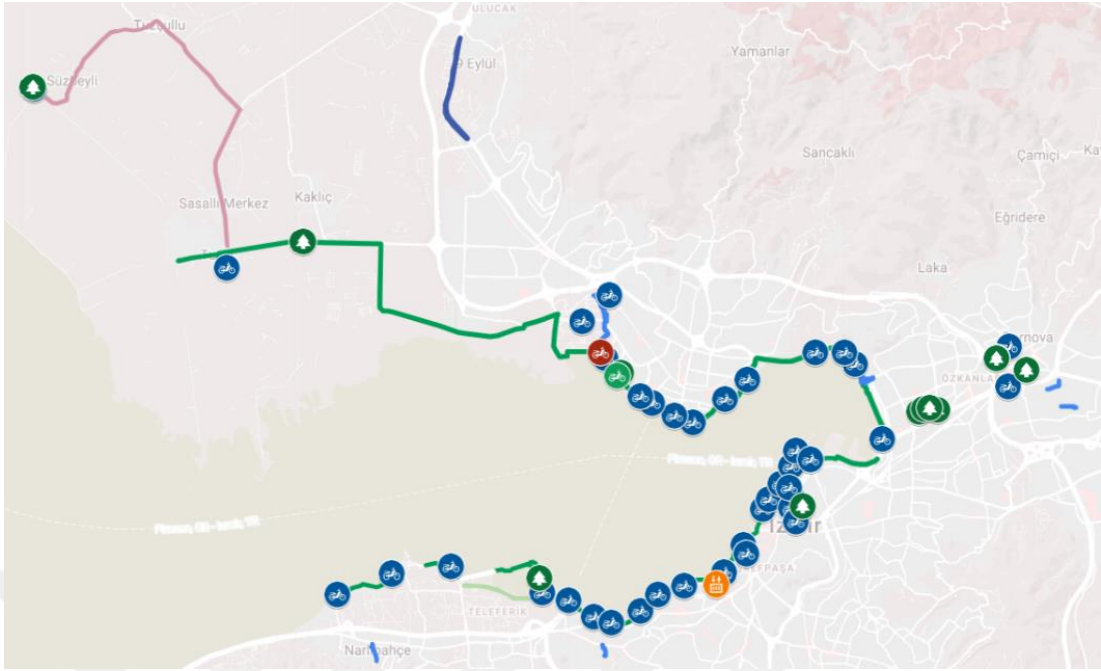


Figure 12. Cycle Paths in Izmir (Source: Cycling Development Form, 2021)

As a result of the joint work of the civil society and the municipality, it was decided to organize an "Awareness Campaign" primarily for cyclists in İzmir. (Öztaş, 2020, p62). İzmir Metropolitan Municipality was a part of this campaign. The main idea of the campaign is that motor vehicle drivers in traffic take cyclists into account and raise awareness on this issue. When this campaign was associated with the Covid-19 outbreak, the idea of developing an additional campaign was accepted by the İzmir Metropolitan Municipality. The main focus of the additional campaign in question is to focus on cycling as a healthy commute option for people who have to go outside during the pandemic. This additional campaign has been accepted by considering the following conditions;

- *During the pandemic process, people started to approach the use of public transportation in cities more distantly,*
- *A noticeable increase in the demand for private vehicles,*
- *Municipalities' willingness to invest in active modes of transport such as walking and cycling,*
- *The compatibility of the project content with the demands and expectations that will occur during and after the epidemic period. (Öztaş, 2020, p62)*

In this context, a solution was created in which people can maintain physical distance better than public transportation. Another project implemented within the scope of the Covid-19 pandemic in Izmir is the social distance application with circles. The coastline in İzmir is the public space where people freely exist, socialize, interact with each other and with the place they are in. The social distance application with a circle was applied along the promenade on the coastline, which is used extensively in all seasons of the year.

The phenomenon of the sea is very important for the city of Izmir and its people. Tekeli (2010) states that the most important element regarding the physical existence of İzmir is the sea and associates this phenomenon with the quality of life in İzmir. According to Tekeli;

“ First, let's deal with my impressions about the differences in its physical existence. The most important element of these impressions is the sea phenomenon. This sea is presented to İzmir residents like a plate in a gulf that is 4-5 km away between its two coasts. The city is positioned to form an amphitheater facing the sea. Such a settlement keeps the sea constantly in the life of the citizens. The sea contributes to the quality of life through another channel by softening the climate of İzmir with its mere presence. Public life is very important in this city and this lifestyle affects the way the citizens of Izmir interact with each other. ” (Tekeli, 2010, p30)

In this regard, the local government is aware of this relationship underlined by İlhan Tekeli and has focused on improving the quality of life by preserving the city's lifestyle. Izmir Sea Project, one of the urban projects initiated by Izmir Metropolitan Municipality in 2011, is an example of this situation. Within the scope of this project, the coastline, which is a very important public space for İzmir, is being organized and there are also completed applications. This project, which is frequently featured in the promotional videos of the local government, has come to the fore by being featured in the local, national, and international media with the national and international awards it has received (Selçuk, 2021, p3). At this point, the design for the coastline is very important for the city. An additional design idea was needed in this public space, which was redesigned with the Covid-19 pandemic. As a result, the circle social distance application was started (Figure 13).



Figure 13. The circle social distance application (Habertürk, 2020)

As can be seen in Figure 13, circles have been drawn to maintain physical distance for people spending time on the coastline. The circles in Kordon with a diameter of 4 meters at intervals of 2.5 meters were drawn by the teams of the Izmir Metropolitan Municipality Parks and Gardens Department. This application is designed to minimize the risk of transmission of the Covid-19 virus.

Another work of the Izmir Metropolitan Municipality is the distribution of free masks in public spaces and public areas within the scope of the "Resilience Action Plan". An average of 70 thousand masks are sewn per day by the Vocational Factory Branch Directorate. The produced masks were placed in public spaces within the scope of the 'maskematik application' (Figure 14). In addition, the Fabrication Laboratory (FabLab) at the Vocational Factory has started to produce hand disinfectants (Izmir Metropolitan Municipality, 2020). According to the data specified in the Resilience Action Plan (2020) report, until May 27, 2020, Izmir Metropolitan Municipality carried out studies to purify public spaces from viruses by using 57,011 liters of disinfectant to alleviate the social restrictions caused by the new coronavirus pandemic. In addition, 20,000 free masks were distributed to health institutions.

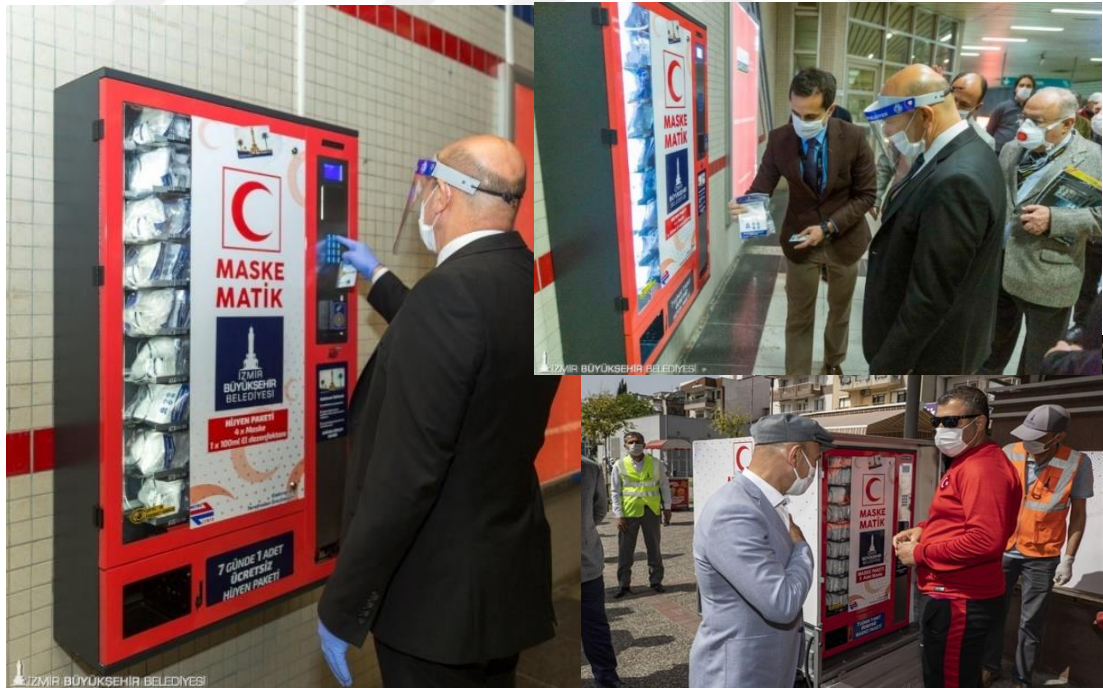


Figure 14. Maskematik application in İzmir (Source: Izmir Metropolitan Municipality, 2020)

Within the scope of the Covid-19 pandemic, the development of health infrastructure and services, such as strengthening the treatment infrastructure, is of great importance. However, considering the population density of İzmir, the occupancy rate of the hospitals was a problem in some periods of the pandemic. Despite a crisis at this point, some areas were made ready for the provision of health services. As an important public space in İzmir, Kültürpark was a suitable place at this point (Figure 15). Within the scope of the Covid-19 Resilience Action Plan, the Izmir Metropolitan Municipality took action so that the 23 thousand square meters indoor air-conditioned area in Kültürpark (Izmir Metropolitan Municipality,2020). It could be allocated to the Ministry of Health and used as a field hospital. The size of this area, the green corridors, and the water elements in it have caused it to become an area that people use more often when they go out. The city's crowded streets, avenues, and indoor spaces with a high risk of contamination caused people to understand the importance of these open spaces such as Kültürpark, İnciraltı city forest. During the pandemic period, people who use these areas most for weekend activities have become aware of open public spaces.



Figure 15. Kültürpark, İzmir (Source: Aegean Universal News, 2021)

CHAPTER 5: CASE STUDY

With the emergence of the Covid-19 pandemic, quarantine is applied from time to time. People were confined to their homes and working life began to continue from home. People prefer open spaces outside the home due to the risk of transmission of the virus. Therefore, the importance of public spaces has increased at this point. In this part of the study, a study was conducted on the use of public spaces in İzmir. There are findings on how the Covid-19 pandemic affected the use of public spaces in İzmir.

5.1 Methodology

This project contains information explaining how the public open spaces in the world and the public open space designs in İzmir are affected by epidemics and pandemics within the framework of urban design in social and cultural dimensions. The subject of urban design consists of many phenomena such as economy, culture, politics, and sociology depending on the area to be researched. İzmir, as a coastal city, is a valuable city for social, cultural, and economic research, which has been exposed to many processes of change in history. For this reason, a methodology including case study and qualitative research methods was followed to obtain the most detailed and qualitative data in this study. Qualitative research will provide the opportunity to examine the phenomenon under investigation in its environment and will allow the process to be interpreted. The information to be obtained about the public open spaces and their users in İzmir has been chosen as a case study in this research. With this method, information will be obtained about the relationship between phenomenon and context. In other words, the effects of the Covid-19 pandemic, which emerged as a health problem, on public open spaces, which are products of urban design, will reveal a relationship through the experiences of people living in this situation. Thus, it will be possible to make inferences about the effect of the Covid-19 virus on public open spaces in İzmir.

5.1.1 Questionnaire Design

In this study, the survey method was used as the research method. A survey is a quantitative research method comprised of a questionnaire with the intention of an efficient gathering of data from respondents. In this research method used, a questionnaire research instrument was used to collect detailed information and data. Denscombe (2010) stated that the members of the sample group remain anonymous,

it is a cheap data collection method, and a large amount of data is the advantage of the questionnaires. When this is the case, the questionnaires were cheaper because of the time and travel cost for the interviewers. Bryman (2012) explained the relationship between the survey method and the research tool with a diagram. In Figure 16, Bryman expressed the relationship between the main species likely to be encountered while managing the process.

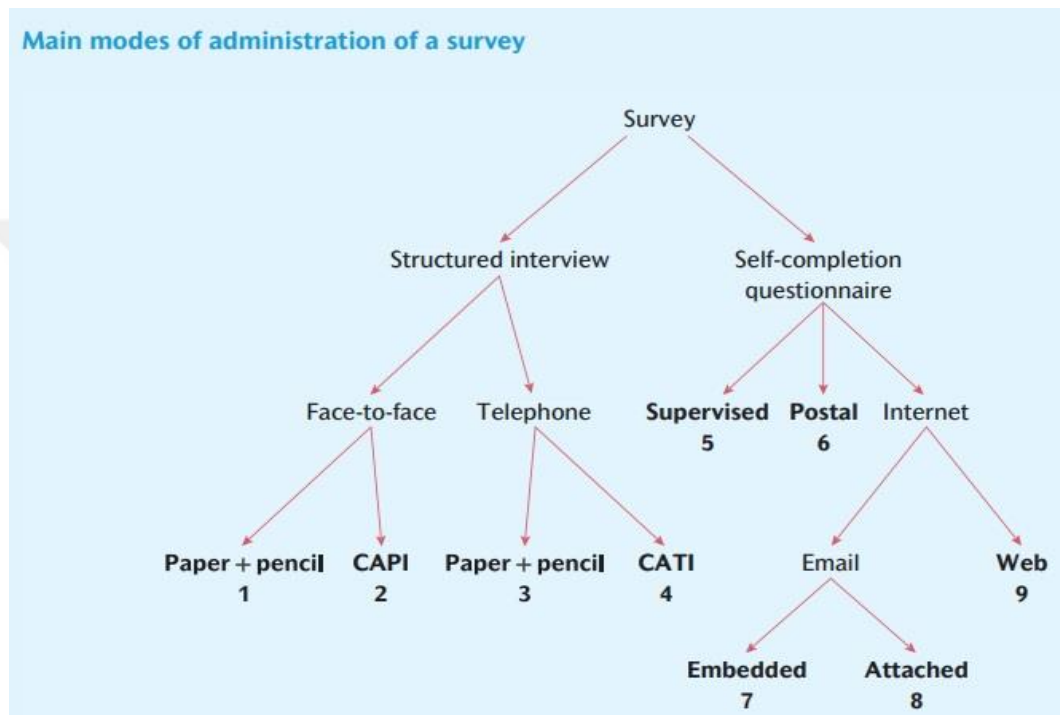


Figure 16. Main modes of administration of survey (Bryman, 2021)

In this situation, questionnaires reached many users at once via e-mail. Another reason is that there are no interviewer effects, as there is no researcher while the participants are answering the questions. Bryman describes this situation as follows:

“Obviously, since there is no interviewer present when a self-completion questionnaire is being completed, interviewer effects are eliminated... Probably of greater importance to the presence of an interviewer is the tendency for people to be more likely to exhibit social desirability bias when an interviewer is present... There is also a tendency for respondents to under-report activities that induce anxiety or about which they are sensitive.” (p.233-234).

In this regard, the participants freely answered open-ended questions without any concerns. Because there were also results that evaluated public open spaces from a political point of view and expressed their thoughts clearly. At the same time, this chosen method allowed the participants to complete the questionnaire at any time and as quickly as they wanted.

The questionnaire includes open-ended and closed-ended questions. That is, a hybrid model was used to gain more detailed information and to master the experiences of individuals. While Arıkan (2018) defines open-ended questions as questions that aim to explain, interpret and obtain information and that the subjects are freer to answer, he defines closed-ended questions as questions for which answer options are predetermined. In this context, it was ensured that the participant was quick and willing with closed-ended questions. Also, open-ended questions the opportunity to obtain opinions that would bring different perspectives to the research.

5.1.2 Aim of the Questionnaire

The purpose of the questionnaire is to get detailed information about the sufficiency and perception of features in the design and planning of public spaces during the Covid-19 pandemic in İzmir and to shed light on future studies. In this case, Arıkan (2018) expresses the purpose of the survey study as follows:

“ The survey is conducted to obtain information from individuals verbally or in writing... Both quantitative and qualitative measurements and analyzes can be made through the questionnaire... It is a fact that the survey method is frequently used both in academic studies and in practical studies such as business and politics, education and health... ” (p.98).

In this context, questionnaires offer the researcher an opportunity to analyze how the Covid-19 virus will affect public spaces by reaching individuals in different parts of İzmir. This method used allows us to objectively analyze the potential impact of the pandemic on public spaces by using simple statistics.

5.1.3 Selection of Sampling Groups

To analyze as many different experiences and opinions as possible in the research, participants living in İzmir and residing in different parts of İzmir were selected. To make the survey research useful, a subset representing the entire population was chosen. Different parts of İzmir (city center, urbanely dense outside the city center,

less densely urban outside the city center, rural area) were determined for the participants. Attention was paid to the fact that the answers were from different parts of the city and the analysis was shaped according to this understanding.

In this study, the questionnaire was applied to random sampling groups using the random sampling technique to reach the most detailed and qualified data. The reason for this is that the opinions and experiences of individuals of all ages and classes are needed. In the research, the names of the participants will be kept confidential and access to the obtained data will be limited.

A questionnaire focusing on the effects of quarantines on public spaces was distributed via social media and the web. A link was created for the survey and sent to social media groups focused on built environment and architecture. For the distribution, I also requested the survey link to be distributed to the interested individuals. Users who wanted to participate in the research completed the survey voluntarily by accessing the form via the link. This way was followed to maintain physical and social distance rules in quarantine.

5.1.4 Questions

The questions were shaped to allow understanding the perception of public space design before and after the pandemic. The format of the answers included free-form, yes-no, always-never, and multiple-choice answers. The survey included various questions about the spatial qualities and experiences of public outdoor users during and before the pandemic. The survey questions can be viewed in the Annex section. The questionnaire consists of different parts. In the first part, individual questions such as age, occupation, and income level were asked to the participants. In the second part, closed-ended questions were asked. The questions of the second part were questions comparing the period before and after Covid-19. For example;

1. *Q (4 in 33): How often did you use public spaces before the Covid-19 outbreak?*
2. *Q (14 in 33): How often do you use public spaces after the Covid-19 outbreak?*
3. *Q (6 in 33): What kind of activities were you doing in public spaces before the Covid-19 outbreak?*
4. *Q (16 in 33): What kind of activities do you do in public spaces after the Covid-19 outbreak?*

The questions in the last section focused on the characteristics of open public spaces in İzmir. In this section, the questions include yes/no answers. For example;

1. *Q (23 in 33): Do you find the number of public open spaces in Izmir sufficient?*
2. *Q (26 in 33): Can you maintain physical distance in open public spaces where you spend time?*

In this context, 33 questions were asked to the participants. While 10 of these questions focus on public outdoor experiences before the pandemic, 10 focus on the process after the Covid-19 virus emerges. This is important in terms of analyzing the design elements that individuals need before the pandemic, the frequency of use of the spaces, and the change and deficiencies of the process after the Covid-19 effect when using public open spaces. Other questions in the survey were asked to learn the opinions of individuals about the public spaces in Izmir.

1. *Q (33 in 33): What are the social and physical problems / positive characteristics that you observed and experienced in public open spaces during the epidemic? You can express your thoughts about public open spaces by considering the pre/post-Covid-19 period.*

5.1.5 Data Analysis

The analysis of the data obtained in the questionnaire was made with the IBM SPSS Statistics program. Steps followed to interpret the collected data:

- 1.) The raw data obtained in the survey were processed into excel software.
- 2.) Nominal variables were coded into numerical data for accurate calculation results.
- 3.) The coded data were transferred to SPSS software.
- 4.) Analyzes were made in SPSS software.
- 5.) Obtained results were interpreted.
- 6.) The resulting statistical results were visualized for research.

First of all, the participants were asked about personal information such as gender, occupation, and age. All participants answered these questions. This section contains graphs showing results for participants' age, occupation, and gender.

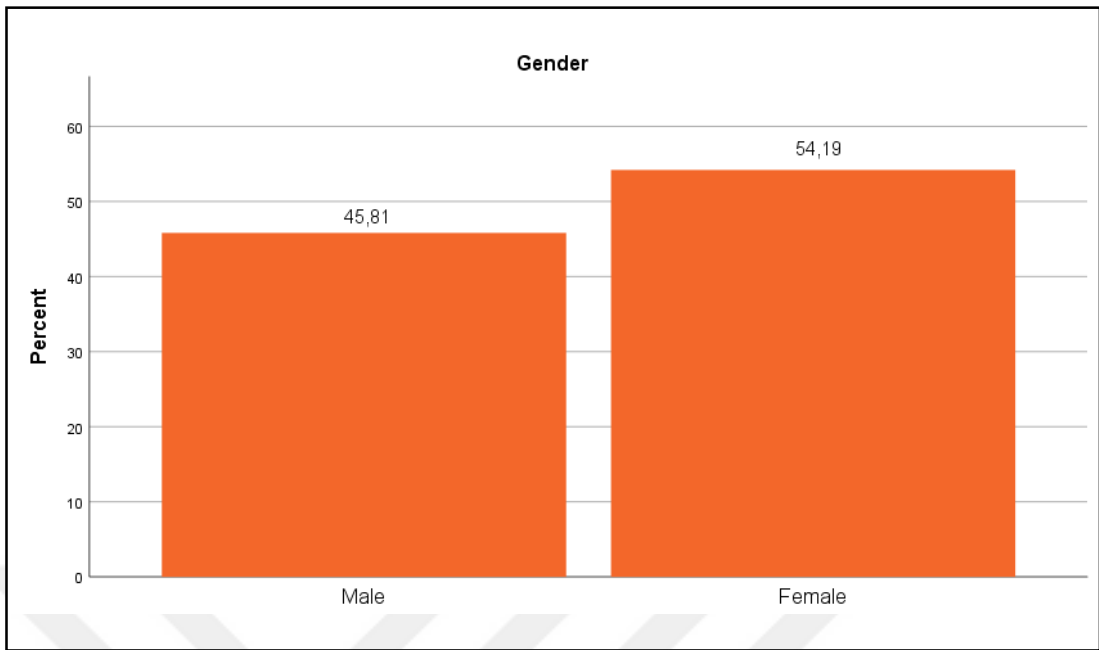


Figure 17. Gender of participants

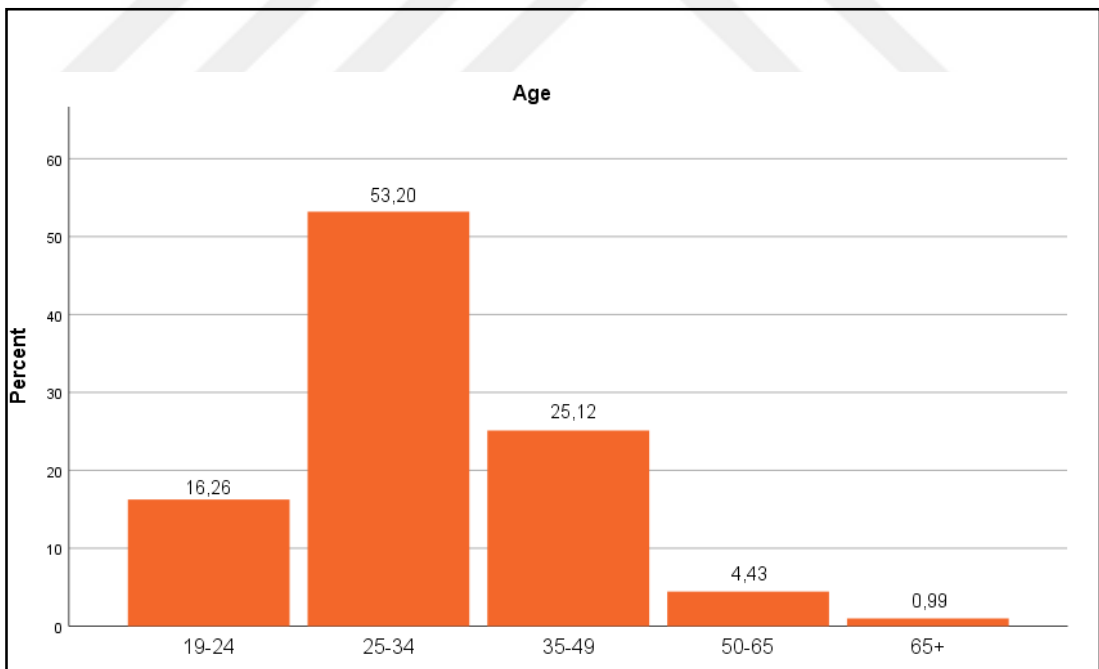


Figure 18. Age of participants

It is seen in figure 17 that the male and female ratios of the 203 participants participating in the survey are close to each other and 45,8% of the individuals participating in the survey are male and 54,2% are female.

In figure 18, the age range of the participants and the ratio of the total number of participants are given. In decreasing order of age, 53.2% of the participants in the 25-34 age range, 25.1% in the 35-49 age range, 16.3% in the 19-24 age range, and 50-65 years old 4.4% and finally the number of participants over 65+ is observed as 1%. The number of participants over the age of 65 is very small because the survey was conducted during the quarantine period. Most of the participants are between the ages of 25-34. That is, the majority of the participants are people who are active in society.

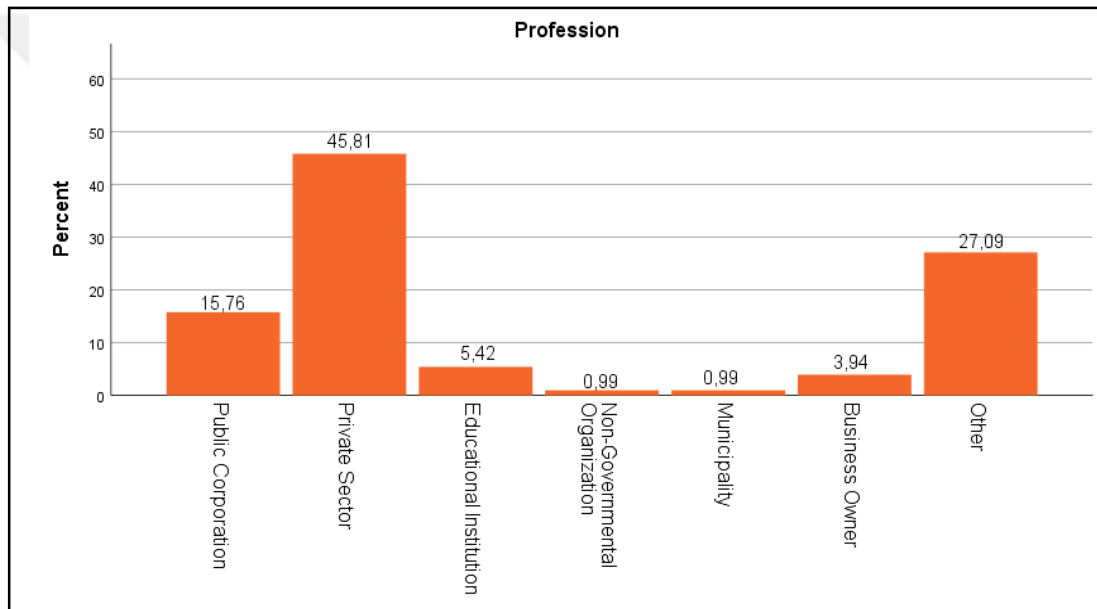


Figure 19. Professions of the participants

The information about the professions of the participants has observed in figure 19. 45.8% of the respondents stated that they work in the private sector, 15.8% in a public institution, 5.4% in the education sector, and 1% in the municipality. While 27.1% of the participants marked the other option, 3.9% stated that they are business owners. This result in the survey is the current result in the Covid-19 process.

While the 3rd question in the survey questions the working status before the Covid-19 pandemic, the 13th question questions the working status after the Covid-19 pandemic. The results obtained are observed in figure 20. According to the data obtained in the two questions, while 32.5% of the respondents were unemployed before Covid-19, this rate decreased to 30.5% after Covid-19. Another result that emerged is that the percentage of people working full time from the office decreased by 6.9%. Parallel to this situation, the number of people working from home has increased at the same rate. In other words, it follows from these data that people are confined to their homes.

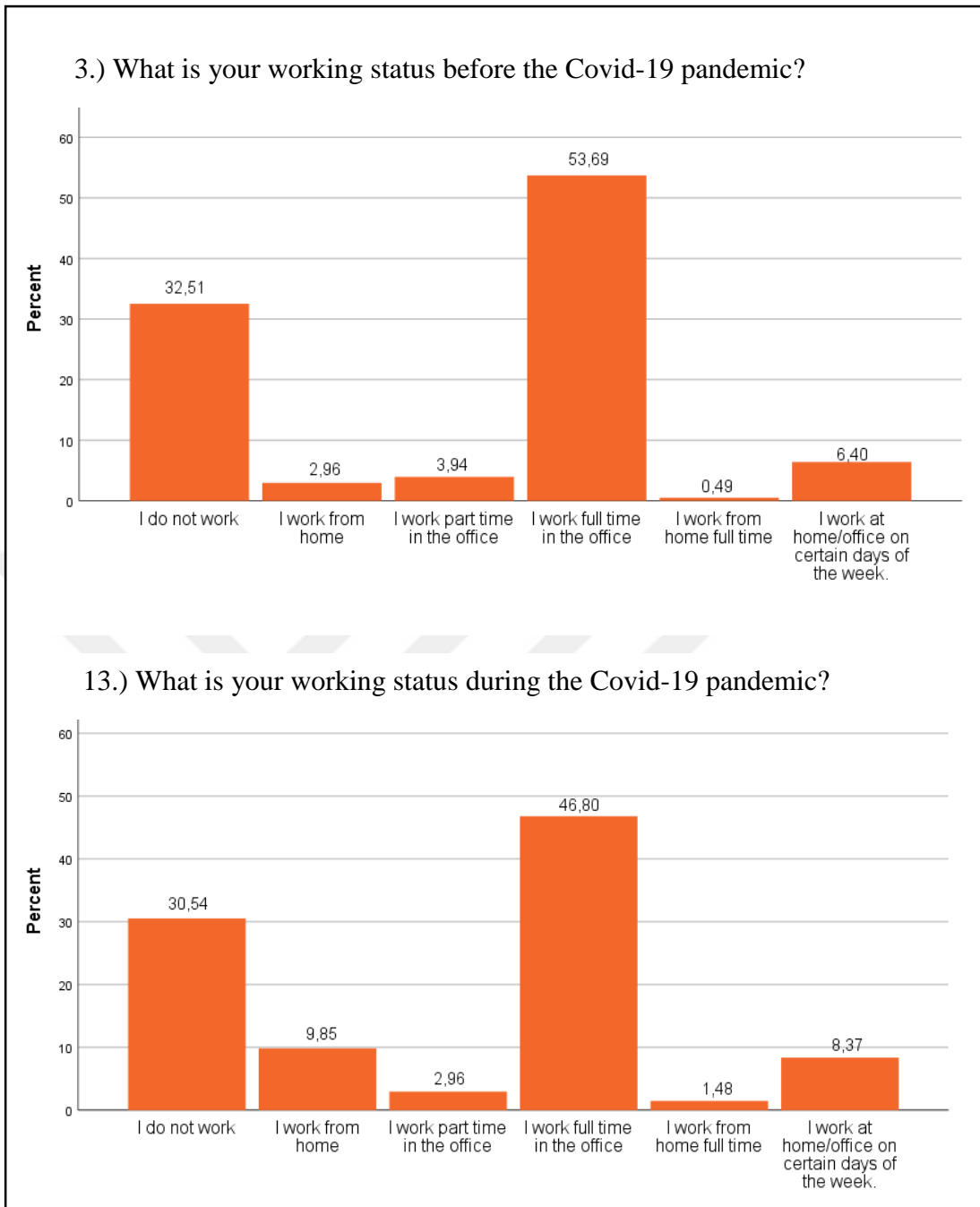


Figure 20. Working status of participants

5.2 Survey Results: Changes in Open Public Space Perception of Public in terms of Design Elements and Frequency of Use

The survey results in this section contain information about the profession of the participants, the district they live in, and the population density of the region they live in.

The first two questions of the survey include the demographic characteristics of the participants. Figure 21 shows in which districts of İzmir the participants live. It was analyzed that the majority of the participants were from the central districts of İzmir. Districts specified as central districts by İzmir Metropolitan Municipality are Balçova, Bayraklı, Bornova, Buca, Çiğli, Gazimir, Güzelbahçe, Karabağlar, Karşıyaka, Konak and Narlıdere. Those remaining outside of these districts are defined as other districts. According to the data obtained in figure 21, 85.3% of the participants live in the central districts. Since the majority of the participants were from the central district, the survey results were shaped within this framework.

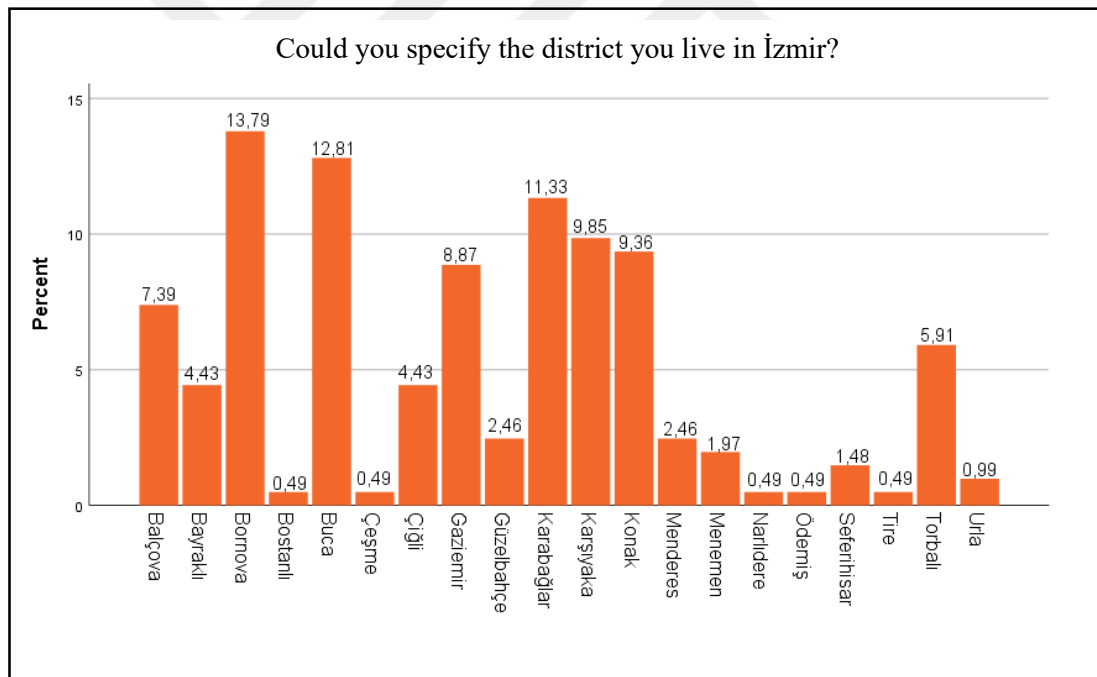


Figure 21. Districts where participants live in Izmir

Table 1. Districts of İzmir where participants live

		When you describe where you live, which one is suitable for you?				Total
		City Center	Dense Urban Outside the City Center	Less Dense Urban Outside the City Center	Rural Area	
Could you specify the district you live in İzmir?	Balçova	5,9%	1,0%		0,5%	7,4%
	Bayraklı	3,9%		0,5%		4,4%
	Bornova	10,8%	2,5%		0,5%	13,8%
	Bostanlı	0,5%				0,5%
	Buca	8,9%	3,4%	0,5%		12,8%
	Çeşme	0,5%				0,5%
	Çiğli	2,0%	1,5%	1,0%		4,4%
	Gaziemir	6,4%	2,0%	0,5%		8,9%
	Güzelbahçe		1,0%	1,5%		2,5%
	Karabağlar	8,9%	2,5%			11,3%
	Karşıyaka	7,4%	2,0%	0,5%		9,9%
	Konak	9,4%				9,4%
	Menderes		0,5%	1,5%	0,5%	2,5%
	Menemen	0,5%		1,0%	0,5%	2,0%
	Narlıdere	0,5%				0,5%
	Ödemiş	0,5%				0,5%
	Seferihisar	1,0%			0,5%	1,5%
	Tire			0,5%		0,5%
	Torbalı	1,0%	3,4%	1,5%		5,9%
	Urla		0,5%	0,5%		1,0%

Table 1 shows the intersection of the districts where the participants live and the different areas of these districts in terms of population density. According to the survey results, the participants generally live in the center of the districts. The number of participants living in the rural areas of the districts is quite low.

In figure 22, the participants chose one of the answers according to the region they live in: city center, dense urban area outside the city center, less dense urban area outside the city center and rural area. As seen in figure22, 67.98% of the participants live in the city center, 20.2% live in a dense urban area, 9.36% live in a less dense urban area and 2.46% live in a rural area.

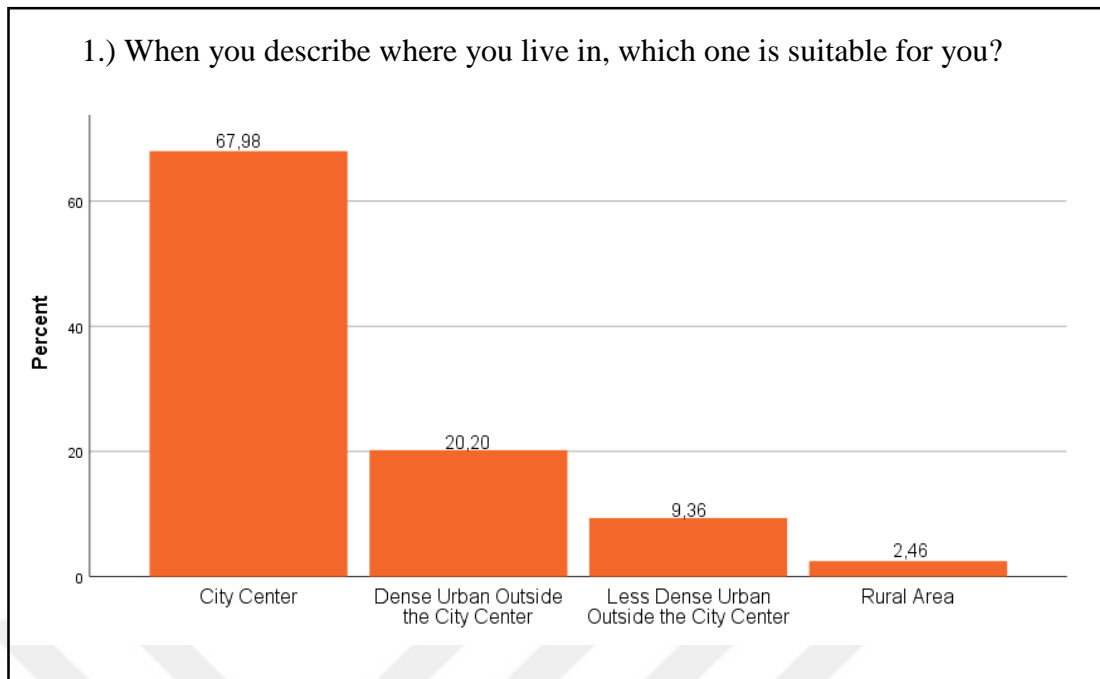


Figure 22. Areas where participants live by population density

5.2.1 The Frequency of Use of Public Space

In the 4th question, there are data on the frequency of use of public spaces before the Covid-19 outbreak, and in the 14th question, on the frequency of use of public spaces after the Covid-19 outbreak. These two questions aim to understand how much the pandemic has affected the use of public space and to compare the two periods. As can be seen in the 4th question, before the Covid-19 outbreak, individuals in the city center mostly ticked the option "almost every day". Individuals in rural areas mostly answered, "3-4 times a week". Figure 23 shows that the graphs are reversed.

When tables these two graphics compared, there has been a decrease in the frequency of use of public spaces. This situation is seen more clearly in the use of public space in the city center and is reflected in the graphics. While individuals in the city center used public spaces "almost every day" in the period before the pandemic, the options "almost never" and "1-2 times a month" were marked mostly in the Covid-19 pandemic. Individuals living in rural areas, on the other hand, started to use public spaces by going out of their homes during the pandemic. This situation can be associated with the population density in the city center and the fact that the dwellings in the rural areas have sufficient free space and gardens. Another conclusion to be drawn from here is that while individuals living in the city center have difficulty maintaining physical distance, those living in rural areas have been able to maintain

physical distance.

5.2.2 Design Elements

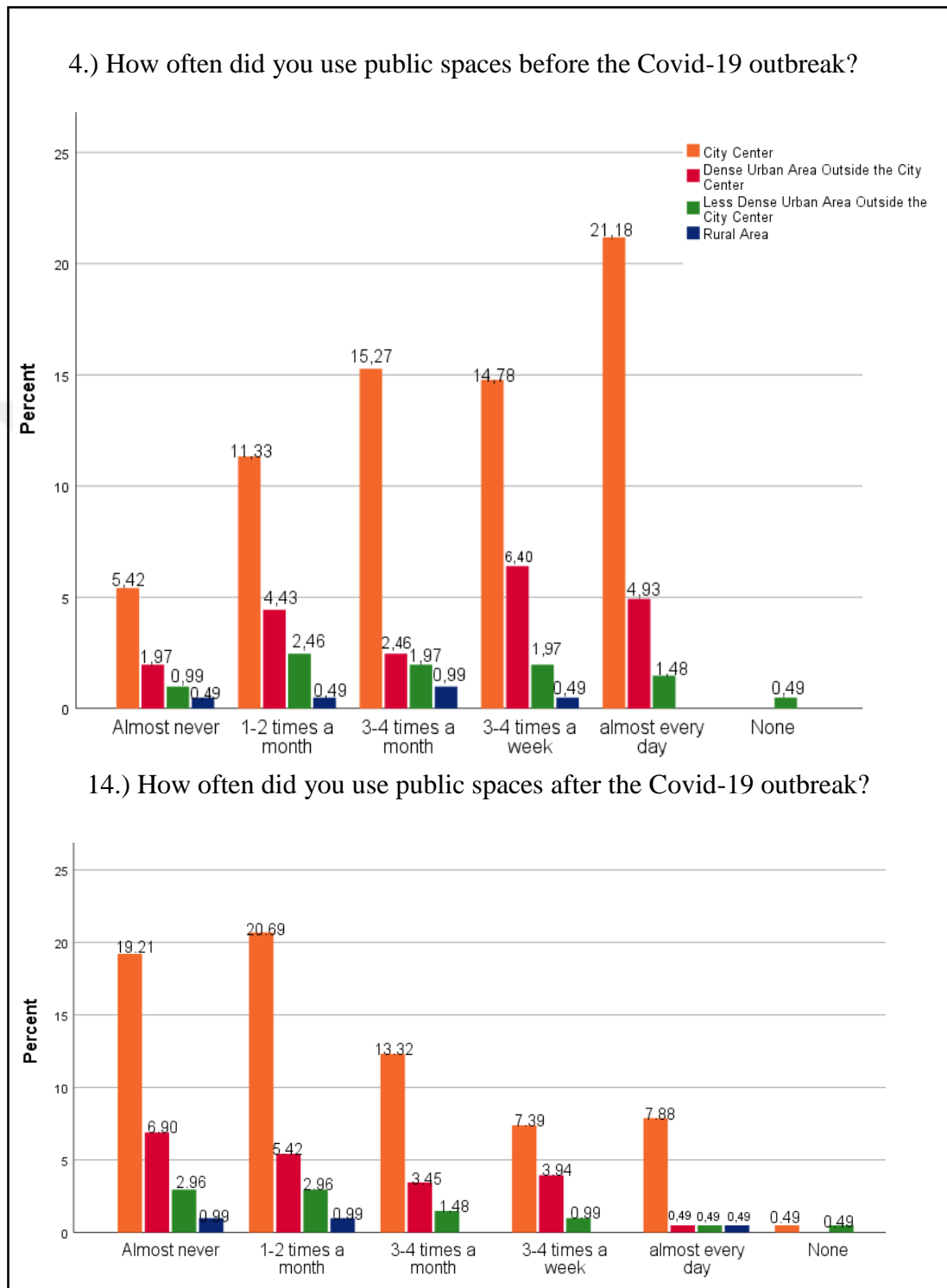


Figure 23. Change in the frequency of using public space

In this part of the research, the results containing the perspectives of the design elements in public open spaces before the Covid-19 pandemic and during the period when the Covid-19 virus entered our lives are explained with graphics. The 8th, 9th, and 10th questions of the survey belong to the period before Covid-19. The 18th, 19th, and 20th questions are about during the period when the Covid-19 virus enters our lives.

In this part of the research, the results containing the perspectives of the design elements in public open spaces before the Covid-19 pandemic and during the period when the Covid-19 virus entered our lives are explained with graphics.

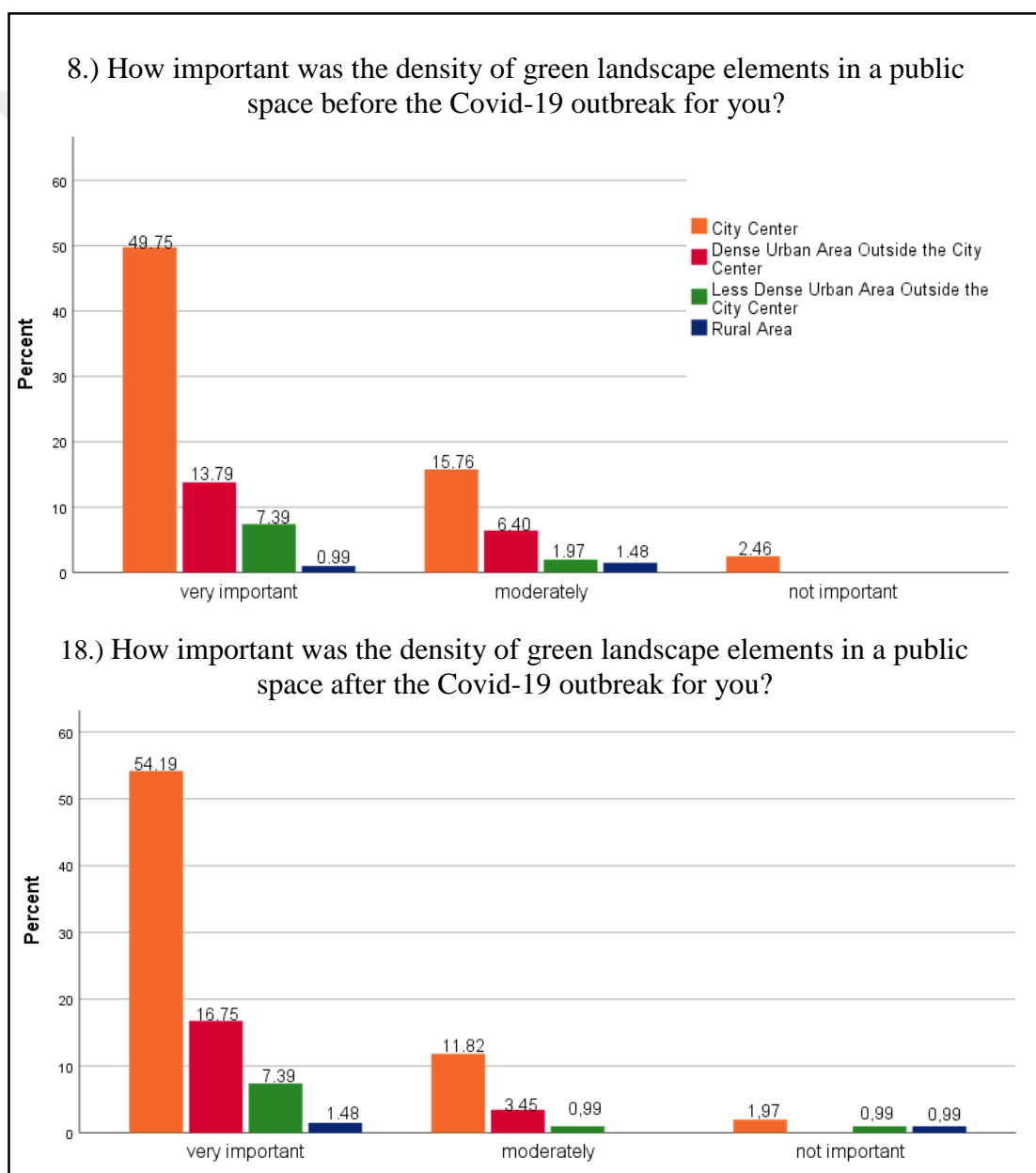


Figure 24. The density of green landscape elements in public spaces

It is seen in figure 24 that, after the Covid-19 pandemic, the importance of green landscape elements in public open spaces has increased for all parts of İzmir. For instance; individuals living in the city center marked the option “The density of green landscape elements is very important” by 49.75% in the 8th question. In the 18th, this rate has increased to 54.9%.

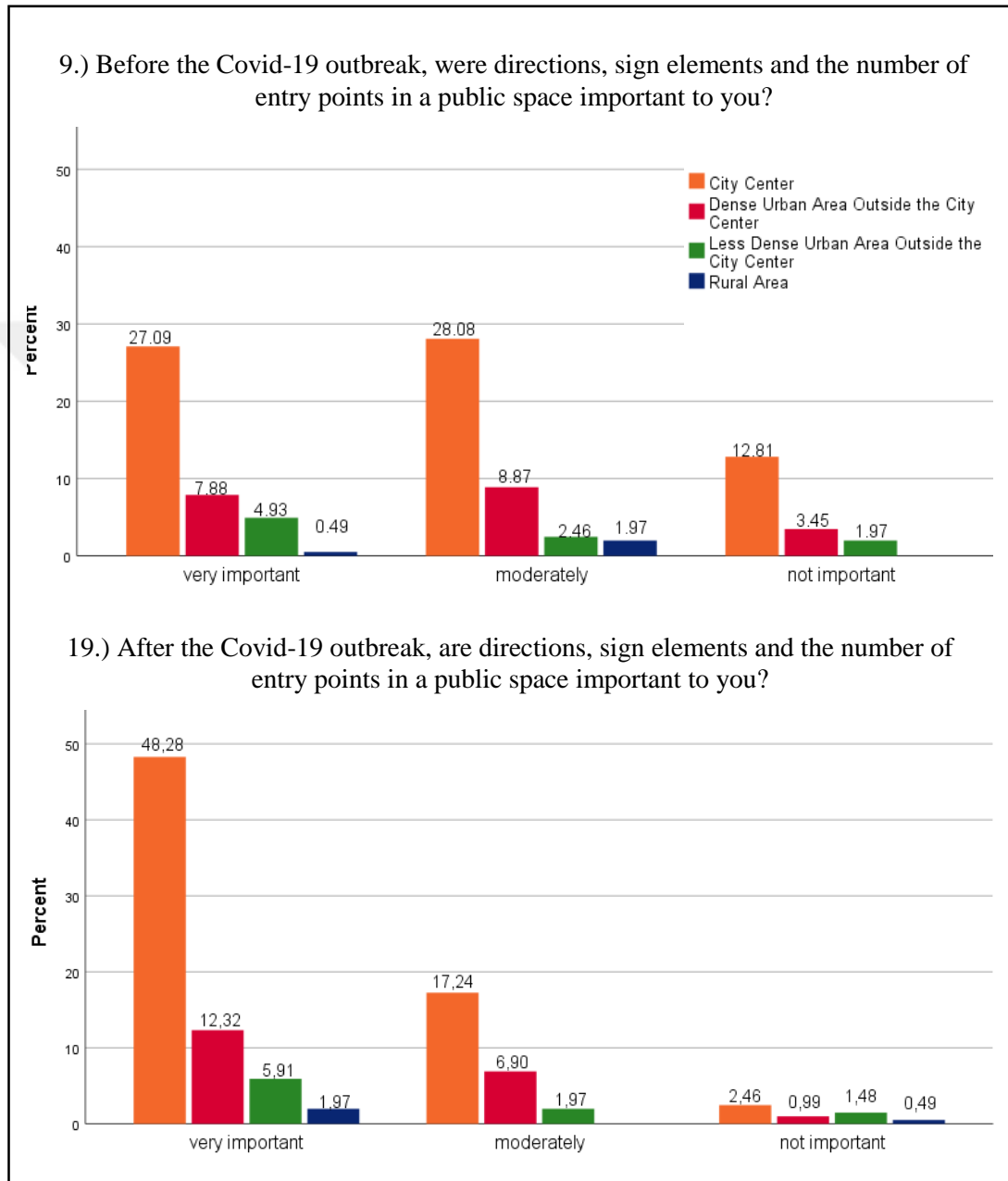


Figure 25. Direction, sign items, and the number of entrances in public spaces

Figure 25 contains the data for the 9th and 10th questions of the questionnaire. In figure 25, the first graphic reflects the responses for the period before the Covid-19 pandemic, the second graphic for the period after the emergence of Covid-19. The rate of

participants who stated that direction, sign items, and the number of entrances were very important in the public space before the Covid-19 pandemic was 27.9%. This rate increased by 20.38 percent after the Covid-19 pandemic. The same situation is observed for participants living in other parts of İzmir, but the rate of increase is less. Participants consider it more important direction and sign elements in public spaces with the concepts such as social distance and physical distance. Likewise, the number of entrances and exits to public spaces has become more important.

Table 2. Design elements in public spaces

		Responses		Percent of Cases
		N	Percent	
Q.10 ^a	Seating Elements	87	22,0%	42,9%
	Game Equipment(sports equipment, playgrounds)	46	11,6%	22,7%
	Green Areas	149	37,6%	73,4%
	Orientation and Sign Elements	55	13,9%	27,1%
	Water Elements	59	14,9%	29,1%
		Responses		Percent of Cases
		N	Percent	
Q.20 ^a	Seating Elements	107	22,5%	52,7%
	Game Equipments	43	9,0%	21,2%
	Green Areas	155	32,6%	76,4%
	Orientation and Sign Elements	97	20,4%	47,8%
	Water Elements	74	15,5%	36,5%

The "percentage" section in the table shows the ratio of the relationship between the options, and the "percent of cases" section shows the proportion of participants who marked.

In table 2, the 10th and 20th questions of the survey are related to which design elements are considered to be missing in public spaces that are frequently used before

and during the Covid-19 pandemic. Participants could tick many options. As seen in the percent of cases in table 2, water elements, green areas, direction and sign elements, seating elements are marked more in the 20th question, which includes the period during the Covid-19 pandemic. These mentioned elements have become more important for the participants during the pandemic process.

Table 3. Seating equipment in public spaces

		Responses		Percent of Cases
		N	Percent	
Q.12 ^a	Shape of Seating Reinforcement	75	14,0%	36,9%
	Climatic / Enviromental Comfort	146	27,2%	71,9%
	Social Comfort	98	18,2%	48,3%
	Material and Quantity of Seating Reinforcement	69	12,8%	34,0%
	Security	78	14,5%	38,4%
	Design Aesthetics	71	13,2%	35,0%
		Responses		Percent of Cases
		N	Percent	
Q.22 ^a	Shape of Seating Reinforcement	70	12,6%	34,5%
	Climatic / Environmental Comfort	116	20,9%	57,1%
	Social Comfort	169	30,5%	83,3%
	Material and Quantity of Seating Reinforcement	54	9,7%	26,6%
	Security	91	16,4%	44,8%
	Design Aesthetics	54	9,7%	26,6%

The 12th and 22nd questions of the questionnaire contain the answers of the participants about which features of the seating equipment in public spaces are important before and during the Covid-19 pandemic. The options were as follows;

- Shape of seating reinforcement
- Climatic / Environmental comfort (Temperature, Canopy, Wind)
- Social comfort (Distance between Them, Location)
- Material and quantity of seating reinforcement (Wood, Concrete, Metal)
- Security (Visual and Physical Trust, Protection, Privacy)
- Design Aesthetics (Compliance with the Public Space, Proportion, Color, Detail)

According to the results obtained in table 3, the options that became more important after the Covid-19 outbreak was "security" and "social comfort". The Covid-19 pandemic has made participants want to maintain physical distance from other people in public spaces.

Table 4. Hygiene in public spaces

		Responses		Percent of Cases
		N	Percent	
Q.11 ^a	Cleaning and Hand Washing Points	149	30,5%	73,8%
	Toilets	134	27,5%	66,3%
	Garbage Cans	102	20,9%	50,5%
	Disinfection and Sanitation	103	21,1%	51,0%
		Responses		Percent of Cases
		N	Percent	
Q.21 ^a	Cleaning and Hand Washing Points	155	28,9%	76,7%
	Toilets	127	23,6%	62,9%
	Garbage Cans	121	22,5%	59,9%
	Disinfection and Sanitation	134	25,0%	66,3%

As we can see in table 4, in the 11th and 21st questions of the questionnaire, the participants were asked what items they described as lacking in terms of hygiene in public spaces before and during the Covid-19 pandemic. Cleaning and handwashing points, toilets, garbage cans, disinfection, and sanitation options were offered to the participants. The "percentage" section in the table shows the ratio of the relationship between the options, and the "percent of cases" section shows the proportion of participants who marked. For example, while cleaning and hand washing points were marked by 149 people in question 11 in the table, it was marked by 155 people in question 21. In this context, after the Covid-19 virus entered our lives, the number of people describing the cleaning and hand washing points in public open spaces as a deficiency has increased.

While a total of 488 options were marked for the period before the Covid-19 outbreak, a total of 537 options were marked for the period during the Covid-19 outbreak. This may be related to the fact that some participants did not need or pay attention to hygiene items in public spaces before the Covid-19 outbreak. As can be seen in the section "Percentage of cases", cleaning and hand washing points, disinfection and sanitation, and garbage cans appear as hygiene elements that should be in public places and whose deficiencies are felt. The fact that the participants mark more hygiene elements for the Covid-19 process and the increase in these rates shows that these 3 items are important and must be found in the public open spaces. Table 4 shows that the transmission of the Covid-19 virus by touch and by air has changed the perception of individuals about the hygiene elements that should be in public places.

5.2.3 Change of Activities in Public Space

In this section, there are survey results on how activities carried out in public open spaces have changed with the impact of the Covid-19 pandemic. The results were grouped and evaluated according to the urban space activities defined by Gehl (2012). In the 6th and 16th questions of the questionnaire, the participants were asked what kind of activities they did in public spaces before and after the Covid-19 outbreak. The options were as follows;

- Necessary activities (Daily necessities such as going to school, bank, home)
- Optional Activities (Sitting, Resting, Sunbathing, Reading outdoors,

Eating, Exercising)

-Social activities (Interacting, Meeting, Speaking)

According to the data in Table 5, participants were using public spaces equally for each type of activity before the emergence of the Covid-19 virus. It is observed that activities such as resting, reading books, and socializing with people have decreased after the Covid-19 outbreak. At the same time, the use of public spaces for daily routine has increased.

Table 5. Activities in public Space

		Responses		Percent of Cases
		N	Percent	
Q.6 ^a	Required Activities	153	43,8%	75,4%
	Optional Activities	130	37,2%	64,0%
	Social Activities	66	18,9%	32,5%
		Responses		Percent of Cases
		N	Percent	
Q.16 ^a	Required Activities	160	56,7%	78,8%
	Optional Activities	75	26,6%	36,9%
	Social Activities	47	16,7%	23,2%

5.3 Discussion and Assessment of Survey Results

The survey attempted to enter the main question which was ‘‘How does the Covid 19 pandemic affect public space perception in terms of frequency of use and design elements?’’. It was made to find the most correct answers to the question.

In this thesis, Izmir was chosen as a case study. To get the most accurate results in Izmir, which is a metropolitan city, a survey questionnaire was applied to get the opinions of people living in different districts and parts of Izmir. Analyzing the answers to the survey questions is an effective method to understand the changes in the use of public spaces in Izmir and the perspective on the perception of public spaces in the period before and after the Covid-19 pandemic.

When the survey results are examined, 45.8% of the participants are male and 54.2%

are female. It was determined that most of the participants were between the ages of 25-49. Among the participants, there are 45.8% private-sector employees, 15.8% public employees, 5.4% working in the education sector, 1% non-governmental organization employees, and 3.9% municipal employees. 27.1% of the participants defined their profession as other.

The Covid-19 pandemic has greatly affected working life. According to the results of the survey, the number of people working from home increased by 7.11%. The number of people working in a full-time office decreased by 6.89%. It was seen that the hybrid working model became widespread during the pandemic period. The percentage of people working at the office on certain days of the week and at home on certain days increased by 1.97%. According to these data, it is observed that the biggest change is in the number of people who start working from home. The reason for this is the rules determined by the state during the pandemic process. The curfew was imposed, and as a result, business life turned to a home-office system.

In the study, there are participants from different parts of İzmir. There are a total of 30 districts in İzmir, eleven of which are known as central districts. These districts are:

Central Districts

Balçova, Bayraklı, Bornova, Buca, Çiğli, Gazimir, Güzelbahçe, Karabağlar, Karşıyaka, Konak, Narlıdere

Other Districts

Aliğa, Bayındır, Bergama, Beydağ, Çeşme, Dikili, Foça, Karaburun, Kemalpaşa, Kınık, Kiraz, Menderes, Menemen, Ödemiş, Seferihisar, Selçuk, Tire, Torbalı, Urla

In the survey, the participants participated from 20 of these 30 districts. 85.3% of the participants live in the central districts of İzmir. 14.7% of the participants live in other districts. This situation allowed us to evaluate the answers of the participants in the more densely populated and high-concretion regions and the answers of the participants in the rural areas. However, the fact that there are more participants in the central districts provides information on how the pandemic has affected the use and perception of public spaces in the central districts where the population is dense.

With the data obtained as a result of the research, 3 different perspectives of public spaces were discussed including frequency of use of public spaces, design elements, and activities in public spaces. While making the evaluation, it was made based on the tendencies of the society in the pandemic process and the dynamics of change. In addition, this evaluation was made based on the thought expressed by Çelikyay (2017);

‘‘ In planning processes, which are "spatial scenarios produced for society" in a sense, it is necessary to focus on public spaces and to be planned by considering the socio-cultural and economic structure, trends, change, and development dynamics of the society. The production of public spaces, which will respond to the changing and transforming social and cultural structure of the society, must create a variety of spatial solutions that will allow all segments of the society and multifaceted human actions. ’’ (p.19)

In this context, the effects of Covid-19 on public space are related to changes in public behavior and actions. For urban design, the frequency of use, the way of use, and the purpose of use of public spaces have become important elements after the pandemic. First, the relationship between the frequency of use of public spaces and the Covid-19 pandemic was examined. Before the emergence of the Covid-19 pandemic, participants living in the city center use public spaces almost every day. This rate was 21.18% before the pandemic among the people who participated in the survey. After the Covid-19 outbreak emerged, this rate decreased by 13.3% and became 7.8%. There is a noticeable decrease in the frequency of use of public spaces by the participants. Participants stated that after the Covid-19 pandemic, they used public spaces once or twice a month and rarely used them. The striking result in this regard is that 13.79% of the people living in the city center never used the public space in the period of the Covid-19 pandemic. In the central areas where the population is dense, the frequency of use of public space decreased considerably. The frequency of use has also decreased in more rural areas. However, the rate of change is very low.



Figure 26. Alsancak Gündoğdu Square (Source: Anadolu Agency, 2020)



Figure 27. Alsancak, Kordon (Source: Anadolu Agency, 2020)



Figure 28. Konak Square (Source: Habertürk News, 2021)

Figures 26, 27, and 28 show that lockdown period, the most commonly used public spaces of İzmir could not be used. People in rural areas used public spaces to perform activities, albeit a small number, as they could maintain physical distance. As can be seen in the photos above, the use of public spaces in densely populated urban areas has decreased and even remained unused for days with bans.

Secondly, the importance and frequency of use of design elements in public spaces were analyzed in terms of participants' perceptions.

The importance of the density of green elements in the design of public spaces differed for those living in different parts of İzmir. In terms of the city center, while the rate of participants who found green elements important was 49.75% before the pandemic, this rate increased to 54.19% after the pandemic. This rate increased from 13.79% to 16.25% for participants living outside the city center but in densely populated areas. Contrary to this situation, after the pandemic, the proportion of participants who find green elements important in public spaces in rural areas and less dense urban areas decreased. According to the data obtained, while green areas and elements are needed in densely urban areas after the Covid-19 pandemic, the importance of green elements in public spaces in rural areas is not a priority. In this context, the fact that access to green elements is easier in rural areas than in urban areas shows that public space designs may have differences according to the regions.

The relationship between the Covid-19 outbreak and the number of directions, signs, and entry points in a public space gave approximate results for the majority of the participants. It is observed that the importance of these items in the public space and the number of entries increased after the Covid-19 pandemic for participants from every part of İzmir. After the Covid-19 outbreak, the rate of participants in the city center, who stated that these elements in public space are more important, increased by 21.19%. In this context, participants which stated that it is very important after the Covid-19 outbreak, living in dense areas outside the city center, increased by 4.44%, participants in less dense areas outside the city center increased by 1.02%, and participants in rural areas increased by 1.48%. Rules determined to reduce virus transmission have pushed people to act more controlled in public places. Therefore, these design elements, which were not considered important before Covid-19, became important after the pandemic.

Another analysis of the Covid-19 pandemic and the design elements in public space was made through seating elements. Çelikyay (2017) stated that

‘‘Apart from the physical elements that make up the perception of the environment and the image of the public space, the sociological and psychological dynamics that shape the perception of the individual are also important inputs of the urban design process. The environment one lives in during the day constitutes the social environment of the individual.’’ (p20)

As can be seen from this quotation, both physical and psychological elements are important in public space. The data obtained in the research supports this approach. According to the results obtained, the importance of seating elements increases in terms of social comfort and safety features after the Covid-19 pandemic. While the rate of participants who thought that social comfort was important before the Covid-19 outbreak was 48.3%, this rate increased to 83.3% after the pandemic emerged. The pandemic has made a big difference, like a 35% increase. It was observed that the number of participants increased by 6.4% who deemed the safety feature of the seating elements as important after the pandemic. For the participants, features such as the shape of the seating equipment, climatic/environmental comfort, the material of the seating equipment, and design aesthetics have lost their importance to a certain extent during the pandemic. In this context, when people want to use the public space and want to spend time for a while during the pandemic process, seating equipment must maintain social and physical distance. At the same time, participants want to feel more secure when spending time in public space.

The Covid-19 pandemic has made us reflect on the hygiene of public space. Items such as cleaning and handwashing points, toilets, trash cans, disinfection, and sanitation became important factors of public space. The results show that the percentage of participants who attach importance to cleaning and handwashing points, garbage bins, disinfection, and sanitation items has increased with the Covid-19 outbreak. Consider that especially disinfection and sanitation are important, the percentage of participants increased by 15.3% compared to the period before the emergence of Covid-19. This shows that the order of importance of hygiene items in public spaces has changed with Covid-19.

Thirdly, analyses were made on the change of activities in public space. This study was carried out regarding the urban space activities described by Gehl. Gehl (2012) defines urban space activities as required activities, optional activities, and social activities and relates this situation to the quality of physical space. Gehl (2012) argues

that each of these three types of urban space activity is linked in different ways to the physical environment (Figure 29).

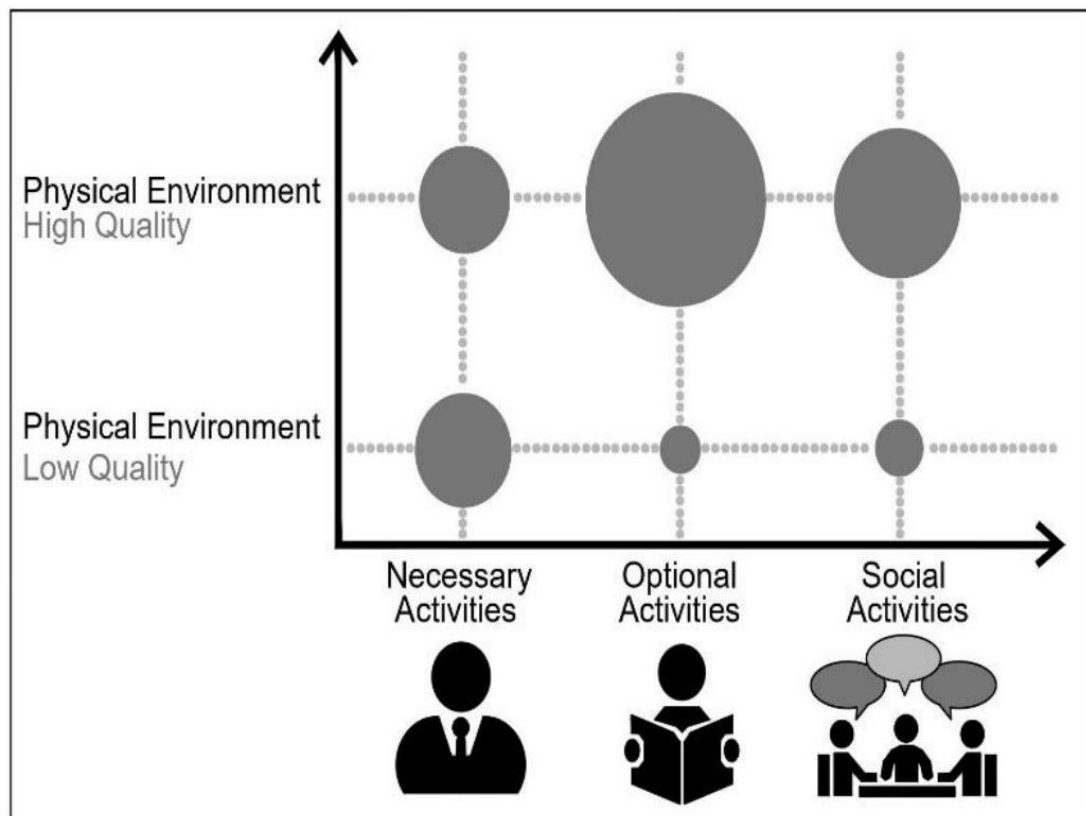


Figure 29. Three types of urban space activity (Source: Gehl, 2012)

According to Gehl (2012), necessary activities are activities that cover daily necessities such as going to school, bank, home, grocery shopping. It is the type of activity that is least associated with the physical environment. Optional activities are activities that require time and well-designed spaces to perform the activity. It is the type of activity with the highest dependence on the physical environment. Activities such as sitting, resting, sunbathing, reading a book in the open air, and doing sports are optional activities. Social activities are defined as all activities that depend on the presence of other people in the public space. Interacting with people, meeting, speaking, encountering are examples of social activities.

In this context, participants answered the same question spatially and socially for two different periods, before and after Covid-19. The question asked to the participants was for what purpose they use public spaces. While the rate of participants performing necessary activities before the Covid-19 outbreak was 75.4%, the rate of participants performing optional activities was 64%, and the rate of participants performing social activities was 32.5%. While the rate of participants performing necessary activities

after the Covid-19 outbreak was 78.8%, the rate of participants performing optional activities was 36.9%, and the rate of participants performing social activities was 23.2%. According to the data obtained, the participants mostly used public spaces for necessary activities such as going to school, home, bank, market due to the pandemic. It is observed that the number of participants performing social and optional activities has decreased.



CHAPTER 6: CONCLUSION

6.1 Concluding Remarks

In this study, the effect of the Covid-19 pandemic on public space design has been investigated, taking into account the impact of historical outbreaks on the city and as a result, based on the assumption that public spaces are important during the quarantine period. In this context, considering the behavior of people in public spaces under the influence of the Covid-19 pandemic, the research question is "How does the Covid 19 pandemic affect the perception of public open space in terms of frequency of use and design elements?" was asked. So, as a result of the literature and survey study, various findings were reached.

An overview of theories in the literature reflects critical approaches to public space design and emerging social interactions in urban planning and design. In the literature, we can say that Habermas (1991), Sennet (2010), and Arendt's (1998) studies on public space are the basic perspectives on public space. Habermas (1991) defines the public sphere as spaces accessible to all citizens and where public opinion is formed. In addition, the public sphere is a common conversation and discussion space where individuals come together and communicate. So, Habermas (2004) considers people and their actions while discussing public space from a political point of view, and communicative action is very important in public (p95). While Habermas (1991) points to the bourgeois public as a public model, Arendt (1998) defines public/private starting from the Greek period. Arendt (1998) refers to the distinction between "public space" and "private space", but also includes "social space" in this group. Arendt (1998) defines the spaces where people come together for common issues as public spaces, and people are free as long as they can act in public. In other words, Arendt (1998) focuses on work, labor, and action while describing the public sphere.

Richard Sennett (2010) examines public space from a different perspective than Habermas (1991) and Arendt's (1998) approaches to public space. The public sphere is a phenomenon that evolves and takes shape over time. Sennett (2010) questions the death of the public sphere and the reasons for the return to privacy/private in the late modern period. When evaluated in general, it is evaluated that the public space has become a dead public space. In these three basic perspectives, the public space is used for individuals to discuss, to have ideas, and to have a say in political issues. The political existence of the society and its social communication is realized through the

public space. New approaches also consider making public spaces accessible to everyone as an important element. However, with the increase in urbanization and the continuous increase in the human population in cities, a healthy living environment in public space is also seen as a very important element. In my view, public health is an issue of social space and public planning. Çelikyay (2017) refer to this situation as follows;

“Urban Design Guides” should also be prepared as guiding documents for the creation of sustainable, safe, healthy, livable, and identity living environments.” (p.58)

In this context, it becomes clear that after the COVID-19 pandemic, cities must be designed for other future epidemics/pandemics in terms of public health. Also, Çelikyay and Öztaşkarlı (2020) argue that;

“When different socioeconomic situations are added to globalization and developing technology, the gap between individuals in terms of the right to live in an unhealthy urban environment and access to health services increases. Today, the role of new approaches to the planning discipline in creating public health and healthy spaces is becoming more important.” (p.323)

As can be understood from this quotation, it is very important to create healthy areas in the city. In particular, since it is known that the virus is more transmitted and spread in crowded areas, the health element is an important issue in public spaces used by people for various purposes.

Overall findings of this study indicate that the activities that people carried out in public spaces have changed before and after the Covid-19 outbreak. Based on the findings, the result is that the Covid-19 pandemic has greatly affected public spaces, and this change has been reflected negatively. Because the frequency of use of public spaces has decreased and the number of activities held in public spaces has also decreased. Especially during the pandemic period, the design features, location, and nature of public spaces affect people's use of public spaces. This situation varies in densely populated areas and less densely populated rural areas. For example, after the Covid-19 pandemic, the number of green elements in public spaces becomes very

important for people in the city center, while people living in rural areas state that it is not important. One of the respondents living in the city center stated that;

“ Before the Covid-19 pandemic, we did not know the value of nature and green elements After the Covid-19 pandemic, more green spaces have become important. It is important to breathe comfortably.”

The reason for this is that even with restrictions, people living in rural areas have easier access to green elements. We observe a similar situation in the signs and direction elements in public spaces and the number of entrances to public spaces. These elements are seen as very important factors for people living in the city center after the Covid-19 pandemic. The result for people living in rural areas does not contain much change. More green elements, water elements, and direction and sign elements are needed in public spaces in the city center. In this way, it will minimize the negative impact of future pandemics on the use of public spaces.

One of the main findings of the research results is the result of the characteristics of the seating elements in public spaces after the Covid-19 pandemic. Security and social comfort are seen as important factors for public space users. People state that they want to feel safe and comfortable when they want to use the seating elements. With the Covid-19 pandemic, it has been observed that the concepts of security and social comfort are more important factors than the shape, appearance, and material of the seating elements. Çelikyay (2017) states that;

“Urban design is a three-dimensional approach that aims to create safe, functional, ergonomic, and aesthetic public spaces for societies. The starting point of urban design is planning.” (p.22)

In this context, the phenomenon of safety during the pandemic is an important element for public spaces. Since the risk of transmission of the virus is quite high, people must be at a certain distance when interacting with each other. I would like to express this situation in the public space in her/his words by quoting the comment of one of the participants;

“ After each closure, public spaces were used more than ever before. Therefore,

there was not enough space to accommodate the concept of distance seating.’’

In this context, the concepts of physical and social distance have become very important in public spaces that are accessible to everyone. It is clear that during the pandemic period, some practices were implemented for public spaces to provide these features. An example of this is the social distance circles drawn on the grass on the Izmir coastline with a distance between them. The designer should be aware of these features in public spaces for future crises. However, to maintain social and physical distance, more permanent applications and a design idea of public space are required. Parc de la Distance by studio Precht is an example of this. When a pandemic occurs again, it does not need additional interventions because the design principle includes the crisis.

This study was carried out during the period of intense pandemic and quarantine. The findings of a study conducted at a different time can be different. Accordingly, it can be examined as a further study.

6.2 Recommendations

The study of public spaces has always been an important issue in urban planning and design. This study presents the findings on the use of public spaces by people living in Izmir before and after Covid-19. The potential impact of epidemics/pandemics on public spaces through the Covid-19 pandemic is discussed. A large sample was used in this study, and people from a variety of disciplines could benefit from the findings. Moreover, contributions from other areas of research by those who are interested in public spaces and outbreaks are extremely needed in the case of Turkey.

Public spaces are an important element of urban design in crises such as the Covid-19 pandemic. The designers of the future need to consider crises as well as design public spaces suitable for the ordinary flow of life. Public spaces, which are the activity areas of the city, should be seen as elements that support and even establish the interaction between people. Because during the pandemic process, quarantine was applied from time to time and people used public spaces at certain hours. The quality and usability of public spaces also have a potential impact on the psychology of society. In this study, public space users who expressed their opinions through the survey emphasized the necessity of green elements in public space design during the pandemic process. In particular, individuals living in the city center wanted to return to nature. In this context, it will be beneficial to design more public spaces in densely populated areas

and to include natural elements in these public spaces in such crises. The open-ended questions examined in this study support this idea.

This research was conducted with public space users in Izmir and it was observed that people living in rural areas with low population density were more satisfied with public spaces during the Covid-19 pandemic. Further research should be conducted in cities located in different contexts to expand the results of this study. In addition, future studies could be conducted to disseminate the findings of this study to cities in the interior and east of Turkey.



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APPENDICES

APPENDIX A. QUESTIONNAIRE (TURKISH)

ANKET

Değerli katılımcılar, bu anket Covid-19 salgını etkisi ile kamusal alan kullanımının ne ölçüde değişiklik gösterdiğine dair bilgi edinmek amacıyla çeşitli sorular içermektedir. Katılımcıların vermiş olduğu bilgiler yüksek lisans tezinde kullanılacaktır. Araştırmaya 18 yaş altındaki kişiler katılamaz, 18 yaş üstü kişiler cevaplayacaktır. Kamusal alanlar veya halka açık alanlar genellikle herkese açık ve erişilebilir alanlardır. Aynı zamanda düşünce, söylem ve eylemlerin üretildiği ve geliştirildiği ortak toplumsal etkinlik alanlarıdır. Kent meydanı, parklar ve plajlar genellikle kamusal alan olarak kabul edilmektedir.

Kişisel Bilgiler

Cinsiyet: Erkek Kadın

Yaş: 19-24
 25-34
 35-49
 50-65
 65+

Meslek: Kamu Kuruluşu
 Özel Sektör
 Eğitim Kuruluşu
 Sivil Toplum Örgütü
 Belediye
 İş Sahibi
 Diğer

Gelir Seviyesi: Düşük Orta
Yüksek

1) Yaşadığınız yeri tanımlamanız gerekirse hangisi size uygundur?

- Şehir merkezi
- Kente merkezi dışında kentsel olarak yoğun
- Kent merkezi dışında kentsel olarak daha az yoğun
- Kırsal alan

2) İzmir’de yaşadığınız ilçeyi belirtir misiniz?

.....

3) Covid-19 salgınından önce çalışma durumunuz nedir?

- Çalışmıyorum
- Evden çalışıyorum
- Yarı zamanlı ofiste
- Tam zamanlı ofiste
- Tam zamanlı evde
- Haftanın belirli günleri ev/ofis

4) Covid-19 salgınından önce kamusal alanları ne sıklıkla kullanıyordunuz?

- Neredeyse hiç
- Ayda 1-2 kez
- Ayda 3-4 kez
- Haftada 3-4 kez
- Neredeyse her gün
- Hiçbiri

5) Covid-19 salgınından önce kamusal mekanlarda aileniz, arkadaşlarınız ve yakın çevreniz ile birlikte ne sıklıkla vakit geçiriyordunuz?

- Neredeyse hiç
- Ayda 1-2 kez
- Ayda 3-4 kez
- Haftada 3-4 kez
- Neredeyse her gün
- Hiçbiri

6) Covid-19 salgınından önce kamusal alanlarda ne tür aktiviteler gerçekleştiriyordunuz? (Uygun olan seçenekleri işaretleyebilirsiniz.)

- Gerekli aktiviteler (okula, bankaya, eve gitme gibi günlük gereklilikler)
- Opsiyonel Aktiviteler (Oturma, dinlenme, güneşlenme, açık havada kitap okuma, yemek yeme, spor yapma)

-Sosyal aktiviteler (etkileşim kurma, tanışma, konuşma)

7) Eğer çocuğunuz varsa, Covid-19 salgınından önce çocuk parklarını ne sıklıkla kullanıyordunuz?

-Neredeyse hiç

-Ayda 1-2 kez

-Ayda 3-4 kez

-Haftada 3-4 kez

-Neredeyse her gün

-Hiçbiri

8) Covid-19 salgınından önce bir kamusal alanda yeşil peyzaj elemanlarının yoğunluğu sizin için ne derecede önemliydi? (Ağaçlar, su, çim alanlar vs.)

-oldukça önemli

-orta derecede

-önemli değil

9) Covid-19 salgınından önce bir kamusal mekânda yönlendirme, işaret öğelerinin bulunması ve alana giriş noktalarının sayısı sizin için önemli miydi?

-oldukça önemli

-orta derecede

-önemli değil

10) Covid-19 salgınından önce sıklıkla kullandığınız kamusal mekânlarda bulunan tasarım öğelerinde eksik olarak nitelediğiniz öğeler hangileridir? (Uygun olan seçenekleri işaretleyebilirsiniz.)

-Oturma Elemanları

-Oyun Ekipmanları (spor aletleri, çocuk parkları)

-Yeşil Alanlar

-Yönlendirme ve İşaret Öğeleri

-Su Elemanları

Diğer:.....



11) Covid-19 salgınından önce kamusal mekanlarda hijyen bakımından eksik olarak niteleyeceğiniz öğeler nelerdir? (Uygun olan seçenekleri işaretleyebilirsiniz.)

-Temizlik ve el yıkama noktaları

-Tuvaletler

-Çöp Kutuları

-DezenfeksiyonveSanitasyon

Diğer:.....

.....

12) Covid-19 salgınından önce kamusal alanlardaki oturma donatılarının hangi özellikleri sizin için önemliydi? (Uygun olan seçenekleri işaretleyebilirsiniz.)

- Oturma donatısının biçimi (açısı, şekli)

- İklimsel / çevresel konfor (sıcaklık, gölgelik, rüzgâr)

- Sosyal Konfor (aralarındaki mesafe, bulunduğu konum)

- Oturma donatılarının malzemesi ve miktarı (Ahşap, beton, metal)

- Güvenlik (Görsel ve fiziksel olarak güven, korunma, mahremiyet)

- Tasarım Estetiği (Kamusal Alana Uygunluk, oran, renk, detay)

13) Covid-19 salgınından sonra çalışma durumunuz nedir?

-Çalışmıyorum

-Evden çalışıyorum

-Yarı zamanlı ofiste

-Tam zamanlı ofiste

-Tam zamanlı evde

-Haftanın belirli günleri ev/ofis

14) Covid-19 salgını sonrasında kamusal alanları ne sıklıkla kullanıyorsunuz?

-Neredeyse hiç

-Ayda 1-2 kez

-Ayda 3-4 kez

-Haftada 3-4 kez

-Neredeyse her gün

-Hiçbiri

15) Covid-19 salgınından sonra kamusal mekanlarda aileniz, arkadaşlarınız ve yakın

çevreniz ile birlikte ne sıklıkla vakit geçiriyorsunuz?

- Neredeyse hiç
- Ayda 1-2 kez
- Ayda 3-4 kez
- Haftada 3-4 kez
- Neredeyse her gün
- Hiçbiri

16) Covid-19 salgınından sonra kamusal alanlarda ne tür aktiviteler gerçekleştiriyorsunuz? (Uygun olan seçenekleri işaretleyebilirsiniz.)

- Gerekli aktiviteler (okula, bankaya, eve gitme gibi günlük gereklilikler)
- Opsiyonel Aktiviteler (Oturma, dinlenme, güneşlenme, açık havada kitap okumak, yemek yeme, spor yapma)
- Sosyal aktiviteler (etkileşim kurma, tanışma, konuşma)

17) Eğer çocuğunuz varsa, Covid-19 salgınından sonra çocuk parklarını ne sıklıkla kullanıyorsunuz?

- Neredeyse hiç
- Ayda 1-2 kez
- Ayda 3-4 kez
- Haftada 3-4 kez
- Neredeyse her gün
- Hiçbiri

18) Covid-19 salgınından sonra bir kamusal alanda yeşil peyzaj elemanlarının yoğunluğu sizin için ne derecede önemli?

- oldukça önemli
- orta derecede
- önemli değil

19) Covid-19 salgınından sonra bir kamusal alanda yönlendirme, işaret öğelerinin bulunması ve alana giriş noktalarının sayısı sizin için önemli mi?

- oldukça önemli
- orta derecede
- önemli değil

20) Covid-19 salgınından sonra kamusal mekânda bulunan tasarım öğelerinde eksik olarak nitelediğiniz öğeler hangileridir? (Uygun olan seçenekleri işaretleyebilirsiniz.)

- Oturma Elemanları
- Oyun Ekipmanları
- Yeşil Alanlar
- Yönlendirme ve İşaret Öğeleri
- Su Elemanları

Diğer:.....
.....

21) Covid-19 salgınından sonra kamusal mekanlarda hijyen bakımından eksik olarak niteleyeceğimiz öğeler nelerdir? (Uygun olan seçenekleri işaretleyebilirsiniz.)

- Temizlik ve el yıkama noktaları
- Tuvaletler
- Çöp Kutuları
- Dezenfeksiyon ve Sanitasyon

Diğer:.....
.....

22) Covid-19 salgınından sonra kamusal alanlardaki oturma donatılarının hangi özellikleri sizin için önemlidir? (Uygun olan seçenekleri işaretleyebilirsiniz.)

- Oturma donatısının biçimi (açısı, şekli)
- İklimsel / çevresel konfor (sıcaklık, gölgelik, rüzgâr)
- Sosyal Konfor (aralarındaki mesafe, bulunduğu konum)
- Oturma donatılarının malzemesi ve miktarı (Ahşap, beton, metal)
- Güvenlik (Görsel ve fiziksel olarak güven, korunma, mahremiyet)

- Tasarım Estetiği (Kamusal Alana Uygunluk, oran, renk, detay)

Diğer:.....

.....

.....

23) İzmir'deki açık kamusal mekân sayılarını yeterli buluyor musunuz? (Örneğin parklar, kent meydanları, plajlar vb.)

- Evet

- Hayır

24) İzmir'deki açık kamusal mekanların verimli kullanım durumunu yeterli buluyor musunuz?

- Evet

- Hayır

24.1) Eğer cevabınız hayır ise kamusal mekanlar daha verimli şekilde nasıl kullanılabilir, bu durumu nasıl yaratabiliriz?

.....

.....

.....

.....

25) Covid-19 salgını süresince şehirde deneyimlediğiniz kamusal alanların mekânsal özellikleri daha önceki sorularda işaretlediğiniz söz konusu aktivitelere izin veriyor mu?

...- Evet

...- Hayır

25.1) Eğer cevabınız hayır ise yaşadığınız bölgede ne tür özelliklere ve öğelere sahip kamusal mekanların bulunmasını isterdiniz?

.....

.....

.....

.....

26) Zaman geçirmekte olduğunuz kamusal açık mekanlarda fiziksel mesafeyi koruyabiliyor musunuz?

-Evet

-Hayır

27) Zaman geçirmekte olduğunuz kamusal açık mekanlarda sosyal mesafeyi koruyabiliyor musunuz?

-Evet

-Hayır

28) Covid-19 salgınının getirdiği kısıtlamalar, açık alanlara ve doğa ile olan ilişkiye duyduğunuz ilgide bir değişiklik yarattı mı?

-Evet

-Hayır

28.1) Eğer doğaya duyduğunuz ilgide bir değişiklik yarattıysa, ne gibi değişiklikler yarattığını belirtiniz.

.....

.....

.....

.....

.....

29) Covid-19 salgını süresince çevrenizdeki yeşil alanlara erişimin kolay olduğunu düşünüyor musunuz?

-Evet

-Hayır

30) Doğa ile yakınlaşmak adına, salgından sonra konut değişikliği yapmayı düşünüyor musunuz?

-Evet

-Hayır

30.1) Eğer cevabınız evet ise nasıl bir konut tercih etmeyi düşünüyorsunuz?

.....

.....

.....

31) İzmir'de kamusal açık alanlara erişmek için salgın tehlikesi yoğun olan kalabalık alanlardan geçmeniz gerekiyor mu?

- Evet

- Hayır

32) Salgın süresince kamusal açık alanları eskisi gibi rahatça kullanabiliyor musunuz?

- Evet

- Hayır



APPENDIX B. ETHICAL BOARD APPROVAL

SAYI : B.30.2.İEÜ.0.05.05-020-137

28.05.2021

KONU : Etik Kurul Kararı hk.

Sayın Doç. Dr. Aslı Ceylan Öner ve Neslihan Gülber,

“The Potential Impact of the Pandemic on Public Space Design: The Case of Izmir in Turkey” başlıklı projenizin etik uygunluğu konusundaki başvurunuz sonuçlanmıştır.

Etik Kurulumuz 17.05.2021 tarihinde sizin başvurunuzun da içinde bulunduğu bir gündemle toplanmış ve projenin incelenmesi için bir alt komisyon oluşturmuştur. Projenizin detayları alt komisyon üyelerine gönderilerek görüş istenmiştir. Üyelerden gelen raporlar doğrultusunda Etik Kurul 28.05.2021 tarihinde tekrar toplanmış ve raporları gözden geçirmiştir.

Sonuçta 28.05.2021 tarihli **“The Potential Impact of the Pandemic on Public Space Design: The Case of Izmir in Turkey”** konulu projenizin etik açıdan uygun olduğuna oy birliği ile karar verilmiştir.

Gereği için bilgilerinize sunarım.

Saygılarımla,



Prof. Dr. Murat Bengisu

Etik Kurul Başkanı