CHILDREN'S PERCEPTIONS OF THEIR URBAN OUTDOOR EXPERIENCES: THE CASE OF IZMIR

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ABSTRACT

CHILDREN'S PERCEPTIONS OF THEIR URBAN OUTDOOR EXPERIENCES: THE CASE OF IZMİR

Research in children's outdoor experiences is a rapidly growing field of investigation together with the increasing interest in the problems associated with rapid urbanization. Although there are studies that document positive and negative consequences of the built environment on children, children's use of urban environments need to be investigated further in cities with fast urbanization rate where children are at a disadvantage especially given the fact that technology. The aim of this thesis is to understand through the eyes of children the intercorrelated relationship between physical characters of urban environments and the way outdoor environments are used. Therefore, a multi-site field study is conducted in five different urban zones with different physical and demographical characteristics (central, gated community, squatter settlement, mass housing and point-block settlement) in İzmir, Turkey which has high rates of urbanization and population growth. The study follows a mixed-method approach. The participants included 370 fourth grade primary school children and 258 parents. Even though the living environments selected for this dissertation vary in terms of physical qualities and demographic characteristics, 77% of children reported to prefer spend their free time outdoors. However, the study provides evidence to link children's preferences regarding place and duration of use, and the way they use outdoor environments vary among the urban zones studied. The findings of the dissertation is linked to the growing literature on the subject with the aim to contribute to the improvement of children's environments in cities, and the related policy-making efforts worldwide.

Keywords: Urban environment, children and outdoors, children's outdoor experience, İzmir-Turkey

ÖZET

ÇOCUKLARIN KENTSEL DIŞ MEKAN KULLANIMLARINA DAİR ALGILARI: İZMİR ÖRNEĞİ

Kentleşme sorunlarının daha görünür hale gelmesine parallel olarak çocuk ve çevre ilişkisi önemli bir araştırma alanı haline gelmiştir. Genel olarak çocuk ve yapılı çevre ilişkisi ile ilgili olumlu ve olumsuz sonuçları göz önüne seren araştırmalar olmasına rağmen, kentleşme oranı yüksek ve teknoloji kullanımının giderek arttığı şehirlerde çocukların kentsel çevre ile olan ilişkisine derinlemesine değinen çalışmaların sayısı oldukça azdır. Bu tezin amacı, kentsel çevrelerin fiziksel karakterleri arasındaki bağlantılı ilişkiyi, dış ortamların kullanım şekillerini çocukların gözünden bakarak anlamaktır. Bu nedenle, İzmir'deki farklı fiziksel özelliklere sahip beş kentsel alanda (merkez, güvenlikli konut, gecekondu, toplu konut ve yapsatçı) çocukların dış mekanlarla olan ilişkilerini anlamak için çok–alanlı bir çalışma yapılmıştır. Bu çalışma, yüksesk kentleşme oranına ve teknoloji kullanımına sahip, farklı fiziksel çevre özellikleri gösteren ve Türkiye'nin üçüncü büyük kenti olan İzmir'de gerçekleştirilmiştir. Bu çalışmada karma yöntemli, niteliksel ve niceliksel verileri (anket, resim ve hikaye) biraraya getirip analiz eden yol takip edilmiştir. 370 dördüncü sınıf ilköğretim okulu öğrencisi ve onların 258 ebeveyni katılımcı olarak araştırmada yer almışlardır. Bu çalışmanın en önemli sonucu, yaşadıkları çevrelerin fiziksel ve demografik özellikleri farklılık göstermesine rağmen, çocukların %77'sinin dışarıda vakit geçirmeyi tercih ettiğini bildirmesidir. Çocukların mekan tercihleri, dışarıda geçirdikleri zaman ve dış mekanları nasıl kullandıkları araştırma için seçilen kentsel çevrelere göre farklılık göstermektedir. Çocukların tercihlerinin daha derinlemesine anlaşılması ve literatürün irdelenmesi sonucunda, bu çalışma çocuklara ait dış çevrelerin gelişmesi ve bu konu ile bağlantılı politikanın olumlu anlamda etkilemeyi hedeflemektedir.

Anahtar Kelimeler: Kentsel çevre, çocuk ve dış mekan, çocukların dış mekan deneyimi, İzmi-Türkiye

"In the memory of two amazing and invaluable men who let me have such a wonderful childhood"

To Burhan Cahit Okray and Çetin Kaya…

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CHAPTER 1

INTRODUCTION

1.1. Research Questions and Aim of the Study

This study focuses on the relationship among the way outdoor urban environments are used by children, the physical characteristics of urban environments, and children's perception of their environments. The field study takes place in different urban environments with different physical characteristics in Izmir, Turkey with particular concentration on variables including physical characteristics of the place children live, surrounding neighborhood conditions, individual and parental limitations, gendered perceptions and level of independent mobility in outdoor environments.

The study aims to understand the way outdoor environments are used, children's perception of their environments, factors that directly and indirectly affects the outdoor experiences of children, their likes and dislikes about outdoor environments, their place of preferences in outdoors in urban environments and the duration and frequency of children's outdoor experiences.

The specific research questions (RQ) investigated in this study are as follows:

RQ1: What factors directly and indirectly affect the outdoor experiences of children in urban environments? How do children spend their time outdoors?

RQ2: What are children's place preferences in outdoors?

RQ3: How do physical characteristics of urban environments affect the outdoor experiences of children?

1.2. Scope of the Study

In the literature on children's environments, it has been repeatedly emphasized that spending time outdoors provide opportunities for healthy physical and mental development, socializing with others, higher levels of independent mobility and independence (Aziz & Said, 2017; Carroll, Calder-Dawe, Witten, & Asiasiga, 2018; Francis & Lorenzo, 2006; Kyttä et al., 2018). It should be noted that the factors affecting outdoor experiences of children in urban environments interact with different variables for different contexts. Today, the majority of studies are conducted in countries with different physical and cultural characteristics and which largely completed their urbanization process (Carroll et al., 2018; Ergler, Smith, Kotsanas, & Hutchinson, 2015; Flouri, Midouhas, & Joshi, 2014; Foster, Villanueva, Wood, Christian, & Giles-Corti, 2014; Kyttä, Hirvonen, Rudner, Pirjola, & Laatikainen, 2015; Mehdizadeh, Mamdoohi, & Nordfjaern, 2017; Min & Lee, 2006); however, it is claimed in this study that the fast on-going urbanization puts additional strain on children's use of outdoor urban environments which needs to be investigated as a related but separate phenomenon. Furthermore, it is vital to understand the outdoor experiences of children in built environments with different social, cultural, and architectural characteristics.

In Turkey, like all over the world, children are considered as one of the primary disadvantaged groups to experience the negative effects of urbanization processes. Based on the Turkish Statistical Institute (2019) data, children under the age of 15 constitute 23.5% of Turkey's and 19% of Izmir's population and that is one of the primary motivations to study children and their relationship to outdoor urban environments. The studies concerning the experiences of children in urban environments in Turkey is limited (Acar, 2014; Akpinar, 2017; Ozdirenc, Ozcan, Akin, & Gelecek, 2005; Sancar & Severcan, 2010; Talay, Akpinar, & Belkayali, 2010; Yildırim & Akamca, 2017).

The dissertation initially presents a detailed literature review of studies involving children in the urban context and their outdoor experiences in urban environments. The following chapter presents the rationale for selecting the urban zones with different physical and demographic characters to understand how the urban environments children live in have an impact on the way they perceive their environments. Children and parents from public primary schools living in different districts participated into this study. Data collection tactics

used in the study to understand children's experience of outdoor urban environments include observations, questionnaires, drawing and story writing.

1.3. Methodology, Site and Participants

A mixed-method strategy, which combines both quantitative and qualitative data collection and analysis (Creswell, Klassen, Clark & Smith 2011), is used in this research. The field research is designed to comprise four phases including a pilot study, preliminary analysis of urban zones, observations, and questionnaires. The purpose of the pilot study was to test the tools on the field and to see if any form of modification was required. The preliminary analysis of urban zones, on the other hand, were key in understanding and categorizing the qualities of designated neighborhoods in different urban zones. Accordingly, an observation phase of the primary schools was employed to record the general characteristics of the neighborhoods. Finally, the questionnaires were used to collect statistical and descriptive data to evaluate children's outdoor perceptions and experiences in urban environments.

In order to account for the varying conditions of urban environments, five different urban zones in Izmir (Turkey) were selected. Izmir is located on the west coast of Turkey stretching along the Aegean Sea. It is the third most populated city in Turkey with a high rate of urbanization. The rapidly growing city display a certain level of diversity in the physical environment. Following a similar trend in the country, the use of technological devices and social media is high among its population (RTUK, 2013).

Children and their parents from public primary schools within different urban zones in Izmir were chosen as participants of the study. Among primary school children, fourth grade students were chosen as the target group because upper middle childhood is an important period for children when they have meaningful connection with outdoors, respond to their environment, and if the opportunity is given they willingly spend time in outdoors (Derr, 2002; Islam, Moore, & Cosco, 2014).

In total 370 children and 258 parents participated in this study. Data gathered from questionnaires constituted the quantitative part of this study. Qualitative part of the study included open-ended questions, drawings and stories. Three different analysis methods were

employed to analyze the questionnaire data: the chi square test, ANOVA (Analysis of Variance) and Independent sample t-test. Content and thematic analyses were then used to assess drawings and stories of participating children.

1.4. Structure of the Dissertation

The main aim of this study is to understand children's relationship with outdoor in urban environments with different physical environmental characteristics. Accordingly, this dissertation consists of six chapters.

Chapter 1 is the introduction chapter, which explains the main aim and scope of the study, introduces the research questions, problem definition, methodology, contributions and limitations of the dissertation. This chapter provides an overall understanding of the study. Chapter 2 explores the existing literature and gives insight into the recent findings concerning children's outdoor experiences in urban environments.

Chapter 3 describes the details of the studied urban zones and methods. First, this chapter explains the physical and demographic characteristics of the zones. Following these, the methodology together with specific research tools used in the study are explained. The chapter also accounts for the pilot study, neighborhood characteristics and preliminary school observations.

Chapter 4 presents the results from questionnaires, drawings and stories. All results, whether qualitative or quantitative are fully documented by written and visual techniques. Chapter 5 includes a discussion of the results of the study supported by children's questionnaire, parents' questionnaire, children's drawings and stories. Finally, Chapter 6 concludes all the discussions from the analysis with an overall summary of the study. It highlights also the implications and limitations of the study, and offers future research directions for researchers.

1.5. Contribution of the Dissertation

Since the early years of studies in environment and behavior, the relationship between children and their environment has become an important area of research and the number of

related studies has steadily increased. The literature review indicates that although there are studies to document children's outdoor experiences comparing urban and rural environments, there are no studies that consider children's outdoor experiences in different urban zones in highly urbanized cities with a fast rate of urbanization and migration.

The factors affecting outdoor experiences of children in urban environments need to be considered in the context of the country in which the study is undertaken because even the definition of urban as a built form changes from one country to the other. The nature of urbanization also differs from one context to another and it is vital to understand the varying aspects of built environments that affect the outdoor experiences of children. Different urban zones have different physical, social, cultural and demographical characteristics.

In Turkey, as in other parts of the world where urbanization is still at full speed, children and youngsters are one of the primary disadvantaged groups who experience the positive and negative aspects of urbanization processes. There is a need for comprehensive studies on the relationship between children and urban environments in cities where the speed of urbanization might endanger disadvantage groups' use of urban environments. In 2018, Izmir is the third most populated city in Turkey with a total population of 4.320.519, constituting the 5.27% of the total population of the country. Izmir is a rapidly growing city with 100% rates of urbanization (TUIK, 2018). It is also a city where a certain level of diversity in the physical environments can be observed.

The literature review indicates that there are no studies conducted in Izmir, which follow a comprehensive approach that considers children's outdoor experiences in different urban zones. This study differs from previous studies by means of comparing children's perception of their environments in urban zones with different characteristics in Izmir, namely central, gated community, point-block settlement, mass housing and squatter settlement. To sum up, this study investigates the differences and similarities between the perceptions, environmental experiences and outdoor uses of children in different urban zones in a rapidly urbanizing city.

CHAPTER 2

CHILDREN'S OUTDOOR EXPERIENCES IN AN URBANIZED WORLD

"Children's environments" refers to an interdisciplinary field with emerging dimensions involving research and practice (Moore, Sugiyama, & O'Donnel, 2003). At the beginning of the 21st century, children and the environment became an active area of investigation which seeks to understand quickly changing conditions for children as the world urbanizes speedily, as free play opportunities in outdoors and independent mobility is getting limited more and more in many parts of the world, and as digital environments increasingly consume children's time (Chawla, 2016).

The purpose of this chapter is to introduce a background for the set of research questions posed in this study. The first sub-section discusses the core components of the urban context: urban, urbanism, urbanization and urban livability. The second section briefly explains children's urban experiences in urban environments by means of different urban elements and environments. The third section highlights children's limitations for reaching outdoors.

2.1. Urban Context

There have been both negative and positive changes in the daily life of children through the last four decades but the most worrying is that in developed cities children are increasingly disappearing from urban spaces (Francis & Lorenzo, 2006; Kyttä et al., 2018; Veitch, Bagley, Ball, & Salmon, 2006). Since the beginning of the 21st century, children and environment became a popular area of investigation (Aziz & Said, 2017; Carroll et al., 2018; Chawla, 2012; Churchman, 2003; Ergler et al., 2015; Kyttä, 2004) in order to understand quickly changing conditions for children as the world urbanizes; because most children live in and represent a large percentage of urban populations (Churchman, 2003). According to

Gill (2017) by 2050, when around 70% of the population will live in cities, majority of these urban citizens will be under 19 (Figure 1).

Almost half of the world's children live in urban areas
World population (0–19 years old)

27% 1955
30% 1965
33% 1975
36% 1985
40% 1995
43% 2005

■ Rural ■ Urban
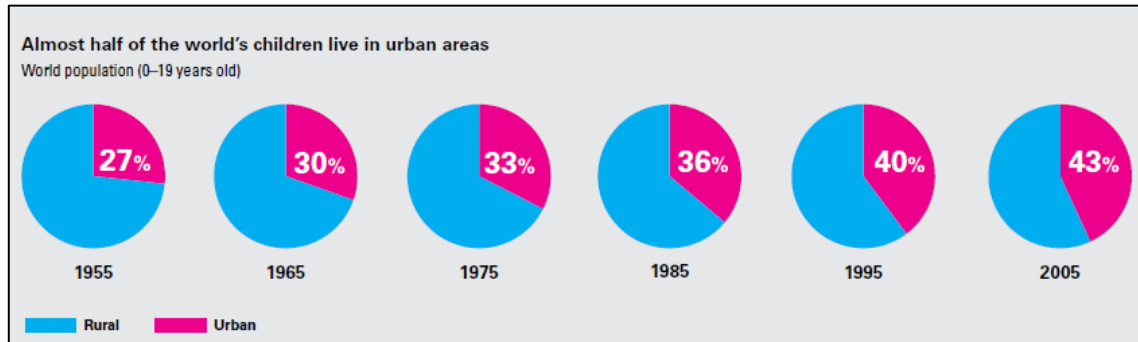
Figure 1. Children in urban areas (Source: Unicef, 2012)

In order to understand the relationship and interaction between urban environments and children, urban, urbanism, urbanization and urban livability need to be clearly defined and discussed. It should be noted that, factors affecting children's urban environments change depending on the context of the countries, because even the definition of urban changes according to countries. According to UNICEF (2012), with periodic reclassification, definitions can also vary within one country over time, making direct comparisons difficult.

One or more of the following can define an urban area: administrative criteria or political boundaries, a threshold population size, population, density, economic function or the presence of urban characteristics. However, defining what is urban is not an easy task because even the definition of urban changes according to countries. Cross-cultural sources show that urban can refer to cities, towns, villages or localities depending on the way each country defines the urban (OECD, 2012). According to Turkish Statistical Institute, a city in Turkey is regarded as an urban area (Table 1) when its population exceeds 20.000 (Turkish Statistical Institute, 2018).

Urban is a bounded space that is densely settled and has a relatively large, culturally heterogeneous population (Budd & Gottdiener, 2005). "Urban areas can be polycentric, with physically separated cores linked together in the same larger urban area" (OECD, 2012:21). According to (OECD, 2012) urban can be defined with three criteria: administrative competence, physical indicators and functional definitions. In 1950, 30% of the world's

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population was urban. In 2018, 55% of the world's population lives in urban areas and by 2050, 68% of the world's population is expected to be urban (OECD, 2012). The urban population of the world was 751 million in 1959 and in 2018 it is 4.2 billion (ONU, 2018), which is about six times more.

Table 1. Selected urban definitions with population size
(Source: United Nations Demographic Yearbook, 2017)

Country	Urban Definition
Albania	Towns and other industrial centres of more than 400 inhabitants.
Argentina	Populated centers with 2,000 or more inhabitants.
Austria	Communes of more than 5 000
Canada	Places of 1,000 or more
China	Cities designated by the State Council and other places with density of 1,500 or more
Equatorial Guinea	District centres and localities with 300 dwellings
Iceland	Localities of 200 or more
Japan	Cities with 50,000 or more
New Zealand	Cities, towns, etc. with 1,000 or more
Niger	Capital city and department and district capitals
Peru	Populated centers with 100 or more dwellings
Senegal	Agglomerations of 10,000 or more
*Turkey	20.001 and more people
United States	Places of 2,500 or more, urbanized areas of 50,000 or more

According to Louis Wirth (1938), one of the pioneers of the term urban, the concept of urbanism is a way of life, which refers to a complex of social relations. It also relates to "the culture of cities" (Budd & Gottdiener, 2005:186). The term mainly signifies the diffusion of urban culture and the evolution of urban society (Fischer, 1972; Grant, 2015). "Urbanism

celebrates human-scale, walkable, mixed-use, mixed-income communities with grid-pattern streets, green spaces, and a distinctive public realm, residences planned at higher densities close to the center of the development and lower densities towards the edge, and mass transit" (Rees, 2017:1). In addition, Wirth's study provides a different perspective with its aim to explain urban as a different research topic. An urban place is not only a place to live in but also a totality, which affects people and include social, cultural and economic components. There are four characteristics of urbanism which are: heterogeneity of population, specialization of function, anonymity and impersonality and standardization of behavior (Wirth, 1938).

Urbanization is still one of the leading global trends of the 21st century that has a significant impact on human beings. In short, "urbanization is the proportion of a country that is urban" (UNICEF, 2012:10). According to World Health Organization (2010), urbanization is mainly related to higher levels of literacy, accessible health services, developed education opportunities, easy access to social services and enhanced ability to participate in cultural and political opportunities. Budd and Gottdiener (2005:184) defined urbanization as follows: "This concept has been traditionally defined as the process of city formation and city growth. Urbanization involves the way social activities locate themselves in space and according to interdependent processes of societal development and change. Its analysis is often historical and comparative."

Depending on World Health Organization (2013), by 2050, over 70% of the world's population will live in cities. The Earth went through a process of rapid urbanization over the past six decades and it is obvious that this process will continue (Gill, 2017). However, unplanned and fast urbanization threatens the sustainable development when policies are not applied to ensure that the benefits of the urban life are shared equitably (WHO, 2013). In addition to the poor population, disadvantaged groups such as handicapped, elderly, and children are experiencing difficulties in urban environments (Budd & Gottdiener, 2005).

Following a similar trend, Turkey is a country facing major changes because of fast urbanization. In 1990, 59% of the country was urbanized and in 2014, this percentage rose up to 73% (Turkish Statistical Institute, 2015). It is foresighted that in the beginning of 2020s, 84% of Turkey will be urbanized (Figure 2 & 3) and almost 80.000.000 people will be living in urban environments (United Nations, Department of Economic and Social Affairs, 2014).
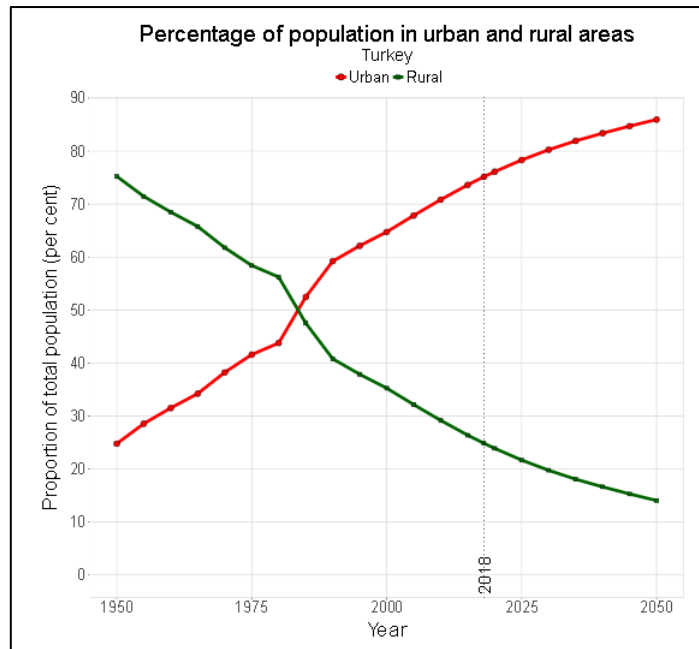
Figure 2. Urbanization process of Turkey as rural and urban

(Source: ONU, 2018).
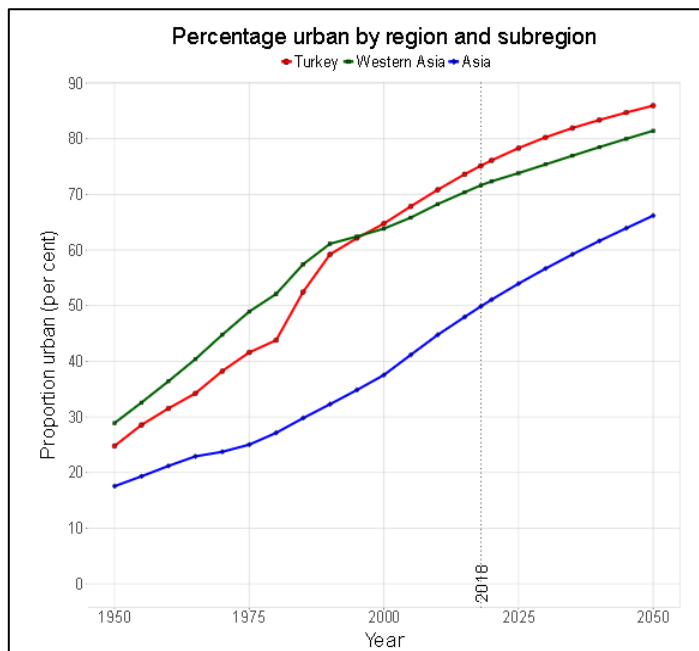
Figure 3. Urbanization process of Turkey comparing Asia

(Source: ONU, 2018).

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Especially in countries with high levels of urbanization, urban livability which is mainly related to architecture and urban planning is a popular term because it is directly related to the quality of urban life (Zhan et al., 2018). Livability can be defined as the quality of life in any human living environment (Kashef, 2016) experienced by the users of a city or region (Timmer & Seymoar, 2005). This concept refers to an urban system which is concerned with physical, social and mental well-being of both individual and community (Kashef, 2016; Zhan et al., 2018).

The term livable environment, which is mainly considered as quality of life, standard of living or general well-being in a specific locality, started to be used in the literature during the 1970s, for the purpose of finding answers concerning the qualities of life and environmental quality (Timmer & Seymoar, 2005). According to Kashef (2016:240) "livable environments integrate physical and social well-being parameters to sustain a productive and meaningful human existence; productive in the sense that the social clustering of humans yields considerably more than the sum total of individual productivity, and meaningful in the sense that humans need, by their very nature, to participate in forming successful and self-sustaining social systems".

Urban livability can be defined as "the urban quality of life and individual well-being related to the local urban environment, and its level is measured by the difference between one's actual and expected urban environment quality from the perspective of satisfaction" (Zhan et al., 2018:93). The evaluation criteria of urban livability varies because of differences in physical, social and demographic characteristics of urban environments and personal, cultural, traditional, and national characteristics of the people living in these urban environments (Ruth & Franklin, 2014). Therefore the characterization of urban livability is a unique case for each urban context (Yassin, 2019) because it is concerned with physical and sociocultural characteristics of the environments and these characteristics are different in every urban environment (Sofeska, 2017). Aesthetics and physical qualities of urban elements such as buildings, streets and all other public spaces changes depending on urban environments (Mahmoudi, Ahmad, & Abbasi, 2015).

There is a number of qualitative and quantitative models offered to compare and rank urban livability. Safety and security, crime, climate, transportation, infrastructure, healthcare, public policies and services, business environment, cost of living, recreational amenities,

education, housing, gross domestic product (GDP) per capita, sanitation, culture, air quality, and natural capital have been incorporated into quantitative models and lifestyle, well-being, happiness, tolerance, and environmental esthetics have been incorporated into qualitative models (Kashef, 2016). In all urban contexts, environment and human are the focus because the daily lives of people are directly affected by all these concerns mentioned above. For children, living in and experiencing the urban environment is different from adults.

> "Key findings show that the urban context as well as the children's particular social context, including the internalization of their parents' fears about lack of safety, are some of the main elements that influence the way in which children experience the city and depict what an ideal city would be for them. Children lack independent mobility and spend little time in public spaces, and have a poor knowledge of their near surroundings and of the city at large (Gulgonen & Corona, 2015:208)."

The impact of urban environments in children's lives cannot be underestimated because "the quality of life experienced by urban populations and particularly by children, will determine our global future" (Wright, Hargrave, Williams & zu Dohna, 2017:9).

2.2. Children's Outdoor Experiences in Urban Environments

In Turkey, children and youngsters are one of the primary groups who are highly affected from the urbanization process (Acar, 2014; Akpinar, 2017; Demir, Karacetin, Demir, & Uysal, 2011). Worldwide, for an average of 37% of the population in developing countries, and up to 49% in the least-developed countries, almost half of all children live in urban areas and are considered as the most ignored (World Vision International, 2014). According to UNICEF, by 2025, six out of 10 children in developing countries will live in urban areas (World Economic Forum, 2016).

Urban environments are important for children because they can play an important role in their health, well-being, physical development, social interaction and independent mobility (Kyttä et al., 2018; Oliver et al., 2014). How children experience urban environments varies from place to place (Williams, Hargrave, Wright & zu Dohna, 2017). Child-friendly urban environments provide many opportunities for children, such as play,

physical activity, active transport, social interaction, and independent mobility (Kyttä et al., 2018; Schulze & Moneti, 2007).

According to many studies, the value of outdoor experiences has a significant role in the lives of children (Chia, 2007; Cosco, 2007; Fjørtoft, 2001; Frost, 2006; Hadavi, Kaplan, & Hunter, 2015; Henniger, 2012; Woolley & Johns, 2001; Monsur, Mansur, & Islam, 2017; Moore & Marcus, 2008; Pellegrini, 1992; Rivkin, 2000; Sobel, 2008; Staempfli, 2009). If the opportunity is given, children spend more time outdoors compared to adults (Moore, 1986), because they experience a great sense of freedom in the outdoor environments (Davies, 1996). Not only being outdoors is pleasant for children but also its richness and novelty stimulate their brain development and function (Rivkin, 2000). Interaction with outdoors influences learning (White, 2004) because outdoor environment is a genuine learning setting that supports a wide variety of activities different than provided by the indoor setting (Chawla, 2009).

As an inevitable fact of urbanization process, we live in built environments (Handy, Boarnet, Ewing, & Killingsworth, 2002). Built environments refers to surroundings which are unnatural and made by human including all kind of physical elements from buildings and parks to streets, neighborhoods and even cities (Galvez, Pearl & Yen, 2010; Handy et al., 2002; Rahman, Cushing & Jackson, 2011; Seidel, Kim & Tanaka, 2012). According to Bartuska (2007) there are four characteristics of the built environments (See Figure 4).

> "First, it is extensive; it is everywhere; it provides the context for all human endeavors. More specifically, it is everything humanly created, modified, or constructed, humanly made, arranged, or maintained. Second, it is the creation of human minds and the result of human purposes; it is intended to serve human needs, wants, and values. Third, much of it is created to help us deal with, and to protect us from, the overall environment, to mediate or change this environment for our comfort and well-being. Last, an obvious but often forgotten characteristic is that every component of the built environment is defined and shaped by context; each and all of the individual elements contribute either positively or negatively to the overall quality of environments both built and natural and to human-environment relationships. These impacts are almost always local, and more and more are experienced at every scale, including global and even planetary (Bartuska, 2007:5)."

Francis and Lorenzo (2002), defined a typology of designed and planned places for children, which are; 1) institutional places, 2) public spaces, 3) private spaces, 4) found

places, 5) found/off limits places, 6) wilderness, 7) new and innovative places. These places are the ones, which children living in cities can come across on a daily basis. Neighborhoods and streets are the main designed and planned spaces that every children come across as public spaces in urban environments (Crawford et al., 2017; Ekawati, 2015). As an important environment for all, neighborhoods has major importance for children living in urban environments (Oliver et al., 2016), because they can provide opportunities for children as unstructured outdoor activities and physical possibilities (Ekawati, 2015; Islam et al., 2014). Their homes, front yards, parks or playgrounds do not localize children's environment; the local neighborhood is an environment that fosters or supports children's activities (Kyttä, 2003).
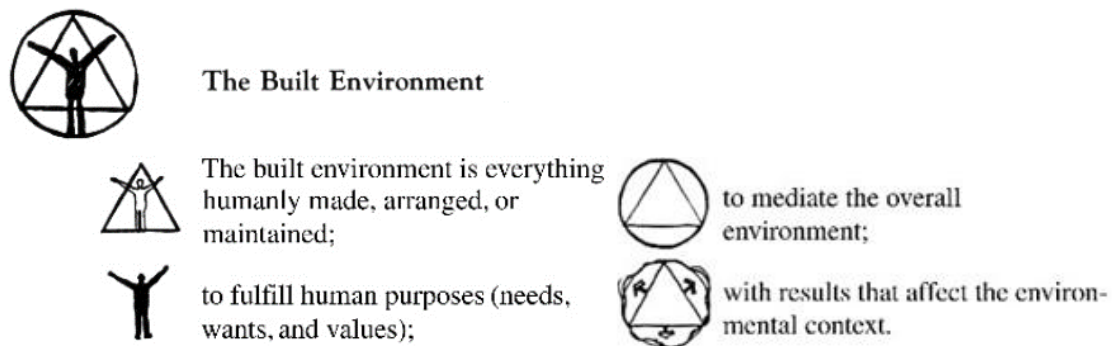
Figure 4. Characteristics of the built environment
(Source: Bartuska, 2007).

In neighborhoods, children explore, play, travel, form social relationships and engage with others, experience natural world and access cultural resources. Neighborhoods are also important because especially in cities these are the main outdoor environments for children (Chawla, 2012). They provide many opportunities for children in making them feel free to explore their environments, discover places close to their houses, learn familiar and strange, socialize with other people and have a chance to improve their independent mobility (Gleave & Cole-hamilton, 2012). In order to provide a healthy development, middle childhood should be a time for children to explore neighborhood environment independently to learn about their physical environments, challenges and discover social opportunities (Islam et al., 2014).

Neighborhood is an important residential space in an urban context, which enables people to create relationship with each other and constitute close ties in daily life (Mills, 2007). According to Lewicka (2010), neighborhood is an important living environment as it creates a bridge between indoor and outdoor environments in everyday life. For Ozbek Eren (2013), neighborhood is a sub-zone of the city and have strong connection with some keywords, which are; place attachment and identity, citizenship, scale, density, pedestrian, transportation, accessibility. Neighborhoods with controlled traffic flow, pedestrian shed, children playgrounds, public open green spaces support physical activities in a safety environment and enable residents to be more satisfied with their home environments (Castonguay & Jutras, 2009; Dempsey, 2008).

Clearance Perry introduced the Neighborhood Design in 1927 which illustrated the relationship between residential to public components by walking distance and put primary school at the center of this neighborhood (Perry, 1927). Clarence Stein introduced the Neighborhood Concept in 1942, also suggested that primary school should be located at the center of the neighborhood unit within 400 meters and within five minute of walking time for all families (Stein, 1950).

"Neighborhoods should be compact, pedestrian friendly, and mixed-use. Many activities of daily living should occur within walking distance, allowing independence to those who do not drive especially the elderly, handicapped and the young. Interconnected networks of streets should be designed to encourage walking, reduce the number and length of automobile trips Congress for the New Urbanism (2000:340)."

These characteristics of a neighborhood resulted in a new concept, i.e., pedestrian shed, which designates the distance that can be covered in five minutes at a standard walking pace (Steuteville, 2017). The theory suggest that, if the built environment is attractive and in human scale, most people prefer walking at least five minutes rather than using car or any type of transportation (Tribby, Miller, Brown, Werner, & Smith, 2015). The quality and physical characteristics of the built environment is the main determinant which can expand or shrink the distance people choose to walk (Zuniga-Teran et al., 2017). Neighboring situation is an important criterion not only for adults but also for children because being in a familiar environment increases safety (Loebach & Gilliland, 2016).

"In Turkey, the traditional urban neighborhood is a space which extends the interior space of the family to the residential street; it is a space of belonging and collectivity. The most important practice for creating and sustaining the familiar spaces of mahalle life is neighboring (komşuluk), which makes home spaces open to neighbors (Mills, 2007:336)."

The rapid and unplanned development of urban environments has changed the land use and characteristics of the city (Jarah, Zhou, Abdullah, Lu, & Yu, 2019). According to Ekawati (2015), when the number of buildings increase, open spaces used by children decreases. Mehdizadeh, Mamdoohi, & Nordfjaern (2017) emphasized that streets, an important open space in the city, are being used mainly for vehicles and this means that physical activities as walking, cycling and playing are limited. In many studies related with children and street (Abu-Ghazzeh, 1998; Churchman, 2003; Ekawati, 2015; Gill, 2017), it was found that children are important users of streets because they mainly choose to play there. Therefore, street play has a universal importance, which improves physical, cognitive, social and emotional development of children and influence their learning and creativity by allowing them to discover (Flouri et al., 2014).

According to a study of Abu-Ghazzeh (1998), despite open public spaces dedicated to children's use, 60% of children choose to play in streets. In addition, as Ekawati (2015) mentioned, a considerable percentage of children had to use streets because they do not have open spaces, any playground or play area in their neighborhoods. This means that children are frequent users of streets even though adults find it dangerous because of traffic, existence of strangers and other negative things (Carver, Timperio, & Crawford, 2008). Streets continue to be the potential urban space which can be used as playgrounds although they offer reduced opportunities for outdoor play (Ekawati, 2015).

There are different definitions of street. According to Appleyard (1980), street is a safe sanctuary, a livable, healthy environment, a community, neighborly territory, a place for play and learning, a green and pleasant land, a unique historic place. From a different point of view by taking into consideration of human and environment relationship, Gough and Franch (2005) defined it as a social space for adults, playground for children and arterial road for car drivers. Carroll et al. (2018) regarded the street as almost equal to playground for children and although children's presence in the urban environments continue to decline,

some children continue to play and spend time outside in anywhere and everywhere including the street.

Play is a natural and a simple joy (Vygotsky, 1978). In his book Homo Ludens, Huizinga discussed the importance of play as an indispensable element for human kind and suggested that play is a necessary condition of generating the culture which means that children should live with play (Huizinga, 1950). It has been recognized by the United Nations High Commission for Human Rights as the right of every child (Ginsburg, 2007), which comes from birth (Vygotsky, 1978). According to a study done by Chia (2007), play offers many things for the holistic development of a child. Through play, children can explore the world, interact and engage with peers and adults, practice mastery and gain skills that will help them to face future uncertainty (Aeri & Verma, 2004).

Creativity, problem-solving, social interaction, motor development, physical fitness and enhanced parent-child relationships can be developed through child-directed play (Nestor & Moser, 2018). Play is important for the healthy development of the brain and can act as a feature of scaffolding for a child (Vygotsky, 1967). Play is a pleasurable event, which has no specific aim and occurs spontaneously, and is shaped by rules of children themselves (Smith, 2009). It is important for optimal child development and it has many contributions to the cognitive, physical, social and emotional well-being as it is an essential element for the development of children and young people (Charles, Louv, Bodner, Guns & Stahl, 2008). By play, children are able to create and explore a world around them (Milteer, Ginsburg, & Mulligan, 2012).

In addition to general benefits of play, outdoor play also has a major importance (Fjørtoft & Sageie, 2000; Henniger, 1993) and positive effect on children's physical, mental, social, motor skill and cognitive development, activity level and overall health (Aarts, de Vries, van Oers & Schuit, 2012; Wolch, Wilson & Fehrenbach, 2008). Parks, playgrounds, school gardens, public open spaces, streets and green spaces can act as a space for children's play in built environments (Hart, 2002). Parks are important outdoor spaces in built environments for everyone living in urban environments (Aslan, 2018; Baran et al., 2014; Kaczynski et al., 2014; Parra, Gomez, Fleischer & David Pinzon, 2010; Payne, Mowen & Orsega-Smith, 2002).

Parks need to be considered as important and valuable outdoor environments not only for adults but also for children (Dunton, Almanza, Jerrett, Wolch & Pentz, 2014; Floyd et al., 2011; Loukaitou-Sideris & Sideris, 2010; Malone, 2011; Potwarka, Kaczynski & Flack, 2008) since these environments provide opportunities to improve physical activity level, well-being, mental health, socialization, independent mobility and recreation needs of children (Islam et al., 2014; Loukaitou-Sideris & Sideris, 2010).

Moore (2003) talks about five key points that city parks should have: City parks offer children the daily benefits of direct experience with nature - the motivation to explore, discover, and learn about their world and engage in health-promoting, physical activity; City parks offer children a sense of place, self-identity, and belonging as an antidote to social alienation, vandalism, and violence; City parks engage children in informal, experiential learning through play and shared experiences with peers, laying the foundation for effective formal education; City parks provide a valuable resource for closing the educational achievement gap in communities; and City parks offer a vehicle for children's participation in community development, citizenship, and democratic processes.

As important as parks, playgrounds are essential outdoor environments for children (Sobel, 2008). Playgrounds are places that respond to children's development tasks and their sense of place, time and need to interact with the nature (Bagot, Allen & Toukhsati, 2015; Fjørtoft, 2004; Wang, Woolley, Tang, Liu & Luo, 2018). Playgrounds, naturally located outdoors, provide an opportunity for children connect with nature and play at the same time (Azmi, Karim & Amin, 2013; Spencer & Woolley, 2000). They are also designed to stimulate children's natural curiosity, imagination, wonder and discovery learning (Bohn-Goldbaum et al., 2013; Boxberger & Reimers, 2019; Miller et al., 2017).

Children's outdoor play and interaction with natural elements influence learning, physical and mental development and overall health because the greater the diversity of the natural landscapes, the greater children's appreciation of nature and experiences in it (Fjørtoft, 2001). In addition, outdoor play has a positive effect on children's social and motor skill development, and physical activity level (Czalczynska-Podolska, 2014). Outdoor playgrounds have a positive effect on children's development of environmental values (Sobel, 2008).

2.3. Limitations for Reaching Urban Outdoor Environments

According to Wright, Hargrave, Williams, & zu Dohna (2017), urban context today is uncontrollably changing and there are five main difficulties of urban childhoods: traffic and air pollution, high-rise buildings and urban sprawl, crime, social fears and danger, being isolated and intolerance, and insufficient and unfair access to the city. Francis et al., (2017) states that urban safety is one of the most basic problem in all over the world. Accordingly, urban security is one of the most essential determinants of a livable urban environment (Tao, Wong & Hui, 2014). This is an expected finding because limited number of people are satisfied with their local urban environment without feeling safe (Zhan et al., 2018).

Loebach and Gilliland (2016) claimed that, before 21st century, the majority of children's activities were taking place in outdoor settings. Children preferred to be outside when they had free time to play, explore and interact with the nature. While some contemporary children are still experiencing this type of outdoor childhood, many others were categorized as having indoor or backseats childhoods.

> "Today in industrialized countries, people spend over 80% of their time inside at home, school and office. Children spend most of their time inside at home. On average over 16 hours a day is spent in this environment. For preschool children, the time indoors at home is greater still, often exceeding 85% (Franklin, 2007:282)."

According to White, children have few opportunities to play freely in outdoors because children's everyday life has shifted to indoors and the culture of childhood that played outside is gone (White, 2004). Children spend most of their time playing digital games or watching TV (Beets, Vogel, Chapman, Pitetti & Cardinal, 2007; Burris & Wright, 2012; Cherney & London, 2006; Kucirkova, Littleton & Kyparissiadis, 2018; Mauldin & Meeks, 1990; Plowman, McPake & Stephen, 2010; Staempfli, 2009).

Children's independent mobility (CIM) can be defined as the freedom to move around, travel and play outside the home environment without adult accompaniment (Kyttä et al., 2015; Lin et al., 2017). According to several studies independent mobility has a major importance on children's physical, social and cognitive developments, activity levels, learning through interaction with the environments around them, and gaining experiences

about life (Alparone & Pacilli, 2012; Kyttä et al., 2015; Oliver et al., 2014; Schoeppe, Duncan, Badland, Oliver & Browne, 2014). Not only spending less time outdoors, but also limitation of independent mobility affects children negatively (Lin et al., 2017). Satisfaction with the urban environment is associated with a range of factors in relation to urban security (Zhan et al., 2018), such as traffic (De Vos, Van Acker & Witlox, 2016; Johansson, 2006), strangers (Foster et al., 2014; Shamsuddin, Zaini & Sulaiman, 2014), and danger (Bartlett, 1999; Kalatzkaya, 2015). According to Moore (1997) there are some factors, which restrict access to outdoors such as traffic danger, the safety issues, and lack of play space, changing family relations, electronic media, and shortened playtime.

Shamsuddin, Zaini, & Sulaiman (2014) mention that the main reason for the decrease of children's independent mobility is their parent's strict supervision over their outdoor use. With decreasing levels of children's outdoor play and independent activity, adult accompaniment of children has increased because of parents' concern about children's safety (Francis, Martin, Wood & Foster, 2017; Fyhri, Hjorthol, Mackett, Fotel & Kyttä, 2011; Malone, 2011; O'Connor & Brown, 2013). Depending on many qualitative studies, safety issues are mainly related to traffic and strangers (Carroll, Witten, Kearns & Donovan, 2015; Carver et al., 2008; Foster et al., 2014). In addition, according to Kyttä et al., (2015), the decrease in children's independent mobility can also be connected with social daily routines of families and parents who use increased amount of time for chauffeuring, watching and controlling movements of their children.

Traffic is a global challenge which negatively affects children (Wright, Hargrave, Williams & zu Dohna, 2017). A traffic environment is highly related to children's physical activity, active travel and independent mobility (Carver, Timperio, Hesketh, & Crawford, 2010). When there are few cars, low speed and user friendly street elements (pedestrian crossings, pavements, speedbumps and traffic signs) children's independent mobility and active travel increases (Johansson, 2006). Car accidents are one of the main fear of children and their parents (Lin et al., 2017) because many of children living in urban environments with heavy traffic are hit by a car (Elias & Shiftan, 2014) or involved in a car accident (Bartlett, 1999). Williams, Hargrave, Wright and zu Dohna (2017:32) state that "Children are more vulnerable to being hit by cars due to their smaller size, their underdeveloped ability to judge speed and their lack of experience and understanding of traffic danger". According

to child deaths by injury report of United Nations Children's Fund (2001), traffic accidents have the highest ratio as cause of death for children in developed countries.

Children intensely feel the fear of strangers (Shamsuddin et al., 2014). Parents are also disturbed from strangers and their pervasive worry affects their children negatively (Williams, Hargrave, Wright & zu Dohna, 2017) because "once having experienced fear in any situation, we will experience the similar feelings every time in the same cases" (Kalatzkaya, 2015:2292). Parents' main fear about strangers are abducting, abuse, kidnapping or just harming their children (Francis et al., 2017). These fears of strangers make parents limit their children more by watching, guarding and even chauffeuring (Hsu & Saphores, 2014). According to Foster et al., (2014) the more parents fear of strangers, the less children's independent mobility.

According to United Nations Committee on the Rights of the Child article 31, children has right to rest, leisure and play in equal opportunities. Providing shared experiences of safe public spaces by means of gender, age and other characteristics provide equality and strengthen civil society (Hart, 2002). The quality and equality of urban environments affect children's social interactions, playing and learning abilities, well-being, self-confidence and independent mobility (Brooker & Woodhead, 2013). Children's inadequate and unequal access to outdoor environments decreases their well-being, independent mobility and socialization (Williams, Hargrave, Wright & zu Dohna, 2017).

To sum up, Chapter 2 highlights that the most worrying change in the life of children is their disappearance from urban environment. It is a key consideration since urban environments directly affect children's health, well-being, physical development, social interaction and independent mobility. Living in and experiencing the urban environment is different for children than it is for adults because they have different perceptions, thoughts, and choices.

Especially in countries with high levels of urbanization, urban livability, which is directly related to the urban quality of life, is an important indicator for children because disadvantaged groups such as handicapped, elderly, and children are experiencing difficulties in urban environments. Children's relationship with urban environments starts with home gardens, later extends to streets, and finally reach the whole city through neighborhoods. Children's daily relationships and activities mainly takes place in streets and neighborhoods.

Play and independent mobility are the two main necessities for children. However, it is not always possible for a child to play freely and move independently because urban security is seen as a major threat. Traffic, strangers, unequal access to outdoors and parent's strict supervision are the limiting factors.

To sum up, this chapter provided a background for the research questions of this study by discussing main components of the urban context by means of children, which are important users of urban environments. Children's urban experiences in urban environments and their limitations for reaching outdoors are also discussed. Deriving from these discussions, the next chapter explores the methodology of the study, study site and context of the study.

CHAPTER 3

STUDY ZONES AND METHODOLOGY

This chapter introduces the methods of the study and the data collection tools, techniques, and strategies. Research design and methodology of the study and the qualitative and quantitative data analysis are explained in detail. Afterwards, general characteristics of the city of Izmir is explained by means of its physical and demographical features. A pilot study, which was conducted to test the tools on field, is explained followed by the description of urban zones selected as study sites in terms of their types, population, surface area, density and real estate indices. Selected school environments are also introduced by means of built environment characteristics and physical amenities in order to determine certain basic characteristics of each zone.

3.1. Study Context: Izmir

According to 2018's Population Registration System Based on Residency Address (PRSBA) data, Turkey is among the world's 20 largest countries in terms of population with 82.003.882 people. Izmir Province has an area of 12.012 km^2 between 37045' and 39015' northern latitudes and 26015' and 28020' eastern longitudes, which is located along the west coast of Aegean Region, Turkey (Figure 5).

Izmir is the third most populated city in Turkey, which constitutes 5.27% of the total population of the country. It is located at the intersection of important industry, transportation, agriculture, commerce and tourism routes. For this reason Izmir is a rapidly growing city with 100% rate of urbanization and diversity in the physical environments by means of residential zones. It has a constantly increasing population. As of 2018, the total population of Izmir is 4.320.519 living in 30 municipalities (Turkish Statistical Institute, 2018).

Eleven of these municipalities (Balçova, Bayraklı, Bornova, Buca, Çiğli, Gaziemir, Güzelbahçe, Karabağlar, Karşıyaka, Konak and Narlıdere) are considered as the metropolitan municipalities. In 2018, its population density is 107 people per km^2 in Turkey and 360 people in Izmir. The increase of the population in Izmir is higher than Turkey's average for a long time and with respect to GNP.
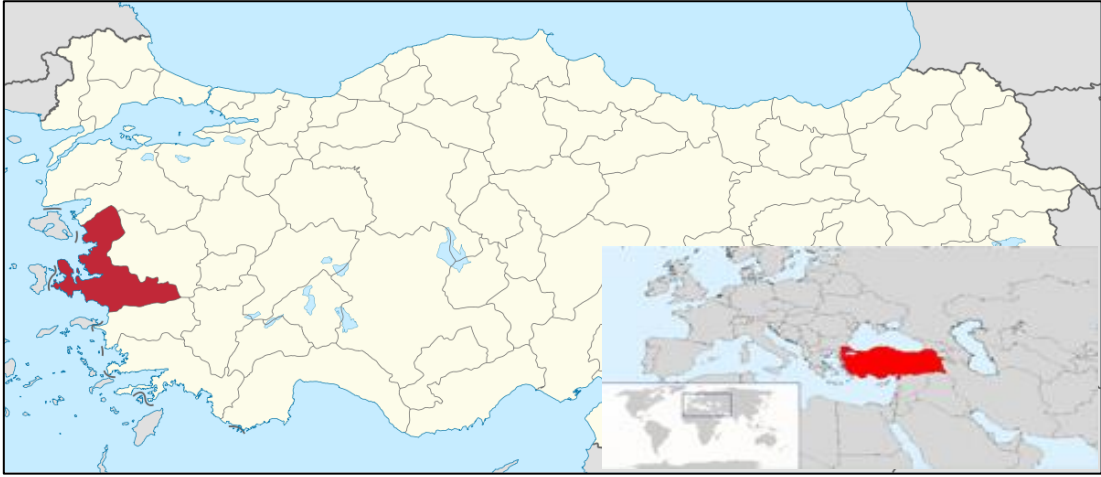
Figure 5. Location of Izmir

In Turkey, the distribution of population in cities ascends gradually in favor of cities when compared to the rural population. According to General Census of Population (GCP) in 1965, 34.4% of Turkey's population was living in cities and 65.6% in villages and towns. In 2018, these ratios changed as 92,3% in cities and 7.7% in villages and towns. According to years, similar changes happened in the city-village distribution of Izmir. In 1965, Izmir's population was 50.3%, in 2012, it went up to 91.4% (Table 2), and in 2018, it reached 100% (Turkish Statistical Institute, 2018).

Table 2. Turkey's and its three biggest city's urbanization ratios by periods

	1965	1980	1990	2000	2010
Turkey	34,4%	43,9%	59%	64,9%	77,3%
Ankara	65,1%	78,4%	87,6%	88,3%	97,5%
İstanbul	78,1%	61,3%	92,4%	90,7%	99,0%
Izmir	50,3%	53,6%	79,2%	81,1%	91,4%

According to 2014's Population Registration System Based on Residency Address (PRSBA), Izmir is one out of 30 cities, which fully completed its urbanization process in Turkey. Total population of these cities live in district centers (Figure 6). The process of urban development has been proceeded in parallel to the population increase and also technological innovations in this metropolitan city (Bloom & Khanna, 2007).
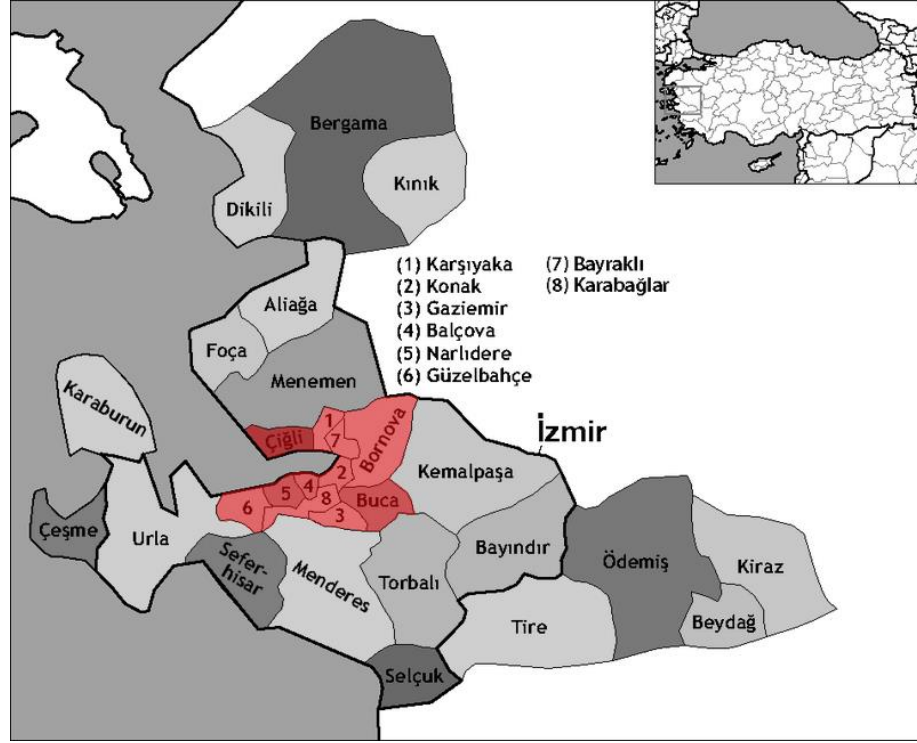
Figure 6. Districts in Izmir

Regardless to the official definitions, the urbanization in the metropolitan districts is relatively more advanced than in the rest of the city. This study explores the zones within these metropolitan districts in providing opportunities to children's outdoor experiences. Metropolitan area is;

"a formal local government area comprising the urban area and its primary commuter areas, typically formed around a city with a large concentration of people (i.e., a population of at least 100,000). In addition to the city proper, a metropolitan area includes both the surrounding territory with urban levels of residential density and some additional lower-density areas that are adjacent to and linked to the city (UNICEF, 2012:10).

According to Ekawati (2015) cities are not homogeneous. Accordingly, five urban zones with seven districts in Izmir are chosen as the study sites for this dissertation according to their demographic characteristics (population densities), physical formations, distance to city central and real estate indices (Table 3). The real estate indices was included as a selection criteria, because it indirectly indicates level of income.

Table 3. Density and real estate index of Izmir and metropolitan districts
(Source: Turkish Statistical Institute, 2018; Hurriyetemlak.com, 2019).

	Population (person)	Surface Area (km²)	Population Density (person)	Price per square meter (For sale)		Price per square meter (For rent)		Period of redemption
				June 2019	*Annual Variation*	*June 2019*	*Annual Variation*	*June 2019*
Izmir	4.320.519	11.891	363	3.104	0.23%	13	1,14%	21 years
Konak	356.563	24	14.857	3.144	17,05%	15	11,84%	19 years
Bayraklı	311.524	37	8.419	3.217	-4,40%	13	6,42%	22 years
Karşıyaka	344.140	51	6.748	3.708	1,98%	15	1,51%	22 years
Karabağlar	479.986	89	5.393	2.375	-0,75%	10	-1,15%	21 years
Balçova	79.357	28	2.834	3.169	-7,12%	14	0,42%	20 years
Buca	499.325	180	2.774	2.465	-5,37%	11	0,35%	20 years
Bornova	445.232	220	2.024	3.641	-3,19%	14	-0,07%	23 years
Gaziemir	137.553	70	1.965	3.193	1,95%	12	1,01%	24 years
Çiğli	194.525	127	1.532	2.064	-8,54%	12	-13,83	21 years
Narlıdere	66.203	50	1.324	4.636	10,70%	16	3,25%	27 years
Güzelbahçe	32.592	110	296	4.893	-1,15	19	17,25%	24 years

Five urban zones are categorized as: central (merkez), gated community (güvenlikli konut), mass hosing (toplu konut), squatter settlements (gecekondu) and point-block settlements (yapsatçı).

Central (Merkez) refers to zones that are closer to the main city amenities such as cultural, artistic, social, sportive etc., closely linked to the rest of the city via public transportation and high-density person per square area. Properties in these settlements are more expensive than others (Budd & Gottdiener, 2005).

Gated Community (Güvenlikli Konut) refers to a "housing development on private roads closed to general traffic by a gate across the primary access. The developments may be surrounded by fences, walls or other natural barriers that further limit the public access" (Grant & Mittelsteadt, 2004:913-914). These areas are bounded places separated from the city by way of inaccessible physical boundaries. Some of them are far and some of them are close to city amenities, some of them do have ease of transportation and some of them not depending on their locations. They have a low-density and are greener than other settlements. Availability of open land are more than other settlements. Main reason of moving into a gated community is security (Goix, 2006; Grant & Mittelsteadt, 2004; Low, 2001; Shamsuddin et al., 2014; Webster, Glasze & Frantz, 2002).

Mass Housing (Toplu Konut) refers to a complex of high-rise buildings (Tekeli, 2010) and their social facilities, which are built on a land for catering housing needs of low-income urban residents, including physical and social substructure (Hasol, 2005). These are cost effective, isolated places which are mainly far to city amenities (usually located at the periphery), do not have ease of transportation and have low-density person per square area (Demirli, Ultav & Demirtas-Milz, 2015).

Squatter Settlements (Gecekondu) refers to houses or settlements constructed on private properties or privately owned urban lands. In the original meaning, gecekondu housing literally means, "built overnight" (Erman, 2004). Generally, rural-to-urban migrants and low-income families inhabit these settlements (Tekeli, 2010). These unbounded places are mainly far to city amenities, do not have ease of transportation, have high-density person per square area and properties in these settlements are cheaper (Srinivas, 2015). According to Genc (2014), squatter settlements are seen as a major problem in Turkey by local and central governments. In some neighborhoods, the sewage system is in need of repair, the streets are too narrow and inadequate.

Point-block settlement (Yapsatçı) refers to multi-story building settlements, which are built by contractors who is responsible from finding the land, planning and building settlement (Tekeli, 2010). They are bounded places mainly far to city amenities, do not have ease of transportation and have low-density person per square area (Ozturk & Fitoz, 2009). This settlement type gained wide currency towards the end of 1950s and still continue today (Tekeli, 2010).

3.2. Research Design and Methodology

A mixed method strategy was used in the study because either qualitative or quantitative method alone is not adequate for such a comprehensive study. In mixed method research approaches the researcher "gathers both quantitative (closed-ended) and qualitative (open-ended) data, integrates the two and then draws interpretations based on the combined strengths of both sets of data to understand research problems" (Creswell, 2014:2). Mixed method strategy is suitable for the combination of both quantitative and qualitative data collection and analyze these methods together in a single study (Creswell & Plano Clark, 2011). The author was the primary instrument for data collection in the field and the analysis, as advised by Blaikie (2007).

The field study was designed with four main steps: pilot study, site research, observations and questionnaires and is summarized below (Table 4). Before conducting the study, all participants were informed about the research, their signatures were taken and the classroom teacher for each class signed a "Student Informed Consent Form" (Appendix A). In addition, parents were informed about this process with written explanation attached to their questionnaires and were asked to sign "Parent Informed Consent Form" (Appendix B).

This study was used a multi-methodological approach which used "questionnaires", "drawing" and "story writing" as data collection methods. Aim of using both drawing and story writing method was to find out whether one method was more prominent than the other was or they both have the same success in expressing children's perceptions of their environment. Involving parents in the study was useful in terms of establishing similarities or differences between the answers given by the children and the answers given by the parents.

As a researcher and the only responsible for the data collection, multi-field studies were conducted with two schools in each urban zone types. All schools were visited to conduct a study with two different classes in each. Two class hours were used with each class in order to complete children's questionnaire, drawing or story writing and to distribute parent's questionnaire. (Figure 7).

Table 4. Summary of the steps of study methodology (Inspiration: Kastaş-Uzun, 2016).

Step	Method	Aim/Findings	Where	With Whom
1	**Pilot Study**	The main aim of the pilot study is to; *Test the tools on field and to see what is intended to convey *What children and parents understand from the questionnaires *Test children's reactions for writing and drawing tasks *Understand the duration for completing each task	1 state-run primary school	44 Children 40 Parents
2	**Neighborhood Characteristics Research**	To have a general understanding of; *Demographic characteristics and distance to the city center in Izmir *Physical characteristics and amenities	Karabağlar Bornova Narlıdere Karşıyaka Konak Gaziemir	X
3	**Preliminary School Observation and Selection**	To specify characteristics of school areas in selected neighborhoods; *Location *Spatial relationship with the neighborhood *Physical and social characteristics *Traffic flow *Transportation opportunities *Urban equipment and amenities	Karabağlar Bornova Narlıdere Karşıyaka Konak Gaziemir	X
4	**User Questionnaires (Children & Parents)**	Collecting statistical and descriptive data to evaluate children's and their parent's outdoor perceptions and experiences in urban environments; *The way of use *Factors that directly and indirectly affects the outdoor experiences *Likes and dislikes *Preferred places *Preferred time frames *Duration of outdoor use	10 state-run primary school in five different urban zones	370 children 258 parents

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          │   Data Collection Tool  │
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          │    Multi Field Study    │
          │        2 Schools        │
          │ 2 Different classes per │
          │         school          │
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          │ Data Collection Methods │
          │      Questionnaires     │
          │         Drawing         │
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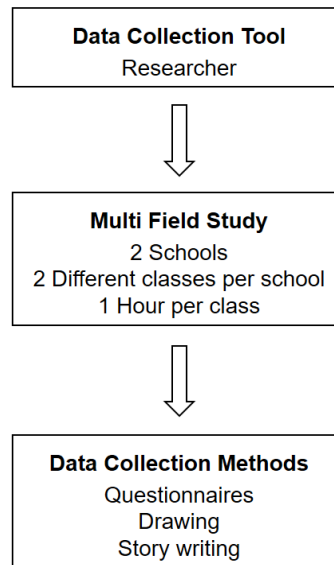
Figure 7. Data collection criteria

Questionnaires are used to understand children's perceptions, thoughts and ideas in many studies (Cherney & London, 2006; Kyttä, 2002, 2004; Li, Chou; Seymour, 2019; Loukaitou-Sideris & Sideris, 2010). Questionnaires of this study include mixture of closed and open-ended questions. The questionnaire used in this study includes questions related to children's perceptions of their outdoor experiences such as how often and how much time children spend outdoors, how children spend their time outdoors, who is accompanying children when they are outdoors, what factors directly or indirectly affect the outdoor experiences of children, what they like and dislike about outdoors, their place preferences in outdoors and what their most and least favorite places are (Appendix C). Similarly, parents also completed a questionnaire about their children's outdoor use in urban environments (Appendix D). Parents who volunteered to participate in the study completed the questionnaires at home and returned the forms to the class teacher in the following day.

Creswell & Plano Clark, (2007:128) state that "data analysis in mixed methods research consists of analyzing the quantitative data using quantitative methods and the qualitative data using qualitative methods." Before starting analysis, the quantitative data was initially compiled in a computer software program. The data was coded and numeric values were assigned. For multiple-choice questions, choices of a, b, c and d were changed into 1, 2, 3 and 4. Then, the data was recorded and statistical tests were conducted. For the qualitative

analysis, first, the data was organized and all the texts were transcribed. The verbal data examined in iterations and was coded and grouped that have similarities and related themes. For qualitative data, a statistical analysis was also conducted to capture similarities and themes (Figure 8).

Questionnaires

Quantitative	Qualitative
Preparation of quantitative data for statistical analysis	Organizing the data and transcribing the text
Coding the data and assigning numeric values	Coding the data, grouping similarities and themes
Recording the data and conducting statistical tests	Recording the data and conducting statistical tests
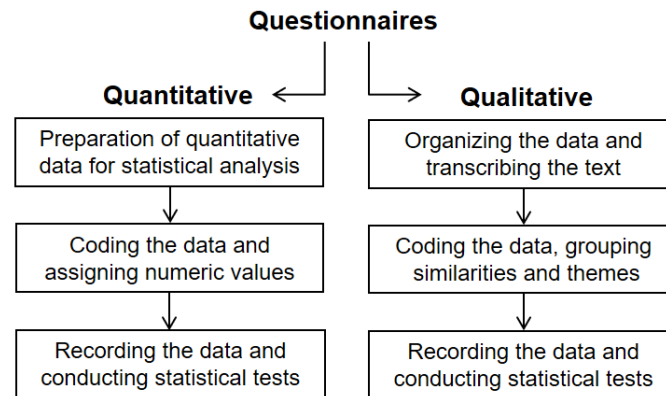
Figure 8. Data analysis criteria for questionnaires

For the drawing phase, an introduction was prepared to provide a standard explanation for each assignment in each class (Appendix E). A single question with follow-up sub-questions was asked to children: "Could you please draw thing(s) that you love to do outside? (Where are you? Who are you with? What are you doing?)". After completing drawings, they were asked to provide a written explanation about their drawings on the backside of their drawings. Each participant was given a blank piece of plain A4-sized for their drawings.

The drawing task which was used in this study followed the similar field techniques existing in literature. For instance, Reiss & Tunnicliffe (2001) employed seven tiers that were directly related to their study subject: the human organs. Kose (2008), on the other hand, used five tier as: 1) no drawing, 2) non-representational drawing, 3) drawings with misconceptions, 4) partial drawings and 5) comprehensive representation drawings. Different from previous studies, Gillespie (2010) used modified version of Lynch's (1960) typology of urban elements and Matthew's (1984) six elements classification to analyze children's maps. Labintah and Shinozaki (2014) used five levels of ranking method adapted from Barraza (1999) and Kose (2008).

In order to develop a deeper understanding of the drawings, the field data was analyzed through a thematic analysis. Similar to inductive content analysis, thematic analysis is a qualitative research method which mainly search for themes that emerge directly from the data (Terry, Hayfield, Clarke & Braun, 2017). Using both inductive content analysis and thematic analysis in children's drawings allowed triangulating the interpretations and providing greater insight about the data (Figure 9). The main aim was to understand and identify the commonalities in children's representations of outdoors. It was also aimed to compare the outputs from different neighborhood districts to see the effect of built environment with different characteristics.

Before starting the analysis, all drawings were examined and some analysis criteria were determined based on their contents. Using Matthew's (1984) six elements classification and Kose's (2008) five tear of ranking method, some analysis criteria was determined. Accordingly, 10 criteria were identified as drawing analysis criteria: 1) activity type, 2) activity place, 3) natural elements, 4) artificial elements, 5) people, 6) living creatures, 7) mood, 8) time range, 9) season, 10) format of the drawing (Table 5).

Table 5. Categories used to analyze drawings

Categories	Descriptions
Activity Type	Type of activity which can be come through alone or with someone as planned or randomly
Activity Place	Place of activity which can be specifically or randomly chosen
Natural Elements	Elements which are created without human intervention
Artificial Elements	Elements which are created by human
People	Someone who does/does not have relationship with others
Living Creatures	All living things including animals and plants
Mood	Feelings, sensations and ideas related with positive or negative moods
Time Range	Specific time, hour, date, day of month
Season	Summer, Spring, Winter or Autumn
Format of the Drawing	Method of the drawing, human figures, types of perspective view, color perception

Drawings (Qualitative)

Repeatedly examination of drawings and stories

↓

Determination of analysis criteria by contents

↓

Inductive and Thematic Analysis
1. Activity Type
2. Activity Place
3. Natural Elements
4. Artificial Elements
5. People
6. Living Creatures
7. Mood
8. Time Range
9. Season
10. Format
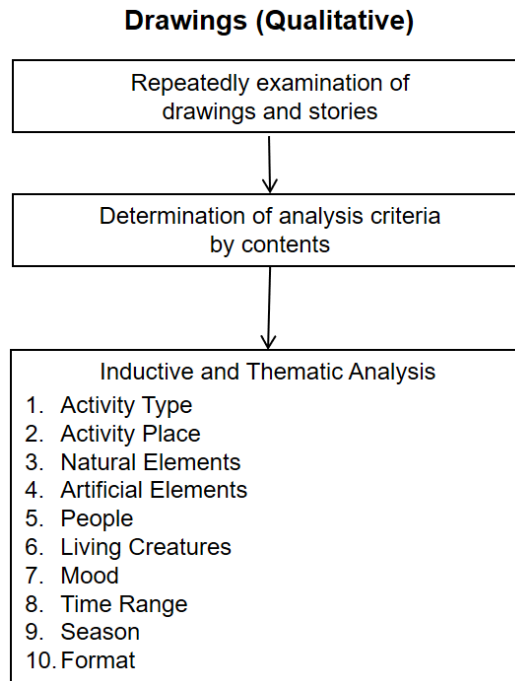
Figure 9. Data analysis criteria for drawings

In this study, "story-writing" method was used as a qualitative approach to encourage children to use words to write a story about their favorite thing/things about outdoors. James (2016:44) states that "The love for stories among children is innate. Substantial bodies of research have shown how stories can be beneficial for children's language development, creativity, literacy and character building". For the story-writing phase, an introduction was prepared to provide a standard explanation for each assignment in each class (Appendix F). In total 170 children completed story-writing phase. Children were asked: "Could you please write a story about thing(s) that you love to do outside? (Where are you? Who is with you? What are you doing?)". They were given a blank piece of plain A4-sized paper. Children completed their story writing task in one class hour.

In this study, qualitative content analysis, which is a widely used research method in social sciences (Krippendorff, 1980), focuses on the characteristics of language as written contents to analyze textuality (Nunkoo, 2018). Hsieh and Shannon (2005:1278) state that "Qualitative content analysis is defined as a research method for the subjective interpretation of the content of text data through the systematic classification process of coding and identifying themes or patterns". In their studies, De Beaugrande and Dressler (1981),

suggested an approach, which define seven criteria of a text for content analysis: cohesion, coherence, intentionality, acceptability, informativity, situationality and intertextuality. By using this technique, it was easy to see children's sufficiency about their texts by comparing these criteria and provide greater insight about the data.

Writing is an important method for children to express themselves as used in many studies either in the form of story writing (Gulgonen & Corona, 2015; James, 2016; Quintero, 2010; Shabak, Norouzi, Abdullah & Khan, 2015; Watanabe & Hall-Kenyon, 2011) or diary keeping (Kemperman & Timmermans, 2014; Lin et al., 2017; Meeks & Mauldin, 1990). It enables communicating with others, explaining their ideas and mentioning their perceptions (Quintero, 2010). Children are able to give as much information about themselves, their ideas, choices and perceptions as adults (Koutsoftas, 2016; Sun & Nippold, 2012; von Koss Torkildsen, Morken, Helland & Helland, 2016; Wilson, Megel, Enenbach & Carlson, 2010). In parallel with existing techniques in literature, the stories were processed through a thematic analysis (Figure 10). All stories were examined and a set of criteria was determined to analyse the content of stories. Nine categories were used in the study to encode students' texts inclusing: 1) activity type, 2) activity place, 3) natural elements, 4) artificial elements, 5) people, 6) living creatures, 7) mood, 8) time range, 9) season (Table 6).

Stories (Qualitative)

Repeatedly examination of
drawings and stories

Determination of analysis criteria
by contents

Inductive and Thematic Analysis
1. Activity Type
2. Activity Place
3. Natural Elements
4. Artificial Elements
5. People
6. Living Creatures
7. Mood
8. Time Range
9. Season
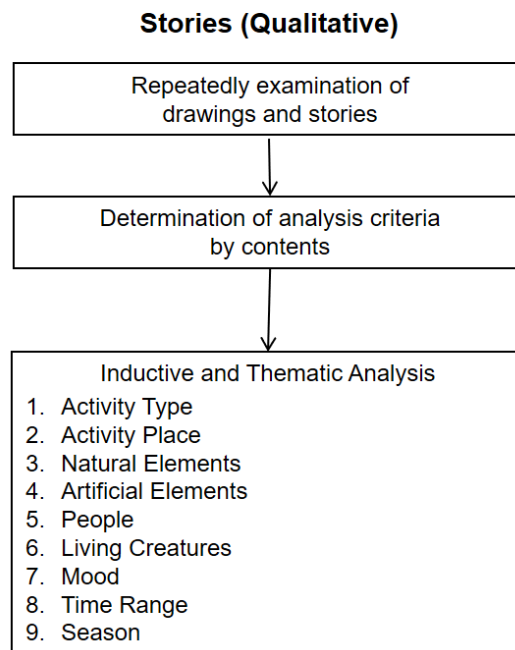
Figure 10. Data analysis criteria for stories

Table 6. Categories used to analyze stories

Categories	Descriptions
Activity Type	Consist on type of activity can be done alone or with someone by planned or randomly
Activity Place	Consist on place of activity which can be specifically or randomly chosen
Natural Elements	Elements which are created without human intervention
Artificial Elements	Elements which are created by human
People	Someone who does/does not have relationship with others
Living Creatures	All living things including animals and plants
Mood	Feelings, sensations, ideas related with positive or negative moods
Time Range	Specific time, hour, date, day or month
Season	Summer, Spring, Winter or Autumn

3.2.1. Pilot Study

As the first step of the fieldwork, a pilot study was conducted in a designated elementary school in Izmir. The main aim of the pilot study was to test the tools on field and to see what was intended to convey and what children understood about the questionnaires, to test children's reactions for writing and drawing tasks and to find the time they need to answer questionnaires, write stories and make drawings. In addition to children, another important aim was to test parents' questionnaires to learn their ideas about their children's outdoor experiences and general ideas about the questionnaires. The pilot study was conducted in Adnan Mazıcı Primary School, which is a state-run primary school, located in Karabağlar Districts' Basın Sitesi Neighborhood.

The school was chosen because of its convenient access. It was established in 1982 and it has 15 classrooms, 36 teachers and 830 students. Dual education time is applied in which half of the students are morning students (07.20-12.30) and others are afternoon students (12.40-17.20). Break times in this school are 10 minutes and there are no long time breaks. Two fourth grade classes with 28 students in total were chosen according to availability of their schedule (Table 7). In addition, 10 parents from the same school became volunteers for face-to-face interview to discuss parents' questionnaire debates (Table 8).

Table 7. Children's characteristics of the pilot study

	Gender (Girl)	Gender (Boy)	Age (9)	Age (10)	Age (11)	Having 1 Sibling	Having 2 Sibling	Having 3 Sibling	Having more than 3 Sibling	Worker Mother	Non-Worker Mother	Worker Father	Non-Worker Father
1st Class	14	8	0	20	2	5	11	4	2	15	7	22	0
2nd Class	14	8	4	17	1	5	15	1	1	9	13	20	2

Table 8. Parents' characteristics of the pilot study

	Gender (Woman)	Gender (Man)	Age (Under 30)	Age (Between 30-34)	Age (Between 35-40)	Age (Over 40)	Having 1 Child	Having 2 Child	Having 3 Child	Having more than 3 Child	Worker	Non-Worker	Have someone taking care of children	Don't have someone taking care of children
1st Class	21	0	0	3	13	5	5	11	4	1	16	5	5	16
2nd Class	17	2	1	2	12	3	7	10	1	1	7	10	0	17

Before administering the survey, the researcher conducted a site visit to talk with school administration. The details of the study were explained. On the same day, the researcher, together with the administrative staff, decided on the group of students to run the pilot study. The survey was carried out in two fourth grade classrooms in two class hours between 15:50-16:30 and 16:40-17:20 on two successive days. Parents of these two classroom children were also participants of this study.

In the first class hour of both classes, classroom teacher introduced the researcher to the class and the researcher briefly explained the reason of the visit. As it was agreed within the study protocol, the teacher left the classroom. From then on, the researcher was the only responsible in the classroom to avoid any distraction about the process. First class hour was used for answering the questionnaires. In the first 10 minutes, the questionnaire protocol was

read to children then questionnaires were distributed. The last 30 minutes was given to the children to complete their questionnaires. In the second-class hour, the story writing protocol was introduced to children and the theme was written on the board. The introduction part took five minutes. Then the papers were distributed and 30 minutes was given to finish story writing. In the second-class hour of the second class, the drawing protocol was introduced to children and the same process was followed. Drawing took 30 minutes with 25 minutes of drawing phase and five minutes of writing explanation about their drawings.

For questionnaires, drawing, and story-writing processes, the children were free to use their own pencils in all colors. Due to time limitations, however, the children were not allowed to use water-color. In the last five minutes of both second-class hours, parents' questionnaires were distributed to children. The researcher asked them to pass them to their parents, ask their parents to answer all the questions, and then bring these questionnaires back to school the following day. In addition, 10 mothers from the same school volunteered for a face-to-face interview about parents' questionnaires. All the questions read one by one and their comprehensibility were discussed. The face-to-face meeting with parents was useful in calibrating and finalizing the question set for parents.

As a result of the pilot study, it was observed that the fourth grade children were able to understand and follow the explanations of the field protocol. No major problems was observed in filling out the questionnaires. It was determined that it was not a good idea to tell them first listen the explanations of the questions and then answer, because many of them could not wait until the end. Some children started answering while explanation was on process, each of them asked different questions, and there was a chaos in the classroom at some point. These children had to wait other children until everyone finished answering the questions. Because of waiting, children started to talk among themselves and this disturbed other children who were still trying to finish answering questionnaires. As did in the second class, it was better to explain the questions one by one and when finished gave them time to answer. They asked questions and answers given to them question by question. This prevented redundant questions. With a 10 minute of introduction and 30 minutes for the questionnaires one class hour was appropriate for the first part of the study. In addition to the administration procedure, some changes were made to some questions (Appendix C).

As to the second and third instruments, story writing and drawing were appropriate for this age children. However, for the drawing and story writing, the theme was changed because they were asked "Could you please explain the day you had the best time outside?" Within this particular question the word "best" was confusing to some children. Some of them wrote about irrelevant things like the day their siblings was born, the day their parents got married. This question was revised as "Could you please draw or write a story about the thing(s) that you love to do outside? (Where are you? Who are you with? What are you doing?)". They made informative drawings with details. Introduction took five minutes. They had 25 minutes to complete their drawings and five minutes to explain their drawings. For the last five minutes, parent's questionnaires were distributed. One class hour was also appropriate for the second part of the study.

In the children's questionnaires introduction part, children got confused about the question "How many siblings are there in your family?" The question was revised as "How many siblings do you have?" In the question parts, "when you are not at school" is added to the questions in order to emphasize that their answers were about their spare times. For the question "Do you have any playground or play area near your home", the phrase "in walking distance" was added. Weekday, weekend and holiday times were added to TV, mobile phone, computer and tablet using frequency questions because children mentioned that their usage differ according to these differences. The children were observed to be comfortable in using time ranges including day, hour, and minute. As a result, the time range was included in the questions. For the question "Can you explain your arrival to school", many of them only mentioned yes as an answer. The question was changed to "Can you explain your arrival to school by explaining it in detail?"

In parents' questionnaires introduction part, "Do you have anyone at home that looks after your children?" was confusing to parents because many of them had relatives as an assistant so they hesitated to answer. "Caregiver or relative" was added to the question. Weekday, weekend and holiday times were also added to TV, mobile phone, computer and tablet using frequency questions, because parents also mentioned that children's usage differs according to the day of the week. The question "How do you prefer your child to go to school?" was changed to "How your children go to and return from school?" because mainly they did not explain it in detail.

3.2.2. Neighborhood Characteristics Research

As the second step of this study, a survey about neighborhood characteristics of selected urban zones such as population, surface area, density and real estate indices was conducted (Table 9). In addition, initial visits to the neighborhoods by walking and/or by car were made to have a general understanding of the study zones. Photographs of the built environment were taken and notes were kept about building types and physical amenities in the surroundings. The traffic conditions and human presence around was also observed. As a result, by this stage a better understanding of demographic, physical and social characteristics of all neighborhoods were determined. According to the findings, maps prepared with a fixed scale for each neighborhood (1/600 meter) and their main characteristic were summarized to see their similarities and/or differences with each other (Figure 11, 12, 13, 14, 15, 16, 17, 18, 19 & 20).

Table 9. Population and real state based characteristics of selected neighborhoods in Izmir (Source: Izmir Kent Rehberi, 2018, Hurriyetemlak.com, 2019).

Neighborhood	Population (person)	Surface Area (km²)	Density (person)	Price per square meter (For sale)		Price per square meter (For rent)		Period of redemption
				June 2019	Annual Variation	June 2019	Annual Variation	June 2019
Turgut Reis	3010	0.13	23153	2.750	-0,40%	14	1,54%	18 years
Mavişehir	13796	1.5	9197	3.781	12,79%	21	6,34%	29 years
Mimar Sinan	6437	0.83	7755	3.762	-6.49%	19	18,85%	18 years
Yaşar Kemal	6120	0.8	7650	2.170	0%	9	6,61%	23 years
Ilıca	8803	2.1	4191	5.133	7.90%	18	-1,83%	26 years
Erzene	36012	12.6	2858	3.790	1,28%	15	5,21%	24 years
Cumhuriyet	13952	1	1395	2.852	12,95%	11	-33,49,%	23 years
2. İnönü	9087	7.7	1180	3.071	-2,01%	14	15,63%	21 years
Zafer	3528	7	504	2.333	10,94%	10	45,68%	21 years

Mimar Sinan Neighborhood (Central Urban Zone)
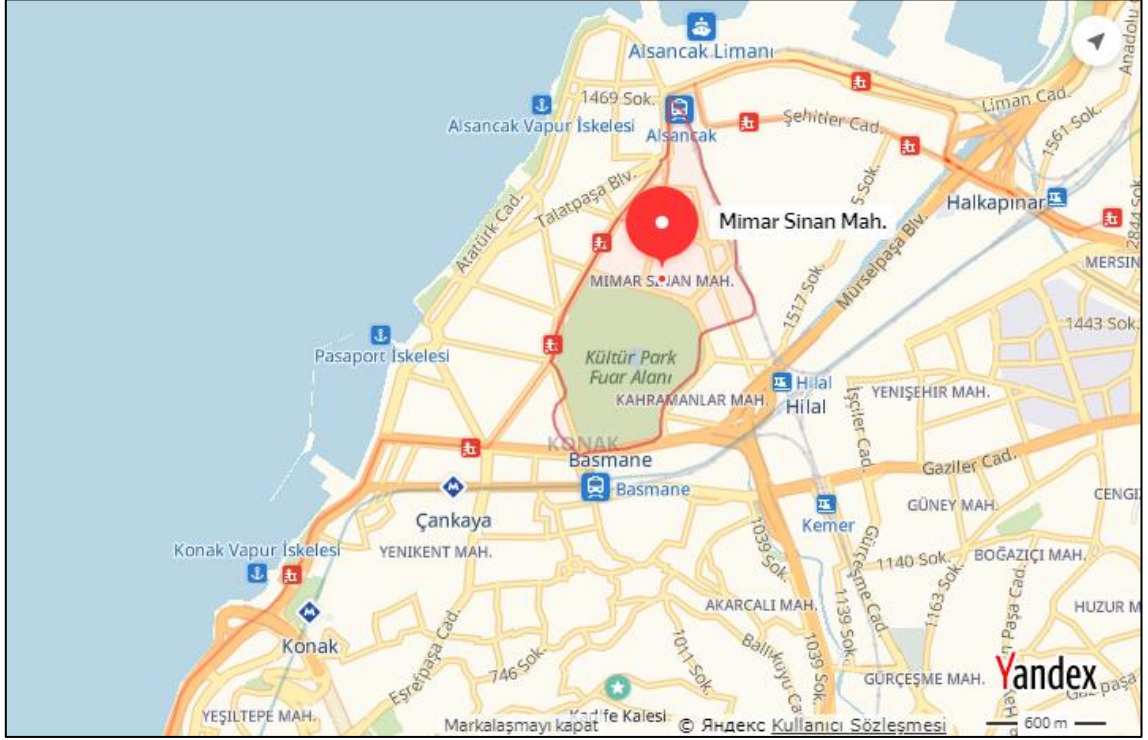
Figure 11. Boundaries of Mimar Sinan Neighborhood (Scale: 1/600 meter).

Mimar Sinan Neighborhood is located in Konak district and was chosen as a central urban zone, which is located in central business district. As of 2018, the total population of this neighborhood is 6437. Its surface area is 0.83 km^2 and its population density is 7755 person/km^2. It has an almost flat topography without any significant slopes. It is mostly surrounded by office buildings, residential buildings, education facilities (one elementary and two high school), sports facilities (Atatürk Indoor Sports Hall and Celal Atik Sports Hall), entertainment facilities (TRT City Radio, İsmet İnönü Art Center, Izmir Culture Center and Teenage Theather), shopping facilities (markets and small shops) and healthcare facilities. Izmir Cultural Park is also within the boundaries of this neighborhood. Neighborhood is dominated by heavy and active traffic with cars, public transportation vehicles and tramway. It is not easy for a child to walk freely and safely around the neighborhood.

Turgut Reis Neighborhood (Central Urban Zone)
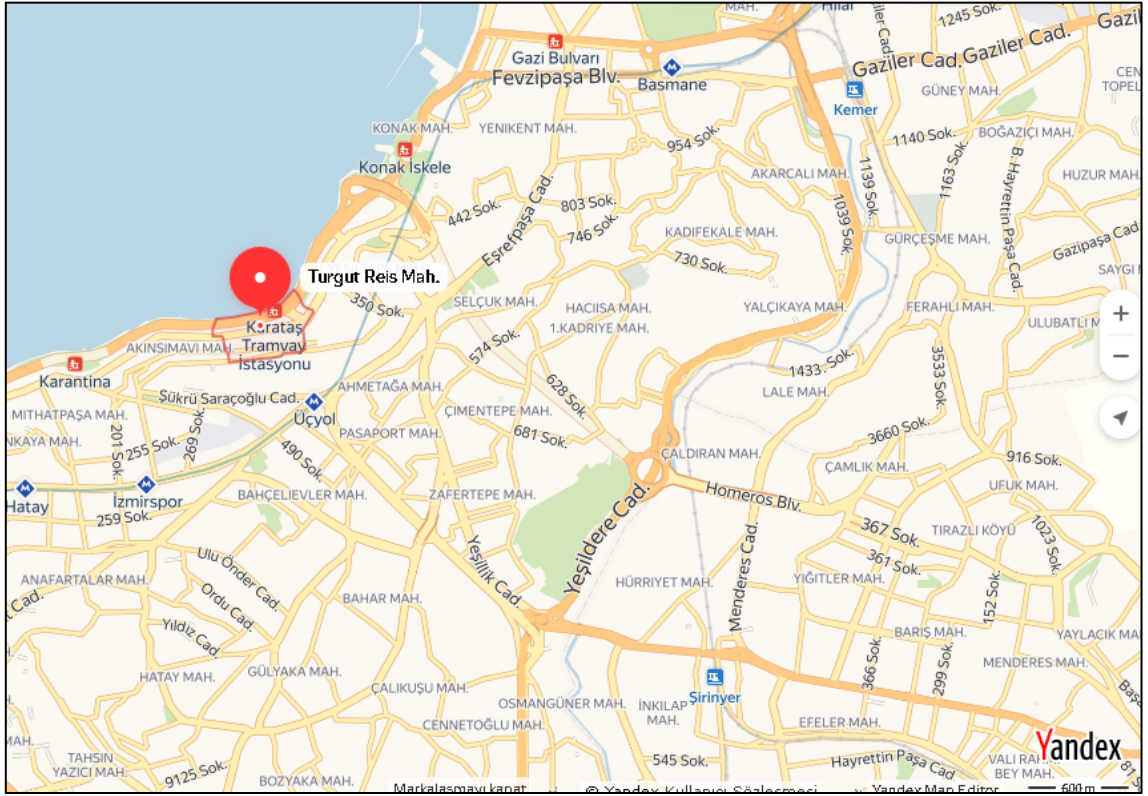
Figure 12. Boundaries of Turgut Reis Neighborhood (Scale: 1/600 meter).

Turgut Reis Neighborhood is located in Konak district and was chosen as a central urban zone, which is located in central business district. As of 2018, the total population of this neighborhood is 3010. Its surface area is about 0.13 km^2 and its population density is 23153 person/km^2. Its topography consists of steep slopes starting from the seashore on. Residential buildings, education facilities (one elementary and one high school), cultural facility (Cumhuriyet Education Museum), historical structures (Historical Elevator and Beth-Israel Synagogue), socialization facilities (Cafes and restaurants), recreation facility (a public park) and shopping facilities (markets and small shops), mostly surround Turgut Reis Neighborhood. Neighborhood is not dominated by heavy and active traffic, only some cars and buses pass through the neighborhood. There are some unused and broken down buildings, which can be worrisome and/or scary for a child.

Mavişehir Neighborhood (Gated Community Urban Zone)
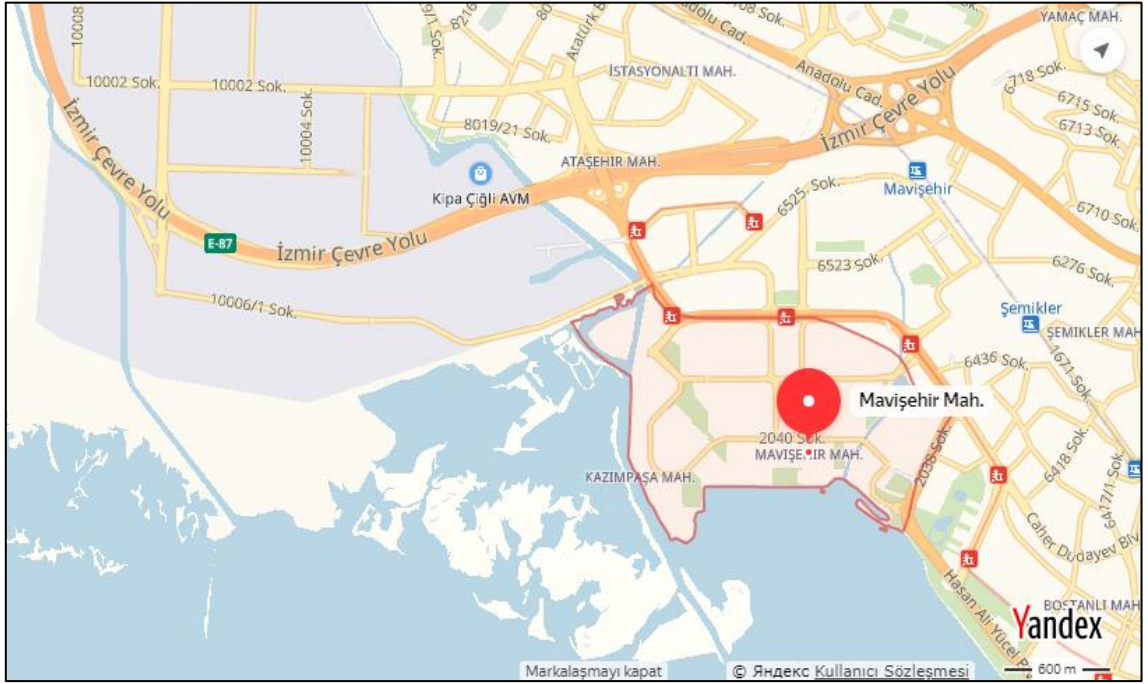
Figure 13. Boundaries of Mavişehir Neighborhood (Scale: 1/600 meter).

Mavişehir Neighborhood is located in Karşıyaka district and was chosen as a gated community urban zone. As of 2018, the total population of this neighborhood is 13796. Its surface area is about 1.5 km^2 and its population density is 9197 person/km^2. It has a flat topography. It is mostly surrounded by high-rise residential buildings (gated communities); shopping facilities (Mavibahçe Shopping Center, Ege Park Shopping Center, markets and small shops), education facilities (one elementary, two high school and two private school), sports facilities (Mustafa Kemal Atatürk Indoor Sports Hall and Sports International), entertainment facility (Karşıyaka International Children's Museum and Education Campus), socialization facilities (Cafes and restaurants), recreation facility (a public park) and a big vacant lot. The neighborhood is dominated by heavy and active traffic with cars, public transportation vehicles and tramway. It is not easy for a child to walk freely and safely around the neighborhood.

Ilıca Neighborhood (Gated Community Urban Zone)
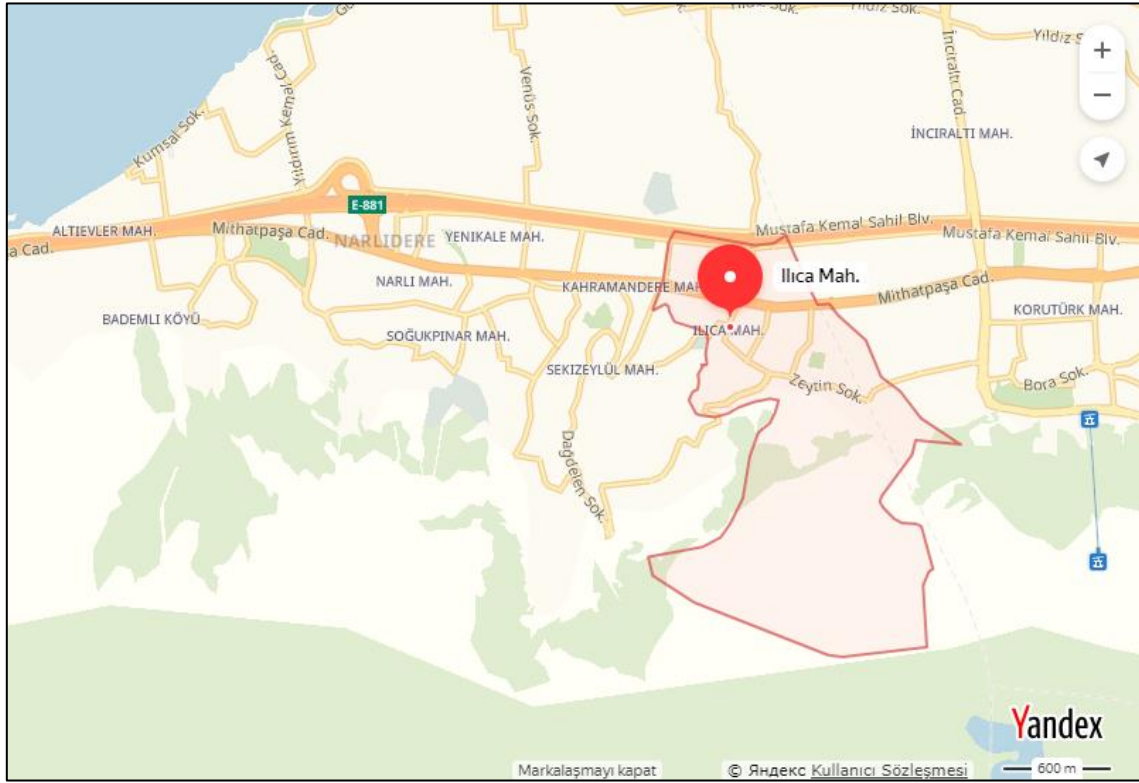
Figure 14. Boundaries of Ilıca Neighborhood (Scale: 1/600 meter).

Ilıca Neighborhood is located in Narlıdere district and was chosen as a gated community urban zone. As of 2018, the total population of this neighborhood is 8803. Its surface area is about 2.1 km^2 and its population density is 4191 person/km^2. It has a steep topography. It is mostly surrounded by high-rise residential buildings (gated communities), education facilities (one elementary, one high school), entertainment facility (private theater), socialization facilities (cafes and restaurants), recreation facilities (two hotel), sports facility (Altay Sports Arena), socialization facilities (cafes and restaurants), shopping facilities (markets and small shops) and recreation facilities (five public parks). Neighborhood is not dominated by heavy and active traffic, only some cars pass through the neighborhood. It is easy for a child to walk or play freely and safely around this neighborhood.

Yaşar Kemal Neighborhood (Mass Housing Urban Zone)
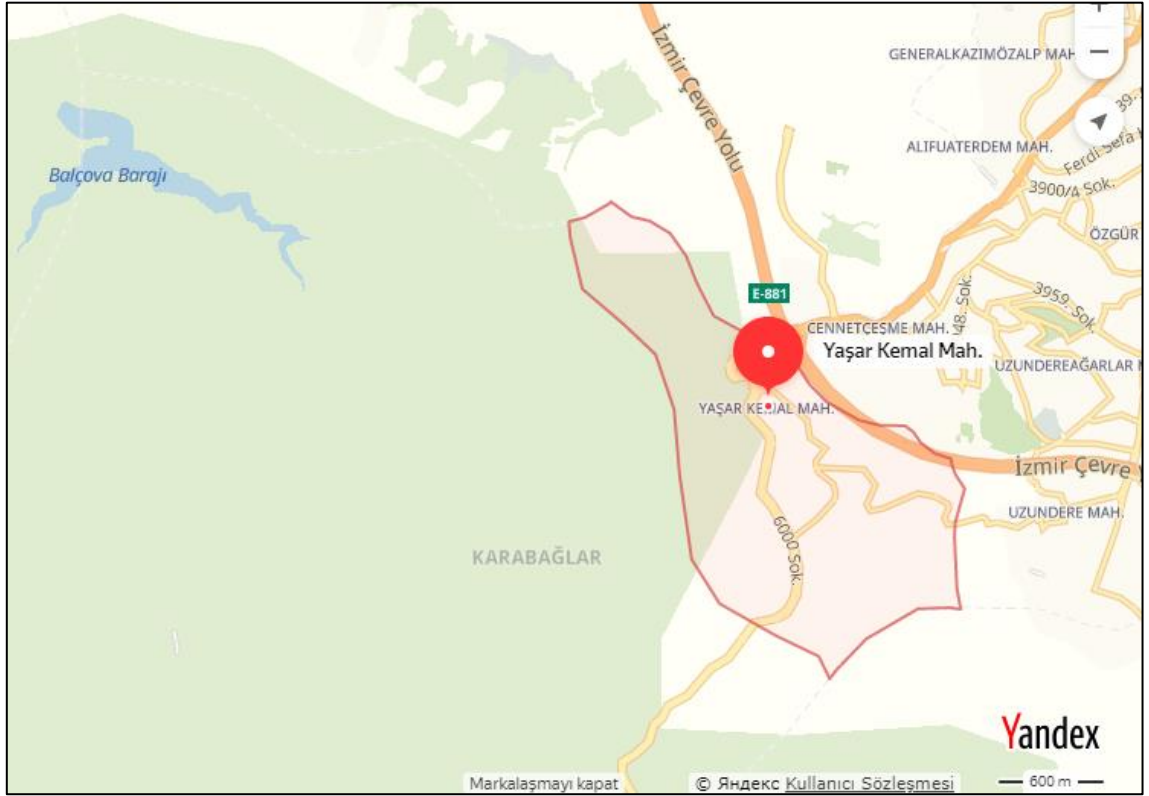
Figure 15. Boundaries of Yaşar Kemal Neighborhood (Scale: 1/600 meter).

Yaşar Kemal Neighborhood is located in Karabağlar district and was chosen as a mass housing urban zone. As of 2018, the total population of this neighborhood is 6120. Its surface area is about 0.80 km^2 and its population density is 7650 person/km^2. This neighborhood is built as a result of a relocation process. Residents living in Kadifekale (a low-income residential area) moved to this neighborhood because of an urban transformation project. It has a steep topography. It is mostly surrounded by high-rise residential buildings (mass housing), education facilities (two elementary, two high school), shopping facility (shopping center), industrial facilities (factories and storage areas) and recreation facilities (three public parks). Neighborhood is not dominated by heavy and active traffic, only some cars pass through the neighborhood. It is easy for a child to walk freely and safely around the neighborhood.

Zafer Neighborhood (Mass Housing Urban Zone)
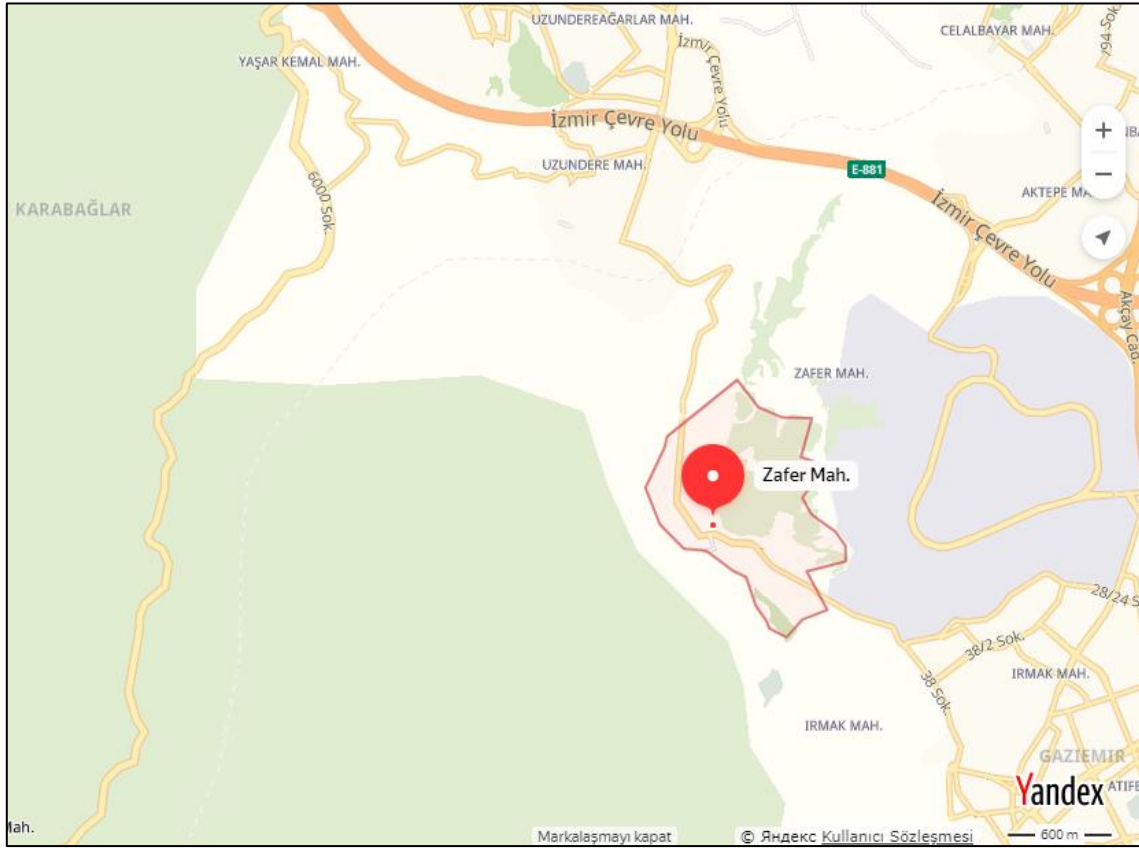
Figure 16. Boundaries of Zafer Neighborhood (Scale: 1/600 meter).

Zafer Neighborhood is located in Gaziemir district and was chosen as a mass housing urban zone. As of 2018, the total population of this neighborhood is 3528. Its surface area is about 7 km^2 and accordingly, population density is 504 person/km^2. This neighborhood is located near the Aegean Free Zone. It has a flat topography. It is mostly surrounded by high-rise residential buildings (mass housing), education facilities (two elementary, one high school), shopping facilities (markets and small shops) and recreation facilities (five public parks). Optimum Outlet Shopping Center, which is one of the biggest shopping center in Izmir, is near this located near to this neighborhood. The neighborhood has a light traffic, only few cars pass through the neighborhood during the daytime. It is easy for a child to walk freely and safely around the neighborhood.

İnönü Neighborhood (Squatter Settlement Urban Zone)
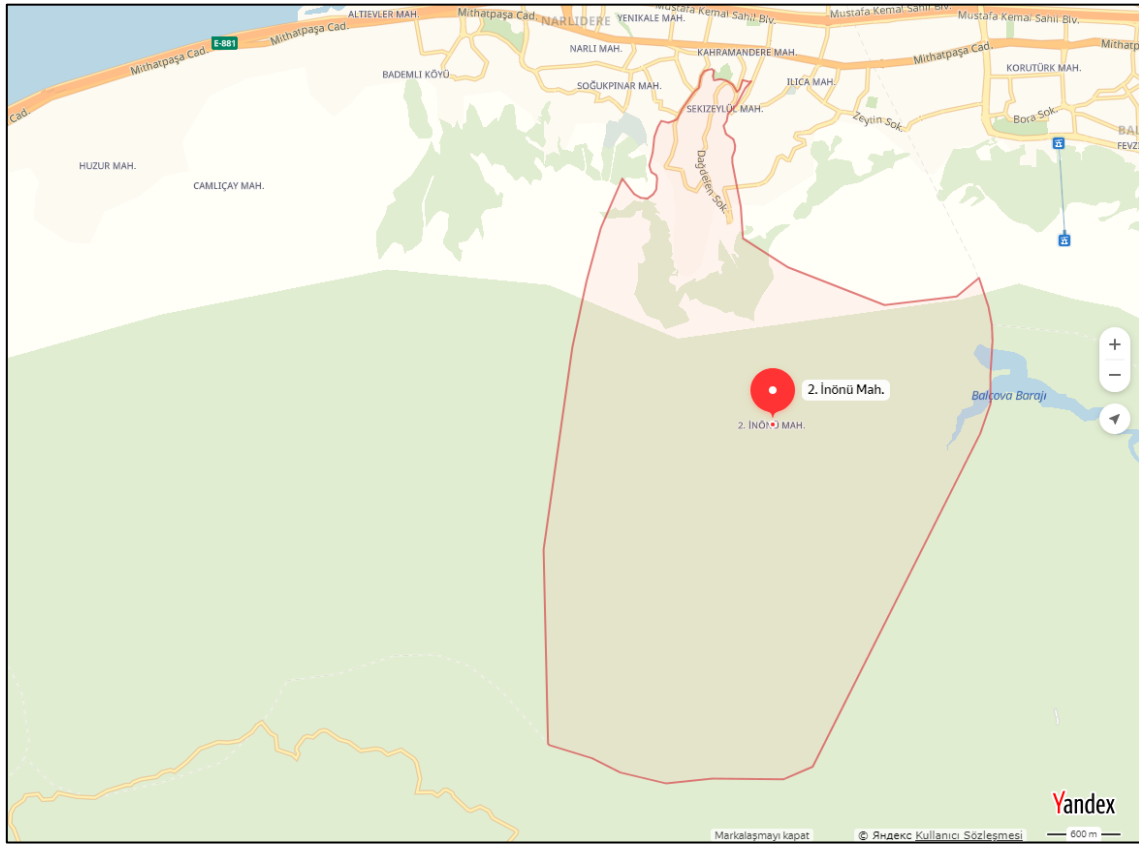
Figure 17. Boundaries of 2. İnönü Neighborhood (Scale: 1/600 meter).

İnönü Neighborhood is located in Narlıdere district and was chosen as a squatter settlement urban zone. As of 2018, the total population of this neighborhood is 9087. Its surface area is about 7.7 km^2 and its population density is 1180 person/km^2. It has a steep topography. Low-rise squatter settlements and high-rise residential buildings, education facilities (two elementary school), shopping facility (markets and small shops), entertainment facility (Yaşar Kemal Culture and Art Center) and recreation facilities (three public parks) surround it. Heavy and active traffic, many cars, public transportation vehicles dominate neighborhood and earth-moving trucks pass through the neighborhood. There are no pedestrian road or sidewalk. It is not easy for neither adults nor children to walk freely and safely around the neighborhood.

Cumhuriyet Neighborhood (Squatter Settlement Urban Zone)
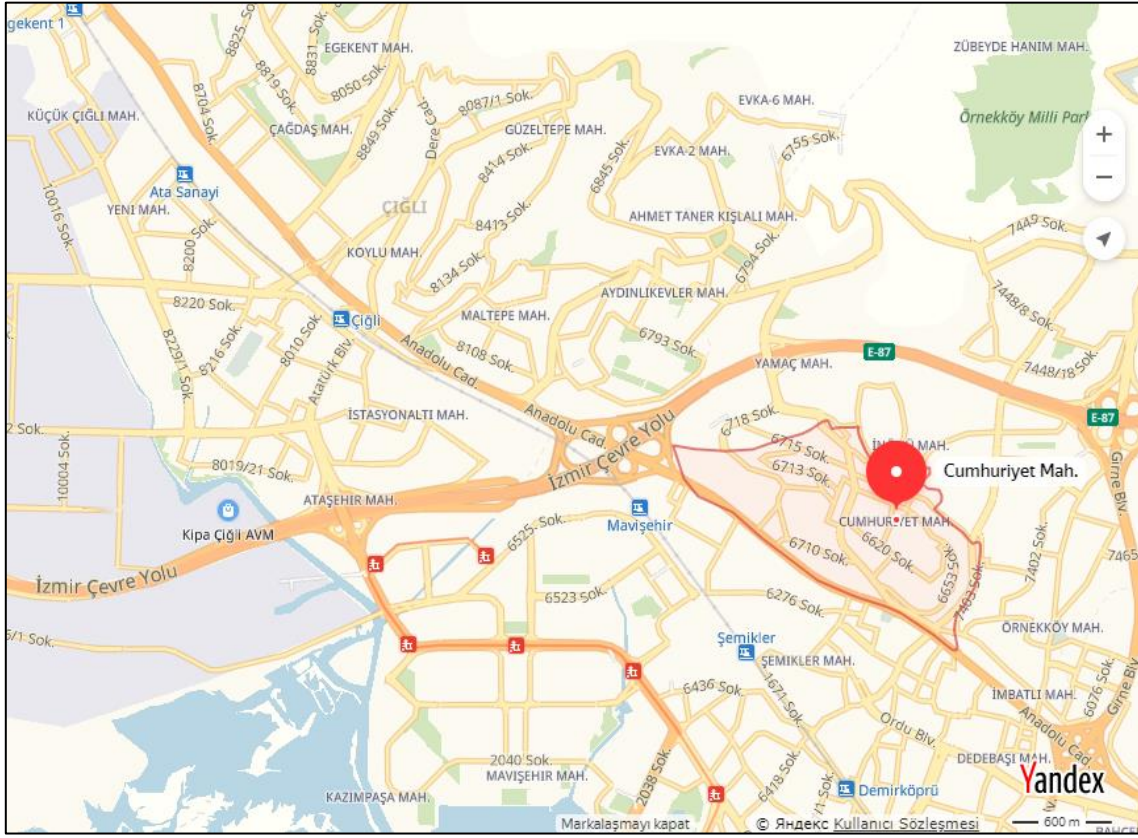
Figure 18. Boundaries of Cumhuriyet Neighborhood (Scale: 1/600 meter).

Cumhuriyet Neighborhood is located in Karşıyaka district and was chosen as a squatter settlement urban zone. As of 2018, the total population of this neighborhood is 13952. Its surface area is about 1 km^2 and its population density is 1395 person/km^2. It has a steep topography with narrow streets. It is surrounded by low-rise squatter settlements and middle-rise residential buildings (some squatter settlements are transformed to building blocks), education facilities (two elementary and two high school), shopping facilities (a Migros- a big super market, markets and small shops), entertainment facility (cultural center), some workplaces, sports facilities (sports area) and recreation facilities (seven public parks). Some parts of the neighborhood is not dominated by heavy and active traffic but some parts are.

Erzene Neighborhood (Point-Block Settlement Urban Zone)
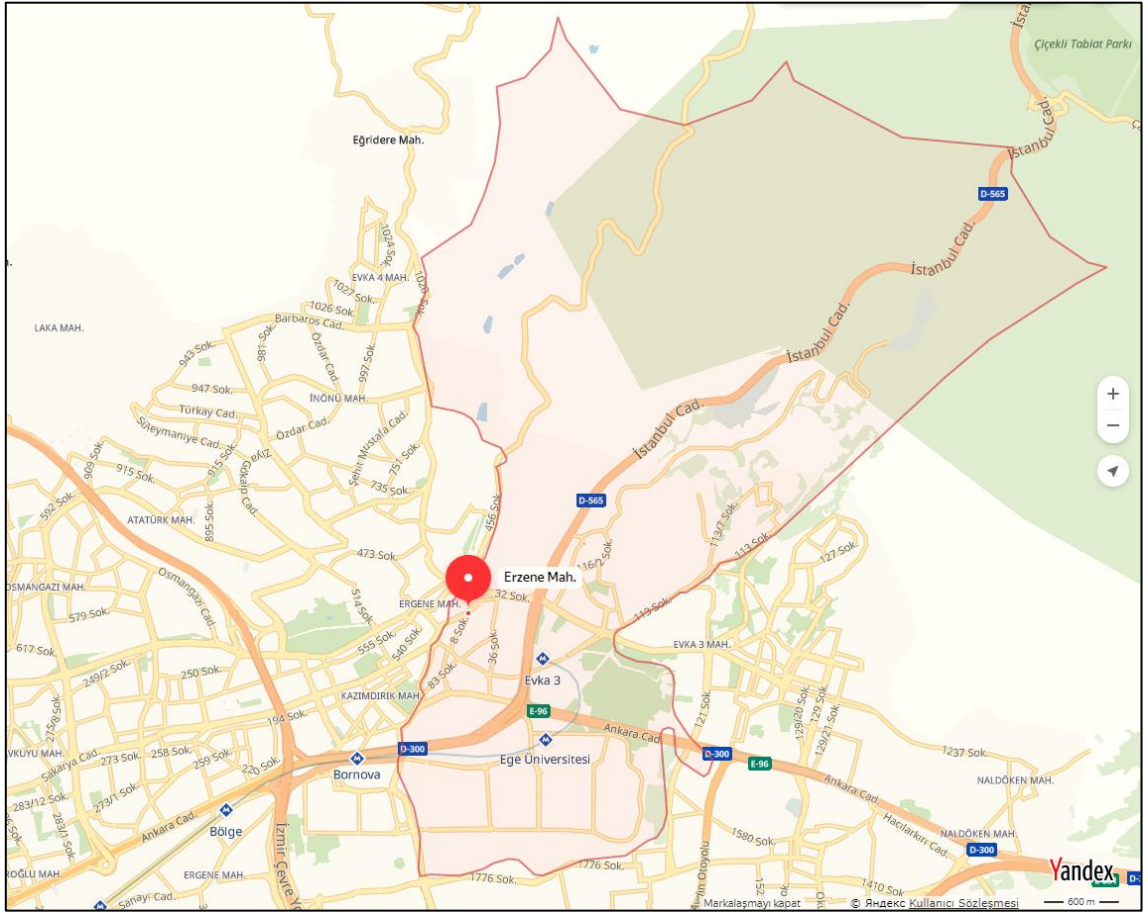
Figure 19. Boundaries of Erzene Neighborhood (Scale: 1/600 meter).

Erzene Neighborhood is located in Bornova district and was chosen as a point-block settlement urban zone. As of 2017, the total population of this neighborhood is 36012. Its surface area is about 12.6 km^2 and its population density is 2858 person/km^2. It has a steep topography. It is surrounded by mid-rise residential buildings, education facilities (Ege University, four college, one elementary and two high school), shopping facilities (Kipa-a big super market, markets and small shops), entertainment facilities (cultural center and museum), sports facilities (tennis court) and recreation facilities (forest and twelve public parks). Some parts of the neighborhood is not dominated by heavy and active traffic but some parts are.

3.2.3. Preliminary School Observation and Selection

As the third step of this study, preliminary school observations were conducted in ten different neighborhoods. The schools were taken as the center point of a circle with a radius of 400 meter designating a walkable distance to the center. Azmi and colleagues described walking distance as "the fixed distance that can be travelled by foot" and "the five-minute walk is a standard describing the average distance that a pedestrian is willing to walk before choosing to drive" (Azmi & Karim, 2012:207). A radius measuring 400 meters (Olson, 2010) often represented the unit of measurement for commonplace in the planning discipline. As supporting pioneer studies of Perry (1927) and Stein (1957) dictate, a field analysis was conducted in an area of a radius measuring 400 meters of the chosen primary schools. Azmi, Karim, and Amin (2013) made a study comparing the walking behavior between urban and rural residents and found that children have no difficulty in taking a 400 meter distance in walking. Their result indicated that primary school children achieved easily the 400 meters of average of walking distance as proposed in guidelines when compared to other participants consisting of the elderly and pre-scholar, and adults.

Following the preliminary observations, 10 public state-run primary schools in Izmir, which have all day education system from five different urban zones, were chosen (Table 10 & Figure 20) based on their demographic and physical characteristics as explained above. The primary schools were considered as the midpoints of field study neighborhoods as it is often suggested in the planning practice. Most participants of the study (75,6% of children) mentioned that their house and school are in the same neighborhood (Figure 21).

An initial walk through within 400-meter radius of all public schools was conducted as a field analysis. Sections from all schools within 400 meter are taken (Figure 42, 43, 44, 45 & 46). Photographs were taken from important points and an observation checklist (Appendix G) was used to take notes regarding physical and spatial characteristics of those areas. Traffic conditions (Ahern et al., 2017), street amenities (Race et al., 2017) and way finding (Cornell, Heth, & Rowat, 1992) features were also documented briefly. This stage was very useful for understanding certain basic and geographical characteristics of each neighborhood and the environmental quality (Table 11). The ethical approval for the study was obtained from Atılım University (Ethics Committee of Human Studies, Social and

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Human Research Commission) and official permission were obtained from the Izmir Provincial Directorate of National Education (B.08.0.YET.00.20.00.0/3616) and the administrations of all schools.

Table 10. Areal characteristics of field study schools

	Primary School	Neighborhood	District	Urban Zone Type
1	Melih Özakat	Mimar Sinan	Konak	Central
2	Kemal Reis	Turgut Reis	Konak	Central
3	Mavişehir	Mavişehir	Karşıyaka	Gated Community
4	Kılıçaslan	Ilıca	Narlıdere	Gated Community
5	Yavuz Selim	Yaşar Kemal	Karabağlar	Mass Housing
6	Izmir Ticaret Odası	Zafer	Gaziemir	Mass Housing
7	İnönü	2.İnönü	Narlıdere	Squatter Settlement
8	Atatürk	Cumhuriyet	Karşıyaka	Squatter Settlement
9	Necmiye Bilgin	Erzene	Bornova	Point-block Settlement
10	Hasan İçyer	2.İnönü	Narlıdere	Point-block Settlement
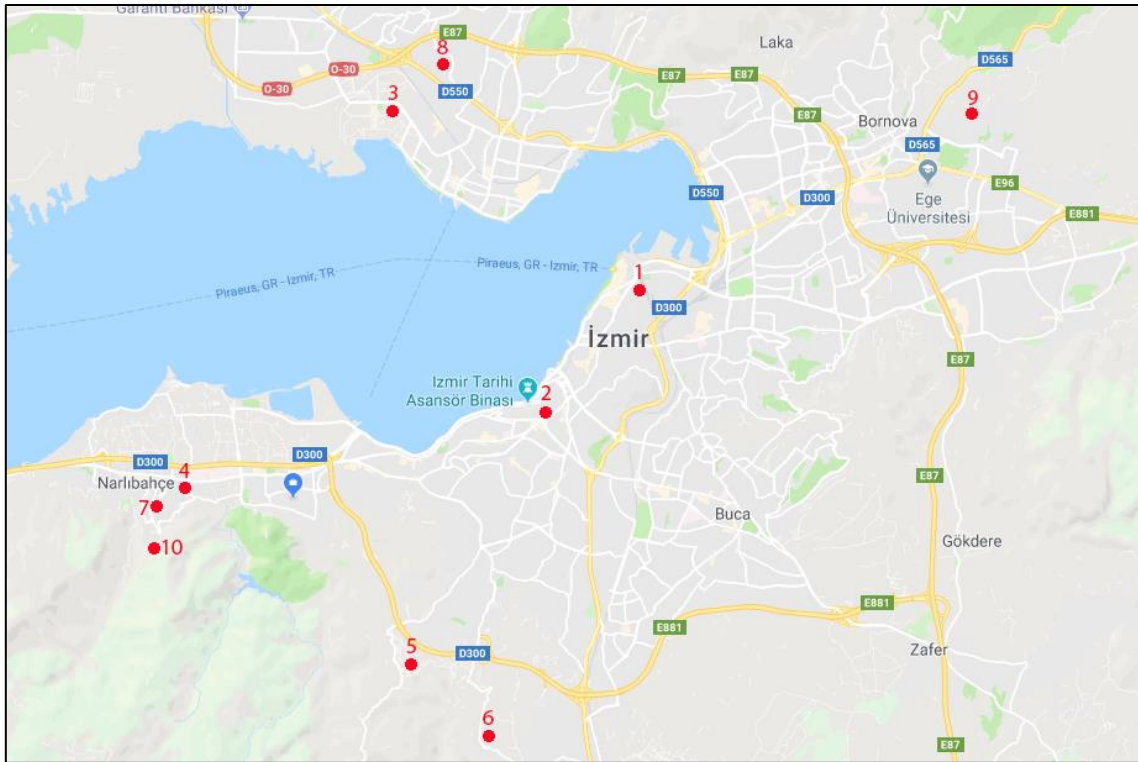
Figure 20. Locations of field study schools
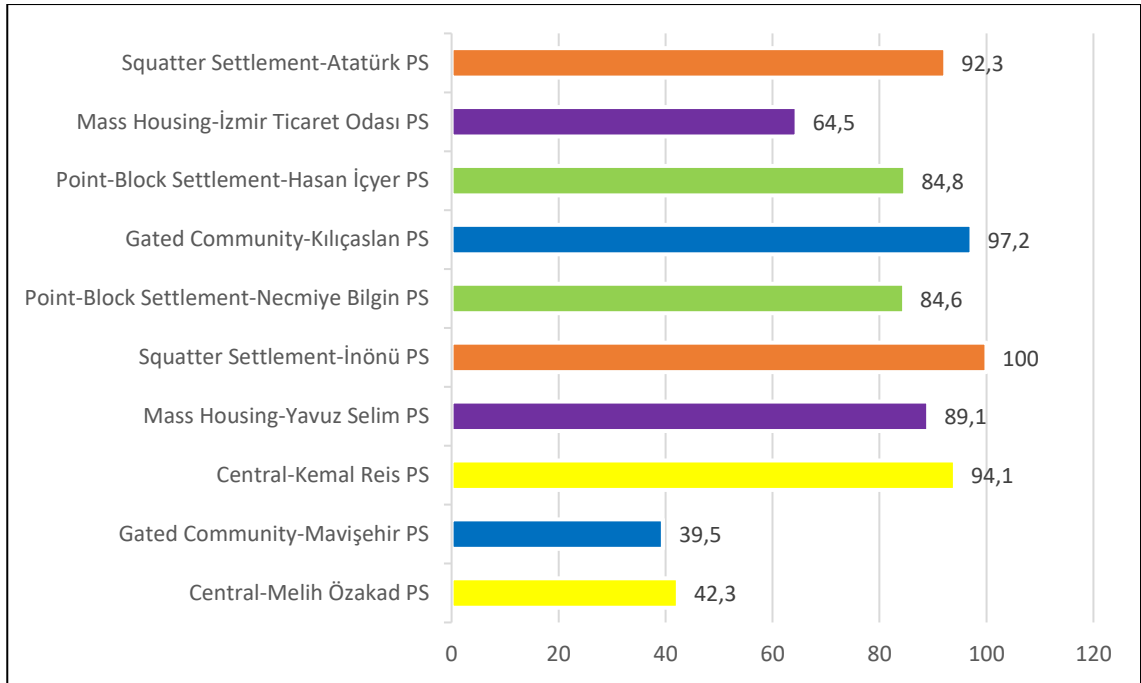
Figure 21. Ratio of residency in the same neighborhood with school

Table 11. Physical characteristics of schools within 400 meters

NEIGHBORHOOD / SCHOOL	Heavy traffic	Public transportation	Security camera / staff	Lighting equipment	Wayfinding / street sign	Being in a quiet environment	Park / green areas nearby	Playground nearby	Any side walk	Any pedestrian road	Any crosswalk	Any speed bump
Mimar Sinan Neighborhood / Melih Özakad PS	+	+	+	+	+		+	+	+	+	+	+
Turgut Reis Neighborhood / Kemal Reis PS		+		+	+	+			+	+	+	+
Mavişehir Neighborhood / Mavişehir PS	+	+	+	+	+		+	+	+	+	+	+
Ilıca Neighborhood / Kılıçaslan PS		+	+	+	+				+	+	+	+
Yaşar Kemal Neighborhood / Yavuz Selim PS		+		+	+	+	+		+	+		+
Zafer Neighborhood / Izmir Ticaret Odası PS		+	+	+	+	+	+	+	+			+
2.İnönü Neighborhood / İnönü PS	+	+		+	+						+	
Cumhuriyet Neighborhood / Atatürk PS		+	+	+	+	+			+	+		+
Erzene Neighborhood /Necmiye Bilgin PS		+		+	+	+	+	+	+		+	+
2.İnönü Neighborhood / Hasan İçyer PS				+	+	+	+		+			

Melih Özakat Primary School - Mimar Sinan Neighborhood- Konak (Central)

Melih Özakad Primary School is located in a central business district. There are office and residential buildings, education, sports, entertainment, shopping and healthcare facilities around the school. School area is dominated by heavy and active traffic with cars, public transportation vehicles (bus and dolmush) and tramway. There are standard single lighting equipment, wayfinding and street signs. Sidewalk, pedestrian road and crosswalk are ergonomic and well kept but there are no speed bumps. Izmir Cultural Park, which is the largest green area in Izmir, is located within three minutes walking distance to school. Tramway is passing near the school through north and west direction but it did not exist when this study was conducted (Figure 22 & 23).

Figure 22. Location of Melih Özakad Primary School (Scale: 1/70 meter)

(a)

(b)

(c)

(d)
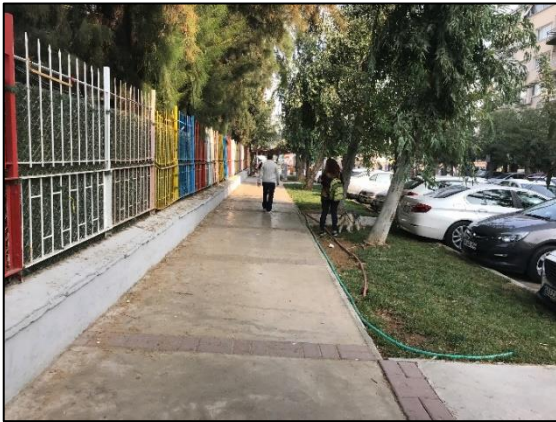
(e)

(f)

Figure 23. Characteristics of Melih Özakad Primary School area

(a) Tramway road north direction, (b) Tramway road west direction, (c) Street
sign, (d) Crosswalk in front of the school, (e) Pedestrian walk beside the exterior
wall of the school area, (f) No speed bump in front of the school entrance

Kemal Reis Primary School - Turgut Reis Neighborhood - Konak (Central)

Kemal Reis Primary School is located near the city center; however because of being located on a steep hill, the surrounding area is quiet and calm. There are residential buildings, education, entertainment, historical, socialization, recreation and shopping facilities around the school. School area is not dominated by heavy and active traffic only some cars and small public buses pass through the school. There are standard lighting equipment, wayfinding and street signs. Sidewalk, pedestrian road, crosswalk and speed bump are ergonomic and well kept. Around the district, there are also some unused buildings and structures near the school. In general, streets are neglected. Historical Elevator is located within three minutes walking distance to school (Figure 24 & 25).

Figure 24. Location of Kemal Reis Primary School (Scale: 1/70 meter)

Figure 25. Characteristics of Kemal Reis Primary School area

(a) Speed bump in front of the school, (b) Rarely located street lights, (c) Side walk beside the school, (d) Street signs, (e) Steep stairs through the school, (f) Crosswalk in front of the school

Mavişehir Primary School - Mavişehir Neighborhood - Karşıyaka (Gated Community)

Mavisehir Primary School is located in a crowded area. There are high-rise gated communities, education, sports, entertainment, shopping and socialization facilities around the school. The school area is dominated by heavy and active traffic with cars. There are standard single lighting equipment, wayfinding and street signs. Sidewalk, pedestrian road, crosswalk and speedbump are ergonomic and well kept. Mavibahçe, which is one of the biggest semi-open shopping area in Izmir, is located within five minutes walking distance to school. In addition, Karşıyaka International Children's Museum and Education Campus, which the biggest open-air children's facility in Izmir is located within five minutes walking distance to school (Figure 26 & 27).
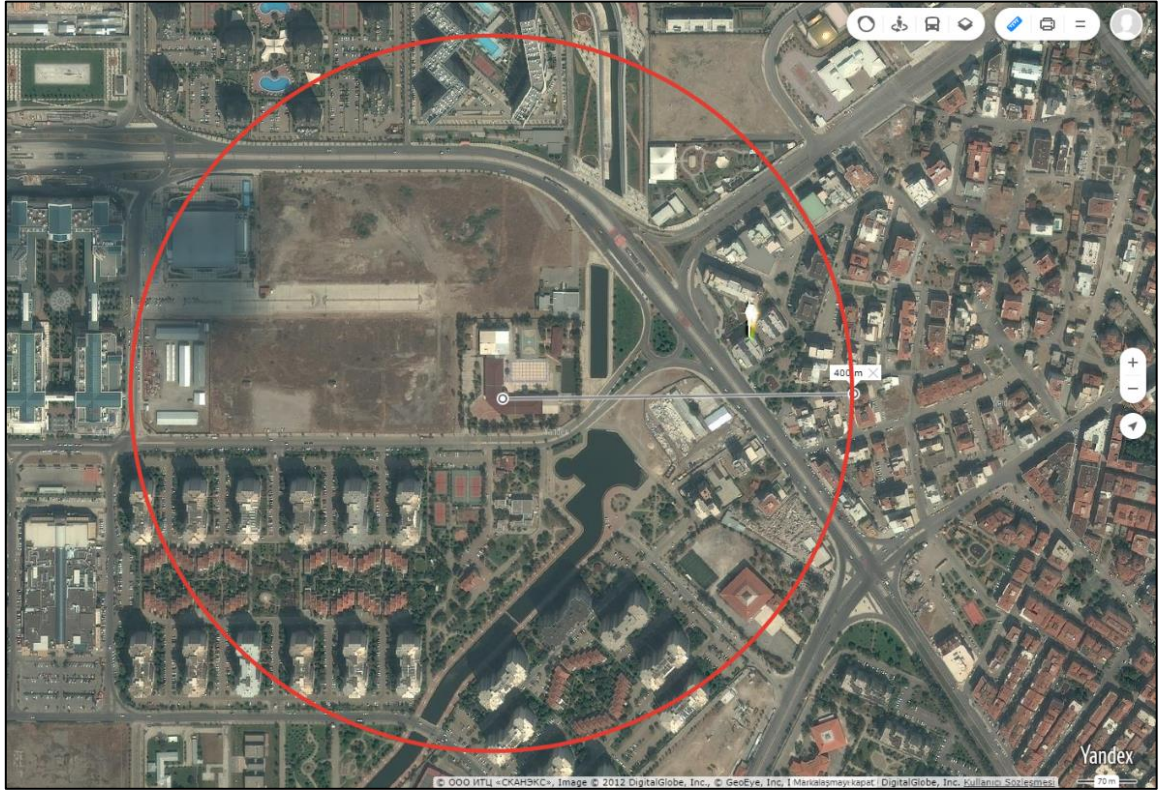
Figure 26. Location of Mavişehir Primary School (Scale: 1/70 meter)

Figure 27. Characteristics of Mavişehir Primary School area

(a) Gated communities in the face of the school, (b) Pedestrian road in front of the school, (c) Busy traffic road, (d) Crosswalk, (e) Speed bump, (f) Street sign

Kılıçaslan Primary School - Ilıca Neighborhood - Narlıdere (Gated Community)

Kılıçaslan Primary School is located in a quiet area. There are high-rise gated communities, education, sports, entertainment, shopping, socialization and recreation facilities around the school. The school area is not dominated by heavy and active traffic only some cars and buses pass through the school. There are standard single lighting equipment, wayfinding and street signs about places and school. Sidewalk, pedestrian road, crosswalk and speed bump are ergonomic and well kept. Balçova Kipa Shopping Center, which is one of the biggest indoor shopping area in Izmir, is located within five minutes walking distance to school. Izmir Dokuz Eylül University Hospital, which is one of the biggest University Hospitals in Izmir, is located within three minutes walking distance to school (Figure 28 & 29).

Figure 28. Location of Kılıçaslan Primary School (Scale: 1/70 meter)

(a)

(b)

(c)

(d)

(e)

(f)

Figure 29. Characteristics of Kılıçaslan Primary School area

(a) Broad road in front of the school, (b) Street lights, (c) Gated communities in the face of the school, (d) Street sign, (e) Crosswalk through the school, (f) Speed bump

Yavuz Selim Primary School - Yaşar Kemal Neighborhood - Karabağlar (Mass Housing)

Yavuz Selim Primary School is located in a quiet area. There are high-rise mass housing residential settlement, education, entertainment, industrial, recreation and shopping facilities around the school. School area is not dominated by heavy and active traffic only some cars and buses pass near the school. There are standard single lighting equipment, wayfinding and street signs about places and school. Sidewalk, pedestrian road and speed bump are ergonomic and well kept. There are no crosswalks. There is a big cliff in front of the school. The school is recently built and is located outside the Izmir perimeter highway, which is located within five minutes distance to school by car. Selway Outlet Center, which is the biggest outdoor outlet shopping center in Izmir, is located within five minutes distance to school by car (Figure 30 & 31).

Figure 30. Location of Yavuz Selim Primary School (Scale: 1/70 meter)

Figure 31. Characteristics of Yavuz Selim Primary School area

(a)Frequent street lights, (b) Bus stop beside the school, (c) Street signs,

(d) Security precaution against cliff, (e) Side walk, (f) General location of the

school

Izmir Ticaret Odası Primary School - Zafer Neighborhood - Gaziemir (Mass Housing)

Izmir Ticaret Odası Primary School is located in a very quiet area, mainly covered with trees and green areas. There are high-rise mass housing residential settlement, education, recreation and shopping facilities around the school. School area is not dominated by heavy and active traffic only some cars and public buses pass through the school. There are standard single lighting equipment, wayfinding and street signs. Sidewalk and speed bump are ergonomic and well kept. There are no crosswalks and pedestrian roads. ESBAŞ (Aegean Free Zone) is located within five minutes distance to school by car. Optimum Outlet Center, which is the biggest indoor outlet shopping center in Izmir, is located within eight minutes distance to school by car. (Figure 32 & 33).
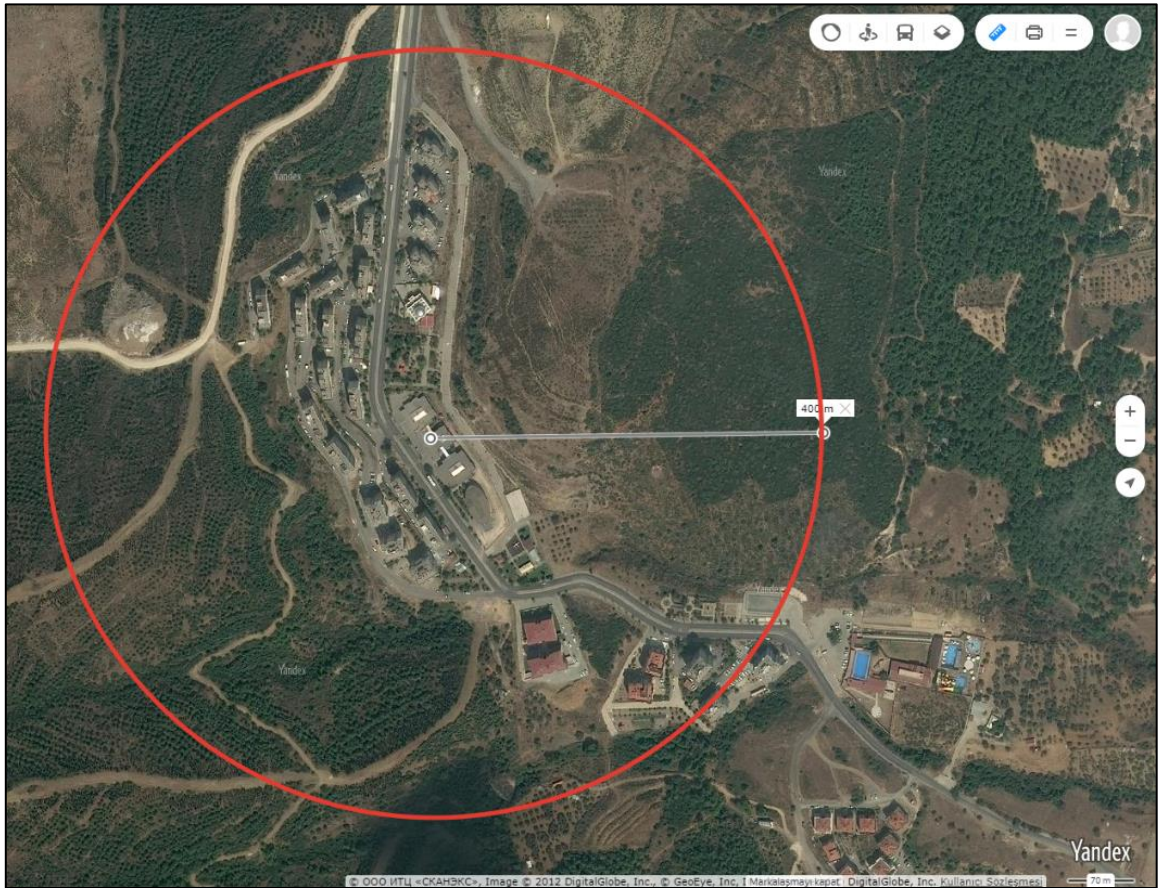
Figure 32. Location of Izmir Ticaret Odası Primary School (Scale: 1/70 meter)

(a)   (b)

(c)   (d)

(e)   (f)

Figure 33. Characteristics of Izmir Ticaret Odası Primary School area

(a) High-rise buildings around the school, (b) No crosswalk in front of the school entrance, (c) Broad road in front of the school, (d) Frequent street lights, (e) No street sign, (f) Speed bump in front of the school entrance

İnönü Primary School - 2. İnönü Neighborhood - Narlıdere (Squatter Settlement)

İnönü Primary School is located in a very crowded and complex area. There are low-rise squatter settlements, education, recreation, entertainment and shopping facilities around the school. School area is dominated by heavy and active traffic with many cars, public transportation vehicles and earth-moving trucks passing in front the school. There are standard single lighting equipment, wayfinding and street signs. There is a crosswalk, which is not ergonomic and well kept. There are no pedestrian roads, sidewalks and speed bumps. In general, physical characteristics and amenities around the school is insufficient. School I located in a steep street. Security is the main problem around the school area (Figure 34 & 35).

Figure 34. Location of İnönü Primary School (Scale: 1/70 meter)

(a)   (b)

(c)   (d)

(e)   (f)

Figure 35. Characteristics of İnönü Primary School area

(a) Street sign in front of the school, (b) Busy road through the new settlement area, (c) No side walk beside the school, (d) Maintenance-free sidewalk, (e) No sidewalks in the face of school, (f) Crosswalk in front of the school entrance

Atatürk Primary School - Cumhuriyet Neighborhood - Karşıyaka (Squatter Settlement)

Atatürk Primary School is located in a quiet area. There are low-rise squatter settlements, education, sports, recreation, entertainment and shopping facilities around the school. School area is not dominated by heavy and active traffic. There are standard single lighting equipment, wayfinding and street signs. There are pedestrian road, sidewalk and speed bump, which are ergonomic and well kept. There are no crosswalks. Despite this neighborhood being a squatter settlement, because of being located in an urban transformation area physical qualities of the nearby environment is beyond expectations (Figure 36 & 37).

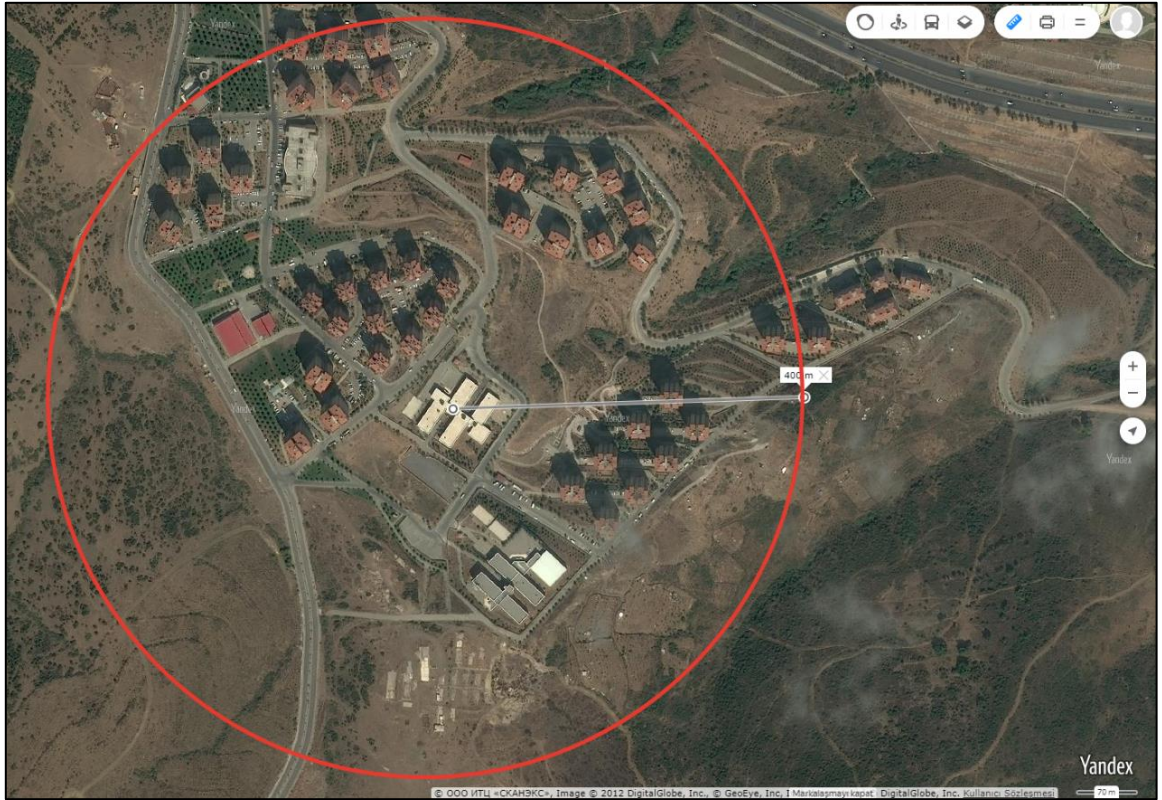Figure 36. Location of Atatürk Primary School (Scale: 1/70 meter)

(a)   (b)

(c)   (d)

(e)   (f)

Figure 37. Characteristics of Atatürk Primary School area

> (a) Street signs beside the school, (b) Narrow sidewalks, (c) No crosswalk in
> front of the school, (d) Steep stairs through the school, (e) No speed bump in
> front of the school, (f) Rare streetlights

Necmiye Bilgin Primary School - Erzene Neighborhood - Bornova (Point-block Settlement)

Necmiye Bilgin Primary School is located in a very quiet area. There are mid-rise residential buildings and recreation facilities around the school. School area is not dominated by heavy and active traffic only some cars and public transportation vehicles pass through the school. There are standard single lighting equipment, wayfinding and street signs. There are crosswalk, sidewalk and speed bump, which are ergonomic and well kept. There are no pedestrian roads. There is a big cliff in front of and a forest behind the school. Ege University, which is the biggest university in Izmir, is located within 10 minutes distance to school by car (Figure 38 & 39).
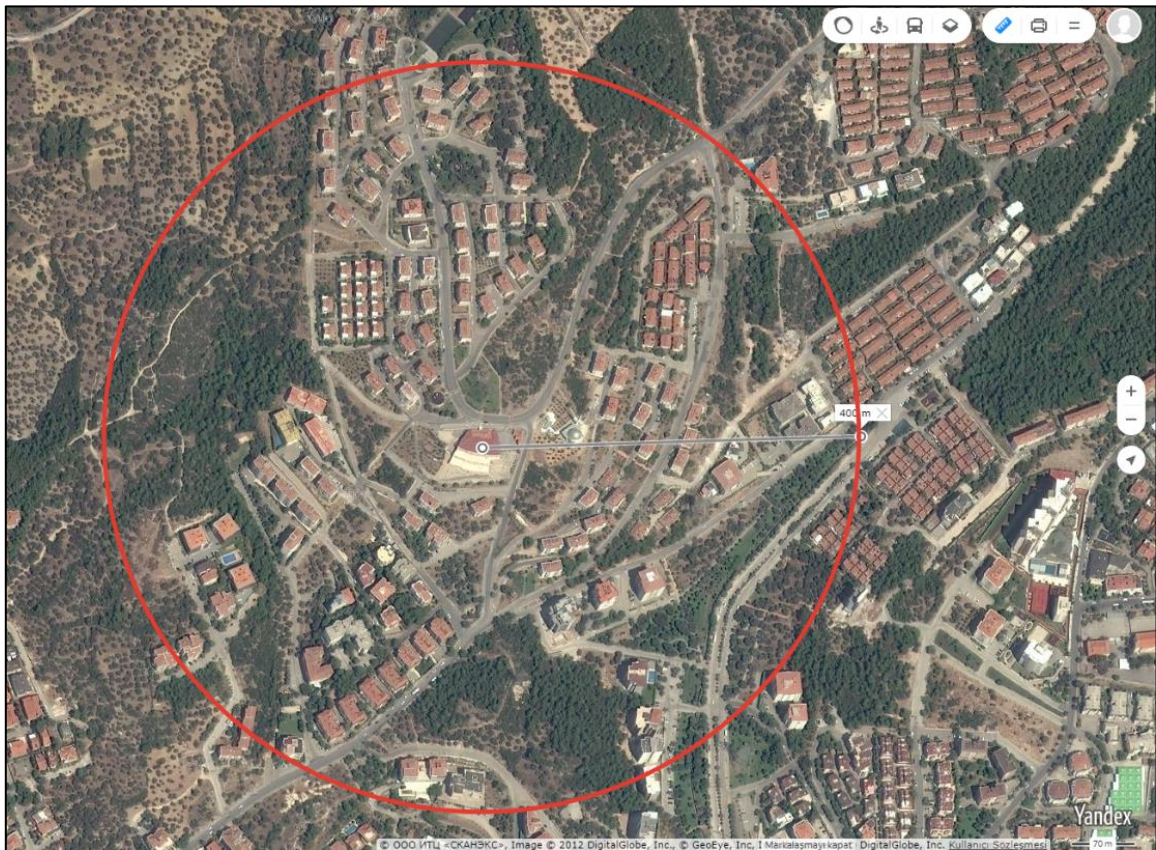
Figure 38. Location of Necmiye Bilgin Primary School (Scale: 1/70 meter)

(a)
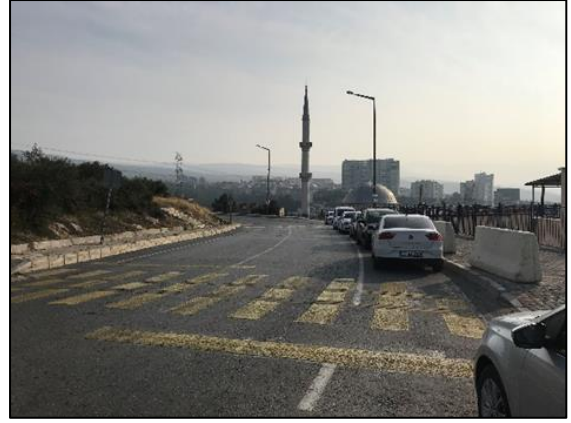
(b)

(c)

(d)

(e)

(f)

Figure 39. Characteristics of Necmiye Bilgin Primary School area

(a) Street signs and speed bump, (b) Crosswalk in front of the school entrance,

(c) Steep beside the school, (d) Neglected sidewalks, (e) Stairs through the

school, (f) Rare streetlights

Hasan İçyer Primary School - 2. İnönü Neighborhood - Narlıdere (Point-block Settlement)

Hasan İçyer Primary School is located in a very quiet area on the top of Narlıdere District. There are some mid-rise residential buildings, recreation and shopping facilities around the school. School area is not dominated by heavy and active traffic only some cars pass through the school because school has a separate road. There are standard single lighting equipment and wayfinding signs. There is sidewalk, which is ergonomic and well kept. There are no pedestrian roads, crosswalks and speed bumps. There is a big cliff in front of and a forest behind the school. Social, cultural and physical amenities are far to school area (Figure 40 & 41).

Figure 40. Location of Hasan İçyer Primary School (Scale: 1/70 meter)

(a)　　　　　　　　　　　　　　　　　(b)
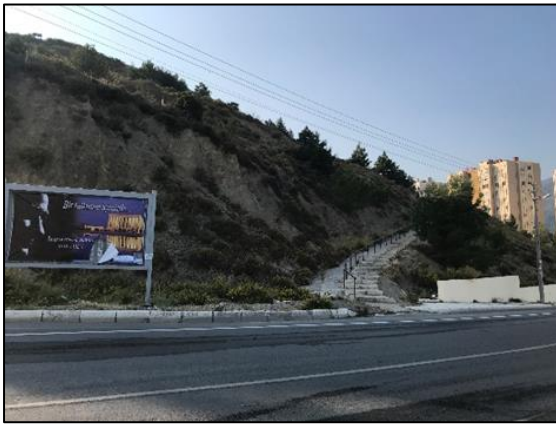
(c)　　　　　　　　　　　　　　　　　(d)

(e)　　　　　　　　　　　　　　　　　(f)

Figure 41. Characteristics of Hasan İçyer Primary School area

(a) No speed bump or crosswalk, (b) Big empty space in front of the school entrance, (c) Small walkway, (d) Cliff without any precaution against extreme height, (e) No building near the school, (f) Side walk far from the school
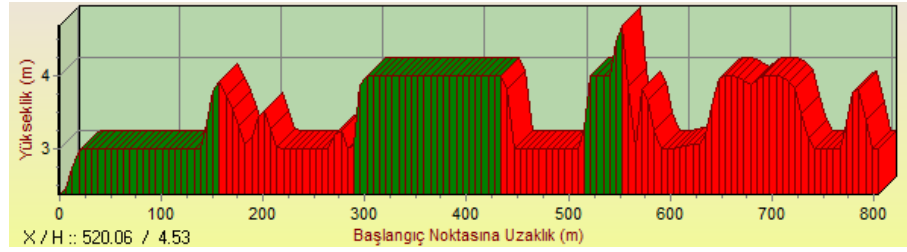
a)
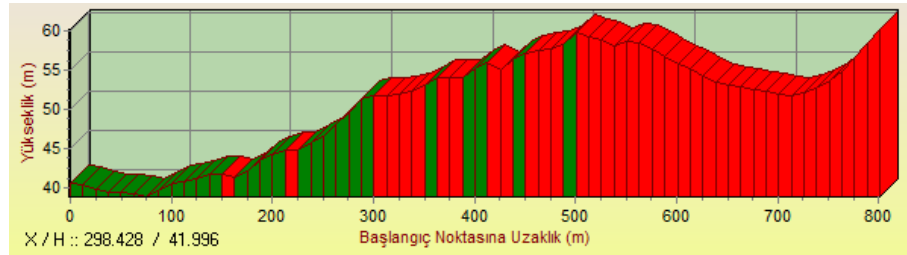
b)

Figure 42. Sections of central urban zones within 400 meters

a) Melih Özakat Primary School, b) Kemal Reis Primary School
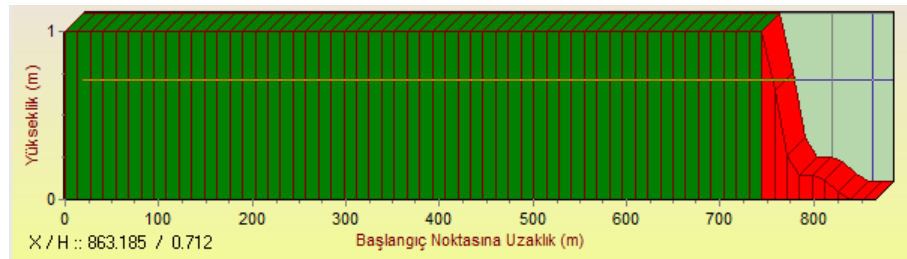
a)
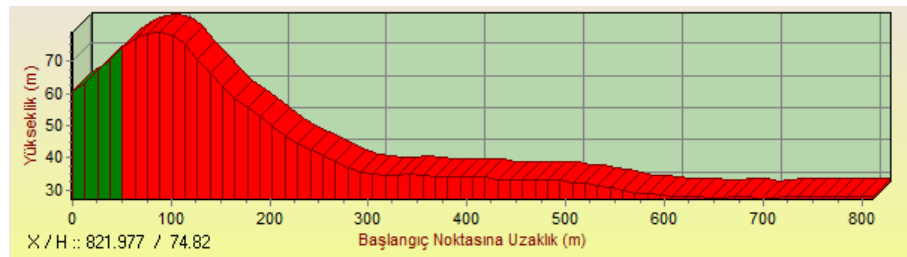
b)

Figure 43. Sections of gated community urban zones within 400 meters

a) Mavişehir Primary School, b) Kılıçaslan Primary School
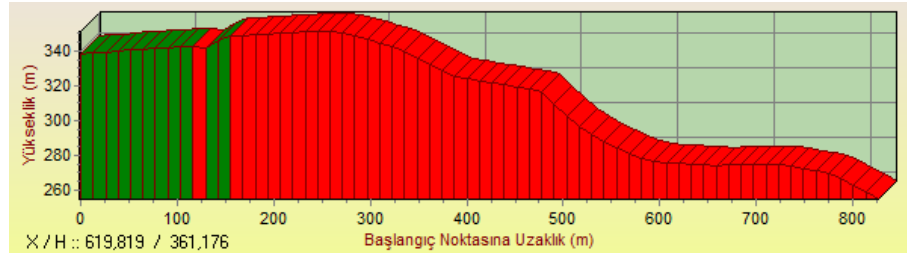
a)
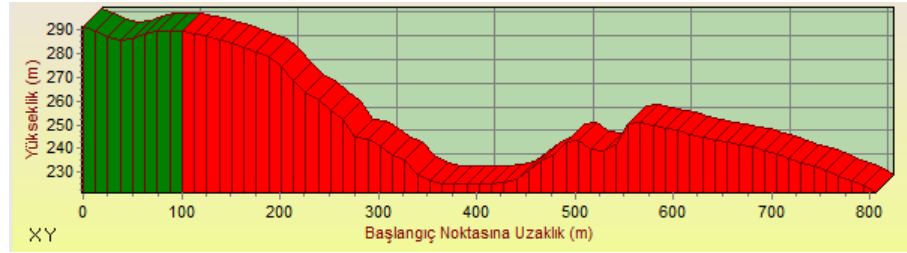
b)

Figure 44. Sections of mass housing urban zones within 400 meters

a) Yavuz Selim Primary School, b) Izmir Ticaret Odası Primary School
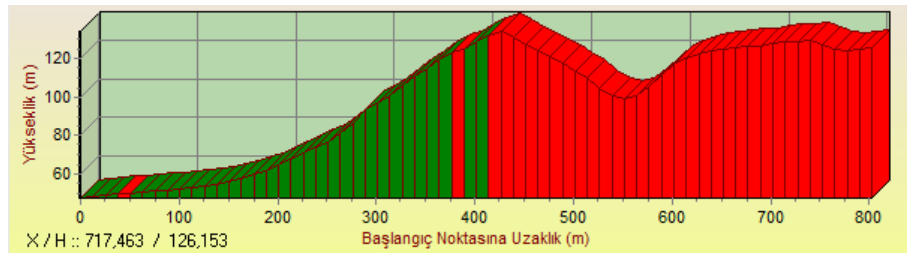
a)
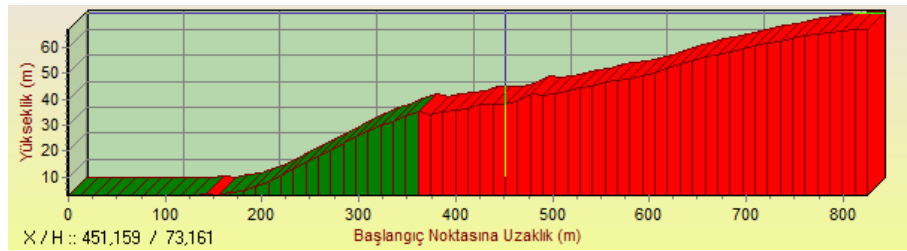
b)

Figure 45. Sections of squatter settlement urban zones within 400 meters

a) İnönü Primary School, b) Atatürk Primary School
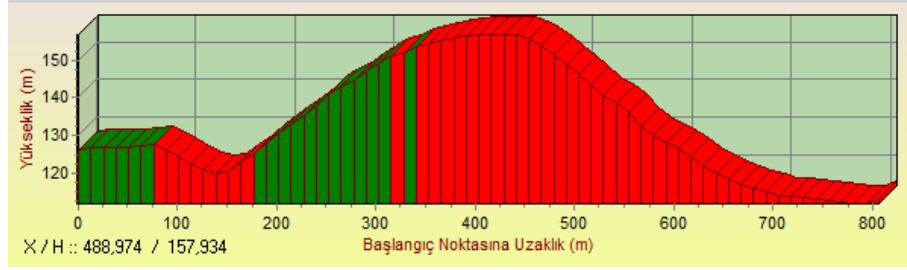
a)
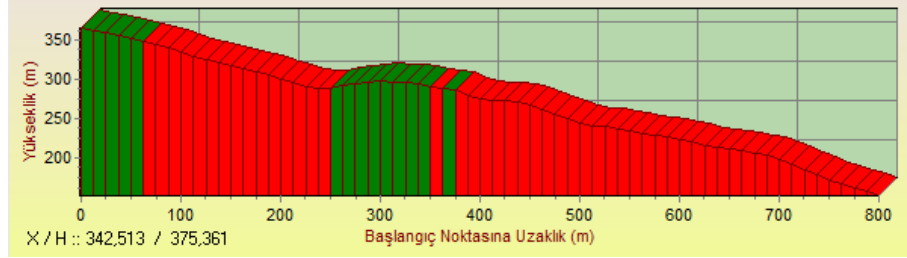
b)

Figure 46. Sections of point-block settlement urban zones within 400 meters

a) Necmiye Bilgin Primary School, b) Hasan İçyer Primary School

3.2.4. Participant Questionnaires

As the fourth step of this study, participant phase was conducted. Students and their parents from the selected schools were taken as the participants of the study. Among public school children, fourth grade students aged between 9 and 11 were chosen as the target group. The fourth grade is the last part of primary school in Turkey. After the fourth grade, children attend secondary school. The participants were all in their upper middle childhood which is believed to be an important period for children to have connection with outdoors and respond to their environment (Derr, 2002).

"The selection of this children's stage may be influenced by the ability they can interpret their experiences and feelings in the outdoor environments. They also have ability to demonstrate their preferences in the places they use and the activities they undertake in those places because they benefit from the increasing freedom to play outdoors without adults' supervision" (Aziz & Said, 2017:207)."

In total 370 children and 258 parents participated in this study. For the central urban zones, the first school visited was Melih Özakat Primary School, located in Mimar Sinan Neighborhood in Konak District. In two classes, 43 students and 32 parents (74.4%) participated in total. The second school visited was Kemal Reis Primary School located in Turgut Reis Neighborhood in Konak District. In two classes, 34 students and 15 parents (44.1%) participated. In total 87 children and 47 parents participated in the central urban zone.

For the gated community urban zones, the first school visited was Mavişehir Primary School, located in Mavişehir Neighborhood in Karşıyaka District. In two classes, 48 students and 43 parents (87.7%) participated in total. The second school visited was Kılıçaslan Primary School located in Ilıca Neighborhood in Narlıdere District. In two classes, 36 students and 35 parents (97.2%) participated. In total 84 children and 78 parents participated in the gated community urban zone.

For the mass housing urban zones, the first school visited was Yavuz Selim Primary School, located in Yaşar Kemal Neighborhood in Karabağlar District. In two classes, 37 students and 12 parents (32.4%) participated in total. The second school visited was Izmir Ticaret Odası Primary School located in Zafer Neighborhood in Gaziemir District. In two classes, 48 students and 31 parents (63.2%) participated. In total 85 children and 78 parents participated in the mass housing urban zone.

For the squatter settlement urban zones, the first school visited was İnönü Primary School, located in 2. İnönü Neighborhood in Narlıdere District. In two classes, 26 students and 21 parents (80.7%) participated in total. The second school visited was Atatürk Primary School located in Cumhuriyet Neighborhood in Karşıyaka District. In two classes, 26 students and 24 parents (92.3%) participated. In total 52 children and 45 parents participated in the squatter settlement urban zone.

Lastly, for the point-block settlement urban zones, the first school visited was Necmiye Bilgin Primary School, located in Erzene Neighborhood in Bornova District. In two classes, 39 students and 34 parents (87.1%) participated in total. The second school visited was Hasan İçyer Primary School located in 2. İnönü Neighborhood in Narlıdere District. In two classes, 33 students and 26 parents (78.7%) participated. In total 72 children and 60 parents participated in the point-block settlement urban zone.

To sum up, this chapter introduced the methodology of the thesis by explaining data collection tools, techniques, and strategies. Study sites were also explained in detail by means of general characteristics. In the next chapter, results of children and parents' questions will be explained in detail by showing statistical findings and graphics. In addition, results of children's drawing and stories will detailed by mentioning content and thematic analysis techniques.

CHAPTER 4

RESULTS OF THE STUDY

This chapter, consisting of five main sections, includes characteristics of the participants, results of children's and parent's questionnaires, and findings from children's drawings and stories. The abbreviation CQ will be used for children's questionnaires and PQ will be used for parent's questionnaires.

4.1. Participant Characteristics of the Study

Out of 370 of all the children participants, 87 children (23.5%) were from the central zone, 84 children (22.7%) were from the gated community, 85 children (22.9%) from the mass housing, 52 children (14%) from the squatter settlement, and 72 children (19.4%) were from the point-block zone (Figure 47).
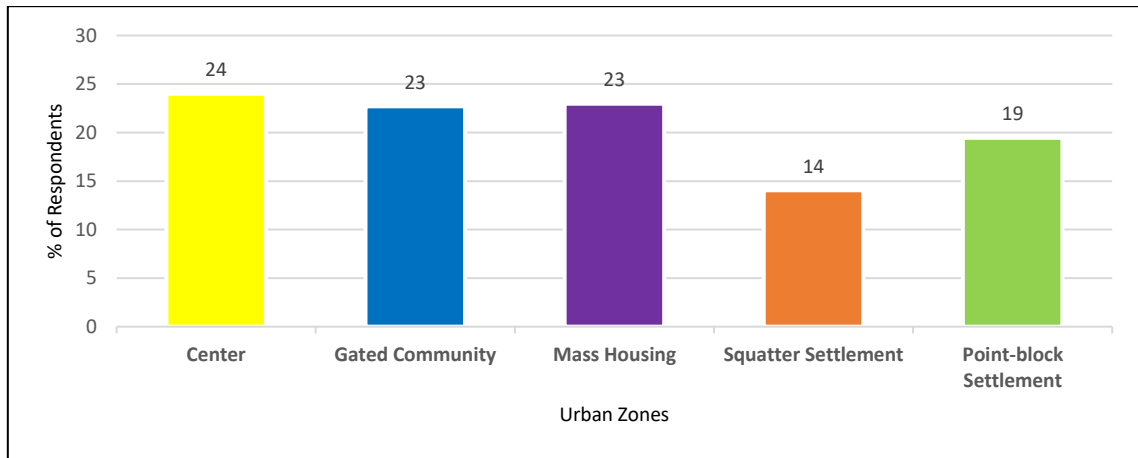
Figure 47. Children participants' distribution in percentages across urban zones

Children participants' age distribution were similar in all urban zones. The majority of children (66%) were 10 years old and the median age of children was 10 (Figure 48).

Children participants' gender distribution were similar in all urban zones. The ratio of gender was also equally distributed in the sample group (girls = 52% and boys = 48%). Children's gender distribution across urban zones is as follows: central (girls= 57.1% and boys= 42.8%), gated community (girls= 52.4% and boys= 47.6%), mass housing (girls= 50.5% and boys= 49.5%), squatter settlement (girls= 46.2% and boys= 53.8%) and point-block settlement (girls= 50% and boys= 50%) (Figure 49).
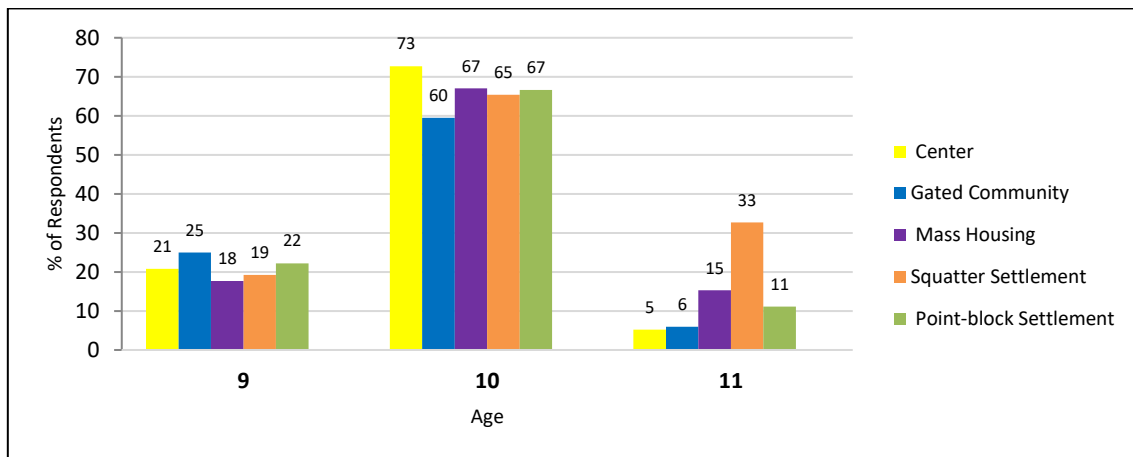
Figure 48. Age distributions of children participants across urban zones
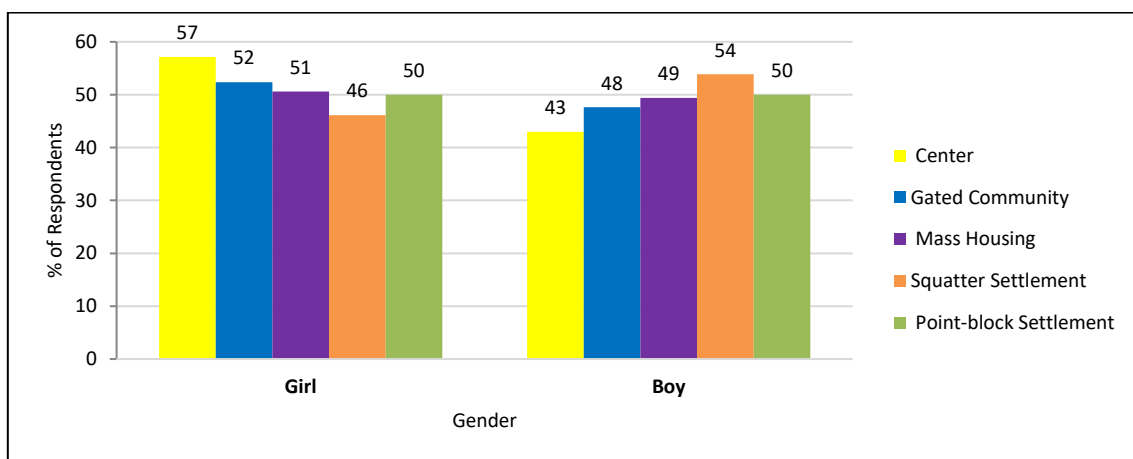
Figure 49. Gender distributions of children participants across urban zones

Nearly half of the participants reported to have one sibling (49%). The percentage of children having one sibling across urban zones (Figure 50) is as follows: central (45.4%),

gated community (55.9%), mass housing (49.4%), squatter settlement (44.2%) and point-block settlement (47.2%).
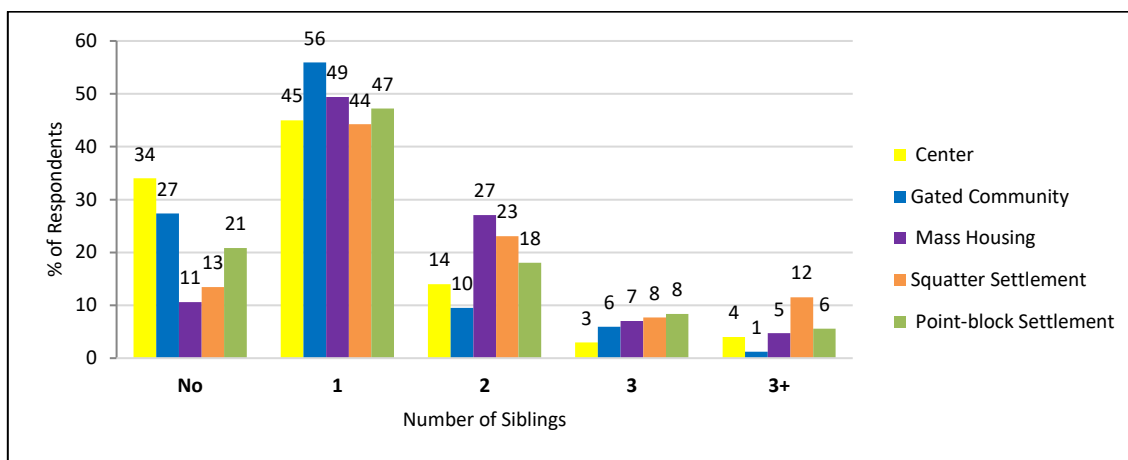
Figure 50. Children participants' number of siblings across urban zones

Mothers' work status differs across urban zones. The majority of mothers in the central urban zone were working mothers (66%). Majority of mothers do not work in the mass housing (75%) and squatter settlement (75%) urban zones (Figure 51). Unlike mothers, majority of the fathers work (95%) and there is no differences among urban zones (Figure 52).
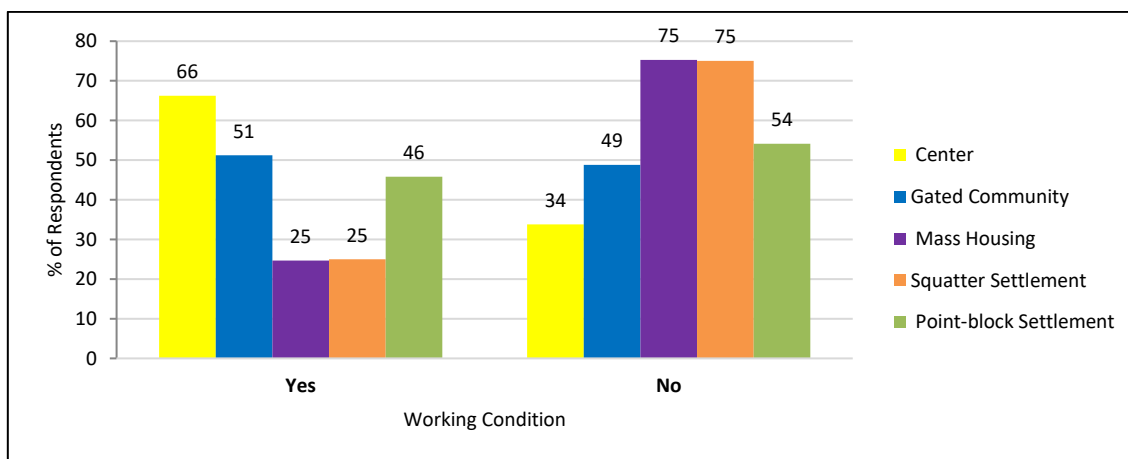
Figure 51. Mothers' working condition across urban zones
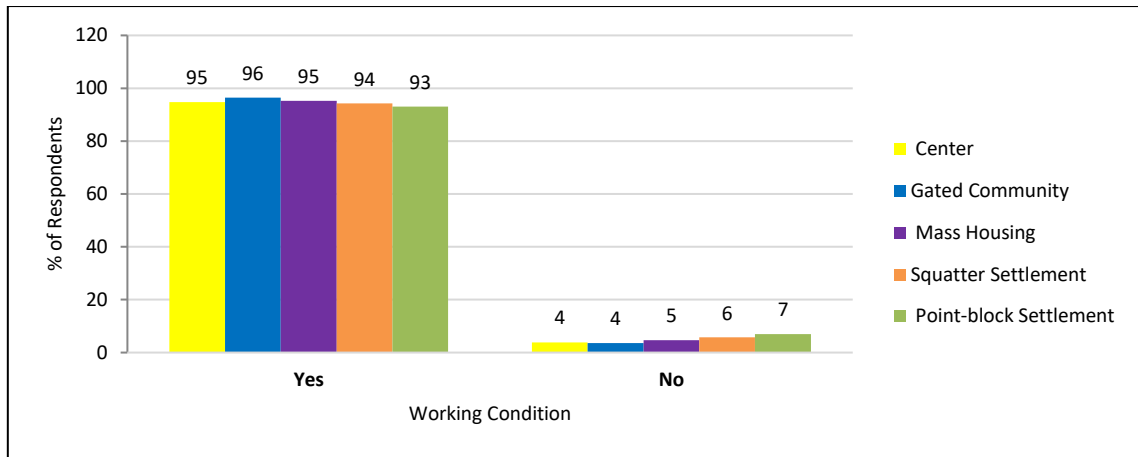
Figure 52. Father's working condition across urban zones

Out of 258 parent participants, 47 parents (18.2%) were from the central zones, 76 parents (29.4%) were from the gated community zone, 37 parents (14.3%) from the mass housing zone, 43 parents (16.6%) from the squatter settlement zone, and 55 parents (21.3%) from the point-block settlement zone (Figure 53).
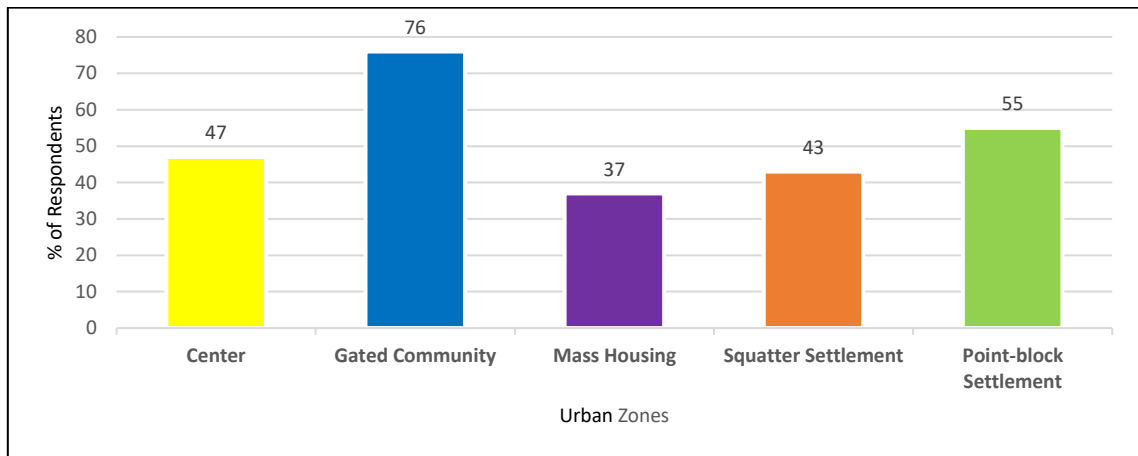
Figure 53. Parents' participant distribution in percentages across urban zones

Age distribution of parents within urban zones indicates that majority of the parents were between the age of 31-40. Median age of the parents was 38. In the mass housing urban zone, there were no parents in the age interval of 18-30. In the gated community and squatter settlement urban zones none of the parents mentioned their age as 51 and older. In addition,

remarkably, many parents did not mentioned their ages (Figure 54). Gender distribution of the parents who participated in this study differs. Majority of the participants were women (72.1%) in all urban zones (Figure 55). According to the results, majority of parents mentioned that they have two children. In squatter settlement urban zone, the percentage of having three or more children is higher than others (Figure 56). Work status of parents, mothers and fathers included, are generally similar in all urban zones. In the squatter urban zone, the percentage of parents who are unemployed is higher than it is in the other urban zones (Figure 57). Majority of parents (83.3%) mentioned that they do not have someone taking care of their children besides them (Figure 58).
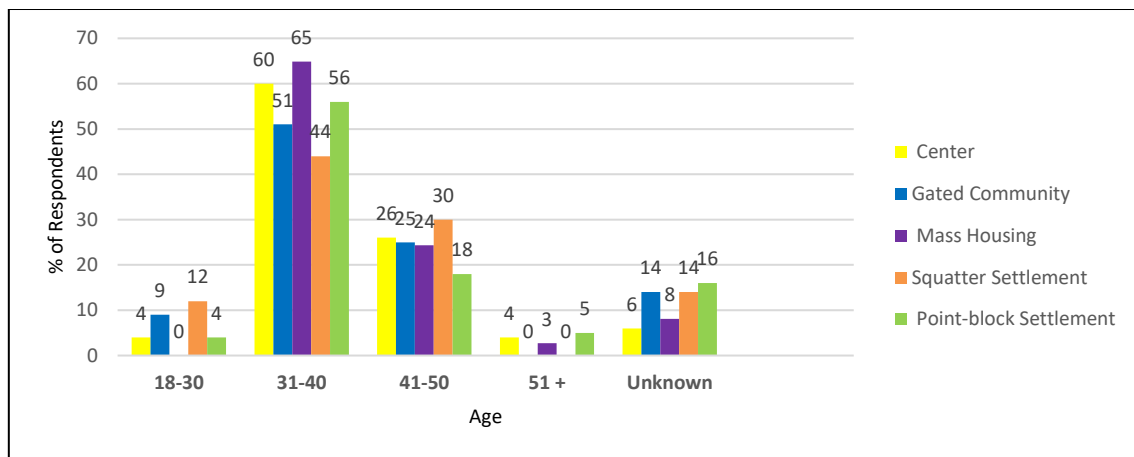
Figure 54. Age distributions of parent participants across urban zones
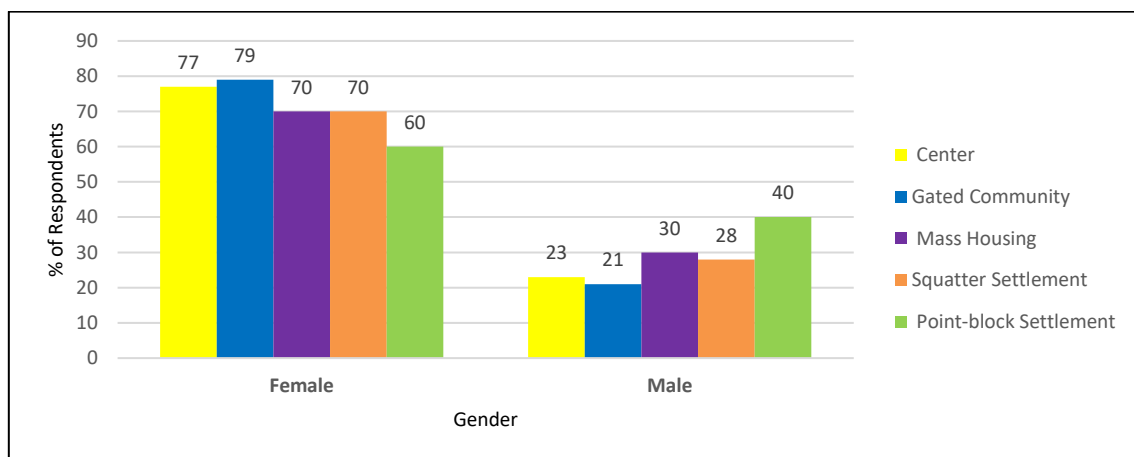
Figure 55. Gender distributions of parent participants across urban zones
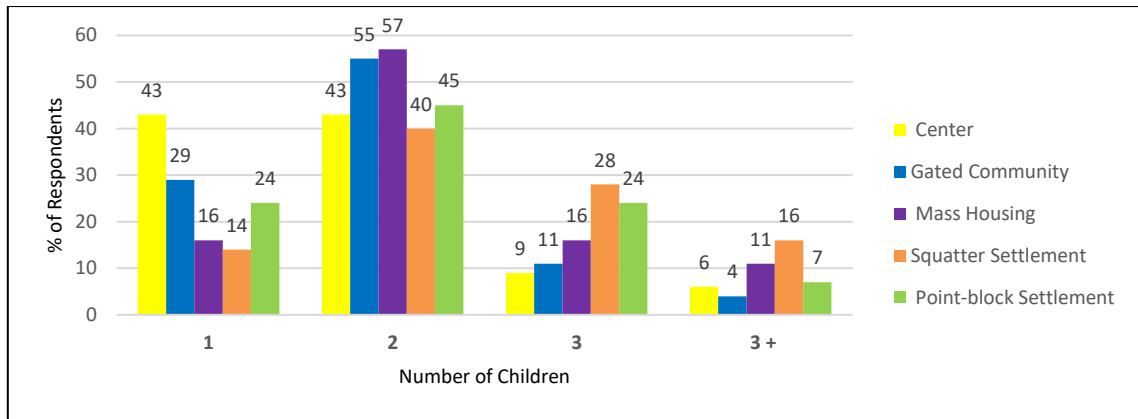
Figure 56. Number of children distributions of parent participants across urban zones
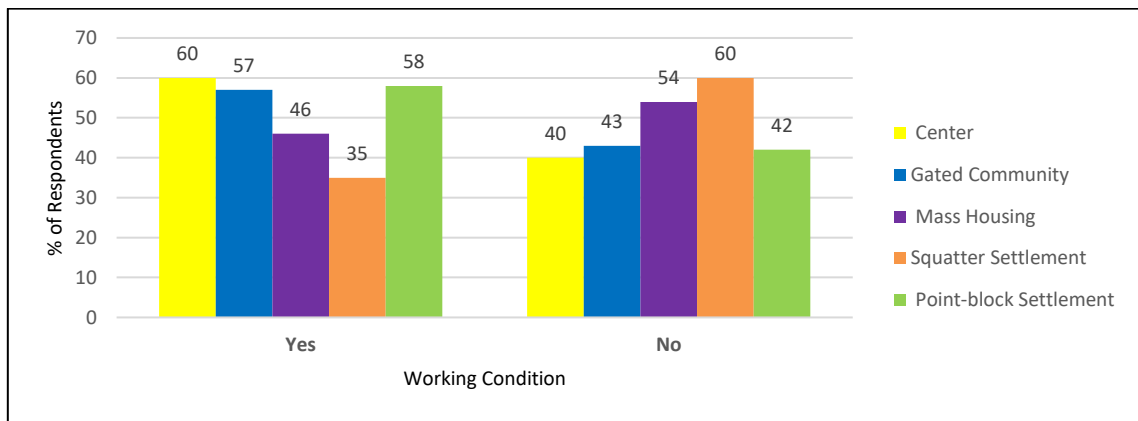
Figure 57. Work status distributions of parent participants across urban zones
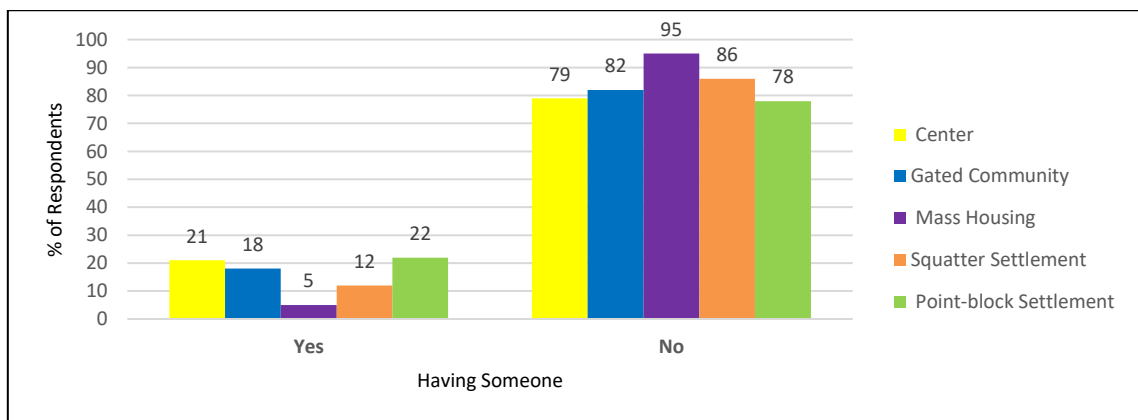
Figure 58. Having someone taking care of children besides the parents across urban zones

4.2. Results of Children's Questionnaire

Children's questionnaire (Appendix C) starts with demographic questions such as age, gender, number of siblings and working condition of parents.. It continues with multiple-choice questions about outdoor environment perceptions and use. At the end, there are open-ended questions about children's daily trip to school, places they know in Izmir and places of their neighborhoods.

CQ1. Do you go out for playing a game outside of school times?

Majority of children (77%) in this study indicated that, they go out for playing a game. This means that, children in different urban zones have similar tendencies in going out to playing games outside of school times.

A chi-square test was performed to examine the relation between urban zone and going out for playing game outside of school times. The relation between these variables was significant $X^2 (4, 370) = 12.2, p = .016$. This means that, even children in different urban zones have similar tendencies, different than four other urban zones (Center, gated community, mass housing and squatter settlements), point-block settlement children (89%) are more likely to go out for playing game outside of school times (Figure 59).
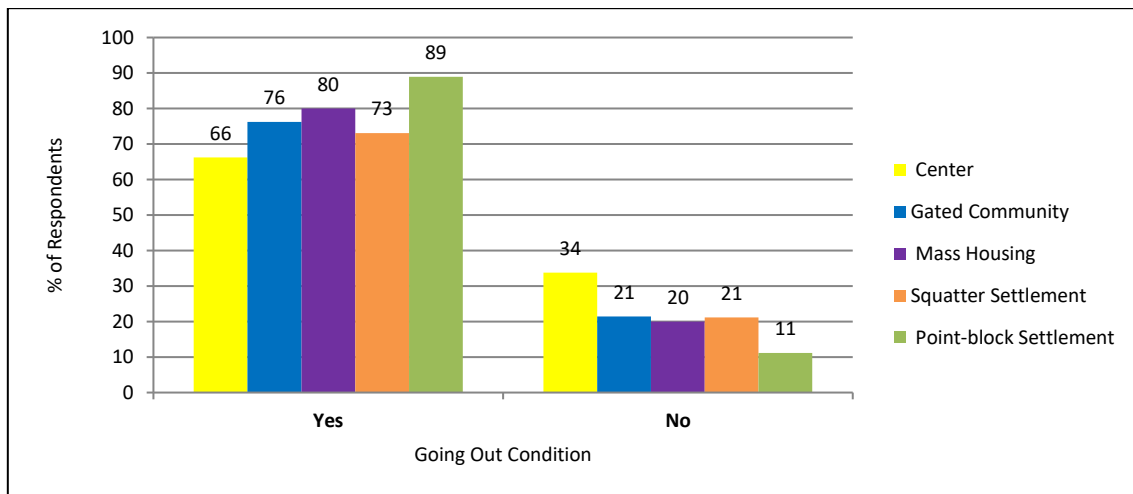
Figure 59. Going out for playing a game outside of school times

CQ2. When do you usually go out during the day when you are not at school?

6.2% of children mentioned that they never go out. "Noon" is the most likely chosen time by children (46.9%). "Morning" has the lowest percentage (17.9%). A substantial percentage of children in gated community (45%), mass housing (41%), center (38%) and point-block settlement (34%) reported that they go out at evenings. Unlike others, in squatter settlement this percentage is only 15%. In contrast to urban zones, according to the results of a cross tabulation between going out and gender, results are very similar except morning. 17% boys and 12% girls go out in the morning (Figure 60).
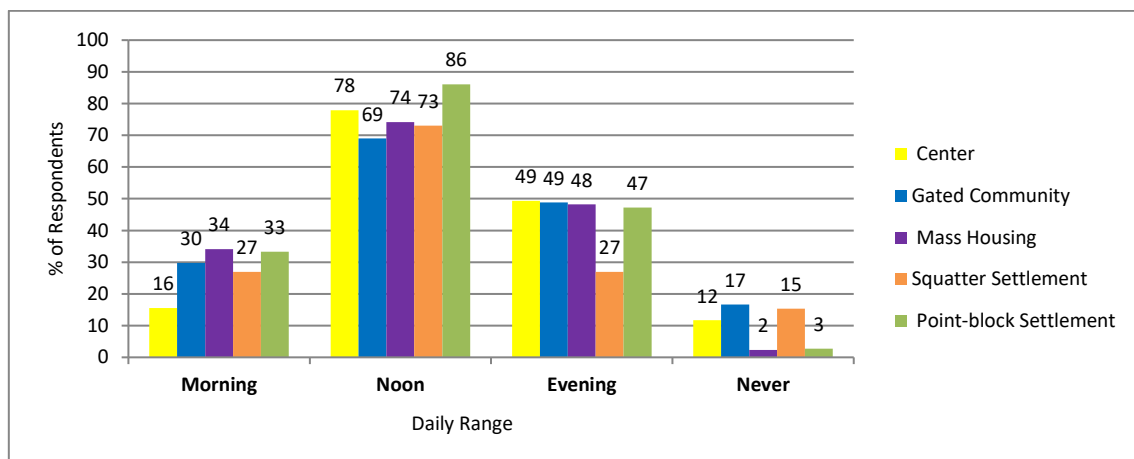
Figure 60. Going out within a day when not at school

CQ3. When do you go out during the week other than going to school?

Majority of children (64%) in all urban zones mentioned that they go out both in weekdays and weekends.

A chi-square test was performed to examine the relationship between urban zone and going out during the week other than going to school. The relationship between these variables is significant, $X^2(12, 370) = 37.39$, $p < .05$. This test suggests that urban zone and being outside during the week differ. In four urban zones (Center, gated community, mass housing and point-block settlement), children report to be outside in both weekday and weekend. Unlike these, squatter settlement children spend more time outside during weekend than weekday (Figure 61).
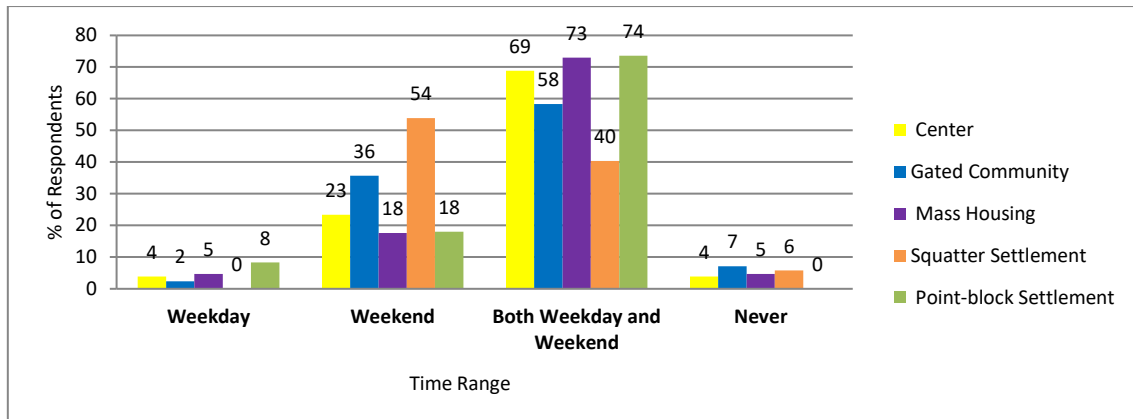
Figure 61. Going out during the week other than going to school

CQ4. How many days do you go out on weekdays?

The results suggest that 43.2% of children go out every day. An independent samples t-test was conducted to compare going out on weekdays except school in girl and boy condition. There was no significant difference in the scores for girl ($M = 3.69$, $SD = 1.551$) and boy ($M = 3.83$, $SD = 1.546$) conditions; $t(368) = .842$, $p = .400$. These results suggest that gender does not have an effect on going out on weekdays except school. Specifically, our results suggest that, going out in weekdays is similar in girls and boys.

An independent samples t-test was conducted to compare going out on weekdays except school in mother's and father's working condition. For mother's working condition, there was not a significant difference in the scores for girls ($M = 3.72$, $SD = 1.595$) and boys ($M = 3.79$, $SD = 1.520$) conditions; $t(367) = -.399$, $p = .690$. These results suggest that mother's working condition does not have an effect on going out on weekdays except school. For father's condition, there was not a significant difference in the scores for girl ($M = 3.78$, $SD = 1.542$) and boy ($M = 3.29$, $SD = 1.649$) conditions; $t(368) = 1.263$, $p = .208$. These results suggest that father's working condition does not have an effect on going out on weekdays except school. Specifically, our results suggest that mother's or father's working condition does not make any difference on going out on weekdays except school.

A one-way between subjects ANOVA was conducted to compare the effect of urban zones on the going out in weekdays. There was no statistically significant difference between urban zones with regards to going out during weekdays at the p<.05 level for the five conditions, $F(4, 365) = 1.69$, $p = .150$ (Figure 62).
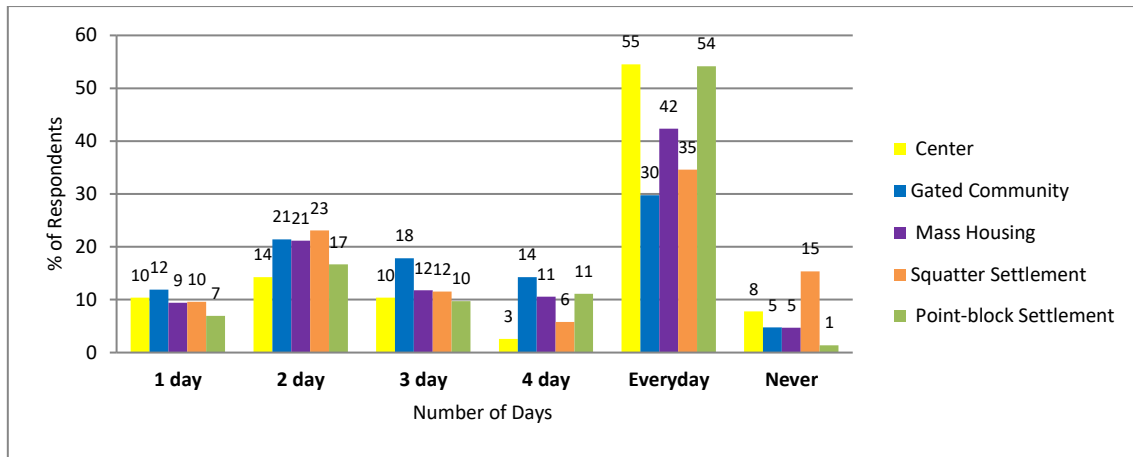
Figure 62. Number of days going out on weekdays

CQ5. How many days do you go out during weekends?

Majority of children (76%) indicate that, they go out two days. An independent samples t-test was conducted to compare going out on weekend in girl and boy condition. There was no significant difference in the scores for girls ($M = 2.72$, $SD = .517$) and boys ($M = 2.73$, $SD = .549$); $t(368) = .162$, $p = .871$. These results suggest that gender does not have an effect on going out on weekend. Specifically, our results suggest that going out during weekend is similar for girl and boy.

An independent samples t-test was conducted to compare going out on weekend in mothers and fathers working condition. For mother's working condition, there was no significant difference in the scores for girls ($M = 1.86$, $SD = .477$) and boys ($M = 1.82$, $SD = .460$); $t(367) = .687$, $p = .493$. These results suggest that mother's working condition does not have an effect on going out on weekend. For father's condition, there was no significant difference in the scores for girls ($M = 1.84$, $SD = .464$) and boys ($M = 1.94$, $SD = .748$); $t(368) = -.861$, $p = .390$. These results suggest that father's working condition does not have an effect on going out on weekend. Specifically, our results suggest that mother's or father's working condition does not make any difference on going out on weekend.

A one-way between subjects ANOVA was conducted to compare the effect of urban zones on the going out on weekend. There was no statistically significant difference of urban zones on the going out on weekend at the p<.05 level for the five conditions, $F(4, 365) = 1.70$, $p = .149$ (Figure 63).
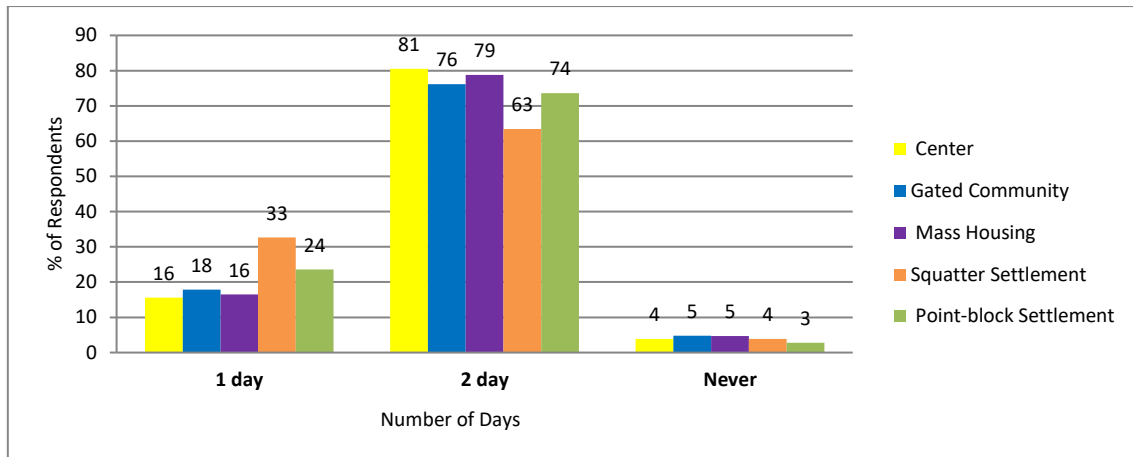
Figure 63. Number of days going out on weekends

CQ6. Do you generally hang out with someone older than you while you are out?

Majority of children (62%) mentioned that "sometimes" they hang out with someone older while they are out. A chi-square test was performed to examine the relationship between urban zone and having someone older with while being outside. The relation between these variables was significant $X^2(8, 370) = 18.81$, $p = .016$. This means that children in different urban zones have different tendencies in going outside alone or in company of someone older. Squatter settlement children are more likely hang out with older while being out. Center children are less likely hang out with someone older while being out. Majority of mass housing children sometimes hang out with someone older while being out (Figure 64).
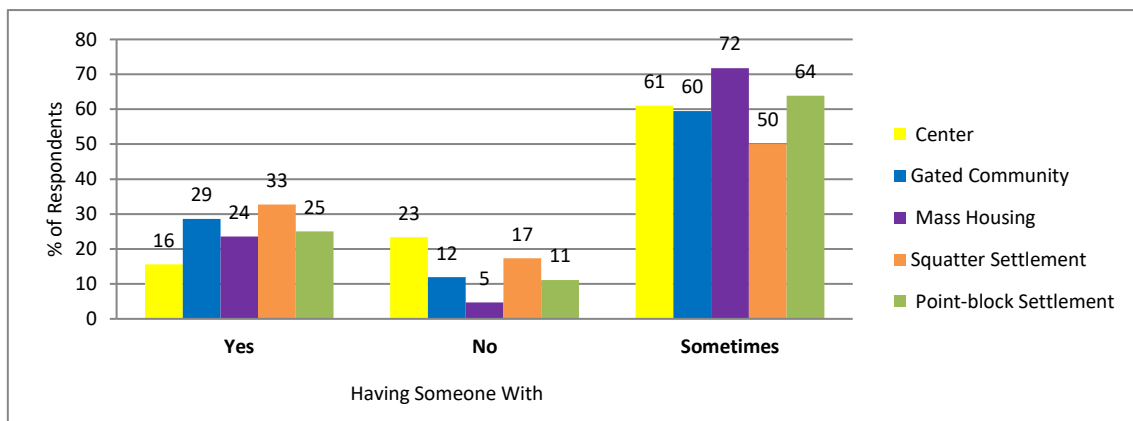
Figure 64. Hanging out with older while being out

CQ7. Who do you spend time outside with?

Most children indicate that they mostly spend time outside with their friends (33.1%) and their parents (24.5%). Children in gated community (65%) are more likely to choose "With a friend" as an answer to this question. Children in mass housing (34%) are more likely to say "Alone". In the squatter settlement urban zone, "Mother and father" is the least given answer among all urban zones (Figure 65).

As a result of a cross tabulation according to spending time outside with and gender results differ. Girls prefer to be with their parents (30.8%) and alone (20.5%) more than boys. Unlike girls, boys mostly spend time with their friends (36.8%).
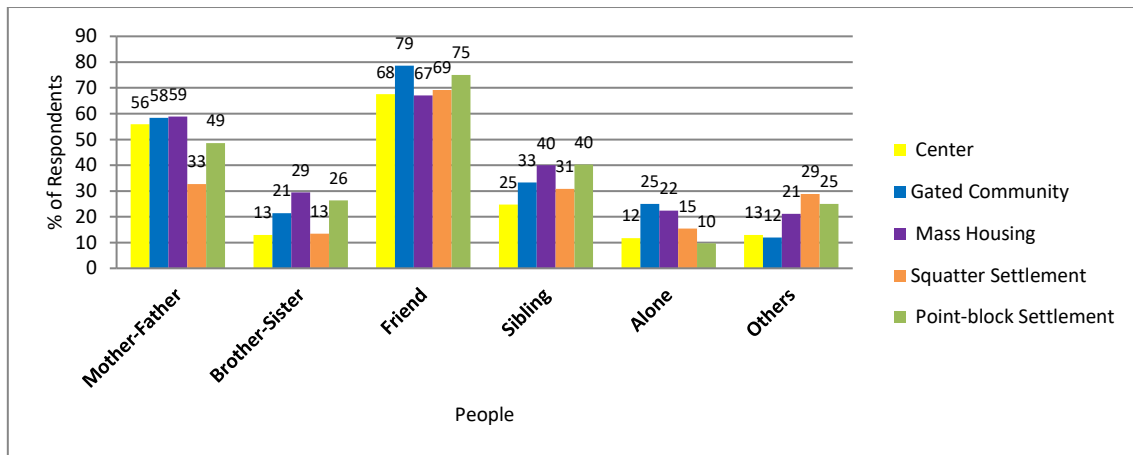
Figure 65. Spending time outside with

CQ8. How many hours do you spend time outside of school times?

Majority of children mentioned that they spend more than three hours outside of school times. A one-way between subjects ANOVA was conducted to compare the effect of urban zones on hours of spending time outside except school time in weekday, weekend, summer and winter holiday. There was a statistically significant difference of urban zones on hours of spending time outside except school time in weekday at the $p<.05$, $F(4, 365) = 3.16$, $p = .014$; in summer holiday at the $p<.05$, $F(4, 365) = 10.46$, $p = .000$; and in winter holiday at the $p<.05$, $F(4, 365) = 2.79$, $p = .026$ (Figure 66, 67, 68 & 69).

A post hoc test was employed for weekday condition. Post hoc comparisons using the Tamhane test indicated that the mean score for the mass housing condition ($M = 4.24$, $SD = $

1.60) was significantly different from the central ($M = 4.06$, $SD = 1.74$), point-block settlement ($M = 4.08$, $SD = 1.38$), squatter settlement ($M = 3.42$, $SD = 1.84$) and gated community ($M = 3.60$, $SD = 1.61$) conditions.

A post hoc test was computed for summer holiday condition. Post hoc comparisons using the Tamhane test indicated that the mean score for the mass housing condition ($M = 5.65$, $SD = .78$) was significantly different from the central ($M = 5.43$, $SD = 1.07$), point-block settlement ($M = 5.40$, $SD = 1.24$), squatter settlement ($M = 4.37$, $SD = 1.47$) and gated community ($M = 5.24$, $SD = 1.33$) conditions. Taken together, these results suggest that mass housing urban zone really do have an effect on hours of spending time outside of school times in weekday and summer holiday conditions. In these areas children tend to report spending more time outside when compared to children from other zones.

A post hoc test was computed for winter holiday condition also. Post hoc comparisons using the Tukey HSD test indicated that the mean score for the point-block settlement condition ($M = 4.32$, $SD = 1.66$) was significantly different from the central ($M = 3.91$, $SD = 1.82$), mass housing ($M = 3.69$, $SD = 1.84$), squatter settlement ($M = 3.38$, $SD = 1.73$) and gated community ($M = 4.14$, $SD = 1.76$) conditions. Taken together, these results suggest that point-block settlement urban zone does have an effect on hours of spending time outside except school in winter holiday condition. But unlike all three conditions, there was no statistically significant difference among urban zones with regards to spending time outside except school time during weekend at the p<.05, $F(4, 365) = 1.794$, $p = .129$.

An independent samples t-test was conducted to compare spending time outside when not being at school in weekdays (Q8a), weekends (Q8b), summer holiday (Q8c) and winter holiday (Q8d) in girl and boy condition. For weekday condition, there was a significant difference in the scores for girl ($M = 3.73$, $SD = 1.585$) and boy ($M = 4.10$, $SD = 1.703$) conditions; $t(368) = -2.15$, $p = .032$. These results suggest that gender does have an effect on spending time outside when not being at school during weekdays. For weekend condition there was a significant difference in the scores for girl ($M = 4.27$, $SD = 1.336$) and boy ($M = 4.66$, $SD = 1.507$) conditions; $t(356) = -2.642$, $p = .009$. These results suggest that gender does have an effect on spending time outside when not being at school in weekends. Taken together girls tend to spend less time outside both during weekdays and weekends when compared to boys.

For summer holiday condition, there was no significant difference in the scores for girl (M = 5.24, SD = 1.237) and boy (M = 5.32, SD = 1.234) conditions; $t(368)$ = -.647, p = .518. These results suggest that gender does not have an effect on spending time outside when not being at school during summer holiday. For winter holiday condition, there was no significant difference in the scores for girl (M = 3.79, SD = 1.744) and boy (M = 4.06, SD = 1.826) conditions; $t(368)$ = -1.43, p = .154. These results suggest that gender does not have an effect on spending time outside when not being at school during winter holiday.
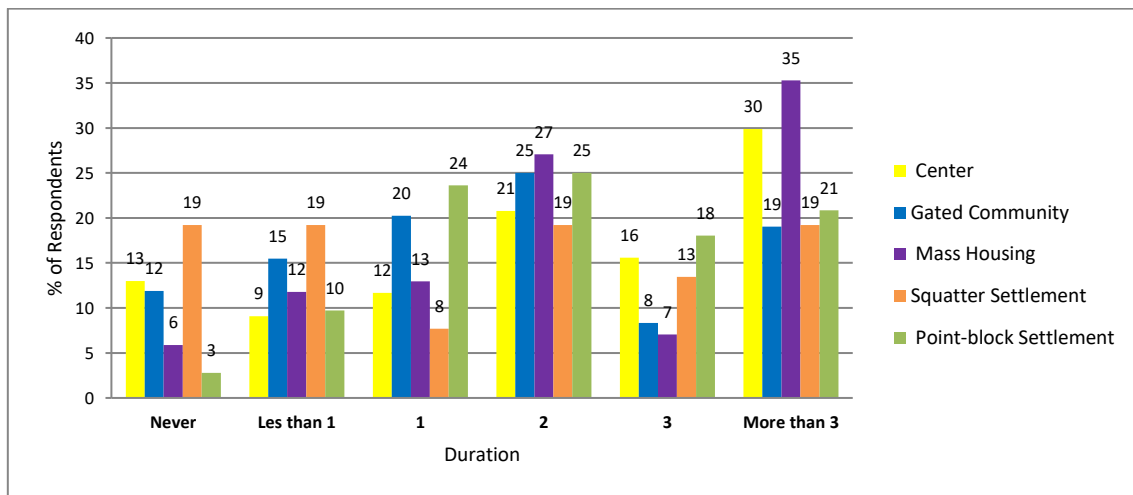
Figure 66. Hours of spending time outside of school times during weekdays
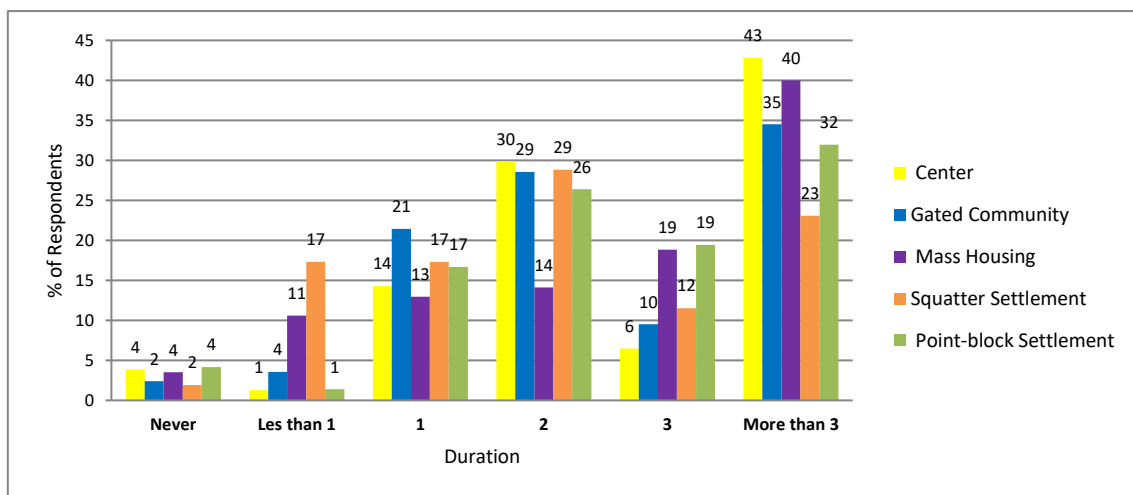
Figure 67. Hours of spending time outside of school times on weekends
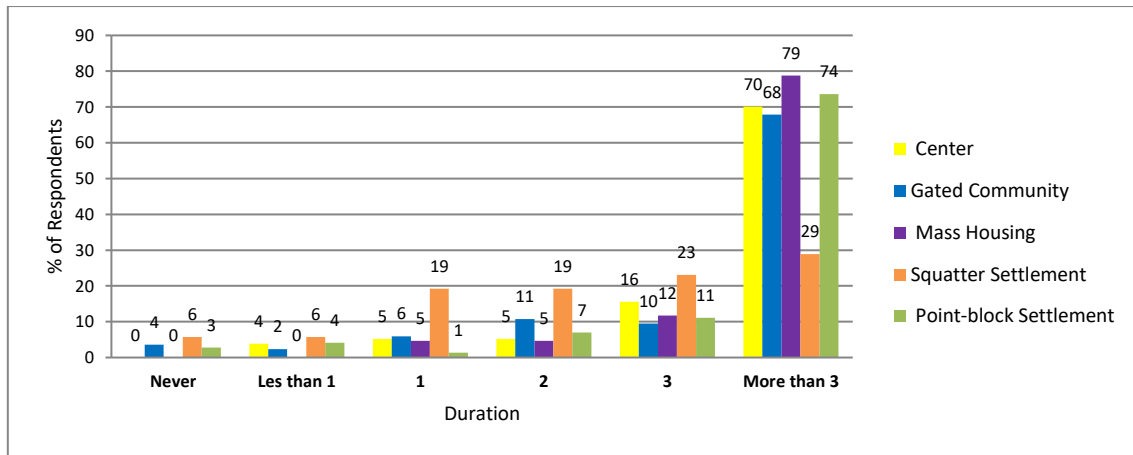
Figure 68. Hours of spending time outside of school times during summer holiday
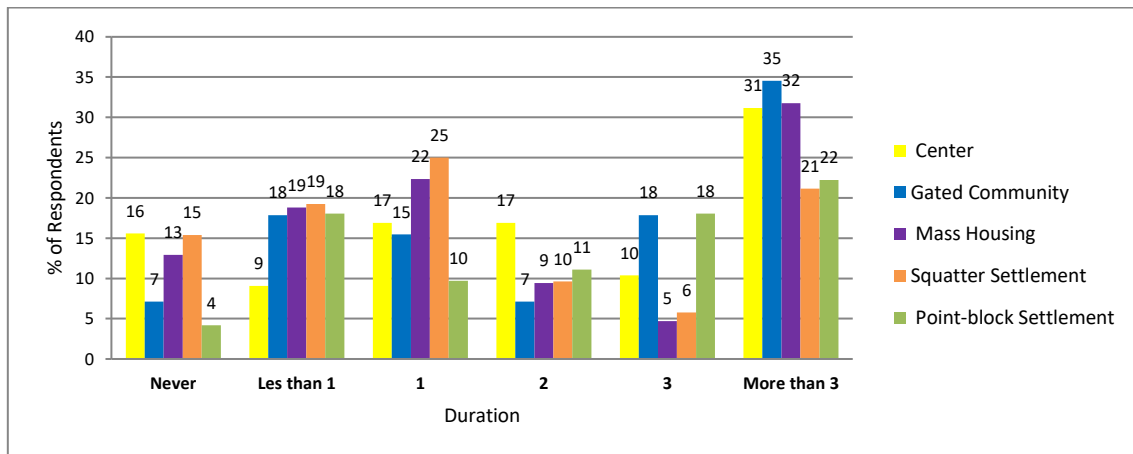
Figure 69. Hours of spending time outside of school times during winter holiday

CQ9. Do you have any playground or play area near your home at walking distance?

Majority of children (79%) indicate that they have children's park or playground near their home. A chi-square test was performed to examine the relationship between urban zone and having children's park or playground near their home (Figure 70). The relationship between these variables is significant, $X^2(4, 370) = 31.73$, $p < .05$. Majority of children in mass housing reported the existence of a children's park or playground near their home (97.6%). In contrast, majority of children in squatter settlement reported the lack of a children's park or playground near their home (97.6%).

99
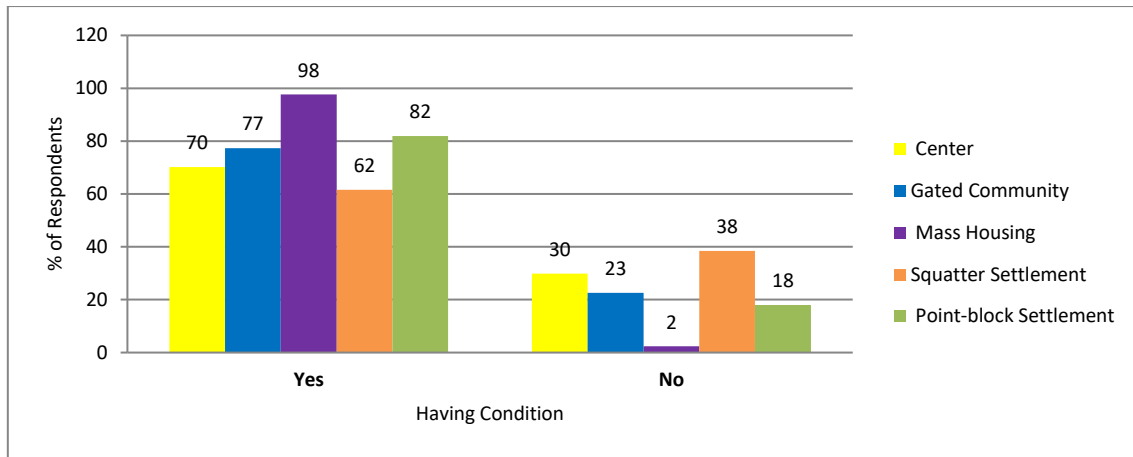
Figure 70. Having children's park or playground near home in walking distance

CQ10. How many hours do you watch TV in a day?

Majority of children mentioned that in weekdays, they watch approximately one hour of TV but on weekends, this duration extends to more than three hours. A one-way between subjects ANOVA was conducted to compare the effect of urban zones on hours of watching TV in weekdays and weekend. There was a statistically significant difference of urban zones on hours of watching TV in weekdays at the p<.05 level for the five conditions, $F(4, 365) = 8.05$, $p = .000$ (Figure 71 & 72). A post hoc test was computed for the weekend condition. Post hoc comparisons using the Tamhane test indicated that the mean score for the central condition ($M = 4.27$, $SD = 1.61$) was significantly different from the gated community ($M = 3.15$, $SD = 1.48$), mass housing ($M = 4.02$, $SD = 1.51$), squatter settlement ($M = 3.33$, $SD = 1.65$) and point-block settlement ($M = 3.40$, $SD = 1.21$) conditions. Taken together, these results suggest that central urban zone really do have an effect on watching TV on weekdays. Children from these areas report to watch more TV on weekdays.

There was no statistically significant difference of urban zones on hours of watching TV on weekends at the p<.05 level for the five conditions, $F(4, 365) = 1.80$, $p = .127$. This result suggest that children from all urban zones have similar tendencies of watching TV on weekends. An independent samples t-test was conducted to compare the duration of watching TV in weekdays (Q10a) and on weekends (Q10b) in girl and boy condition. For weekday condition, there was no significant difference in the scores for girl ($M = 3.59$, $SD = 1.522$) and boy ($M = 3.73$, $SD = 1.585$) conditions; $t(368) = -.868$, $p = .386$.

These results suggest that gender does not have an effect on the duration of watching TV in weekdays. In contrast, in weekend condition, there was a significant difference in the scores for girl ($M = 3.87$, $SD = 1.527$) and boy ($M = 4.31$, $SD = 1.612$) conditions; $t(368) = -2.687$, $p = .008$. These results suggest that gender does have an effect on the duration of watching TV in weekend. As predicted, results from independent samples t-test indicated that boys tend to watch more TV on weekends.
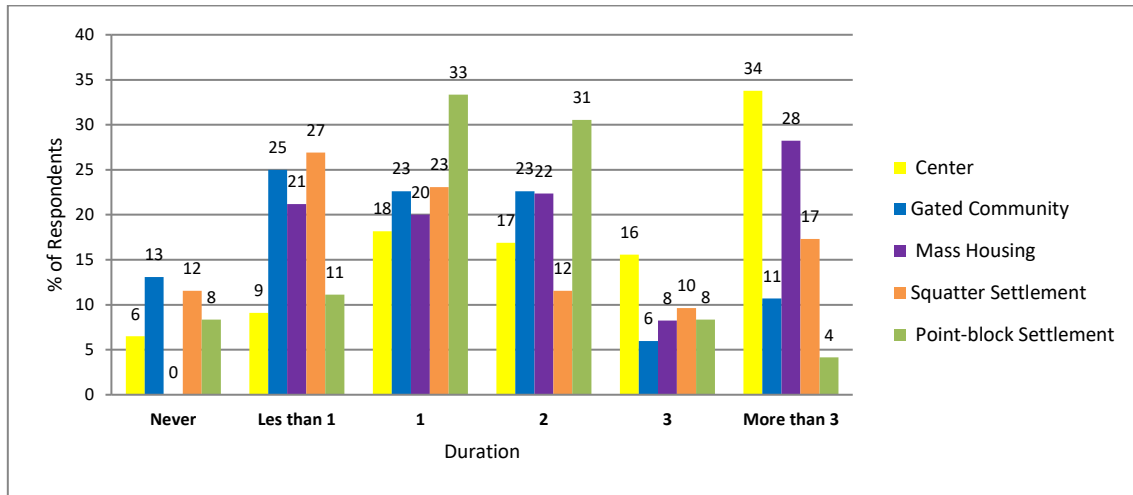
Figure 71. Hours of watching TV in a day in weekday
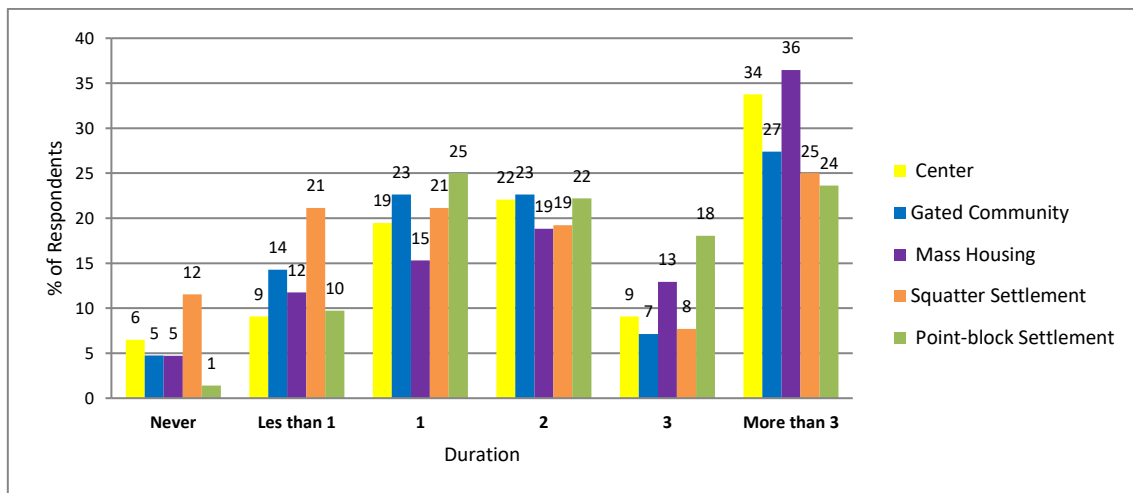
Figure 72. Hours of watching TV in a day on weekend

CQ11. How many hours do you spend using your cell phone, tablet or computer in a day?

Majority of children mentioned that they never use technological devices during weekdays but use it more than three hours on weekends. A one-way between subjects ANOVA was conducted to compare the effect of urban zones on hours of using cell phone, tablet or computer. There was a statistically significant difference of urban zones on hours of using cell phone, tablet or computer in weekdays at the p<.05, $F(4, 365) = 9.36$, $p = .000$ and on weekends at the p<.05 level for the five conditions, $F(4, 365) = 6.20$, $p = .000$ (Figure 73 & 74).

A post hoc test was computed for weekday condition. Post hoc comparisons using the Tukey HSD test indicated that the mean score for the central condition ($M = 4.04$, $SD = 1.74$) was significantly different from the gated community ($M = 2.45$, $SD = 1.45$), mass housing ($M = 3.28$, $SD = 1.76$), squatter settlement ($M = 3.08$, $SD = 1.78$) and point-block settlement ($M = 3.24$, $SD = 1.55$) conditions.

Another post hoc test was computed for the weekend condition. Post hoc comparisons using the Tamhane test indicated that the mean score for the central condition ($M = 4.56$, $SD = 1.45$) was significantly different from the gated community ($M = 3.38$, $SD = 1.68$), mass housing ($M = 4.02$, $SD = 1.82$), squatter settlement ($M = 3.54$, $SD = 1.93$) and point-block settlement ($M = 4.21$, $SD = 1.51$) conditions. Taken together, these results suggest that central urban zone do have an effect on using cell phone, tablet or computer in weekdays and weekend and children from these areas tend to spend more time on digital devices during weekdays and on weekends.

An independent samples t-test was conducted to compare the use of cell phone, tablet or computer in weekdays (Q11a) and weekend (Q11b) in girl and boy condition. For weekday condition, there was a significant difference in the scores for girl ($M = 2.95$, $SD = 1.582$) and boy ($M = 3.50$, $SD = 1.834$) conditions; $t(368) = -3.077$, $p = .002$. For weekend condition, there was a significant difference in the scores for girl ($M = 3.64$, $SD = 1.648$) and boy ($M = 4.30$, $SD = 1.741$) conditions; $t(368) = -3.731$, $p = 0$. These results suggest that gender does have an effect on the use of cell phone, tablet or computer in weekday and weekend. The results from independent samples t-test indicated that boys tend to use more technological devices both during weekdays and on weekends.
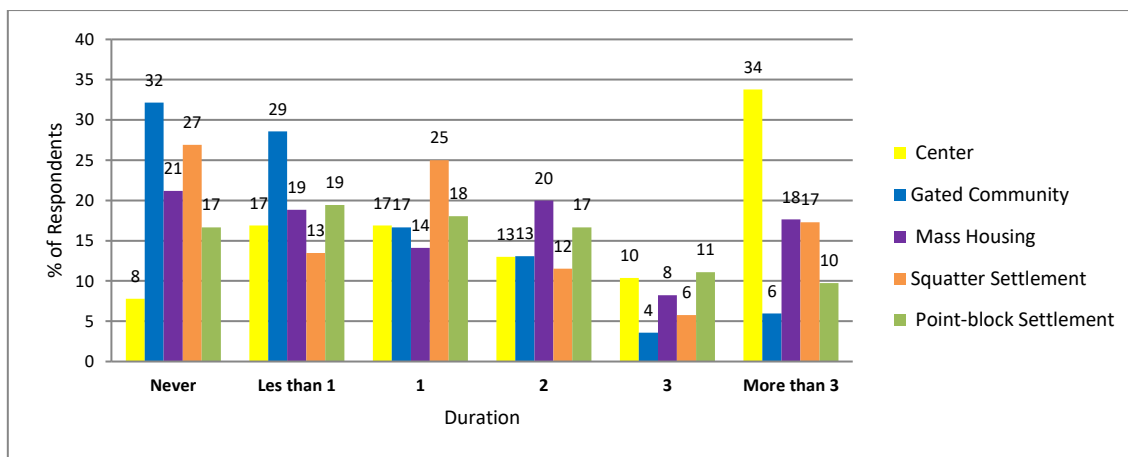
Figure 73. Hours of using technological devices, tablet or computer in a day in weekday
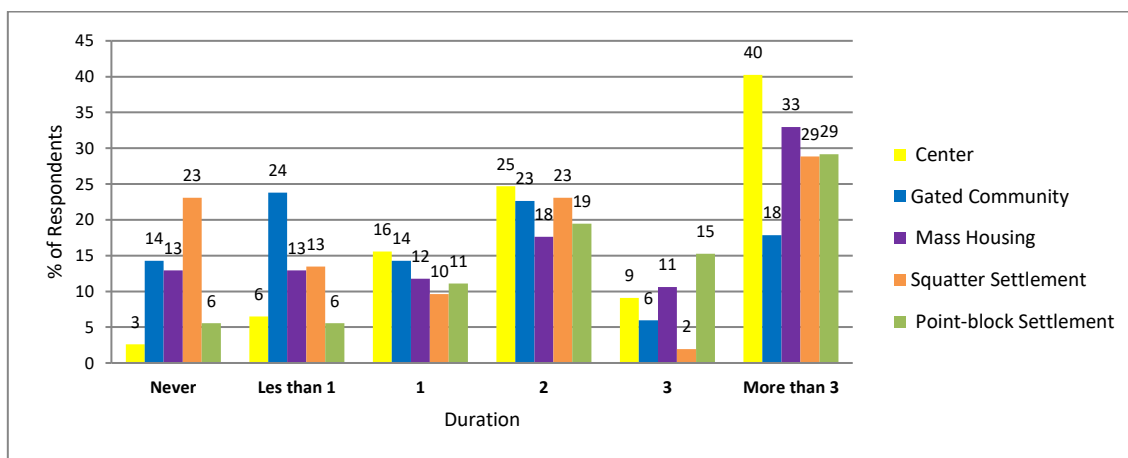
Figure 74. Hours of using technological devices, tablet or computer in a day on weekend

CQ12. Where do you play a game outside of school times?

The most popular place to play is the street (%50) and the second one is the playground (49%). Children in squatter settlements and center choose street as the most popular place to play outside. Children in gated communities and mass housing choose playground as the most popular place to play outside (Figure 75).

More boys mentioned that they mainly use street (28.2%) and sports area (19.5%) to play outdoors. Unlike boys, majority of girls mainly use playgrounds (28.2%) and home or apartments' gardens (27.1%) to play.
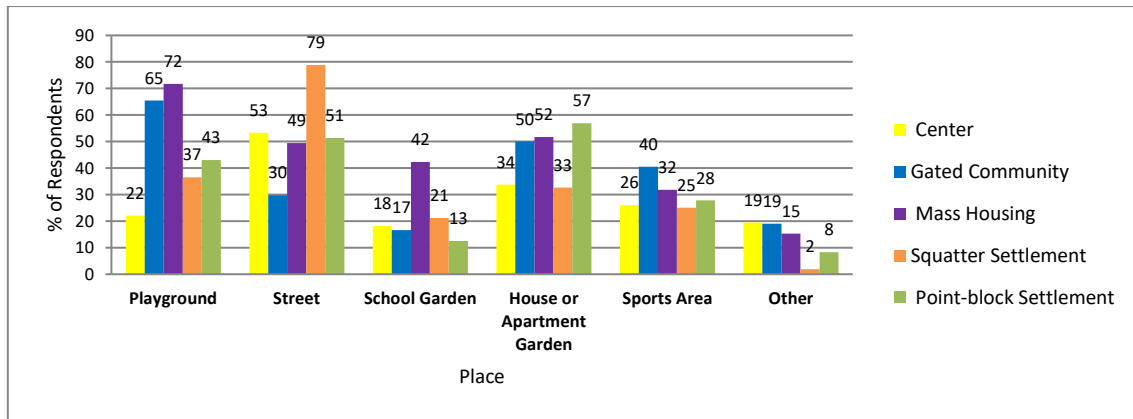
Figure 75. Places playing a game outside of school times

CQ13. Which neighborhood do you live in?

75.6% of children mentioned that they live in the same neighborhood with their school. 6% of children mentioned that they do not know where they live (Figure 76).

CQ14. Can you write down how you commute back-and-forth between school and home?

This was an open-ended question and children wrote down how they commute to school from home back-and-forth. Children's answers were coded as alone, with someone, by walking, and by vehicle. Some children mentioned more than one answer. According to the answers, the majority of children mentioned that they go to school with someone. In addition using a vehicle is higher than walking (Figure 77).
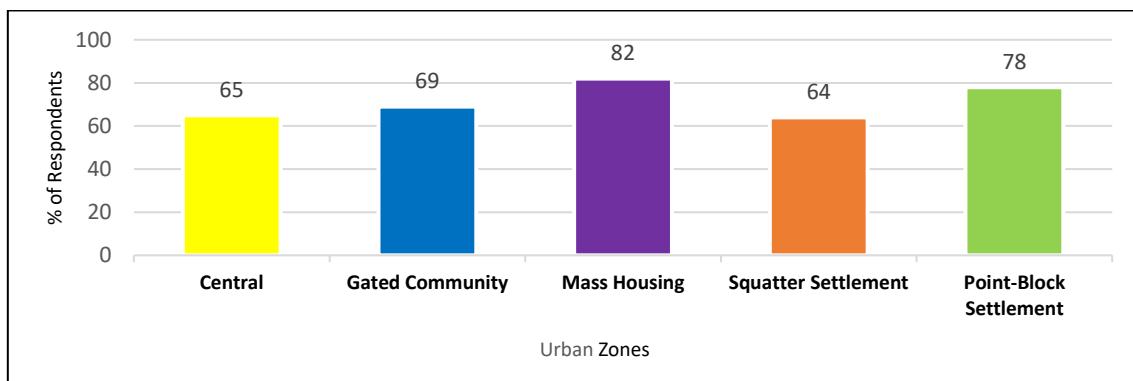
Figure 76. Living in the same neighborhood
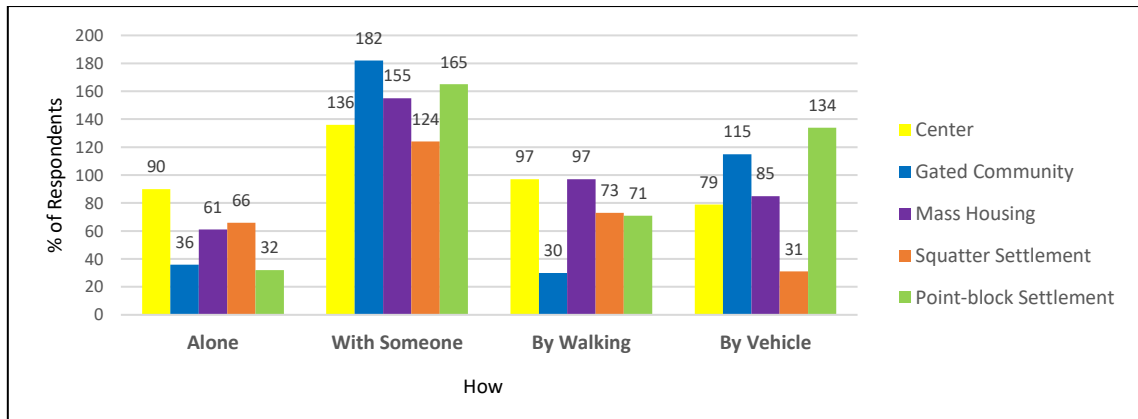
Figure 77. The way of coming and going to school

CQ15. Write down the name of five places you know in Izmir

This was an open-ended question and children were asked to write some places they know in Izmir. Main aim of this question was to learn their knowledge about the city where they live in. 48% of children, the highest score, mentioned "Konak, Kemeraltı or Saat Kulesi", the main city center of Izmir.

Majority of children in central urban zone (62%9) could write at least one place in Izmir (Figure 78). In total 58% of children (10% more than city center) wrote down at least one place related to shopping. Majority of children (77%) in gated community urban zone wrote down a shopping area (Figure 79). In general, children usually mentioned places, which are close to their neighborhoods. In addition, some of them mentioned places, which they visited a short while ago as part of a school trip.
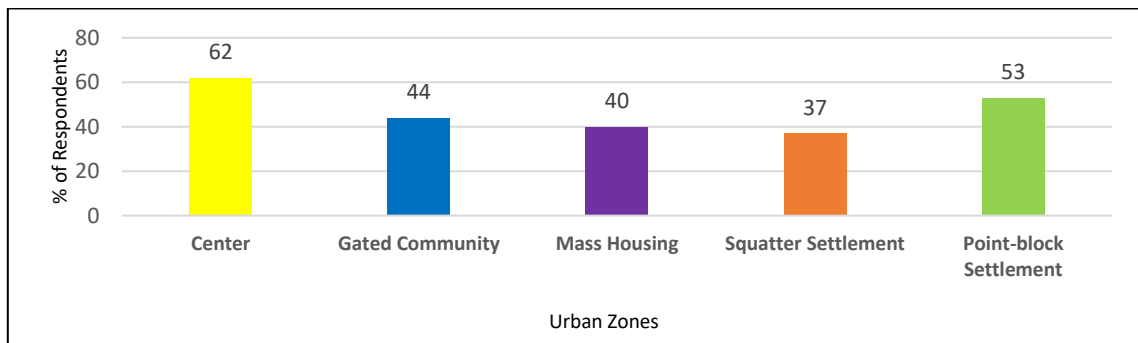
Figure 78. Children's knowledge about city center
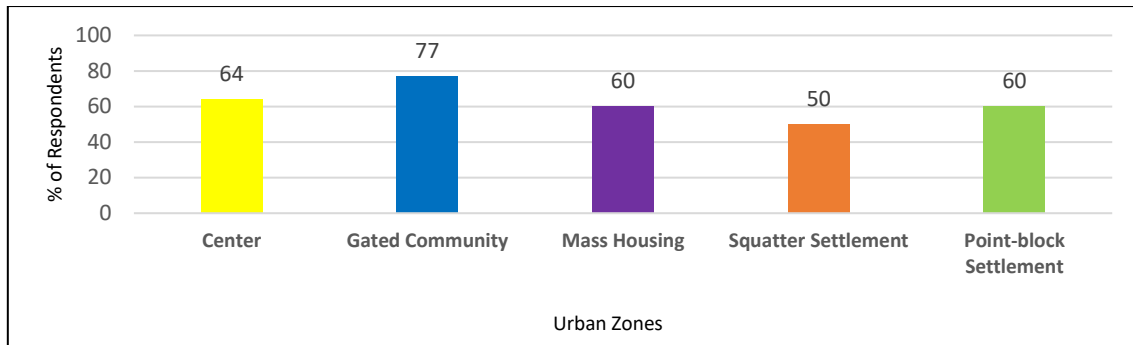
Figure 79. Children's knowledge about shopping centers/markets

4.3. Results of Parents' Questionnaire

The parents' questionnaire starts with demographic questions such as age, gender, number of children, employment etc. It then continues with multiple-choice questions about their and their children's outdoor perceptions and use. At the end there are open-ended questions about when they last went out with their child and what they did, what they were doing outside when they were child, their children's school route, etc.

PQ1. Do you go out for playing a game with your child?

Among all parents, 89.1% of fathers and 72.1% of mothers mentioned that they go out to play a game with their child. A chi-square test was performed to examine the relationship between urban zone and going out for play with your child. No significant relationship was found, $X^2(4, 258) = 2.26$, $p = .688$ (Figure 80).
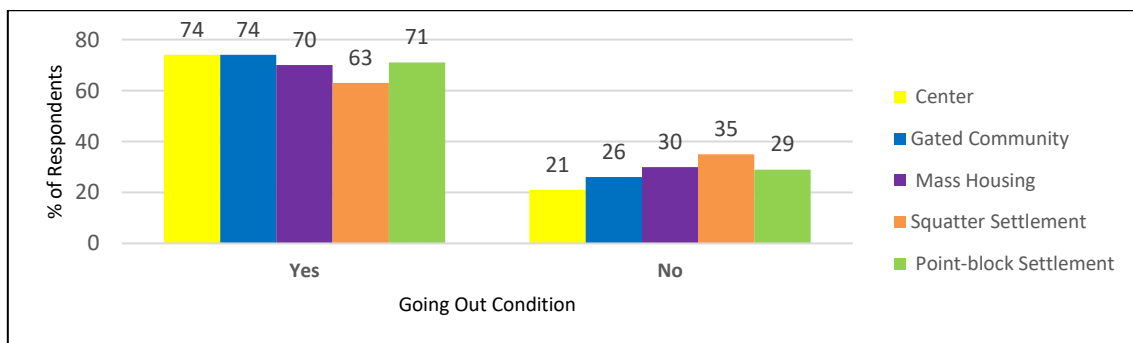
Figure 80. Going out for playing a game with your child

PQ2. At what time do you go out with your child within a day?

There are two options for this question: weekday and weekend. For the weekday condition, evening is the most popular answer among parents (Mother: 62.4% and Father: 61.1%). For the weekend condition, noon is the most popular answer among parents (Mother: 72.6 % and Father: 73.6%).

PQ3. When do you go out with your child during the week during non-school times?

Among all parents, 65.8% of them mentioned that they go out with their child in both weekdays and weekends. A chi-square test was performed to examine the relationship between urban zone and going out with one's child during the week. No significant relationship was found, $X^2(12, 258) = 16.63$, $p = .164$ (Figure 81).
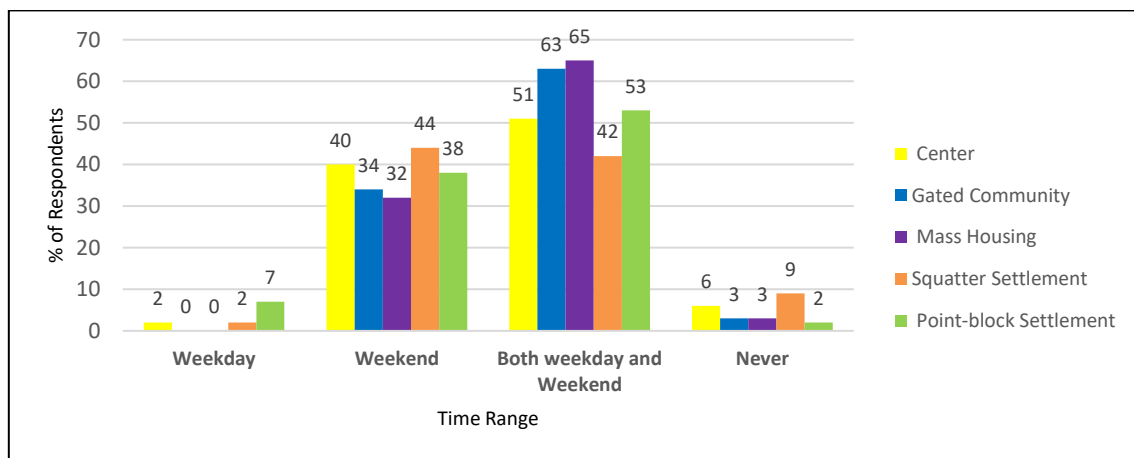
Figure 81. Going out with your child during the week during non-school times

PQ4. How many days do you go out with your child during weekdays?

More parents (26%) in all urban zones mentioned that they go out two days in weekdays. A one-way between subjects ANOVA was conducted to compare the effect of urban zones on going out during weekdays in central, gated community, mass housing, squatter settlement and point-block settlement conditions for parent's questionnaires. There was no statistically significant difference among parents from different urban zones with regards to going out during weekdays at the p<.05 level for the five conditions, $F(4, 253) = 1.34$, $p = .252$ (Figure 82).

PQ5. How many days do you go out with your child on weekends?

Half of the parents in all urban zones mentioned that they go out both days on weekend. A one-way between subjects ANOVA was conducted to compare the effect of urban zones on going out during on weekends in central, gated community, mass housing, squatter settlement and point-block settlement conditions for parent's questionnaires. There was no statistically significant difference among parents from different urban zones with regards to going out on weekends at the p<.05 level for the five conditions, $F(4, 253) = 0.68$, $p = .606$. The highest ratio among answers of parents is 2 days (50.86%). Among all urban zones, parents in squatter settlement urban zone (14%) mentioned "never" as the highest ratio (Figure 83).

PQ6. Do you let your child go outside alone?

More parents (42%) in all urban zones mentioned that they do not let their children go out alone.

A chi-square test was performed to examine the relationship between urban zones and letting the child go outside alone. No significant relationship was found, $X^2(8, 258) = 14.97$, $p = .060$. It is found that more parents (42.6%) do not let their child go outside alone at any time. In mass housing urban zone "yes" has the highest ratio (46%) and in squatter settlement urban zone "no" has the highest ratio (56%) (Figure 84). In open-ended questions, parents mentioned their thoughts about why they let or do not let their children go outside alone in different urban zones (Table 12).
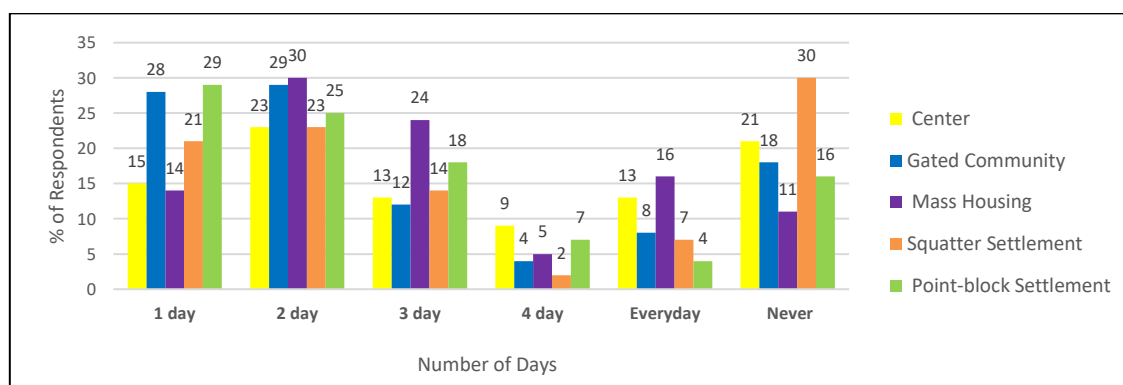
Figure 82. Going out with your child in weekdays
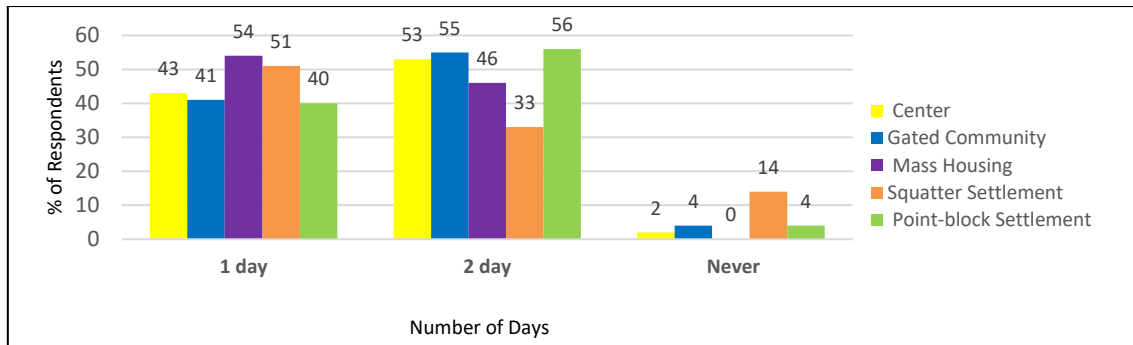
Figure 83. Going out with your child on weekends
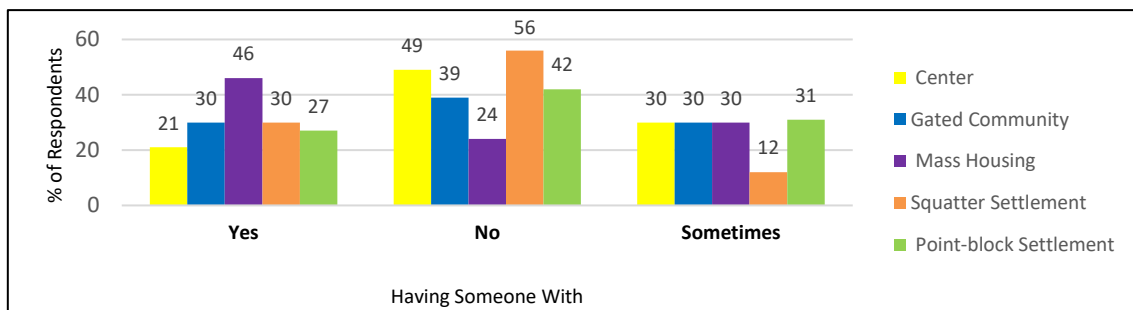
Figure 84. Letting your child go outside alone

PQ7. With whom your child spend time outside?

Among all urban zones, the most popular answer for this question is mother and father (25.6%) and the second one is friends (18%). A chi-square test was performed to examine the relationship between urban zone and people with whom children spend time outside. No relationship was found, $X^2(20, 154) = 17.49$, $p = .621$ (Figure 85).
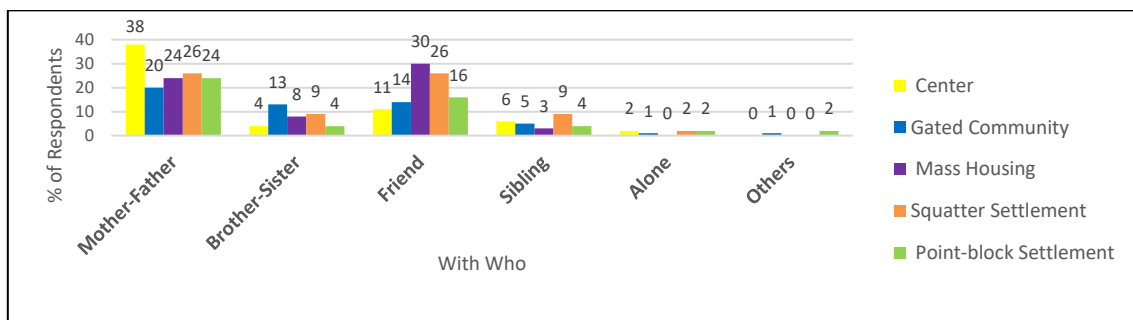
Figure 85. Spending time outside with your child

Table 12. Parents' thoughts about safety and security

Urban Zones	Parents' Thoughts
Central	*"As a mother, I will not let my child go outside alone in order to protect my child's life safety."* *"We live in a city and it's big... That's why I am scared."* *"I do not trust anyone. I am scared that my child can be lost."* *"Our environment is dangerous. I do not feel secure."* *"Someone can kidnap my child. And there is traffic."*
Gated Community	*"I do not trust people and because of that I think outdoors are not safe."* *"I do not trust anyone except myself and my wife. I hardly pick my children's social sphere."* *"The world around us is dangerous, I do not trust anyone."* *"I let my children go out in our building complex because I think it is safe."*
Mass Housing	*"I do not let my child go outside alone because I do not trust the environment. There are no play areas around. Back of our apartment is mountain and my child could go there."* *"Because I don't want my child to get lost."* *"We are in a really bad era because of that there are negativeness everywhere. How can I let my child go out alone?"*
Squatter Settlement	*"Because outside is very dangerous (There are bad people) so I do not let my child go out alone."* *"Dangerous and unsafe."* *"I do not trust people around. Today there are many kidnapping and child abuse cases happening so I do not let my child go outside alone".*
Point-block Settlement	*"If I do not have to, I do not let my child go outside alone."* *"I do not think that my child can protect himself. Some bad things can happen to him at any time."*

PQ8. How many hours do you spend time with your child outside?

Majority of parents mentioned that weekends, summer and winter holidays are most popular times for their children to spend time outside. A one-way between subjects ANOVA was conducted to compare the effect of urban zones on hours of spending time outside except school time during weekdays, on weekends, on summer holiday and on winter holiday. There was no statistically significant difference among urban zones with regards to hours of spending time outside except school time during weekdays at the p<.05 level, $F(4, 253) = 3.192$, $p = .014$; on weekends at the p<.05 level, $F(4, 253) = 6.103$, $p = .000$; and on summer holiday at the p<.05 level, $F(4, 253) = 4.301$, $p = .002$ for the five conditions.

But unlike all three, there was a statistically significant difference among urban zones on spending time outside except school time on winter holiday at the p<.05 level for the five conditions, $F(4, 253) = 6.570$, $p = .000$. A post hoc test was computed for winter holiday condition. Post hoc comparisons using the Tukey HSD test indicate that the mean score for the Point-block settlement condition ($M = 4.80$, $SD = 1.55$) was significantly different from the central ($M = 4.74$, $SD = 1.52$), mass housing ($M = 4.38$, $SD = 1.68$), squatter settlement ($M = 3.21$, $SD = 1.33$) and gated community ($M = 4.14$, $SD = 1.76$) conditions. Taken together, these results suggest that point-block settlement urban zone do have an effect on hours of spending time outside except school on winter holiday condition (Figure 86, 87, 88 & 89).
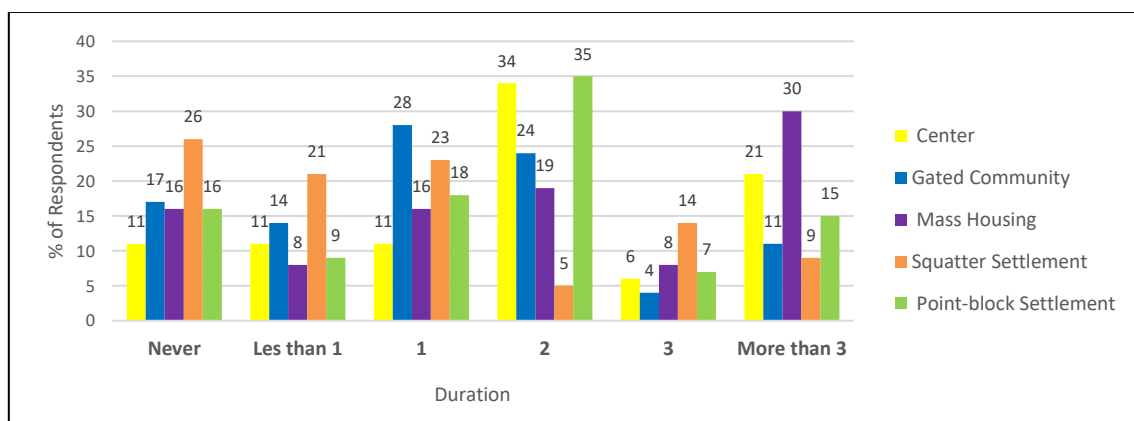
Figure 86. Hours you spend time with your child outside in a day in weekday
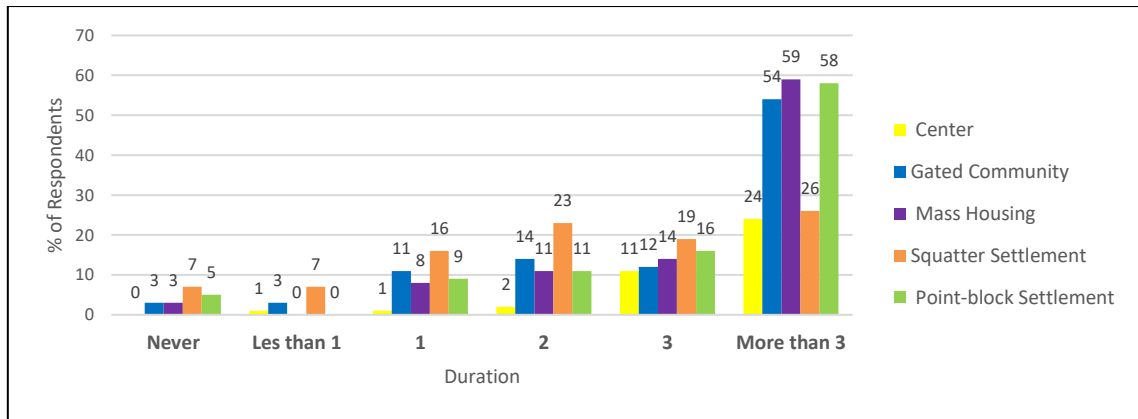
Figure 87. Hours you spend time with your child outside in a day on weekend
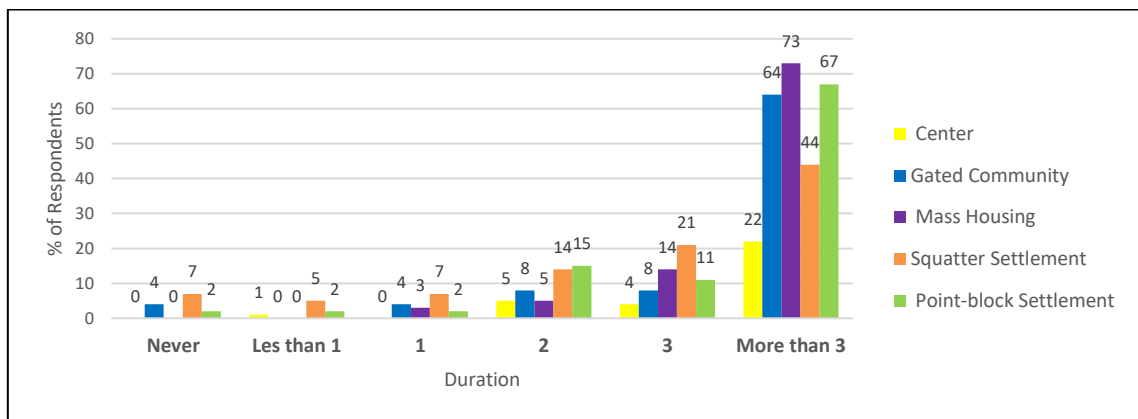
Figure 88. Hours you spend time with your child outside on summer holidays
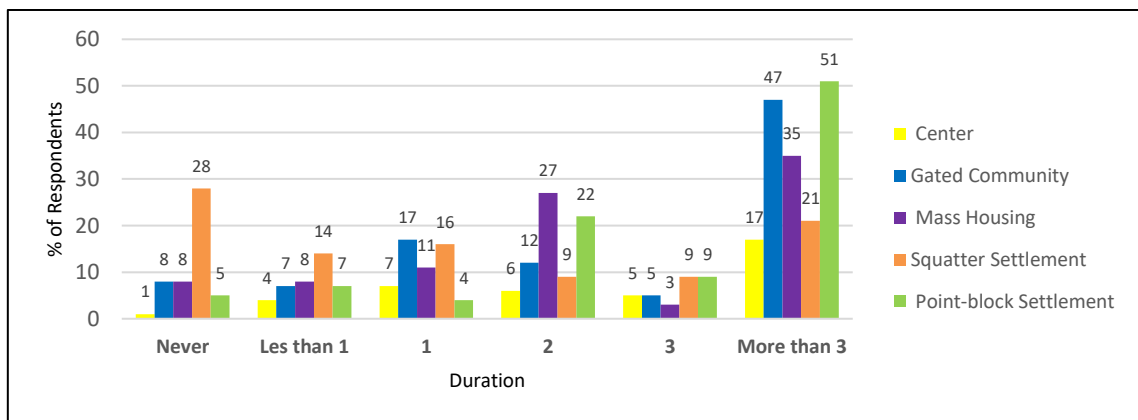
Figure 89. Hours you spend time with your child outside on winter holidays

PQ9. Do you have any playground or play area near your home at walking distance?

Majority of parents (79.5%) mentioned that they have a playground or play area near their home. A chi-square test was performed to examine the relationship between urban zone and having a playground or play area near one's home at walking distance. The relationship between these variables is significant, X^2(4, 258) = 27.65, $p < .05$. Mass housing, more than all other urban zones, has a playground or play area (100%). Squatter has less playground or play area near the home (40%) (Figure 90).
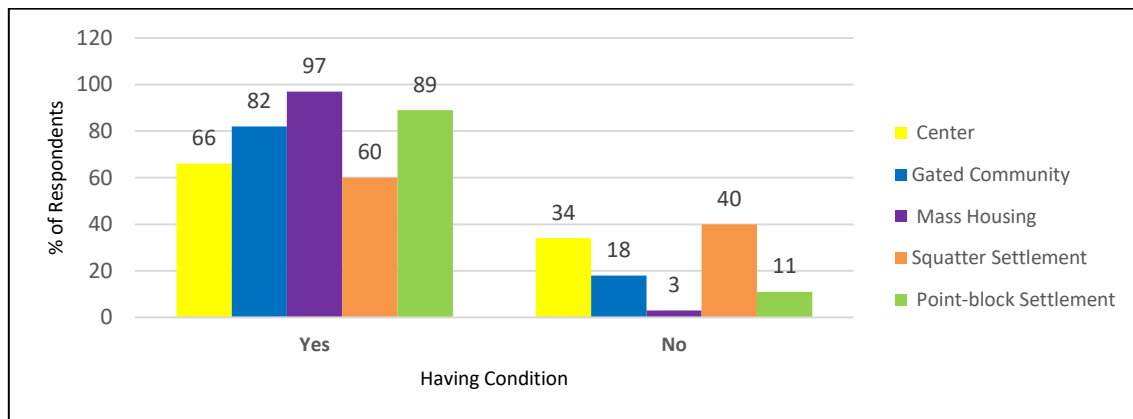
Figure 90. Having a playground or play area near the home at walking distance

PQ10. How many hours does your child watch TV in a day?

Most of parents mentioned that TV is a part of their children's lives. A one-way between subjects ANOVA was conducted to compare the effect of urban zones on hours of watching TV in weekdays and weekend central, gated community, mass housing, squatter settlement and point-block settlement conditions for parent's questionnaires. There was no statistically significant difference of urban zones on hours of watching TV during weekdays at the p<.05 level for the five conditions, F(4, 253) = 1.40, $p = .232$; and on weekends at the p<.05 level for the five conditions, F(4, 253) = 0.747, $p = .561$.

These results suggest that urban zone differences do not effect watching TV during weekdays and on weekends. Specifically, our results suggest that all children in all urban zones have similar tendencies of watching TV during weekdays and on weekends (Figure 91 & 92).
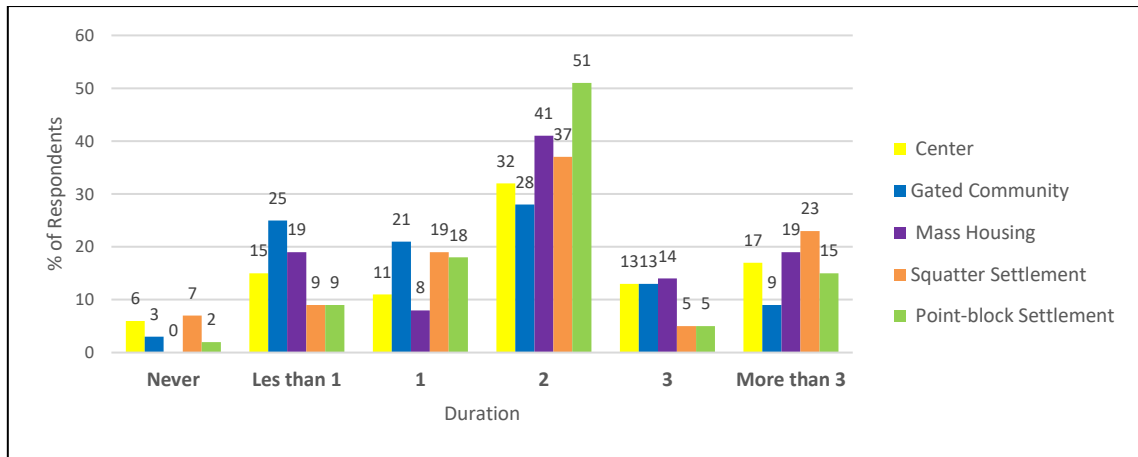
Figure 91. Hours your child watch TV in a day in weekday
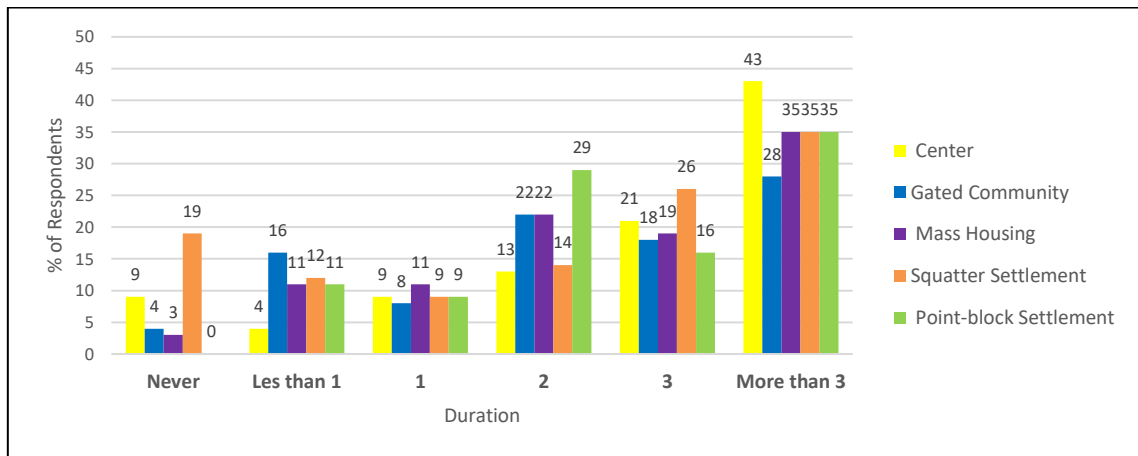
Figure 92. Hours your child watch TV in a day on weekend

PQ11. How many hours does your child spend using cell phone, tablet or computer in a day?

Most of parents mentioned that electronic devices are part of their children's lives. A one-way between subjects ANOVA was conducted to compare the effect of urban zones on hours of using cell phone, tablet or computer in central, gated community, mass housing, squatter settlement and point-block settlement conditions. There was a statistically significant difference among urban zones with regards to hours of using cell phone, tablet or computer in weekdays at the p<.05 level for the five conditions, $F(4, 253) = 4.048$, $p = .003$.

Unlike weekday, there was not a statistically significant difference among urban zones with regards to hours of using cell phone, tablet or computer in weekend at the p<.05 level for the five conditions, $F(4, 253) = 5.105, p = .001$.

A post hoc test was computed for the weekday condition. Post hoc comparisons using the Tukey HSD test indicates that the mean score for the point block condition ($M = 3.29$, $SD = 1.60$) was significantly different from the gated community ($M = 2.45, SD = 1.32$), mass housing ($M = 2.70, SD = 1.57$), squatter settlement ($M = 2.40, SD = 1.41$) and central ($M = 3.13, SD = 1.49$) conditions. Taken together, these results suggest that point-block settlement urban zone does have an effect on the use of cell phone, tablet or computer during weekdays (Figure 93 & 94).
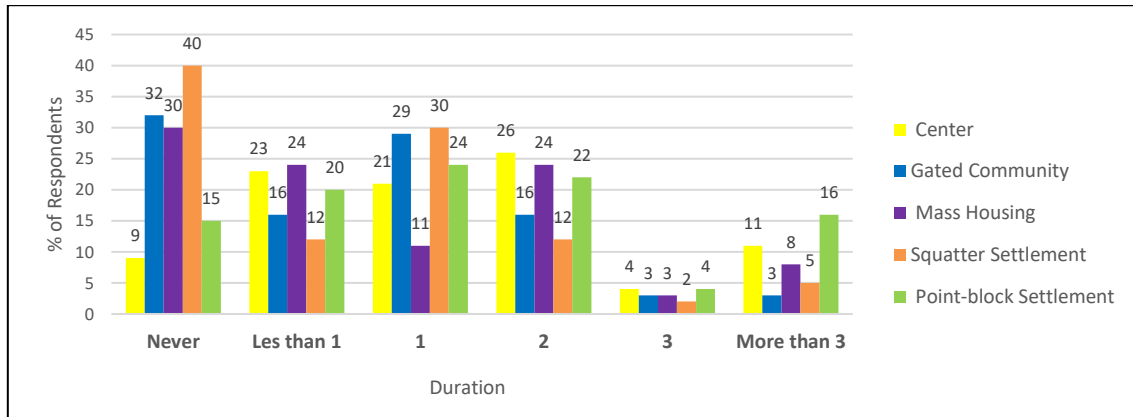
Figure 93. Hours your child use cell phone, tablet or computer in a day in weekday
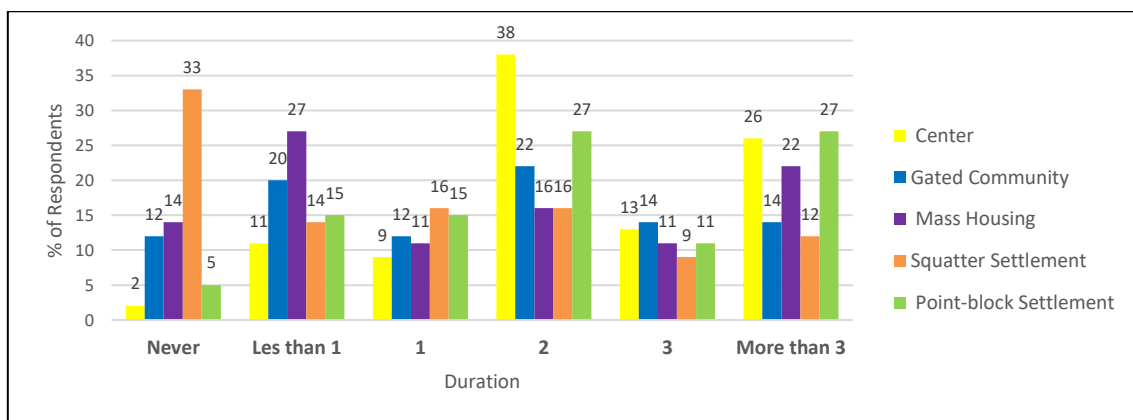
Figure 94. Hours your child use cell phone, tablet or computer on weekends

PQ12. Where does your child play outdoor?

The majority of parents mentioned that playground or children's park is the first choice (58.5%) and homes or apartment's garden is the second choice (51.2%) for their children to play outdoors.

PQ14. Where did you spend your childhood?

With 34.5% percentage, city is the most popular answer. Parents from squatter settlement urban zone (40%) have the highest ratio of growing up in a village. Different from all urban zones, none of the parents in mass housing urban zone grew up in a town. The highest ratio of parents growing up in a city is among gated community parents (37%) and lowest ratio is at squatter settlement (23%). Lastly, parents from the central zone are more likely to have grown up at a metropolitan area (38%). A chi-square test was performed to examine the relationship between urban zone and place in childhood spend. No significant relationship was found, $X^2(12, 258) = 16.3$, $p = .185$. (Figure 95).
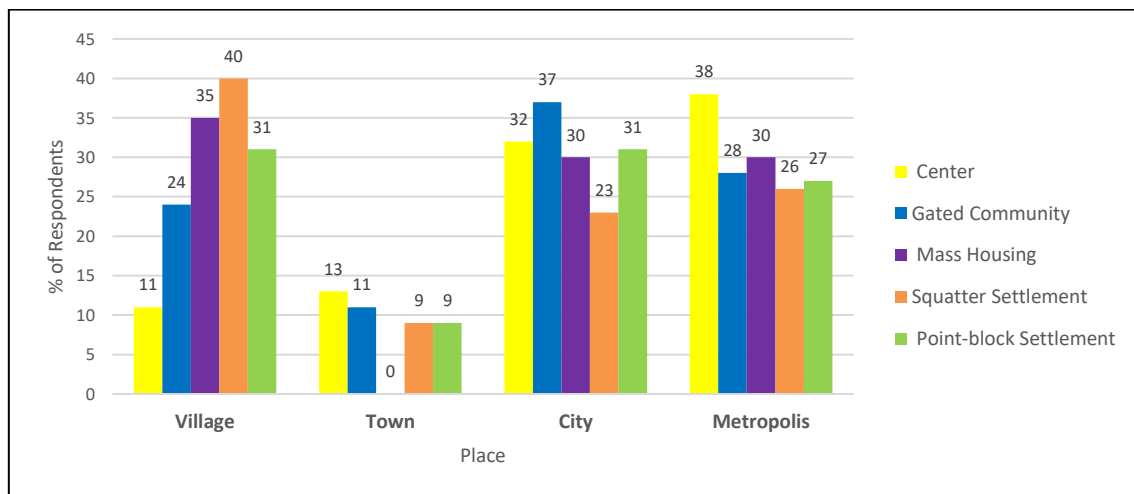
Figure 95. Place of spending childhood

4.4. Results of Children's Drawings

The aim of this phase is to analyze children's drawings of their outdoor experiences in urban environments. Accordingly, 10 criteria are identified as analysis criteria: 1) activity

type, 2) activity place, 3) natural elements, 4) artificial elements, 5) people, 6) living creatures, 7) mood, 8) time range, 9) season, 10) format of the drawing. After identifying analysis criteria, contents of all drawings were analyzed one by one and categorized the drawings accordingly. Similarities and the differences were extracted between each category and urban zone type. This filtered data was helpful to develop an understanding about children's ability of drawing and their knowledge about outdoors.

The analysis of drawings suggest that sport and play share the highest ratio (33%) among activity types. Being outside and wandering has the second highest ratio (26.6%). Although children were asked to draw their activities outside, 1.1% of children drew interior activities at their home (Figure 96, 97, 98, 99, 100, 101 & 102).

Ratio of shopping activity (3.8%) is lower than expected (Figure 103). Outdoor area has the highest ratio among all urban zones (72.7%). Green area and green field has the second highest (25.1%) and front garden of the house has the third highest (15.8%) ratio. Again, 9.8% of children drew indoor environments as activity places (Figure 104, 105, 106 & 107).
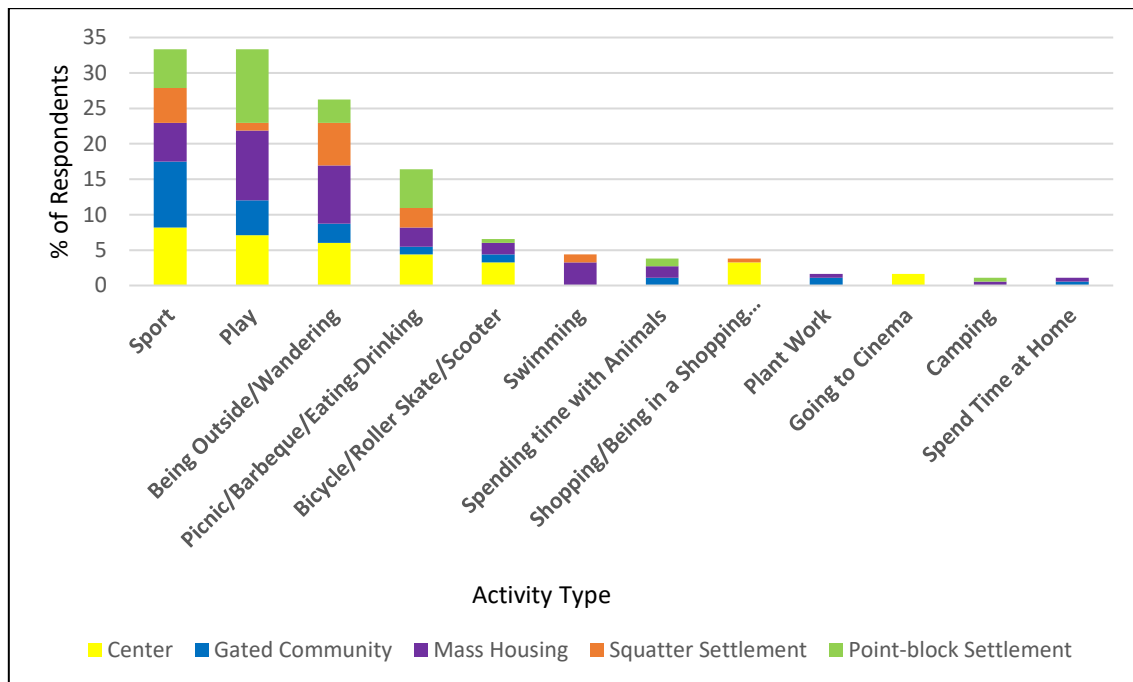
Figure 96. Activity types depicted in the drawings

Figure 97. Drawing of a shopping center (including stores, escalator, people and sky)

Figure 98. Drawing of a picnic (including barbeque, animals, people and sky)

Figure 99. Drawing of a roller skate (including play equipment, trees, people and sky)

Figure 100. Drawing of watching movie in cinema (including screen, door, seats and stairs)
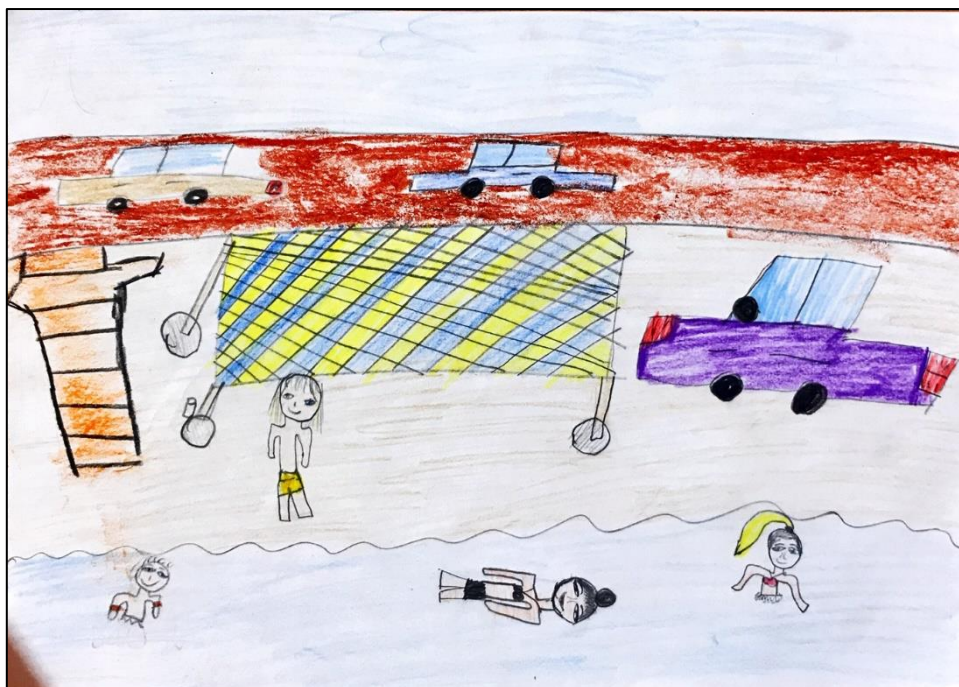
Figure 101. Drawing of swimming (including sea, tent, road, cars, sky and people)

Figure 102. Drawing of an indoor activity at home (including indoor furniture and people)
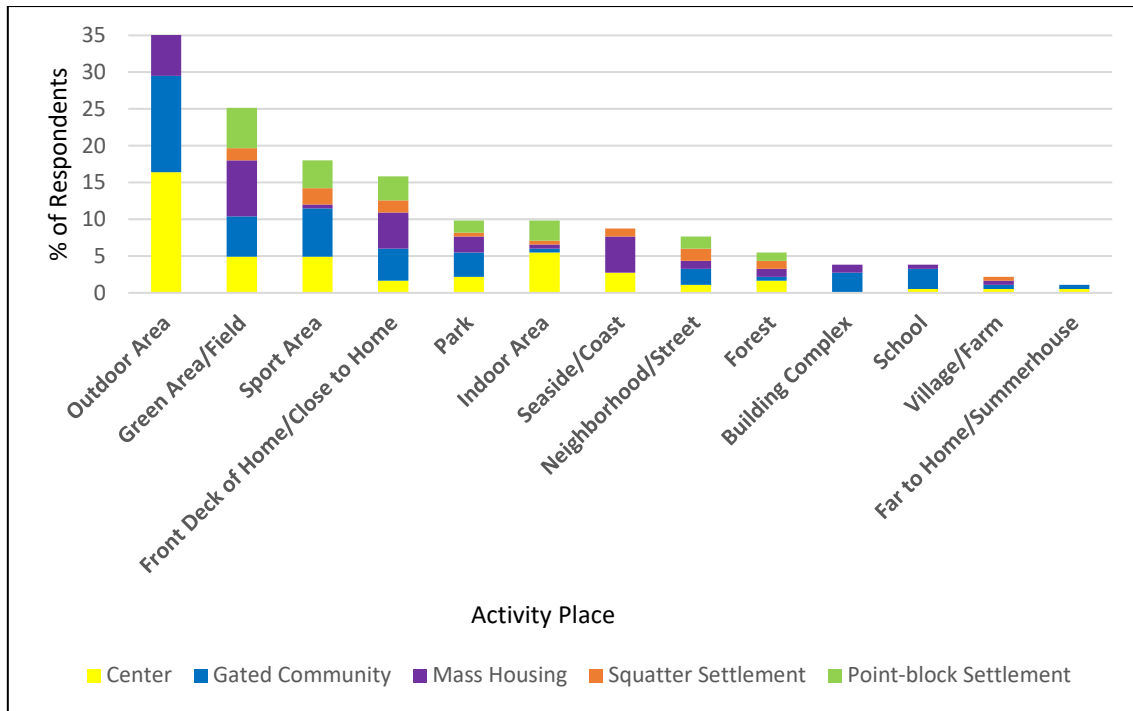
Figure 103. Activity places depicted in the drawings

Figure 104. Drawing of a children's play in front of the apartment (including building, flowers, people, sun and clouds)

Figure 105. Drawing of Anıtkabir which is far to home (including tomb, car and people)

Figure 106. Drawing of a children's play in front of the house (including house, tree house, digging tools, people and sky)

Figure 107. Drawing of shopping activity in the neighborhood (including stores and people)

As natural elements, which are created without human intervention, cloud (45.9%) and sun (53.6%) are the most popular natural elements used in the drawings. Drawings, which do not include any natural elements also has a high ratio (30.1%) (Figure 108, 109 & 110).
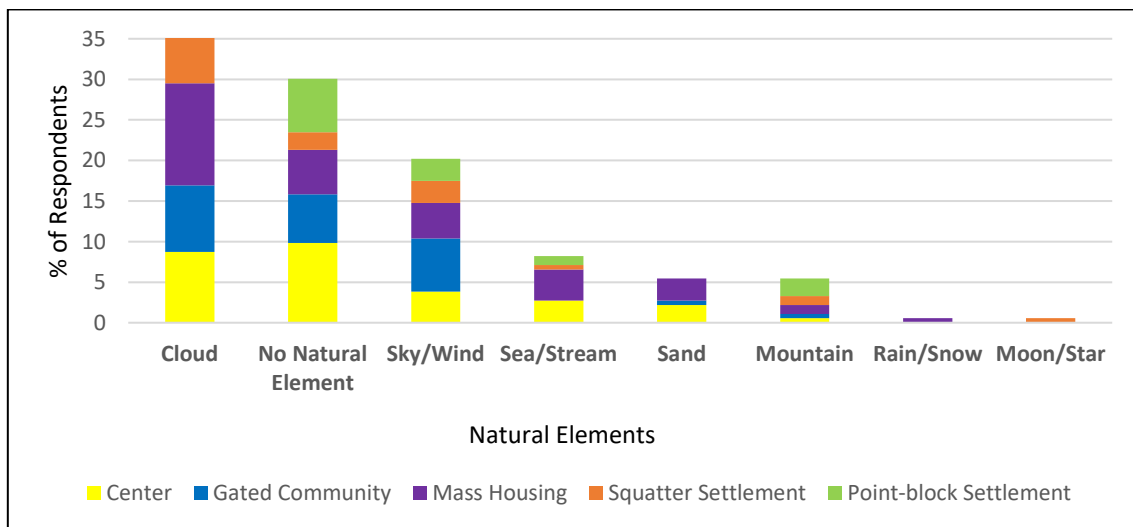
Figure 108. Natural elements depicted in the drawings

Figure 109. Drawing of seaside (including sea, sand, animals, plant, sun and people)

Figure 110. Drawing of an outdoor activity near seaside (including sea, sun, clouds, mountains, road, building, boats and people)

As artificial elements, by far ball is the most popular element for children (41%). Buildings (20.2%) and elements related to build environment (19.7%) are other popular artificial elements for children (Figure 111 & 112).
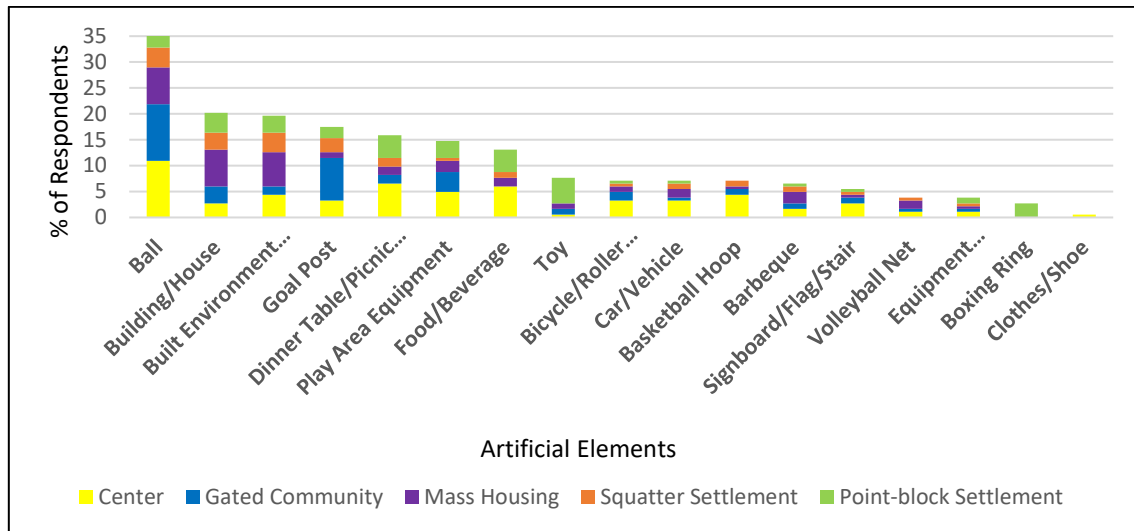
Figure 111. Artificial elements depicted in the drawings

Figure 112. Drawing of a built environment (including buildings, road and people)

Concerning human figures in drawings, children's written explanation about their drawings and their writings on drawings (names of human figures written) were helpful to distinguish the identities of the figures. Majority of the human figures were anonymous (61.2%). Children drew themselves mostly with their friends (31.7%), families (16.4%) and alone (12.6%) (Figure 113, 114, 115 & 116).
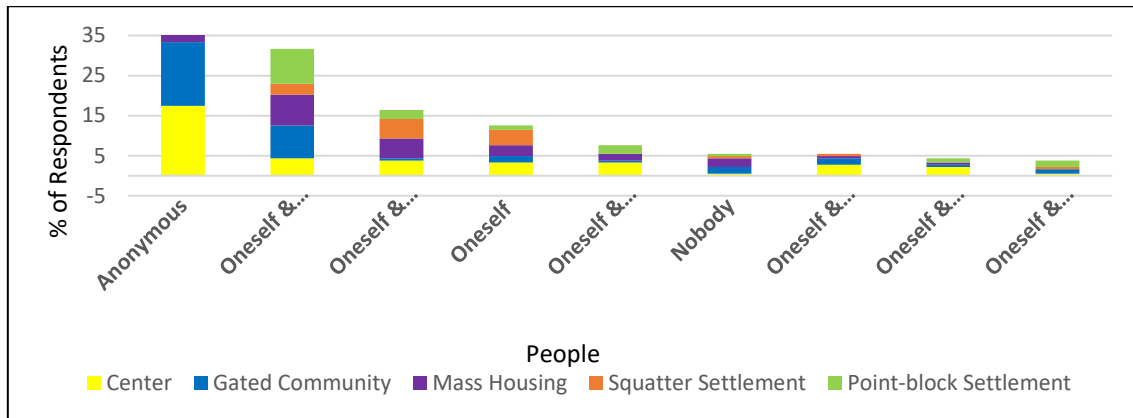
Figure 113. Human figures depicted in the drawings

Figure 114. Drawing of a walking activity (including street, trees, grass, sky and person)
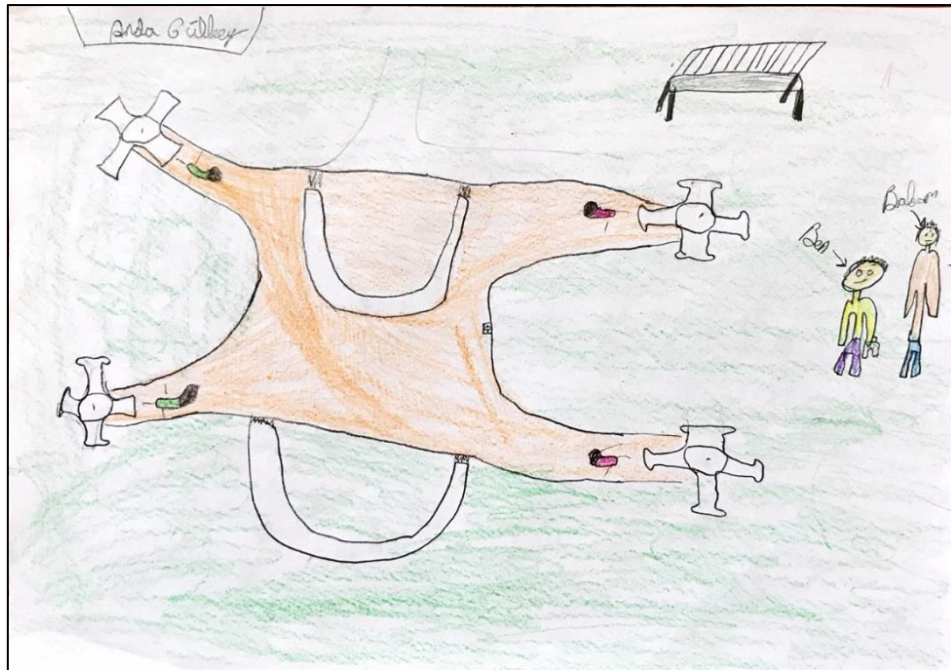
Figure 115. Drawing of a technological activity with oneself and father (including drone, grass, bench, oneself and father)

Figure 116. Drawing of a barbeque activity with family (including road, cars, barbeque, tree, grass, sun, clouds and people)

The analysis concerning the creatures included in the drawings, tree/plant and grass/weed share the highest ratio (34.4%). Animals is the most popular one (13.1%). Other flying animals as butterflies, bees, insects and flies are also popular (9.8%). As more commonly drawn animals, dogs and cats share the same ratio as (2.2%) (Figure 117, 118 & 119).
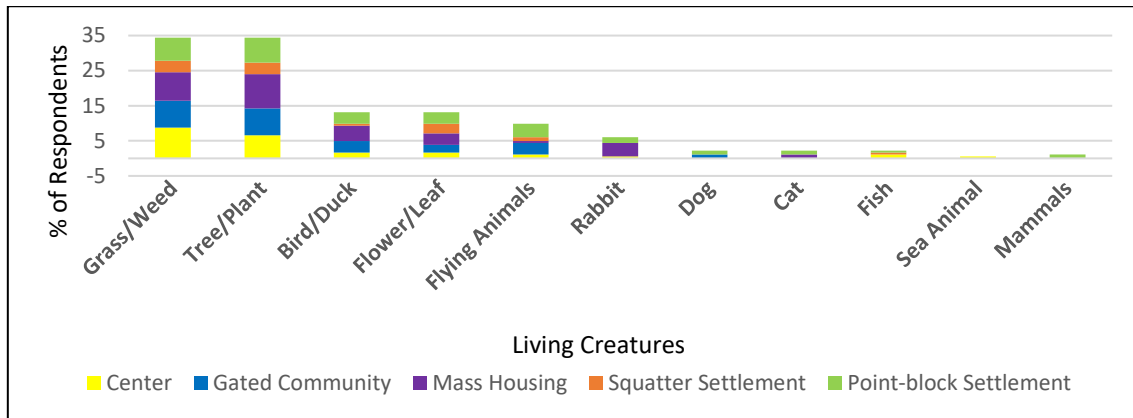
Figure 117. Living creatures depicted in the drawings

Figure 118. Drawing of playing with animals

Figure 119. Drawing of fruit picking (including trees, stair, baskets, flowers, sky, sun, clouds and people)

Majority of children drew happy faces in their drawings (69.4%). 19.7% of children did not convey any mood on their human figures (Figure 120).
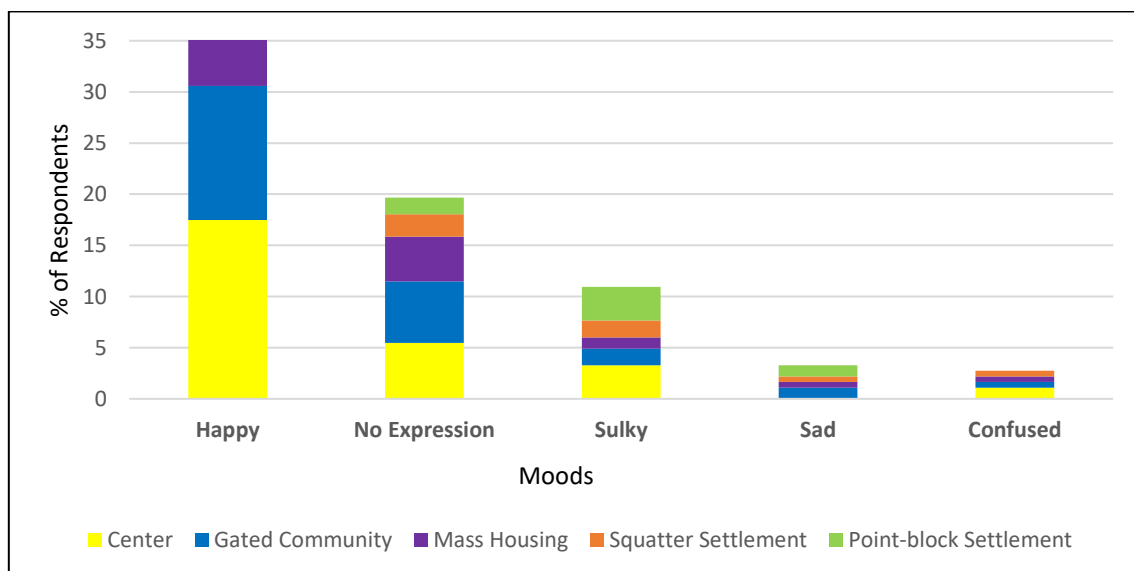
Figure 120. Moods depicted in the drawings

Most of children drew daytime drawings (46.4%) (Figure 121). The majority of children did not include any form of information about the season (85.5%). Only summer is depicted (8.7%) (Figure 122 & 123).
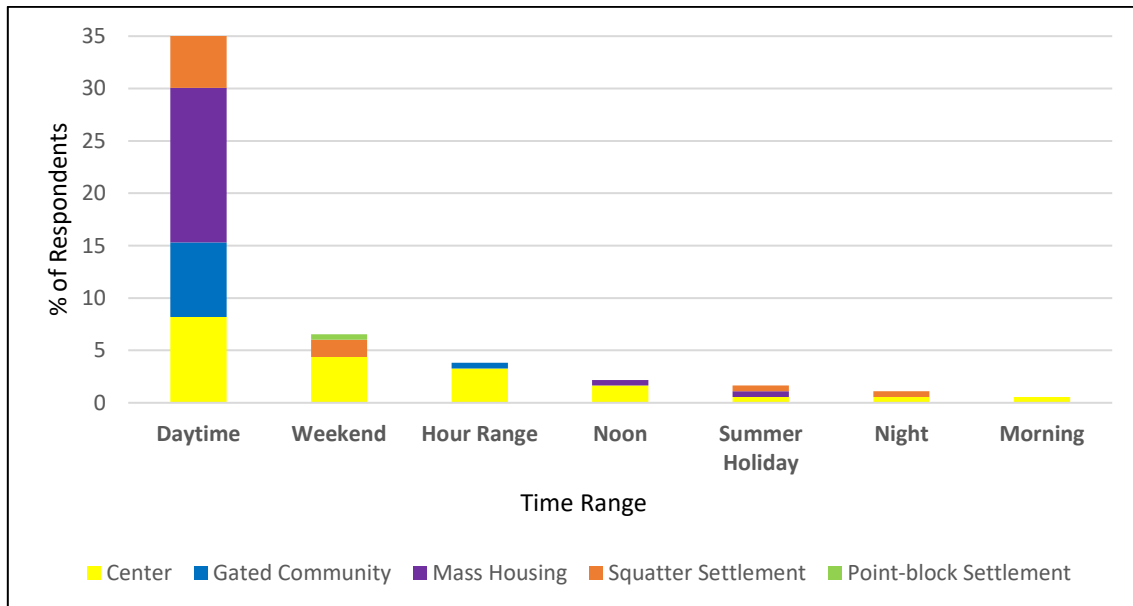
Figure 121. Time ranges depicted in the drawings
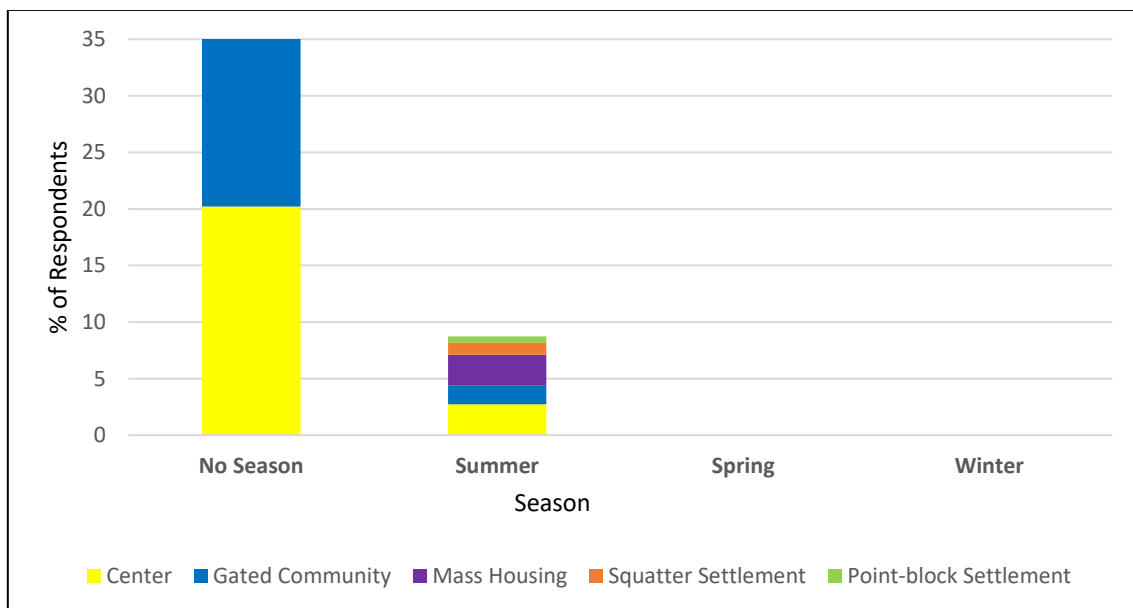
Figure 122. Seasons depicted in the drawings

Figure 123. Drawing of happy children playing in daytime (including play equipment, tree, grass, animals, ball, sun, clouds, sky and people)

It is also considered important to report the format of the drawings provided by children. Three kinds of point of views were identified in the drawings: perspective view, bird's eye view, and eye level view. The most popular ones are the eye level (45.4%) and perspective view (45.9%). Bird's eye view (13.1%) was mainly used for drawing football matches. A little more than one third of the drawings have writing on it (36.1%). These writings are mainly names of the human figures, signs and scores of the sport activities. 23.5% of the drawings are fully painted and in contrast, despite having colored pencils, 12.6% of children made black and white drawings. 25.1% of children drew their human figures as stickman and 4.9% did not drew any human figure.

Interestingly, 14.8% of children represented action, mainly sport activities as kicking a ball, running after a ball, and throwing a ball through a volleyball net, in their drawings. In addition, some actions are related to violence as punching and shooting at somebody. A couple of children divided their paper into some parts because they wanted to draw separate themes, which are not directly related to each other (Figure 124, 125, 126, 127, 128, 129, 130 & 131).
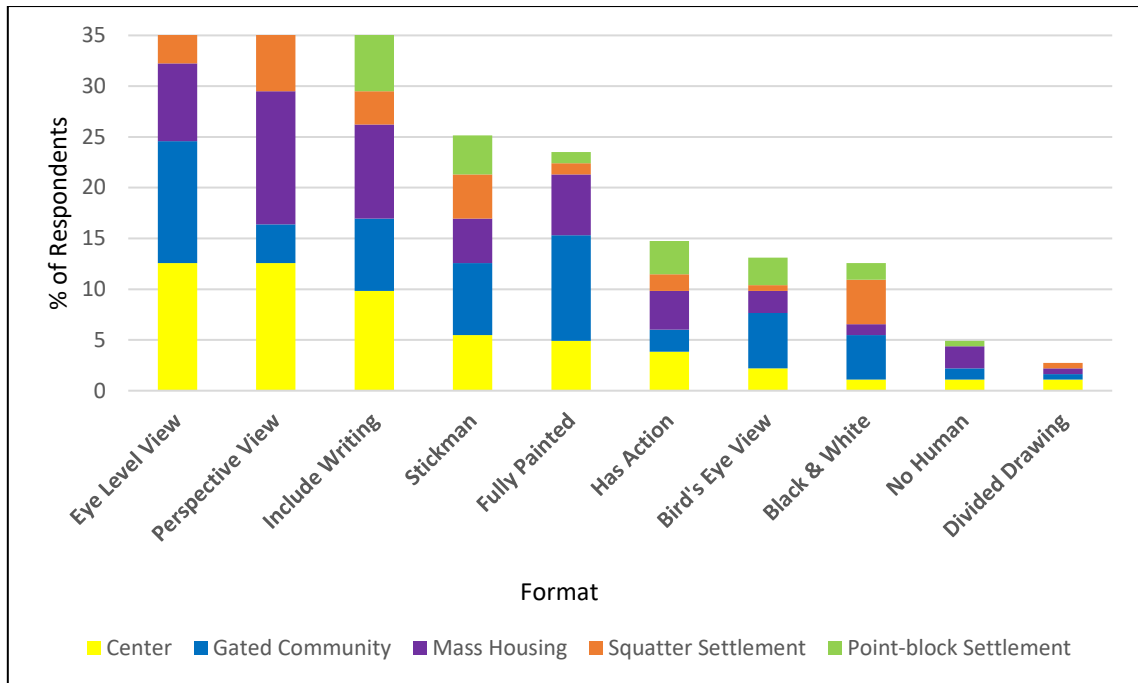
Figure 124. Format of the drawings

Figure 125. Drawing with a perspective view (including sky, volleyball net and people)

Figure 126. Drawing with a bird's eye view (including football field, trees, goal posts and people)

Figure 127. Divided drawing (including trees, flowers, table, goal posts and people)

Figure 128. Fully painted drawing (including tree, animals, building, sky and people)

Figure 129. Action figures playing football depicted in the drawing (including goal post, ball and people)
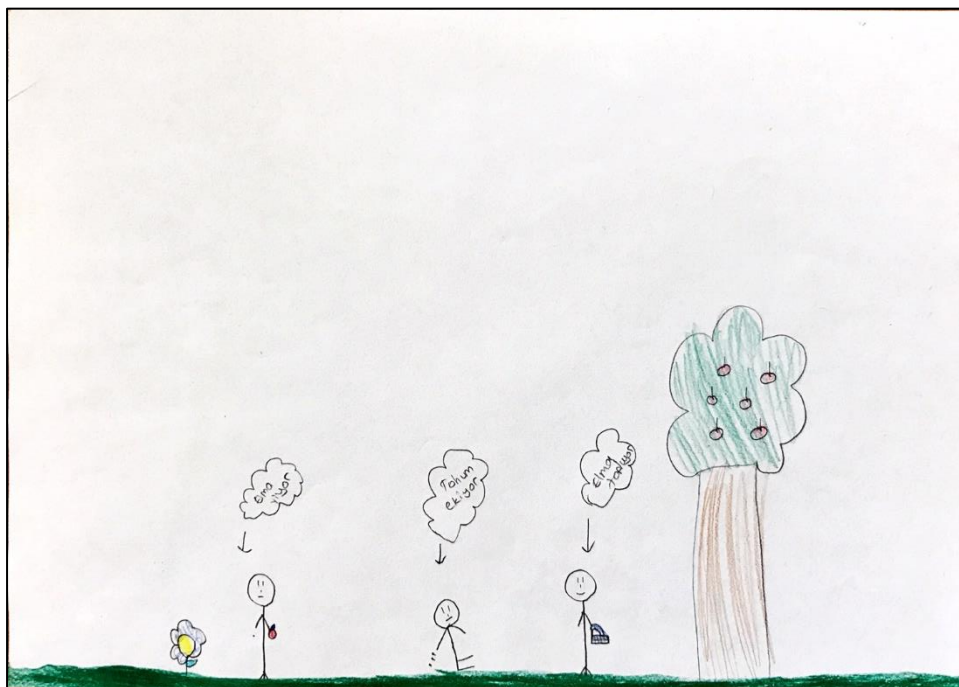
Figure 130. Drawing with stickman figures (including tree, flower, grass and people)
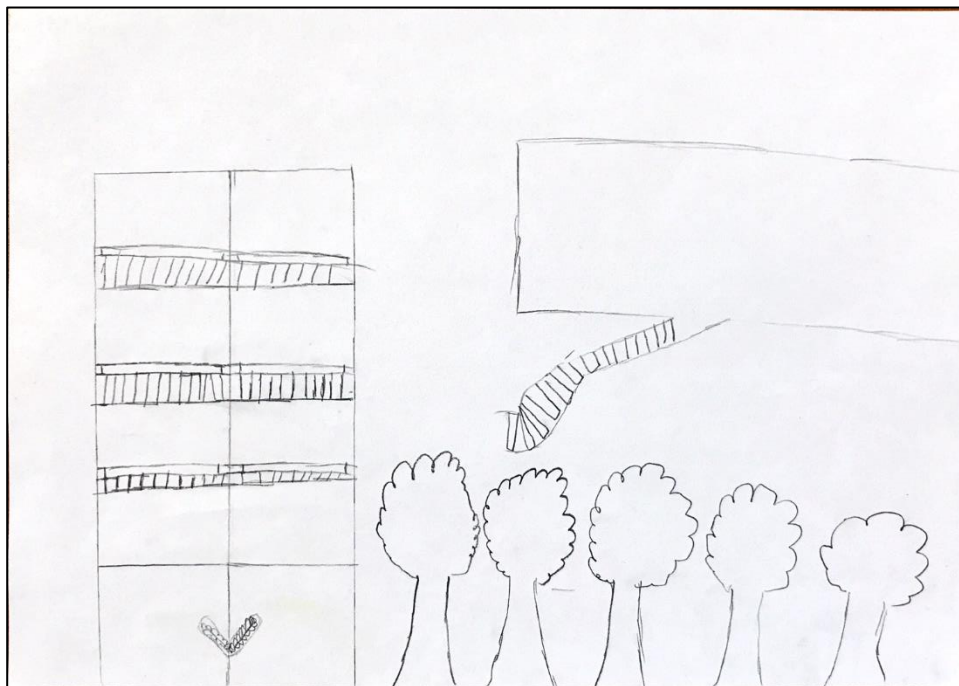
Figure 131. Drawing without human figure (including building, trees and stair)

As a result of children's drawings, concerning the drawing task, the children's illustration abilities were observed to be advanced in the way they provided clear expressions of places, people and activities, which helped to easily categorize and compare the drawings. In general, children mainly drew themselves engaging in a sport activity or playing. They mainly chose outdoors and green spaces. Majority of them drew people with happy faces. Sun is the most popular natural element in the drawings. Trees and grass are other important elements in the drawings.

4.5.   Results of Children's Stories

In this section, children's stories are analyzed to find out about their outdoor experiences in urban environments. Accordingly, nine criteria are identified as analysis criteria: 1) activity type, 2) activity place, 3) natural elements, 4) artificial elements, 5) people, 6) living creatures, 7) mood, 8) time range, 9) season.

Concerning activity type, play has the highest ratio (52%) among activity types mentioned in the stories. Picnic/barbeque (44%) and sport activities (35%) are other popular activity types.

Although children were asked to write about an outside situation, 35% of children provided stories taking place indoors. Swimming is mentioned in many stories (22%) (Figure 132). Outdoor area has the highest ratio (54%) and specific places (32%), such as "Saat Kulesi", "Halkapınar Spor Salonu", and "my uncle's house". Seaside (22%) is another popular place mentioned by children. Again, although children were asked to write about outside situations, 19% of children mentioned indoor places in their stories (Figure 133).

Majority of children did not mentioned any natural elements (62%). Sea/River/Lake is the most popular place mentioned in the stories (14%). None of the children mentioned moon/stars (Figure 134). As edible elements, food (especially related with barbeque) and beverages (35%) are the most popular elements children mentioned in their stories. Play equipment/toys (22%), technological devices (21%) and barbeque (19%) are also mentioned (Figure 135).
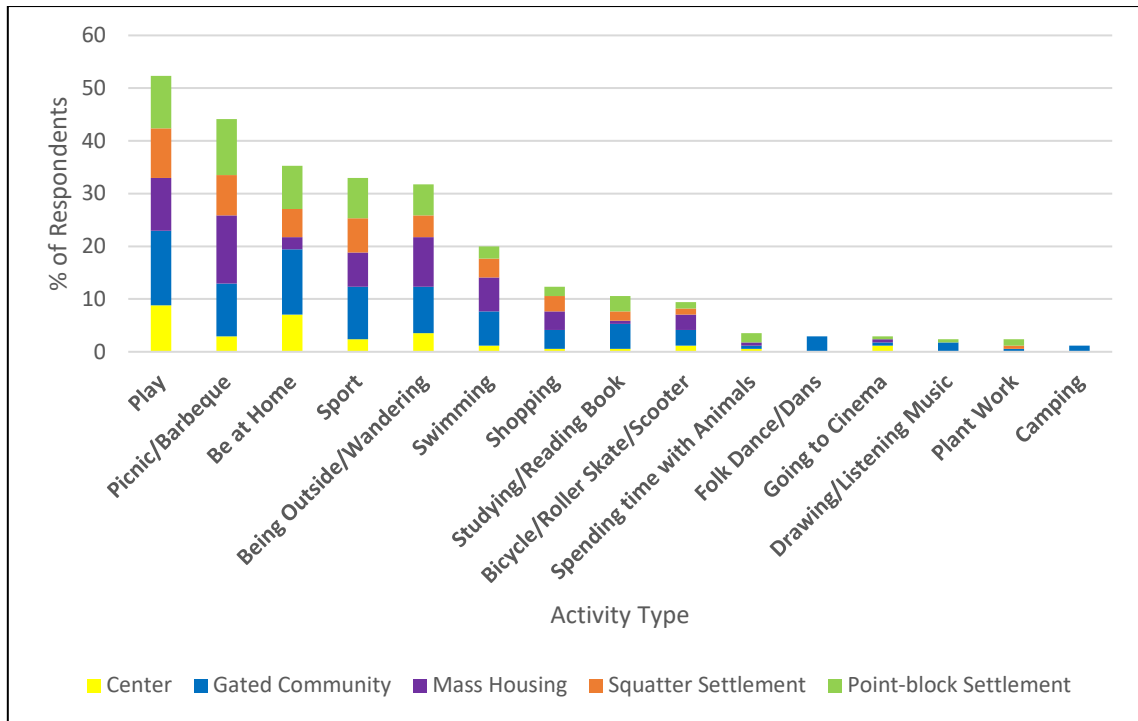
Figure 132. Activity types mentioned in the stories
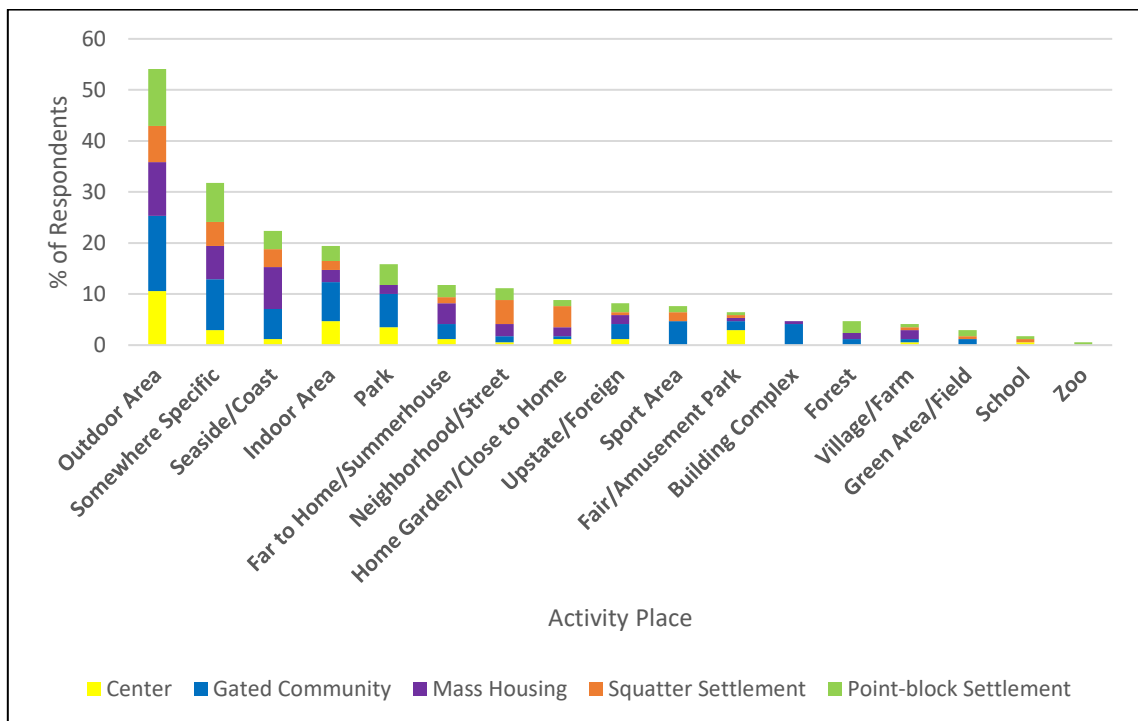
Figure 133. Activity places mentioned in the stories
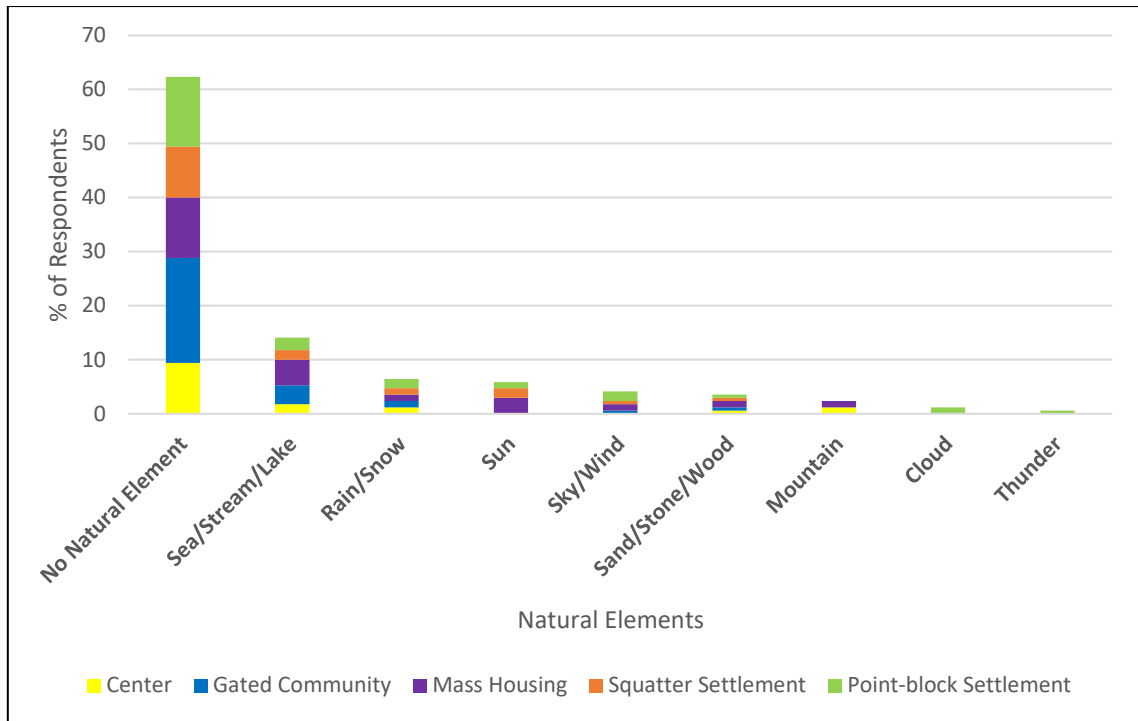
Figure 134. Natural elements mentioned in the stories
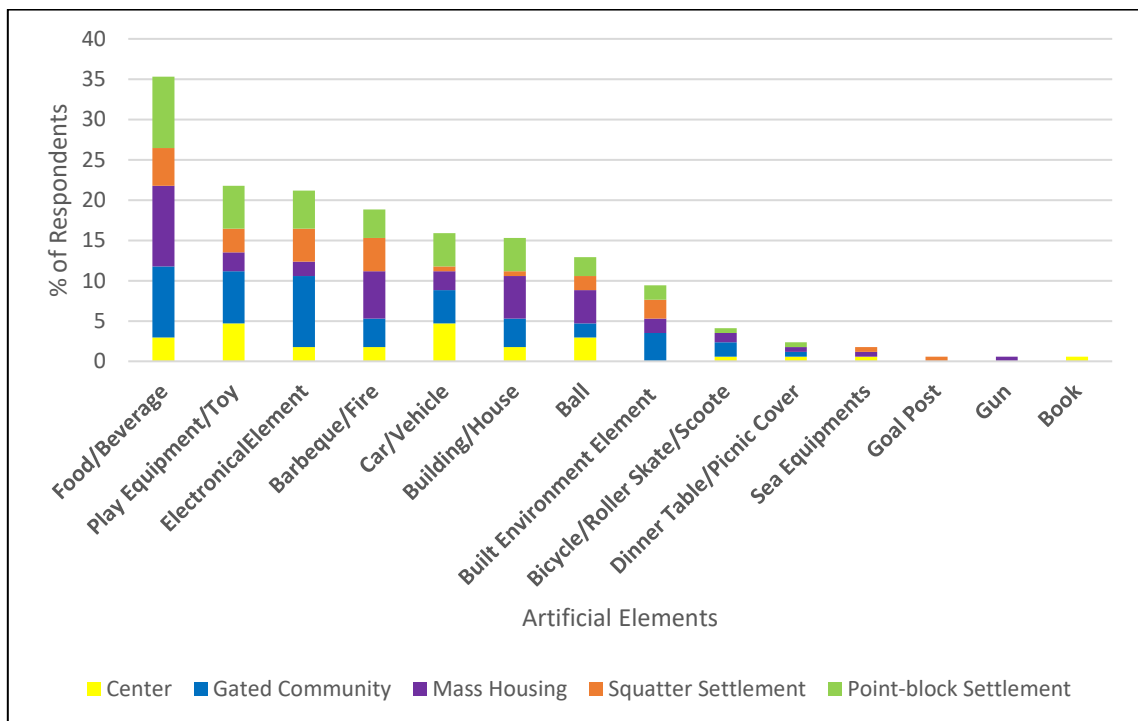
Figure 135. Artificial elements mentioned in the stories

The majority of children mentioned themselves with their friends (42%) in their stories. In addition to friends, families (34%), relatives (33%) and mothers (21%) are popular people children depict spending time with in their stories (Figure 136). Children mainly did not mention living creatures (68%). Dog and tree/plant are the most popular ones (5.9%) (Figure 137). Being happy (41%) and having no mood (40%) are the most frequent emotions in children's stories (Figure 138).

Children are inclined to write about specific days such as first days of June, 29th of October, their birthdays, the birthday of a sibling (44%) in their stories. They also wrote stories mainly related to weekend (27%) and morning (21%) (Figure, 139). Most of them did not mention any seasons (44%) but the ones who gave specific details about a season especially used summer time and summer holiday (22%). They gave details about swimming, playing with sand and spending more time outside. Some children specifically mentioned winter using snow and snowman (Figure 140).
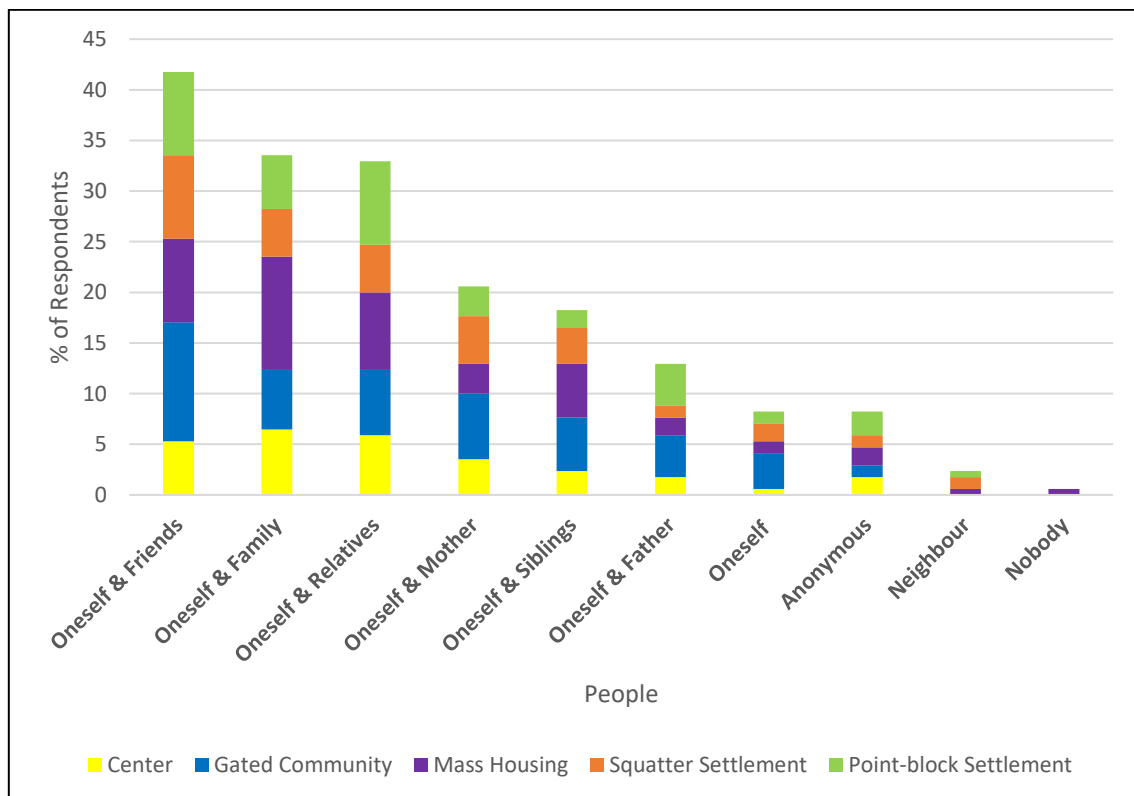
Figure 136. People mentioned in the stories
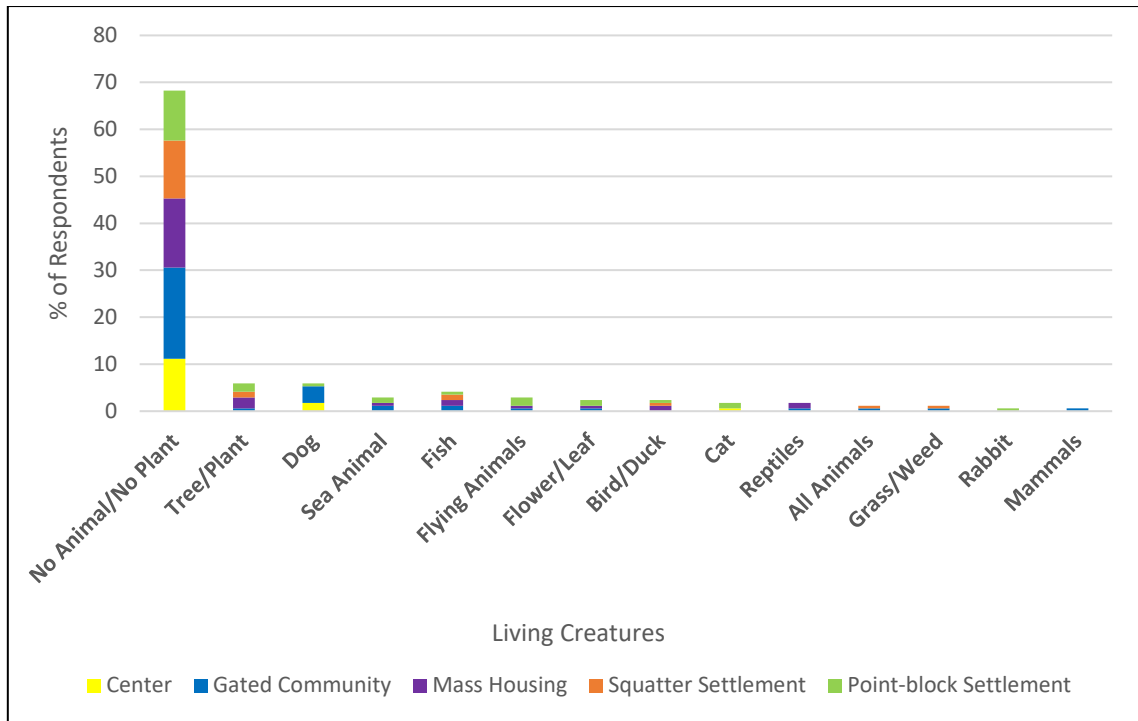
Figure 137. Living creatures mentioned in the stories
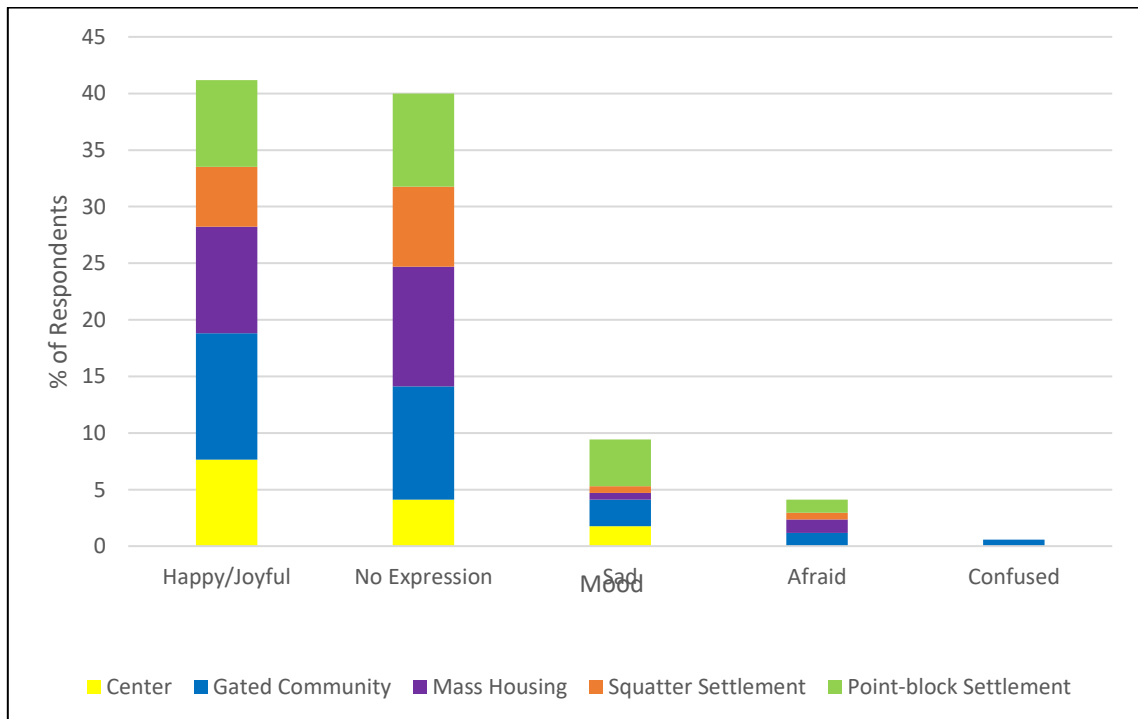
Figure 138. The moods mentioned in the stories
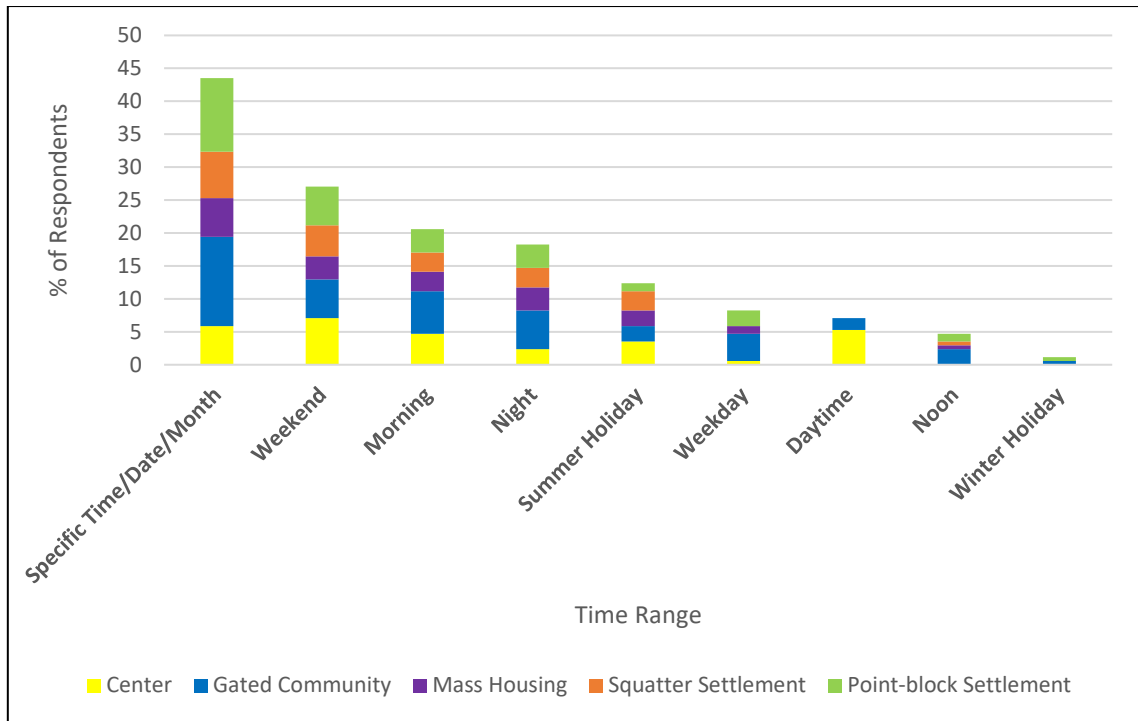
Figure 139. Time range mentioned in the stories
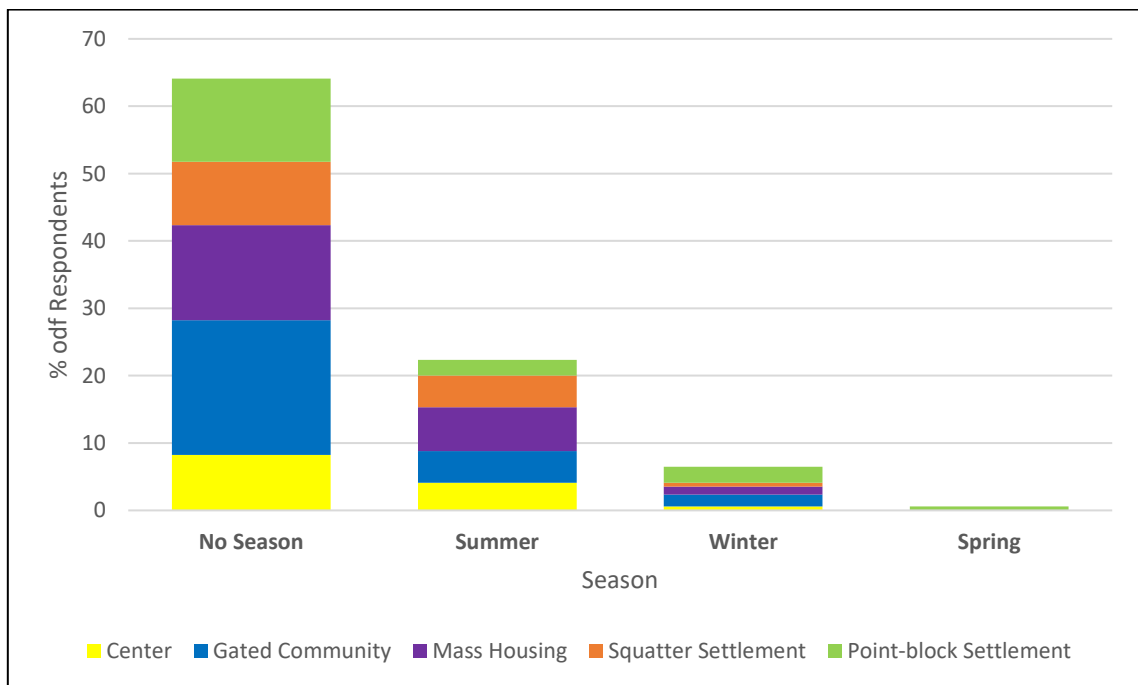
Figure 140. Seasons mentioned in the stories

No analysis on the format of stories were run, however it is worth mentioning some specific examples. Some children used paper horizontally; some draw lines to their blank papers and some draw lines and created line paper (Figure 141, 142, 143, 144, 145, 146 & 147).
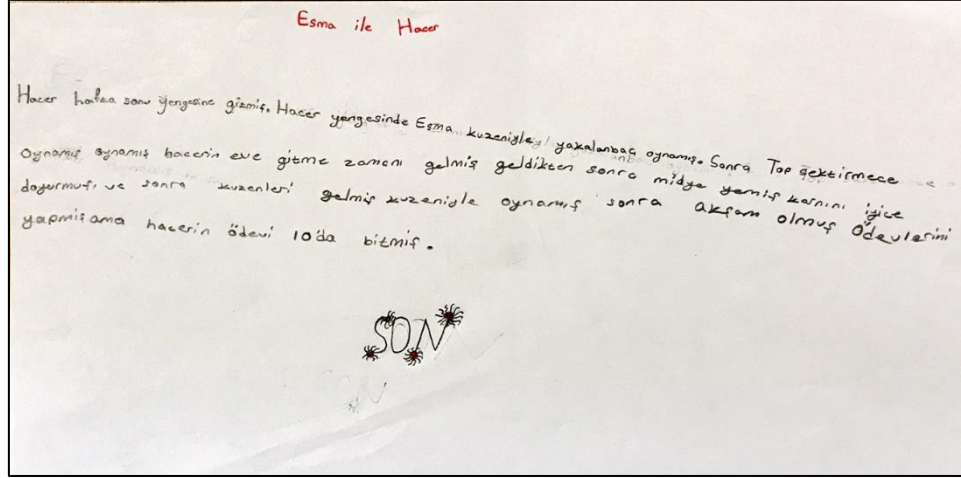
Figure 141. Horizontally used paper
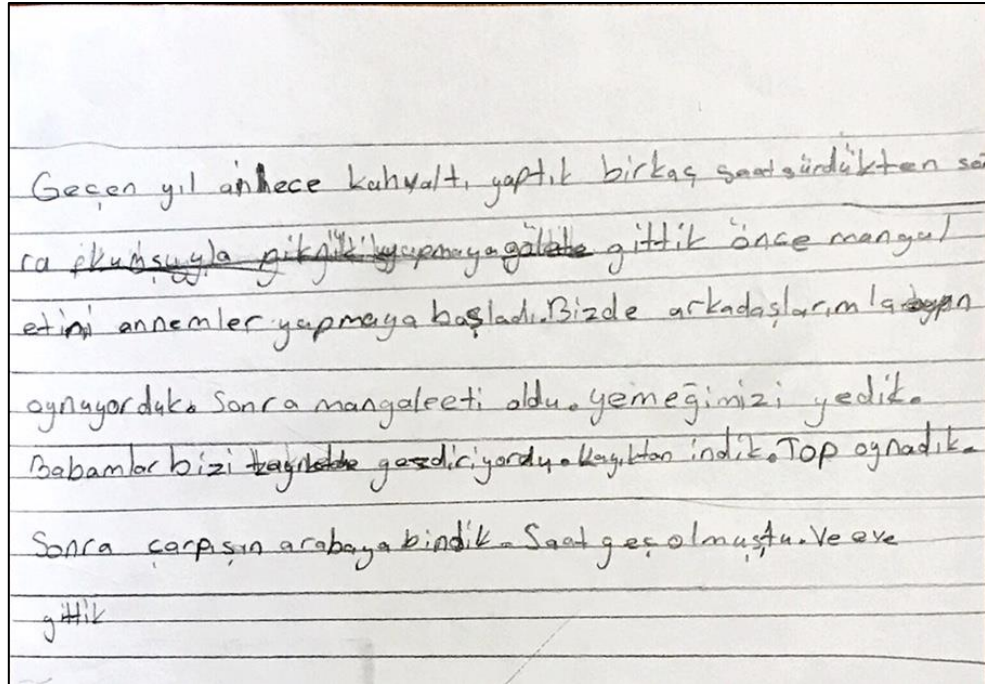
Figure 142. Self-made line paper

Figure 143. Stories with details

Figure 144. Stories with separated sections

Figure 145. Stories include family narrative

Figure 146. Stories including safety issues
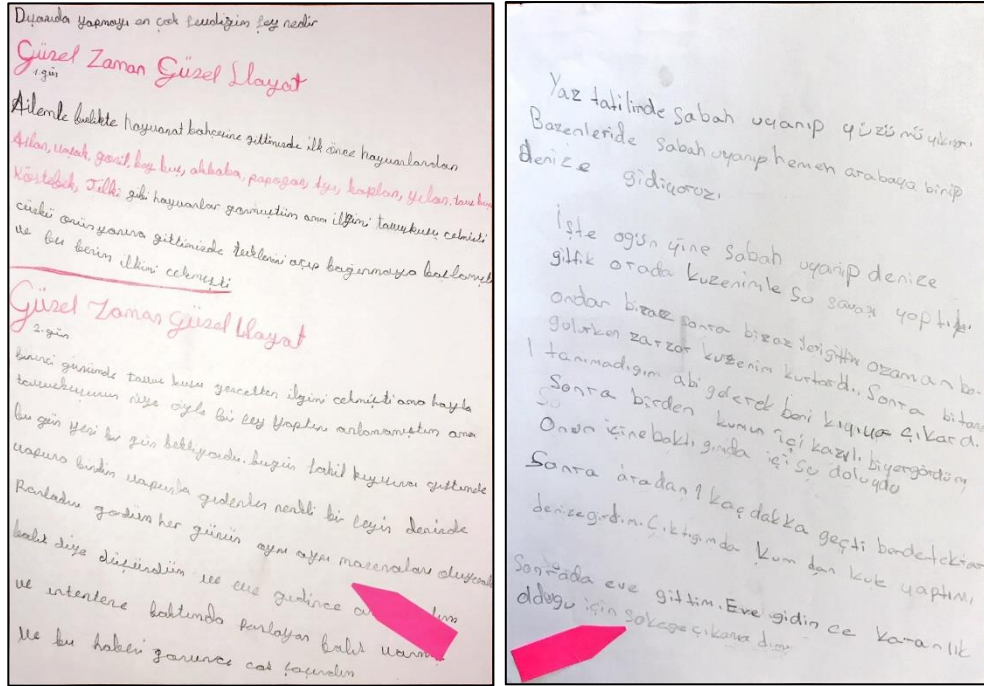
Figure 147. Stories about beauties and fears of life

As a result of children's stories, concerning the story-writing task, children's writing abilities were observed to be advanced in the way they provided detailed expressions of places, people and activities, which helped to easily categorize and compare the stories. In general, children mainly wrote about themselves while playing or having a picnic. They chose being outdoors and in specific spaces. Majority of them wrote happy stories, which are related to themselves and their friends. Unlike in drawings, children did not mention any natural elements in their stories. As edible elements, food and beverages are the most popular ones in their stories.

To sum up, Chapter 4 indicates that children and their parents provided detailed information about children's use of outdoor environments. Overall results show that children's outdoor experiences, perceptions, knowledge and daily habits differ according to urban zone characteristics they live in. According to the findings of children's drawings and stories, results indicate that children's drawings are valuable research tools for providing detailed information about their environmental perceptions (Alerby, 2002; Barraza, 1999; Bowker, 2007; Kosslyn, Heldmeyer & Locklear, 1977; Labintah & Shinozaki, 2014; Mitchell, 2006; Pelander, Lehtonen & Leino-Kilpi, 2007; Rennie & Jarvis, 1995; Turkcan,

2013; Willats, 2006) and stories (Gulgonen & Corona, 2015; James, 2016; Kemperman & Timmermans, 2014; Lin et al., 2017; Meeks & Mauldin, 1990; Quintero, 2010; Shabak et al., 2015; Watanabe & Hall-Kenyon, 2011). The next chapter discusses these results in relation to the existing literature.

CHAPTER 5

DISCUSSION

This chapter consists of general discussions about the results of this study which aims to understand particular dimensions of children's outdoor experiences in urban environments; duration and frequency of the way outdoor environments are used; children's perception of their environments; factors that directly and indirectly affects the outdoor experiences of children; their likes and dislikes about outdoor environments; and their place preferences in outdoors in built environments. The chapter presents a discussion on the analysis of the field data in reference to the existing literature. The main body of the chapter provides an elaboration on particular findings concerning physical, demographical, cultural and social characteristics of urban zones, parents' perception of safety, independent mobility, gender and affordance.

5.1. What Factors Directly and Indirectly Affect the Outdoor Experiences of Children? How Do Children Spend Their Time Outdoors?

Physical appearances, amenities and affordances, social and cultural characteristics of the outdoor environments seem to affect children's outdoor perceptions and have significant effects on the use (Kyttä et al., 2015). As indicated in literature, children's outdoor experiences can be affected by many variables such as characteristics of the physical environment (Gulgonen & Corona, 2015), socialization opportunity (Aziz & Said, 2017), independent mobility (Mehdizadeh et al., 2017), and parental safety concerns (Francis et al., 2017). All of them can directly or indirectly change and/or shape children's outdoor perception, place and time preferences, limitations and routines (Lin et al., 2017). In addition, today technology is an important determinant of children's outdoor use as being part of their daily lives. Previous studies indicate that today technology use is one of the biggest threats against children's outdoor use (Burris & Wright, 2012; Plowman et al., 2010).

5.1.1. Children Living in Urban Environments Play Outdoors

In their studies, Min and Lee (2006) made interviews with children about their psychologically valued settings within neighborhood spaces. Depending on their results, they mentioned that there is a consensus about the importance of outdoor environments such as designated play areas and developed parks for children because they like to play outdoors. OMO conducted a survey of 12,000 parents with children aged from five to 12 years old, in 10 countries. According to the results of Global Research on Children and Play which is the only specific study conducted in Turkey, duration of children spend time outside for play decreases dramatically all over the world. Depending on general results, almost a third of children play outside for just 30 minutes or less a day. Turkey's results shows that, one out of every seven children (14%) never play outside (OMO, 2016).

In addition, depending on a report related with Outdoor Classroom Day, which was conducted, by Prisk, Cusworth, Prisk and Cusworth (2018) brings together both previous research and new findings about children's outdoor use. Depending on general results, Playtime length at primary schools worldwide varies from just 15 minutes to over two hours. In Turkey 355 teacher participated this study and results showed that, 34% of children play outside for just maximum 30 minutes. Findings of this study suggest that, children in urban environments spend time outdoors. Three out of four children in this dissertation indicate that, they go out to play games (77%). In agreement with Min and Lee (2006), it is clear that children in this study had a greater interest in outdoor environment especially for playing.

Different from adults, play is one of the basic vital necessity for children (Vygotsky, 1978). The act of play help children's physiological development, socialization, comprehending the life, and constituting personal identity (Milteer et al., 2012). According to a study conducted by Thomson & Philo, (2004), children spend a great deal of their time by playing. Depending on a study which discusses the results of the Growing Up in Cities Program, play is the basic element for children to become a part of public outdoors in an urban environment (Chawla, 2002). When primary school children were asked about their needs and favorite things about urban environment they live in, having places to play and spending time with their friends were universal responses (Carroll et al., 2015, 2018; Chawla, 2002).

By evaluating the results of children's answers to Question 1 (Do you go out for playing a game outside of school times?), it was found that children in different urban zones have different tendencies. According to the results of a literature survey conducted between 1985 to 2010 with middle childhood children, it was found that factors affecting children's use of outdoor environment can be categorized into individual factors, physical factors and social factors (Aziz & Said, 2017). In their study, Carroll et al., (2015; 2018) mentioned that especially unsupervised play on streets or a nearby friend's home on their local environments are children's main choices.

The findings suggest that children in point-block settlements are more likely to go out to play games outside other than school times when compared to children from central, squatter settlement, gated community, and mass housing urban zones. This result is consistent with physical and social characteristics of both neighborhoods chosen as point-block settlements. The two point-block settlements included in this dissertation were located far away from city center, almost bordering the forest outside the city. One is at the top of Narlıdere and the other is at the top of Bornova. These places have buildings and people around but there is almost no traffic and no car. Depending results of a study conducted with 105 parents about traffic safety, neighborhoods with low traffic volume were perceived as less risky (Gärling, Svensson-Gärling, & Valsiner, 1984) and children have wider range of play activities and spend more time outside (Tranter, 2015).

Results of parents' answers to Question 1 (Do you go out for playing a game with your child?) corroborate the results from children's answers. Among all parents, 89.1% of fathers and 72.1% of mothers mentioned that they go out to play a game with their child. Beets et al. (2007) conducted a study about parent's social support for children's outdoor physical activity and found that encouragement and playing with kids affects children's outdoor use positively. However, they also found that mother and father's involvement in children's play activities are different.

> "It is feasible for mothers to use outdoor play as recreation without being directly involved in their daughter's activity. For instance, at a playground/park a child can play on the equipment (e.g., jungle gym) while the mother sits on the park bench. Thus, taking one's child to the park may be interpreted as use of outdoor play as family recreation whether the mother herself is active or not (Beets et al., 2007:129)."

This statement has the potential to explain the difference between fathers and mothers in the way parents' active participation in games beyond just being present in children's play environments. Usually, mothers provide more assistive support as driving their children to somewhere, paying fees etc. Whereas fathers have direct participation in their children's activities.

Children also expressed their outdoor play situation in their drawings and stories. Majority of children's outdoor experiences were depicted in both visual and verbal expressions. There are only two drawings out of 183, which depicted indoor activities. All other drawings include outdoor environments with different activities such as playing in a park, roller skating, riding a bicycle, having picnic or barbeque with family, picking fruits, spending time with animals and more. All stories have details about outdoors. The children provided stories about their outdoor experiences, especially in summer including their swimming and playing activities.

5.1.2. Technology: The Changing Need of Children by New Age

As UNICEF (2017) published in "The State of the World's Children 2017 Report: Children in a Digital World", today children live in a digital world. According to Burris & Wright (2012), everyday technological devices, such as TVs, computers, cell-phones and tablets are getting more involved into the lives of children. These devices affect cognitive, emotional and social developments of children both positively and negatively (Plowman et al., 2010).

The "Children's Media Use Habits Research" was conducted by Radio and Television Supreme Council in Turkey (RTUK, 2013) and 4306 children between ages of 6-18 participated in a survey in 2013. According to children's answers, 97.9% have TV, 73.7% have computer or tablet and 63% have internet in their homes. According to RTUK, children spend 2 hours 39 minutes on their cell phones, 1 hour 55 minutes on the internet and 1 hour 48 minutes on their computer or tablet. Tuncer and Yalcin (1999) mentioned that, in Turkey, children spend most of their time watching TV, which is more than any other activity except sleeping. During weekdays 31% and on weekends 71% of children spent minimum four hours per day for watching TV.

In support of these facts, majority of children in this study mentioned that during weekday, they watch approximately one hour of TV (23%) but on weekends, this duration rises up to more than three hours (30%). Different than Turkish context, children in the United States spend on average 1.5 to 3 hours per day by watching TV (Cherney & London, 2006). This difference between two countries is a vivid example about the different characteristics and habits coming from different contexts. Depending on the results of children's answers to Question 10 (How many hours do you watch TV?), there was a statistically significant difference among children from different urban zones concerning their hours of watching TV during weekdays. The mean score for the central zone is higher than all other urban zones, which means that these children watch more TV than all others.

This result conflicts with a study of Evans (2004) which states that children living in poor neighborhoods watch more TV. There was no statistically significant difference of urban zones on hours of watching TV on weekends for the five conditions. This result suggests that all children in all urban zones have similar tendencies of watching TV during weekends. According to the results of parent's answers to Question 10 (How many hours does your child watch TV?), there is no statistically significant difference among urban zones with regards to hours of watching TV during weekdays and on weekends for the five conditions because their children watch TV both in weekdays and weekends. This finding supports the conclusion that with the role of new technological developments children became actors of indoor environments (Tranter, 2015).

As mentioned in OMO's Global Research on Children and Play, parents confess that their children resist on playing games unless there is technology (OMO, 2016). As supporting this, more children mentioned that they use technological devices more than three hours on weekends (30%). Depending on the results of children's answers to Question 11 (How many hours do you spend using your cell phone, tablet or computer?), there is a statistically significant difference among urban zones on hours of using cell phone, tablet or computer during weekdays and on weekends for the five conditions. The mean score for the central zone was significantly higher than all other urban zones. Taken together, these results suggest that central urban zone do have an effect on the use of cell phone, tablet or computer during weekdays and on weekends.

According to the results of parent's answers to Question 11 (How many hours does your child spend on using cell phone, tablet or computer in a day?), there is a statistically significant difference among urban zones concerning hours of using cell phone, tablet or computer in for the five conditions during weekdays. The mean score for the point-block condition is higher than all other urban zones. Unlike weekdays, there is no statistically significant difference among urban zones regarding hours of using cell phone, tablet or computer on weekends for the five conditions. This means that for the weekend condition, children in different urban zones have similar tendencies.

According to the findings, children in the central urban zones are the ones who go out to play less than children from other urban zones (66%) and having playground or play area ratio is lower than all other urban zones (70%). In support of this, neighborhoods chosen from central urban zones have some different architectural characteristics, which may discourage children's outdoor use. Mimar Sinan neighborhood, which is a central neighborhood, is dominated by heavy and active traffic with cars and public transportation vehicles. It is not easy for a child to walk freely and safely around the neighborhood. In Turgut Reis neighborhood, the situation is not just related to traffic. There are some unused and broken down buildings near the school, which can be considered as a safety threat by parents. According to this study, these conditions can affect children's outdoor use in central urban zone. Spending less time in outdoors can direct children to indoors. This situation can result in watching more TV and using more electronic devices.

Despite the frequent use of technological devices, only one of the children's drawings have a technological device, which is a drone. A boy, the author of the drawing, was using it with his father in outdoors. There is also no technological devices in any of the stories. This is an unexpected finding because we are living in a digital world and children are born into a technological world. One might think that children prefer less technology in their dream worlds or not part of their best memories.

5.2. What are Children's Place Preferences in Outdoors?

Canter (1983) emphasized that, instead of just to be looked at; a place should also be experienced and evaluated in terms of a specific purpose of an individual. Therefore, children

are assumed to have some intentions or aims when interacting with a setting and these aims determine their way of behaving. Thus, instead of viewing it in terms of visual or aesthetic characteristics (Min & Lee, 2006), place should be evaluated and used in terms of how it affords the behaviors (Gibson, 1977; Min & Lee, 2006). Affordance offers to be a key concept in understanding of the relationship between built environment and children's active living and discovering and analyzing the characteristics of behavior settings from a young child's point of view (Cosco, 2007).

Children's like and dislike about outdoors changes depending on how they perceive their environments and environmental affordances (Gibson, 1977). Like and dislike are relative concepts. A child may like something that a child dislike. Survey results indicate that physical characteristics of the built environments they live in and gender are the most important determinants of place preferences of children. Depending on previous studies (Beets et al., 2007; Cherney & London, 2006; Kucirkova et al., 2018; Mauldin & Meeks, 1990) gender highly effects children's purposes of outdoor use. Girls and boys have different perceptions about the same outdoor environments. They also use the same outdoor environments for different purposes, durations and periods.

5.2.1. Urban Children Spend Time in Outdoors and Their Most Popular Time is Weekend

According to Bento & Dias (2017), changes in the new world affect childhood experiences. Children's time at outdoor use is diminishing (Kraftl, 2008). In Turkey, six out of every ten children spend one hour or less than one hour outside playing and this amount is lower than the time recommended for prisoners (OMO, 2016). In contrast, in this study, according to results of children's answers to Question 8 (How many hours do you spend time outside of school times?), children spend more than three hours outside during weekdays (25%), weekends (35%), summer (66%) and winter holidays (29%).

Weekday evenings and weekend days are leisure time for children (Brockman, Jago & Fox, 2010). As mentioned in other studies (Beets et al., 2007; Mauldin & Meeks, 1990) because of having different variables and characteristics, situations for weekday and weekend conditions were examined separately. As a result of children's answers to Question 3 (When

do you go out during the week other than going to school?), the majority of children (64%) mentioned that they go out both during weekdays and on weekends and only 6.2% mentioned that they never go out. As a result to Question 3 (When do you go out with your child during the week during non-school times?) the majority of parents mentioned that they go out both during weekdays and on weekends (55%) with their children and 4% mentioned that they never go out. The answers of children and parents are compatible with each other.

In four urban zones (Central, gated community, mass housing and point-block settlement), children mainly spend time outside in both weekdays and on weekends. Different from all other urban zones, children living in squatter settlements mentioned that they spend more time outdoors during weekends (%54). Similar to these children, parents in squatter settlement urban zone also mentioned that they spend more time with their children outdoors during weekends (%42). Castonguay and Jutras (2009) conducted a study with children living in a poor neighborhood and asked them to photograph where they liked to go in their neighborhoods. According to children's answers, it was found that liked and disliked places effects the occupancy times of these places. As a result, this study suggested that children living in poor neighborhoods might have different relationship with the urban environment such as time ranges, place preferences and use than children living in more advantaged and high-income areas. Squatter settlement children's time difference is in line with the results of the study conducted by Castonguay and Jutras (2009).

As a result of children's answers to Question 2 (When do you usually go out during the day when you are not at school?), noon is the most likely chosen time period by children (46.9%) to go outside. "Morning" has the lowest percentage (17.9%). Despite noon being the most popular time period among all urban zones, children living in gated community (45%), mass housing (41%), central (38%) and point-block settlement (34%) also mentioned that they go out at evenings. This is an unexpected finding because according to a study done by Kalatzkaya (2015) primary school children living in cities are afraid of being attacked (52%) and darkness (30%). Another study conducted by Francis et al (2017) asserts that urban safety is one of the basic problem all over the world and there are seven qualities of safe spaces which are: 1) human presence, 2) congeniality, 3) humane protection, 4) visibility, light and openness, 5) order, 6) connections, and 7) legibility.

Unlike other urban zones, in squatter settlement going out at evenings has lower ratio (15%). This result is consistent with physical and social characteristics of both neighborhoods chosen as squatter settlements (Cumhuriyet Neighborhood-Karşıyaka, and 2. İnönü Neighborhood-Narlıdere). They are low-income neighborhoods with insufficient physical amenities. There are few streetlights, no playgrounds, parks or green areas.

In parent's answers to Question 2 (At what time do you go out with your child within a day?), evening (43%) is the most popular answer during the weekdays. For weekend condition, noon (37%) is the most popular answer. This finding may be linked to employment status of the parents (52%) who are expected to be unavailable during weekdays. Thus, evening is the only option for them to spend time outside with their children. In contrast, weekends are more convenient for them to go outside at any time and they do not have to wait until night.

Children's answers to Question 4 (How many days do you go out on weekdays?) suggest that mother's or father's employment status does not make any difference on going out during weekdays. There is no statistically significant difference among urban zones about parent's employment status on going out during weekdays; however, the majority of children indicate that they go out every day during weekdays (43.2%). Mothers state that they go out two days (24.6%) at most during weekdays. Unlike mothers, fathers mentioned that they never go out during weekdays (26.4%).

This finding can be supported by other studies (Beets et al., 2007; Christiansen & Palkovitz, 2001; Hewlett, 2004; Yeung, Sandberg, Davis-Kean, & Hofferth, 2001) which indicate that especially in Western cultures father is the primary source of income for families and this leaves less time to spend with their children especially during weekdays. As a result of a frequency test, the majority of children indicate that they go out two days during weekends (76%). As supporting children, highest ratio among more parents also mentioned that they go two days on weekends (50.86%). The results suggest that whether it is weekday or weekend, if parents want to go outside with their children they go regardless of the day.

There was a statistically significant difference among urban zones regarding the hours of spending time outside except school time during weekdays. The mean score for the mass housing condition was significantly higher from other urban zones in weekdays and summer holidays. The mean score for the point-block settlement condition was significantly higher

than other urban zones in winter holidays. However, unlike all three conditions, there was no statistically significant difference among urban zones regarding spending time outside except school time during weekends.

According to the results of parent's answers to Question 8 (write in Q8), there was no statistically significant difference among urban zones regarding hours of spending time outside except school time during weekdays, on weekends and on summer holidays for the five conditions. However, unlike all three, there was a statistically significant difference among urban zones with regard to spending time outside except school time on winter holidays for the five conditions. The mean score for the Point-block settlement condition is higher than it is in other urban zones. This can be explained by a study of Ergler, Kearns & Witten (2013), which mentions that children's play can be affected and differentiated by the context countries, cities, cultures or seasons.

5.2.2. Gender is an Important Variable in Children's Place Preferences and Use of Outdoor Urban Environments

Survey results of children in five different urban zones indicate that gender is one of the most important determinants of perception, purposes and duration of children's outdoor use. Children's place preference about their outdoor use can be given as an answer to the seventh research question "What are children's place preferences in outdoors? What are their most and least favorite places?" Depending on several studies conducted about children's individual outdoor use purposes (Beets et al., 2007; Cherney & London, 2006; Kucirkova et al., 2018; Mauldin & Meeks, 1990) girls and boys use the same outdoor environments for different purposes, durations and periods.

According to the results of a comparison between spending time outside when not being at school on weekdays and weekends, in summer and winter holiday for girl and boy condition, there was a significant difference for weekday and weekend condition in favor of boys. There was no significant relationship for the summer and winter holiday conditions. Results indicate that boys are more likely to spend time outside when not at school than girls during weekdays and on weekends. This finding comply with other studies which state that boys have higher levels of independent mobility and are physically more active than girls

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(Kemperman & Timmermans, 2014; Kyttä et al., 2015; Page, Cooper, Griew, Davis & Hillsdon, 2009).

Spending time outside with someone differs depending on gender as well. Girls mainly prefer to be with their parents (30.8%) or being alone (20.5%). Unlike girls, boys mostly spend time outside with their friends (36.8%). Spencer (2004) mentioned that boys have greater independence than girls because parents provide more opportunities to boys to play outdoors alone than girls (Soori & Bhopal, 2002). Also gender distinctions imposed culturally may limit the independence of girls more than boys (Johansson, 2006; Kyttä, 2004). This result can also be supported with a study conducted by Kalatzkaya, 2015 which mentions that girls have more fear than boys do.

Studies related to children's environments indicate that place preferences differ depending on culture, context, gender and age of children (Castonguay & Jutras, 2009; Kyttä, 2002). The majority of boys mentioned that they mainly use street (28.2%) and sports areas (19.5%) to play outdoors. Unlike boys, majority of girls mainly prefer playgrounds (28.2%) and home or apartments garden (27.1%) to play. These results can be supported by studies related to gender and outdoor place preferences of children (Aziz & Said, 2017; Castonguay & Jutras, 2009; Min & Lee, 2006) which found that girls mainly prefer to use environments close to their homes and natural areas and be active in these settings while boys tended to be active at sport settings.

Children's technology use in relation to gender is mainly used as an important variable in many studies (Beets et al., 2007; Cherney & London, 2006; Kucirkova et al., 2018; Mauldin & Meeks, 1990). An independent samples t-test was conducted to compare the duration of watching TV during weekdays and on weekends among girls and boys. For weekdays, there was no significant difference in the scores for girls and boys. As Clements (2004) mentioned today children watch more TV than previous generations.

In contrast, on weekends, there was a significant difference in the scores for girls and boys. These results suggest that boys are more likely to watch TV on weekends. This result can be supported by a study of Mauldin and Meeks (1990) who conducted a study with children about sex differences in children's time use by using a diary method. Results of this study indicate that boys watch more TV than girls on weekends. An independent samples t-test was conducted to compare the use of cell phone, tablet or computer during weekdays and

on weekends in girl and boy condition. For both conditions, there was a significant difference in the scores for girls and boys. As supporting previous studies about children's technology use (Cherney & London, 2006; Druin, 2009; Hsin, Li, & Tsai, 2014; Kucirkova et al., 2018), results indicated that boys are more likely to use technological devices than girls.

5.3. How Do Physical Characteristics of Urban Environments Affect the Outdoor Experiences of Children?

Children's perception of their environment are different from adults (Hayball, McCrorie, Kirk, Gibson, & Ellaway, 2018). Children are more likely to spend time in outdoors if the environment is appealing to them (Aziz & Said, 2017). Their perception of built environments directly affect their outdoor experiences, which are shaped by physical amenities, social interaction, gender and parent's guidance. Depending on the findings of this study, children's experience of outdoor environments differs in urban zones with different physical characteristics. These characteristics determine where and with whom children spend time in outdoors, their time preference and duration. Neighborhood design and amenities, social and cultural characteristics of the built environment and gender also effects children's accompanying situation.

5.3.1. Urban Environments with Different Physical Characteristics Provide Different Places for Playing

In the mid childhood, variation of the built environment characteristics and social and cultural factors, influence territorial range and diversity of children's outdoor behaviors (Islam et al., 2014). Children's answers to Question 9 (Do you have any playground or play area near your home at walking distance?) indicate that the majority of children have children's park or playground near their home (79%). The relationship between urban zone and having children's park or playground near their home have a significant relationship. The majority of children in mass housing have children's park or playground near their home (97.6%). Parent's answers to Question 9 (Do you have any playground or play area near your

home at walking distance?) show that the majority of parents mentioned that they have playground or play area near their home (79.5%) and mass housing has the highest ratio with (97%). Moore (1978) conducted a study about space-centered design in urban, suburban and rural environments. He found that land organizations and dwelling arrangements affects affordances of children's play habits. Similar findings came up in this study. Physical characteristics of different urban zones results in different tendencies about outdoor play environments.

Although the majority of children have playground or play area near their home, as the result of Question 12 (Where do you play a game outside of school times?) indicate, the majority of the children indicated that the most popular place to play is the street (50%). Choosing street to play, despite having children's park or playground near their home, is an unexpected finding, because according to previous studies playgrounds are the first choice of children (Flaes, Chinapaw, Koolhaas, van Mechelen & Verhagen, 2016; Mowen, 2010; Perry et al., 2018; Suminski et al., 2015; Yilmaz & Bulut, 2007). Some other studies indicate that although there might be playgrounds near their home, these are "token" places for children because older children or adults are occupying these places (Matthews, 2003). Lastly, children prefer streets because of not having playgrounds or suitable open public spaces to play (Abu-Ghazzeh, 1998; Ekawati, 2015). Children and adults perceive and use outdoors differently and residential streets are one of the greatest example (Moore, 1987). In contrast to these studies, in this study children use streets because they just want to use it even if they have other place opportunities to play (Carver et al., 2008; Churchman, 2003; Flouri et al., 2014; Gill, 2017).

Streets are not just places or spaces but also environments for children to learn and play (Ekawati, 2015). The street acts as a means of socializing the child by providing a setting to play and spend time with others (Abu-Ghazzeh, 1998). Street play has a universal importance (Appleyard, 1980; Monsur et al., 2017; Moore & Young, 1978) because it affects personality, character and the ability of the child (Abu-Ghazzeh, 1998). Street is also a learning environment for children. Spending time in street allow children to learn about nature, urban context and local environment (Bridges et al., 2019). Active free play can be defined as the unstructured, spontaneous physical and social activities that children can participate (Pellegrini, 2009). Especially residential streets provide opportunities for creative,

self-directed, spontaneous and interactive play environments for children (Tranter, 2015). According to the results of a study conducted by Veitch et al., in 2006 more than one third of the parents reported their child usually played in the street which is the most frequently reported location for their children's active free play.

Children living in squatter settlements chose the street as the most popular place to play with the highest ratio among all other urban zones (79%). Particularly in low-income communities, because of having few alternatives, children may play in streets even if these are not designed for play (Abu-Ghazzeh, 1998). This can be supported by a study of Ekawati (2015:95), in which she mentioned that "some children had to use streets because their neighborhood did not have outdoor playground". Following Huizinga (1950), who coined the term "magic circle" as the special place where the rules of the play is replaced with the rules of the real world, street may be regarded as the magic circle for children in this study. Following this line of thought, further investigations are required to explore what actually happens during play on streets.

Different from children, as a result of Question 12 (Where does your child play outdoor?), the majority of parents mentioned that playground is the first choice (58.5%) and homes or apartment's garden is the second choice (51.2%). The parents stated places that are both clearly demarcated and secure in contrast with streets. This can be related to parents' concern for their children's security and to their instinct of protecting them (Elsley, 2004). Accordingly, others have indicated that parents do not view street as a place for their children to be (O'Brien, Jones, Sloan & Rustin, 2000).

The results for questions "Do you have any playground or play area near your home at walking distance?" and "Where do you play a game outside of school times?" are interrelated. When there are no designated play amenities and places, children play outside on the street. As reported in questionnaires, mass housing urban zone has the highest ratio of having playgrounds or play areas (97.6%) and these children mentioned that they mostly play in playgrounds (72%). Squatter urban zone has the lowest ratio of having playground or play area (62%) and these children mentioned that they mostly play in streets (79%). Children's drawings and stories also support this finding because children living in squatter settlement urban zones mainly depicted and narrated themselves while wandering around and playing in streets. They see streets as filled with play opportunities (Moore, 1987).

As a result of both children's and parent's answers, it was found that the majority of children in mass housing (72%) have children's park or playground near their home and they mainly play on playgrounds as the most popular place to play outside. These results can be related to the physical characteristics of mass housing and gated communities. Mass housing refers to multi-story buildings usually accompanied with social facilities, built on a land for catering housing needs of people, including physical and social infrastructure (Hasol, 2005) including are schools, outdoor sports area, children's playgrounds, green spaces and parks (Tekeli, 2010). Both neighborhoods, which are chosen as mass housing category (Yaşar Kemal Neighborhood-Karabağlar and Zafer Neighborhood-Gaziemir), are built by TOKI (Turkish Mass Housing Development Administration) and have playgrounds within their boundaries. As a different finding, many children in Yaşar Kemal Neighborhood drew seaside environments and swimming activity. The reaction of children from Yaşar Kemal Neighborhood can be interpreted as living far to seaside and not having direct connection with it can be a long awaited environment for children.

The majority of children's outdoor experiences differentiate from one urban zone to the other. Children living in point-block settlements, which are located in the hills of Narlıdere and Bornova, draw themselves playing in parks, in front of their houses or green areas in their neighborhoods. Playing in parks and green areas can be related to physical characteristics of these neighborhoods, which have green areas and parks nearby. The depiction of house front yards is also an indication of security issues since both neighborhoods are located in isolated environments with less people around. In front of the house can be a safer option for both children and their parents.

Gated communities are building complexes, which are surrounded by fences, closed to traffic, have barriers that provide security and physical amenities such as sport areas, playgrounds and social areas (Grant & Mittelsteadt, 2004). The neighborhoods, which are categorized as gated communities (Mavişehir Neighborhood-Karşıyaka and Ilıca Neighborhood-Narlıdere), have playgrounds within their boundaries. Children living in gated communities mainly drew themselves in places located in their building complexes such as basketball and volleyball courts and parks. The children in Mavişehir Neighborhood mainly mentioned Mavibahçe Shopping Center in their stories as their outdoor environments, which is located within the boundaries of this neighborhood. This finding suggests that children are

more familiar with their local environments, and they mainly spend their outdoor time close to their houses. Tranter (2015:11) claims that "The quality of the local environment is also enhanced when children play locally in their streets".

Lastly, children living in central urban zones, which are Mimar Sinan Neighborhood and Turgut Reis Neighborhood in Konak, drew themselves in bounded areas such as basketball and volleyball courts, parks and in front of their houses. These children depicted cars, streets and buildings more than children from other zones did. Different from all other urban zones, children in central zones are the ones who drew natural elements and living creatures in their drawings. This can be related to physical characteristics of central urban zones, which refers zones that are closer to the main city amenities such as cultural, artistic, social, sportive etc., closely linked to the rest of the city via public transportation and high-density person per square area (Budd & Gottdiener, 2005).

5.3.2. Outdoor Environments Effect Socialization and Independent Mobility of Children

Socialization is an indispensable element for human being (Bixler, Floyd, & Hammitt, 2002). It is the process of interacting with others (Aeri & Verma, 2004). The process by which children and adults learn unknown things from others begins during the early days of life and continues throughout (Rankin, 2004). Children learn from the people around them and from the interaction with their physical environments in their everyday lives (Dikmen Guleryuz & Hasirci, 2018; Maxwell & Schechtman, 2012; Woolley, Armitage, Bishop, Curtis & Ginsborg, 2006). As one of the main socialization tools for children, friendship is defined as a sensational and physical bond between two children (Howes, 1983). In addition to their friends, families are another important element for socialization because when children are born they first establish social connections with their families (Woolley et al., 2006).

Along similar lines, according to the results of children's answers to Question 7 (Who do you spend time outside with?), the majority of children mentioned that they mostly spend time outside with their friends (72%) and their parents (52%). In squatter settlement, spending time outside with parents has the lowest ratio among all other urban zones (33%).

This can be interpreted with the relationship of these children's outdoor place preferences and use. The children indicate street as the most popular or preferred place to play (79%) and parents may not be a suitable playmate for the street.

Children living in gated communities mentioned that they are with their friends when spending time outside (79%). This situation can be complying with characteristics of gated communities, which are defined as neighborhoods with secured living spaces. In addition to physical characteristics, parents also think that these environments are safe and they let more comfortably their children spend time outside with their friends than parents in other urban zones. These findings can be supported with children's drawings and stories because in both of them they mentioned similar things. Friends and family are mostly included in drawings. Only few children did not include anyone into their drawings (5.5%) or stories (0.6%).

Children's answers to Question 6 (Do you generally hang out with someone older than you while you are out?) show that the majority of children "sometimes" hang out with someone older while they are out (62%). According to the results, children in different urban zones have different tendencies about having someone with them while being outside. According to the results of a study about the degree of children's independent mobility in Finland, it was found that factors affecting independent mobility and loss of mobility can differ depending on the characteristics of the physical environments (Kyttä et al., 2015). Squatter settlement children are more likely (%33) and central children are less likely (16%) to hang out with someone older while being out.

Based on answers for the same question, children in mass housing mostly picked "Alone" (72%) and parents mostly picked "Yes" (46%) as answers. This finding can be related to physical characteristics of mass housing, which are bounded places with low-density person per square area and are not dominated by heavy traffic (Hasol, 2005). Mass housing urban zones in this study has the same characteristics. Most likely, if children do not go outside with someone, their chance of seeing anyone is rare. This finding can be interpreted as, unlike it is generally claimed in the literature that safe places are those which are more populated (Francis et al., 2017), parents in this study think that places with low-density person per area or human absence is safer.

Being outside with someone or alone directly affects independent mobility of children (O'Brien et al., 2000; Schoeppe et al., 2014). Parents may have a critical role about their

children's independent mobility because their willingness, ability, or decision making also affects it directly (Churchman, 2003). According to a number of studies related to safety issues, parents' main fear is the possibility of strangers harming their children in addition to general safety issues, danger and traffic (Carver et al., 2010; Foster et al., 2014; Francis et al., 2017). In this study, it was found that many parents do not let their child go outside alone at any time (42.6%) and they give security as the main reason for their decision (37.6%). For children living in squatter urban zone, the majority of children are not let to go outside alone by their parents (56%). This finding is corroborated with a study of Evans (2004) who communicated a particular perception in low-income neighborhoods concerning crime rates.

Independent mobility of children living in urban zones is directly related to their travel mode. Active travel is one of the main opportunities for children's independent mobility (Mehdizadeh et al., 2017). Chauffeured (Lin et al., 2017), back seat childhood (Karsten, 2005), and couch potatoes (Brown, Mackett, Gong, Kitazawa & Paskins, 2008) are the terms which describe children who are transferred somewhere by vehicles. Majority of children mentioned that they use vehicles instead of walking while going to school. This result can be related to parents' safety concerns (Fyhri, Hjorthol, Mackett, Fotel & Kyttä, 2011) and the increased distance between schools and home in local environments due to changes in land use (McMillan, 2007).

5.3.3. Drawing and Story Writing Encourage Children to Express Their Ideas about Outdoor Environments

In the scope of this study, drawing and story writing techniques were employed to further inquire the children's perceptions of their outdoor activities. The literature suggests that drawing (Alerby, 2002; Barraza, 1999; Bowker, 2007; Kosslyn, Heldmeyer & Locklear, 1977; Labintah & Shinozaki, 2014; Mitchell, 2006; Pelander, Lehtonen & Leino-Kilpi, 2007; Rennie & Jarvis, 1995; Turkcan, 2013; Willats, 2005) and story writing (Gulgonen & Corona, 2015; James, 2016; Quintero, 2010; Shabak, Norouzi, Abdullah & Khan, 2015; Watanabe & Hall-Kenyon, 2011) are important tools for children to express themselves and for researchers to obtain valuable insights. Results of five different urban zones indicate that

children have the capacity to provide information and clear details about their perceptions, purposes and duration of outdoor use.

Concerning the analytical criteria employed- (1) activity type, (2) activity place, (3) natural elements, (4) artificial elements, (5) people, (6) living creatures, (7) mood, (8) time range, (9) season, there exist several differences in findings between drawings and stories. In stories, for example, the expressions of natural and artificial elements were less frequent compared to the drawings produced by children. This might indicate that children are more successful giving tangible details in drawings in contrast to the stories. Many drawing, on the other hand, did not include mood, time range and season, which are intangible details. These details are included in children's stories. This might in return indicate that children are more successful giving intangible details in stories rather than drawings.

In their drawings, children provided details about their outdoor environments. Sport and play are the most preferred activities for all children. Picnic and barbeque is another popular one. Children made detailed drawings about these activities, which include people, action, and place of the activity. In play activities, children depicted the type of play including ball games, hopscotch, and jump rope. In depicting sports, it is very clear from the illustrations whether it was a group activity or not. In picnic and barbeque drawings, all children included different details. Some of them even drew picnic blankets, barbeque with its smoke, food on the barbeque, plates, glasses etc. Children also provided valuable insights about the activity places. They depicted forests, in front of their homes, streets with buildings around, seaside and parks. Many of them have important details such as high-rise or low-rise buildings, which are related to children's everyday environments. Children living in mass housing, central and point-block settlement urban zones illustrated high-rise buildings whereas in squatter urban zones, buildings depicted are low-rise or single family houses.

In their stories, children gave many details about their activity types. Similar to drawings, playing and having a picnic or barbeque is popular activities. In addition, different from drawings, children gave details about their activity places by mentioning specific places like Kemeraltı/Saat Kulesi (Landmark of Izmir), Tırazlı Village, Izmir International Fair, Kent Ocakbaşı (Restaurant), Arkas Sport Club, A101 (Discount market), etc. These specific places are located close to   neighborhoods selected for this study. As supporting previous studies (Hayball, McCrorie, Kirk, Gibson, & Ellaway, 2018; Lewicka, 2010; Li & Seymour,

2019) this corroborate the fact that children tell about what they see. They are more familiar with places in their local environments and/or neighborhoods. Rather than providing a more general illustration about the city they live in, the children tend to provide details about their immediate environments where they spend most of their daily routines.

Participating children was also helpful for them to specify people as parents, relatives, friends and others. This specification is different from drawings. Because even if it was not asked them to write a short explanation about their drawings, it would not be possible to know who these people are. In addition, weekday or weekend conditions, seasons and time ranges are more specific in stories. Considering the details of descriptions, some children even use terms as minutes, the warmness of the sea, freezing cold and nice weather. Only one of the drawings has a technological device but in stories, many children mentioned TV, computer, tablet or mobile phone. However, according to their stories, these children use technological devices after they spend time in outdoors.

To sum up, it can be said that children participated to this study were successful in close-ended questions and majority of them wrote insightful answers to open-ended questions. This shows that when children are asked about their opinions, they can play as the main actors for participating of a research study (Powell & Smith, 2009). Parents participated to this study made valuable contributions by responding the multiple-choice questions. Unfortunately, unlike children, majority of the parents did not prefer to give answers to open-ended questions. Results of parents' answers have many similarities with children's answers as place and time preferences, technology use and playing habits.

The results of this study indicates that, children's outdoor use such as purposes, frequencies, duration or the activities change according to physical characteristics of their built environments. Additionally, gender, neighborhoods amenities, agents of socialization, technological opportunities and parental perceptions also affect children's outdoor use. According to the findings of this study, majority of children report to spend time outdoors. Even if they have a playground or play area near their home, they mainly prefer to play on streets. This is a finding with positive implications because playing on the street can be interpreted as having increased levels of independent mobility and unorganized play opportunities. However, in contrast to their children, parents think of streets as a place of

danger for their children. Traffic, strangers and other factors related to urban insecurity increase exaggerated protection instincts of parents.

CHAPTER 6

CONCLUSION

In Turkey, like all over the world, children and youngsters are one of the primary groups who are disaffected from the urbanization process (Acar, 2014; Akpinar, 2017; Demir et al., 2011). Therefore, the number of studies about children and urban environment need to increase awareness because children are future citizens. This thesis first introduced the notions of urban, urbanism, urbanization and urban livability. Having significant importance for all people, these terms are vital for children's outdoor experiences because children are among one of the most disadvantaged users of urban environments.

After introducing key concepts, children's outdoor experiences in urban environments were discussed. Urban environments are significant for children by way of improving their health, well-being, physical and psychological development, social interaction and independent mobility (Kyttä et al., 2018; Oliver et al., 2014). As an indispensable fact of urbanization process, today majority of people live in built environments (Handy et al., 2002). Neighborhoods and streets are the most known and used environments because when children familiarize with their home surroundings, they first start interact with their immediate surroundings. It can be said that children primarily learn about their environments through play and experiencing play environments starting from home environment, and proceeds with home gardens, streets, neighborhoods, and the city.

Outdoor play has a positive effect on children's social and motor skill development, and activity level (Czalczynska-Podolska, 2014). Children's independent mobility means the freedom of moving around, travelling and playing in outdoors without adult accompaniment (Kyttä et al., 2015; Lin et al., 2017). However today, the majority of children's activities are taking place in outdoor settings and many children are categorized as having indoor or backseats childhoods because urbanization resulted in decreased outdoor play opportunity, limited independent mobility, traffic danger and fear of strangers.

The results of the study show that in a rapidly growing city with a high rate of urbanization and high use of technological devices among children, the majority of children

(77%) report that they spend their time in outdoors. Although, living environments of children have physical and demographical differences, they have similar tendencies about spending time outdoors. In addition, their place preferences, duration and their use of outdoor environments differ depending on urban zones. Additionally, particular variables including gender, age, neighborhood conditions, socialization abilities, level of independent mobility and parental safety issues also affect children's outdoor use.

All urban zones in this study have some advantages and disadvantages by means of design, amenities, social and cultural situations and demographic characteristics. Accordingly, children's outdoor perceptions, experiences and the way they use outdoor environments change depending on these characteristics. Despite living in different urban zones, children overwhelmingly report playing outdoors. Children (77%) and their parents (71%) mentioned that they spend time outside for playing.

Central urban zones, which are located in central business districts of the city, pose security issues such as active traffic with cars and public transportation and densely settled high-rise buildings. Children living in central urban zones reported that they watch TV and use electronic devices more than children living in other urban zones. In addition, these children are less likely to go out for playing. This is an indicator that people are not using their local urban environments when they do not feel safe (Zhan et al., 2018).

Gated community urban zones are bordered environments with surveillance and children mainly reported of spending their outdoor time within these boundaries. This is an indicator of the disconnection between children and city. In addition, they mentioned that they mainly spend their outside time with their friends, which can be complying with the perceived security status of these environments. Squatter settlements have limited amenities for children such as parks, playgrounds and sport areas. The majority of children in these areas (79%) reported that they use street when they spend time outdoors. Especially in low-income communities, because of having few alternatives, children may play in streets even if these are not designed for play (Abu-Ghazzeh, 1998).

The majority of children (97.6%) in mass housing urban zone reported that they have playgrounds within their environments. They also reported that they mainly (72%) spend their outdoor time in playgrounds. This can be an indicator that affordance of amenities in physical environments are directly linked to children's place preferences. Point-block

settlement children reported that they are more likely to go out for play (89%). Selected point-block settlement urban zones have almost no traffic and no car around. This is an indicator that neighborhoods with low traffic volume were perceived as less risky (Gärling et al., 1984) and children have wider range of play activities and spend more time outside (Tranter, 2015).

In their drawings children mentioned physical characteristics of the urban environments they live in. Children living in mass housing, central and point block settlement urban zones drew high-rise buildings and apartments. However, squatter settlement children drew low-rise buildings and single-family houses. In their stories, children gave details about their activity places by mentioning specific places, which are located near their neighborhoods. They are more familiar with places in their local environments and/or neighborhoods. This can an indicator that children may only experience their local environments not the whole city.

This study contributes to the literature by explaining and comparing children's perception of their environments in different urban zones (Central, gated community, squatter settlement, mass housing and point-block settlement) in the city of Izmir, which is the third biggest city in Turkey.

To sum up, this study is important because it highlights the differences and similarities between the perceptions, environmental experiences and outdoor use purposes of children in different urban zones. Conducting a study with different urban zones by using different methods (questionnaires, drawing and story writing) is important because all of them have some advantaged and disadvantages by means of design, amenities, social and cultural situations and demographic characteristics.

6.1. Implications of the Study

Outdoors offer great opportunities for children who are mostly bounded to indoor environments due to many reasons such as physical characteristics of the place they live, surrounding neighborhood conditions, individual and parental limitations, gendered perceptions and level of independent mobility in outdoor environments. That is why more outdoor opportunity for children should be provided by the needs of children. According to comparative policy-focused child well-being in 30 OECD countries, Turkey, Mexico and

Greece has the lowest ranks, which means having the least strong performance (OECD, 2009). Discussing children's outdoor use in urban environments can develop an awareness of children among planners, urban designers, parents and decision makers because children are important users of urban environments.

According to the results of the study, the majority of children mentioned that they play outdoors. This encumbers the responsibility of policy makers, municipalities and urban planners about creating child friendly urban environments which provide many opportunities for children such as play, physical activity, active transport, social interaction, and independent mobility (Kyttä et al., 2018; Schulze & Moneti, 2007). In addition, if the number of public spaces for children increase, children may spend more time outdoors in urban environments. Neighborhoods and streets are the main designed and planned spaces that every children come across as public spaces in urban environments (Crawford et al., 2017; Ekawati, 2015). Because of that, the contemporary design approaches to shape neighborhoods and streets need to reconsider the evolving needs of children in urban environments.

These regulations can provide more opportunity for children's outdoor play. Increasing urban security allows a livable urban environment. By providing seven qualities of safe places which are; 1) human presence, 2) congeniality, 3) humane protection, 4) visibility, light and openness, 5) order, 6) connections and 7) legibility Francis et al., (2017), children's connection with outdoors can be sustainable.

6.2. Limitations of the Study

The following issues can be considered as the limitations of the study. First, this study does not include rural and semi-urban zones; therefore, to make comparison between children living in urban zones and rural zones is not possible. Due to time limitations, rural districts of Izmir could not be included in this study.

A second limitation relates to the age group of children. This study is conducted with fourth grade primary school children with ages ranging from eight to ten. Explaining the overall study and being sure that every detail is understandable for children was a challenging task. Sometimes, ensuring silence and peace in the classroom was not easy. Some children

asked many questions repeatedly and some of them lost their concentration to complete their tasks. Some children were not able to express themselves. They gave few details and some of them even did not write anything. Many of them had hard to read handwriting. Many of the text was almost cryptical and because of that, it was hard to understand what actually children wanted to tell.

A third limitation related to the discrepancy between the residency address of children and their school address. It was assumed that children live near their school, because according to regulation of Ministry of National Education, children's residential address should be the same with the school if they want to go to a state-run primary school. This was not the case for all the children.

Finally, the fourth limitation was that this study was conducted with fourth grade children and these children graduated before the analysis process completed. This hindered the researcher to go and talk again with children about missing or interesting details about their answers, drawings, and stories.

6.4. Future Research Suggestions

Based on the research process and an understanding of the limitations of the study, the following recommendations are listed as future research directions.

First, a study can be conducted with different groups of participants in rural environments. This would provide an opportunity to conduct a study in environments with different physical characteristics, demographic structure, and participants. Less traffic, low-rise buildings, having stronger social bonds and other determinants can affect children's outdoor use differently.

It will be valuable to conduct a similar field research during different times of the year in order to measure effects of seasons on children's outdoor use.

After conducting the study by using questionnaires, drawing or story writing tasks, individual interviews with children can be arranged in order to learn more details about their outdoor experiences. Travel diaries can be also included to data collection methods. Children can write their physical activities, travel modes and choices, walking, bicycling and maybe chauffeuring experiences.

For the future research, a walk through with the participants and making interviews with them about their outdoor perception can be useful. Participants can give more information while they are in their local environments.

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APPENDIX A

STUDENT INFORMED CONSENT FORM

ÖĞRENCİ GÖNÜLLÜ KATILIM FORMU

Sevgili Arkadaşlar, benim adım Oylum Dikmen. Bende sizler gibi bir öğrenciyim. Bugün sizlerle gerçekleştirmek istediğim çalışma "Çocukların Kentsel Çevrelerde Dış Mekanları Deneyimlemesi" başlıklı bir doktora tez çalışması kapsamındadır. Çalışmanın amacı, ilkokul 4. sınıf öğrencilerinin ve velilerinin okul dışı zamanlarda dış mekan kullanımına ilişkin düşüncelerini öğrenmektir. Bu çalışmada uygulanacak olan anketlerde, hikaye yazma ve resim yapma çalışmasında sizlerden kişisel bilgiler istenmeyecektir.

Bu çalışmaya katılmak tamamen gönüllülük esasına dayanmaktadır. Çalışmaya katılmama veya katıldıktan sonra herhangi bir anda çalışmadan çıkma hakkına sahipsiniz. Soruları yanıtlamanız, araştırmaya katılmak istediğiniz biçiminde yorumlanacaktır. Size verilen anketlerdeki soruları yanıtlarken, hikaye yazarken ya da resim yaparken lütfen kimsenin baskısı veya yönlendirmesi altında olmayın. Amaç sadece sizin düşüncelerinizi öğrenmektir. Bu anketlerden elde edilecek bilgiler tamamen araştırma amacı ile kullanılacaktır.

Çalışmaya Katılım Onayı:

Yukarıda yer alan ve araştırmadan önce katılımcıya verilmesi gereken bilgileri dinledim. Katılmam istenen çalışmanın kapsamını ve amacını tamamen anladım. Çalışma hakkında sözlü açıklama araştırmacı Oylum Dikmen tarafından yapıldı. Bana, çalışmanın sebepleri ve faydaları sözlü olarak anlatıldı. Soru sorma ve görüş bildirme imkanı buldum. Bu çalışmayı istediğim zaman ve herhangi bir neden belirtmek zorunda kalmadan bırakabileceğimi ve bıraktığım takdirde herhangi bir olumsuzluk ile karşılaşmayacağımı anladım.

Bu koşullarda söz konusu araştırmaya kendi isteğimle, hiçbir baskı ve zorlama olmaksızın katılmayı kabul ediyorum.

Okul Adı ve Sınıf:

Sınıf Öğretmeninin (Kendi el yazısı ile)   Araştırmacının

Adı-Soyadı: Adı-Soyadı: Oylum DİKMEN

İmzası: İmzası:

APPENDIX B

PARENT INFORMED CONSENT FORM

VELİ GÖNÜLLÜ KATILIM FORMU

Bu çalışma İzmir Yüksek Teknoloji Enstitüsü Mimarlık Doktora Öğrencisi Oylum Dikmen tarafından yürütülen "Çocukların Kentsel Çevrelerde Dış Mekanları Deneyimlemesi" başlıklı bir doktora tez çalışmasıdır. Çalışmanın amacı, İzmir ilindeki ilkokul 4. sınıf öğrencilerinin ve velilerinin okul dışı zamanlarda dış mekan kullanımına ilişkin düşüncelerini öğrenmektir. Bu çalışmada uygulanacak olan anketlerde sizlerden kişisel bilgiler istenmeyecektir.

Bu çalışmaya katılmak tamamen gönüllülük esasına dayanmaktadır. Çalışmaya katılmama veya katıldıktan sonra herhangi bir anda çalışmadan çıkma hakkına sahipsiniz. Soruları yanıtlamanız, araştırmaya katılım için onay verdiğiniz biçiminde yorumlanacaktır. Size verilen anketlerdeki soruları yanıtlarken lütfen kimsenin baskısı veya yönlendirmesi altında olmayın. Bu anketlerden elde edilecek bilgiler tamamen bilimsel araştırma amacı ile kullanılacaktır.

Çalışmaya Katılım Onayı:

Yukarıda yer alan ve araştırmadan önce katılımcıya verilmesi gereken bilgileri okudum. Katılmam istenen çalışmanın kapsamını ve amacını, gönüllü olarak üzerime düşen sorumlulukları tamamen anladım. Çalışma hakkında yazılı açıklama Oylum Dikmen adlı araştırmacı tarafından yapıldı. Bana, çalışmanın sebepleri ve faydaları yazılı olarak anlatıldı. Bu çalışmayı istediğim zaman ve herhangi bir neden belirtmek zorunda kalmadan bırakabileceğimi ve bıraktığım takdirde herhangi bir olumsuzluk ile karşılaşmayacağımı anladım.

Bu koşullarda söz konusu araştırmaya kendi isteğimle, hiçbir baskı ve zorlama olmaksızın katılmayı kabul ediyorum.

Katılımcının (Kendi el yazısı ile)   Araştırmacının

Adı-Soyadı: Adı-Soyadı: Oylum DİKMEN

İmzası: İmzası:

APPENDIX C

CHILDREN'S QUESTIONNAIRE

ÖĞRENCİ ANKET FORMU

Bu anket üniversitede yapılan bir araştırmanın parçasıdır. İlkokul öğrencilerinin **okul dışı zamanlarda,** dış mekan kullanımına ilişkin düşüncelerini öğrenmeyi amaçlamaktadır. Soruların doğru ya da yanlış cevabı yoktur. Amaç sizin düşüncelerinizi belirtmenizdir. Soruları rahat bir şekilde cevaplayabilirsiniz. Hepinize kolay gelsin. Süreniz 30 dakikadır.

Yaşın:					
Sınıfın:					
Cinsiyetin:	Kız		Erkek		
Kardeşin var mı?	Yok	1	2	3	3'ten fazla
Annen çalışıyor mu?	Evet		Hayır		
Baban çalışıyor mu?	Evet		Hayır		

1. Okulda olmadığın zaman oyun oynamak için dışarıya çıkar mısın?
a) Evet   b) Hayır

2. Okulda olmadığın zaman gün içinde ne zaman dışarı çıkarsın? (Birden fazla seçenek işaretleyebilirsin)
a) Sabah   b) Öğlen   c) Akşam   d) Hiç çıkmam

3. Okula gelmenin dışında hafta boyunca ne zaman dışarı çıkarsın?
a) Hafta içi   b) Hafta sonu   c) Hem hafta içi hem hafta sonu   d) Hiç çıkmam

4. Hafta içi okul dışında kaç gün dışarı çıkarsın?
a) 1 gün   b) 2 gün   c) 3 gün   d) 4 gün   e) Her gün   f) Hiç çıkmam

5. Hafta sonu kaç gün dışarı çıkarsın?
a) 1 gün   b) 2 gün   c) Hiç çıkmam

6. Dışarıdayken bir büyüğün yanında olur mu?
a) Evet   b) Hayır   c) Bazen

7. Dışarıda kimlerle vakit geçirirsin? (Birden fazla seçenek işaretleyebilirsin)
a) Anne-Baba   b) Abla-Ağabey   c) Arkadaş   d) Yalnız   e) Diğer……………

8. Okul dışında dışarıda kaç saat zaman geçirirsin?

Hafta içi:	a) 1'den az	b) 1	c) 2	d) 3	e) 3'den fazla
Hafta sonu:	a) 1'den az	b) 1	c) 2	d) 3	e) 3'den fazla
Yaz tatilinde:	a) 1'den az	b) 1	c) 2	d) 3	e) 3'den fazla
Kış tatilinde:	a) 1'den az	b) 1	c) 2	d) 3	e) 3'den fazla

9. Evinin yakınlarında yürüyerek gidebileceğin bir çocuk parkı veya oyun alanı var mı?

a) Evet   b) Hayır

10. Kaç saat televizyon izlersin?

| Hafta içi: | a) 1'den az | b) 1 | c) 2 | d) 3 | e) 3'den fazla |
| Hafta sonu: | a) 1'den az | b) 1 | c) 2 | d) 3 | e) 3'den fazla |

11. Kaç saat cep telefonu, tablet veya bilgisayar kullanırsın?

| Hafta içi: | a) 1'den az | b) 1 | c) 2 | d) 3 | e) 3'den fazla |
| Hafta sonu: | a) 1'den az | b) 1 | c) 2 | d) 3 | e) 3'den fazla |

12. Okul saatleri dışında dışarıda nerelerde oyun oynarsın? (Birden fazla seçenek işaretleyebilirsin)

a) Oyun parkı   b) Sokak   c) Okul bahçesi   d) Ev veya apartman bahçesi   e) Spor alanı

f) Diğer…………………..

13. Hangi mahallede oturuyorsun?

14. Evden okula nasıl gelip gittiğini açıklayarak yazar mısın?

15. İzmir'de bildiğin beş yerin adını yazar mısın? (Lütfen beşten fazla yazmayınız).

    1.
    2.
    3.
    4.
    5.

16. En son ne zaman oyun oynamak için dışarı çıktın? Ne yaptın? Yanında kim vardı? Ne kadar sürdü?

Soruları cevapladığın için teşekkür ederim.

Oylum Dikmen (İçmimar, İzmir Yüksek Teknoloji Enstitüsü Mimarlık Doktora Öğrencisi)

APPENDIX D

CHILDREN'S QUESTIONNAIRE

VELİ ANKET FORMU

Bu anket üniversitede yapılan bir doktora araştırmasının parçasıdır. İlkokul öğrencilerinin okul dışı zamanlarda, dış mekan kullanımına ilişkin düşüncelerini öğrenmeyi amaçlamaktadır. Soruların doğru ya da yanlış cevabı yoktur. Amaç sizin düşüncelerinizi belirtmenizdir. Soruları rahat bir şekilde cevaplayabilirsiniz.

Yaşınız:				
Cinsiyetiniz:	Kadın		Erkek	
Kaç çocuğunuz var?	1	2	3	3'ten fazla
Çalışıyor musunuz?	Evet		Hayır	
Evinizde çocuklarla ilgilenen bir yardımcınız var mı? (Bakıcı veya aile büyüğü gibi)	Evet		Hayır	

1. Çocuğunuzla oyun oynamak için dışarıya çıkar mısınız?
a) Evet   b) Hayır

2. Gün içinde çocuğunuzla ne zaman dışarı çıkarsınız? (Birden fazla seçenek işaretleyebilirsiniz)
a) Sabah   b) Öğlen   c) Akşam   d) Hiç çıkmam
Ne yaparsınız?

3. Hafta boyunca çocuğunuzla ne zaman dışarı çıkarsınız?
a) Hafta içi   b) Hafta sonu   c) Hem hafta içi hem hafta sonu   d) Hiç çıkmam

4. Hafta içi çocuğunuzla kaç gün dışarı çıkarsınız?
a) 1 gün   b) 2 gün   c) 3 gün   d) 4 gün   e) Her gün   f) Hiç çıkmam

5. Hafta sonu çocuğunuzla kaç gün dışarı çıkarsınız?
a) 1 gün   b) 2 gün   c) Hiç çıkmam

6. Çocuğunuzun tek başına dışarı çıkmasına izin verir misiniz? Nedenini belirtir misiniz.
a) Evet   b) Hayır   c) Bazen
Nedeni:

7. Çocuğunuz dışarıdayken yanında kimler olur?
a) Anne-Baba   b) Abla-Ağabey   c) Arkadaş   d) Kardeş   e) Yalnız çıkar   f) Diğer……………

8. Çocuğunuzla dışarıda kaç saat zaman geçirirsiniz?					
Hafta içi:	a) 1'den az	b) 1	c) 2	d) 3	e) 3'den fazla
Hafta sonu:	a) 1'den az	b) 1	c) 2	d) 3	e) 3'den fazla
Yaz tatilinde:	a) 1'den az	b) 1	c) 2	d) 3	e) 3'den fazla
Kış tatilinde:	a) 1'den az	b) 1	c) 2	d) 3	e) 3'den fazla

9. Evinizin yakınlarında yürüyerek gidebileceğiniz çocuk parkı veya oyun alanı var mı?
a) Evet   b) Hayır

10. Çocuğunuz günde kaç saat televizyon izler?					
Hafta içi:	a) 1'den az	b) 1	c) 2	d) 3	e) 3'den fazla
Hafta sonu:	a) 1'den az	b) 1	c) 2	d) 3	e) 3'den fazla

11. Çocuğunuz günde kaç saat tablet veya bilgisayar kullanır?					
Hafta içi:	a) 1'den az	b) 1	c) 2	d) 3	e) 3'den fazla
Hafta sonu:	a) 1'den az	b) 1	c) 2	d) 3	e) 3'den fazla

12. Çocuğunuz ev dışında nerelerde oyun oynar? (Birden fazla seçenek işaretleyebilirsiniz)
a) Oyun Parkı   b) Sokak   c) Okul Bahçesi d) Ev veya Apartman Bahçesi   e) Spor Alanı   f) Diğer……………………..

13. Çocuğunuzun dışarıda en güvenli olduğunu düşündüğünüz yeri en güvenli bulduğunuz 1 ve en az güvenli bulduğunuz 6 olacak şekilde sıralar mısınız?

Alan	Sıralama
Oyun Parkı	
Sokak	
Okul Bahçesi	
Ev veya Apartman Bahçesi	
Spor Alanı	
Alışveriş Merkezi	

14. Çocukluğunuz nerede geçti?
a) Köy   b) Kasaba   c) Şehir   d) Büyükşehir

15. Siz çocukken dışarıda neler yapardınız?

16. Çocuğunuzun okula nasıl gidip geliyor? Açıklayabilir misiniz.
Giderken:

Dönerken:

17. En son çocuğunuzla ne zaman dışarıya çıktınız? Nereye gittiniz? Ne yaptınız?

18. Eklemek istedikleriniz varsa aşağıda belirtebilirsiniz.

Soruları cevapladığınız için teşekkür ederim.
Oylum Dikmen (İçmimar, İzmir Yüksek Teknoloji Enstitüsü Mimarlık Doktora Öğrencisi)

APPENDIX E

FOREWORD FOR DRAWING

RESİM YAPMA ÖNSÖZ

Herkese Tekrar Merhaba,

Şimdi sizlerle bir resim çalışması yapacağız. Birazdan sizlere birer sayfa dağıtacağım ve sonrasında tahtaya resminizin konusunu yazacağım.

Resminizde ne kadar fazla detay verirseniz, sizlerle ilgili edineceğim bilgiler o kadar çok olur. Resim çizmek için süreniz 25 dakikadır.

Resminiz bittikten sonraki 5 dakikada ise, kağıtlarınızın arkasını çevirip oraya sizlerden yaptığınız resmi mümkün oldukça detaylı bir şekilde yazarak açıklamanızı isteyeceğim.

Sormak istediğiniz bir şey olursa lütfen çekinmeyin. Hepinize kolay gelsin.

Resim Konusu: Dışarıda yapmayı en çok sevdiğin şeyi yada şeyleri detaylı bir şekilde çizer misin? (ne zamandı? neredeydin, kiminleydin, ne yapıyordun?)

APPENDIX F

FOREWORD FOR STORY WRITING

HİKAYA YAZMA ÖNSÖZ

Herkese Tekrar Merhaba,

Şimdi sizlerle bir hikâye çalışması yapacağız. Birazdan sizlere birer sayfa dağıtacağım ve sonrasında tahtaya hikayenizin konusunu yazacağım.

Hikayenizi ne kadar detaylı yazarsanız sizlerle ilgili edineceğim bilgiler o kadar çok olur. Süreniz 30 dakikadır.

Kağıdın iki yüzünü de kullanabilirsiniz.

Sormak istediğiniz bir şey olursa lütfen çekinmeyin. Hepinize kolay gelsin.

Hikaye Konusu: Dışarıda yapmayı en çok sevdiğin şeyi yada şeyleri detaylı bir şekilde anlatır mısın? (ne zamandı? neredeydin, kiminleydin, ne yapıyordun, ne kadar sürdü?)

APPENDIX G

SCHOOL ENVIRONMENT OBSERVATION CHECKLIST

Tarih:	Bölge Adı:		
Saat:	Okul Adı:		
	EVET	**HAYIR**	**AÇIKLAMA**
Etrafında yoğun araç trafiği var mı?			
Toplu taşıma mevcut mu?			
Güvenlik Kamerası /Güvenlik Elamanı var mı?			
Aydınlatma elemanları var mı?			
Yön bulma tabelaları var mı?			
Sakin bir çevrede mi?			
Yakınlarda park/yeşil alan var mı?			
Yakınlarda oyun parkı var mı?			
Yollarda kaldırım mevcut mu?			
Mevcut ise ergonomik ve bakımlı mı?			

VITA

Born in İzmir in 1986. Received her bachelor degree in Interior Architecture and Environmental Design from İzmir University of Economics in 2009 and her M.Des degree in Design Studies from İzmir University of Economics in 2012. She completed her Ph.D degree in Architecture in İzmir Institute of Technology in 2019. Between the years 2011-2015 she worked as a research assistant in İzmir University of Economics, Department of Interior Architecture and Environmental Design and since April 2016, she has been working as an instructor at the same university. She teaches "Interior Applications Studio", "Principles of Basic Design", "Architecture and Building Knowledge", "Recycling Design", "Drawing Studio, Pattern and Color Theory", "Model Making for Interior Spaces", "Technical Drawing" and "General Restoration Techniques" courses. "Environmental and Behaviour", "Environmental Psychology" and "Children's Environments" are among her research interests.

She attended several international conferences with research that focus on the "Children and Environment" (O.Dikmen, 2015, Integrating a Child's and a Designer's Perspective within Outdoor Playground Design. International European Academy of Design/EAD 11th International European Academy of Design Conference Proceedings; O.Dikmen, F.Doğan, 2014, Children as Actors of Nature: A Case Study in a Walled Community. Environment and Design International Congress 2014 Proceedings, 419-431, ISBN: 978-605-5461-67-6; O.Dikmen and D.Hasırcı, 2013, Children's Hospital Schools as Social Environments and Their Effects on Healing and Well-Being. The Environmental Design Research Association/Proceedings of EDRA 44 Conference, ISBN: 978130092; O.Dikmen Güleryüz and D.Hasırcı, 2018, Childrens Hospital Schools As Social Environments: A Turkish Example, 12th Annual International Technology, Education and Development Conference/INTED 2018 Proceedings).