THE RELATIONSHIP BETWEEN CHILDREN'S NEIGHBORHOOD ATTACHMENT AND THEIR PLACE USE: A CROSS-SECTIONAL STUDY IN ANKARA

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ABSTRACT

THE RELATIONSHIP BETWEEN CHILDREN'S NEIGHBORHOOD ATTACHMENT AND THEIR PLACE USE: A CROSS-SECTIONAL STUDY IN ANKARA

Aşçı, Yağmur
Master of Science, Urban Design in City and Regional Planning
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The positive and negative feelings about an environment begin at a very young age. The physical changes that we observe in neighborhood environments affect not only children's spatial behavior but also their psychological development. There are increasing concerns about the adverse effects of contemporary planning and design practices on children. However, far less is known empirically about how children's neighborhood activities (in terms of types and intensity) are associated with children's neighborhood attachment. This thesis aims to contribute to the creation of neighborhood environments that are frequently used, loved and attached by children. To this end, two main research questions are posed.

The data of the thesis is collected from a large-scale project conducted in Ankara. The data was obtained from a participatory place attachment mapping and survey, which were conducted with 11-to-14-year-old children living in two neighborhoods of this city. The collected data set were transferred to GIS (n=125). Thereafter, to answer research questions, correlation and independent samples t-test analyses were applied with the help of IBM SPSS Statistics. Children's survey results were linked to the outcomes of the mapping activity to understand the effects of the neighborhood

activities. The results show that there is no statistical correlation between children's activities and attachment. However, they also show that the environments where children lives affect their attachment, activity types and intensity. The thesis concludes with further research and the implications of these findings.

Keywords: Neighborhood Attachment, Children, Children's Activities, Mapping, Place Attachment Survey

ÖZ

ÇOCUKLARIN MAHALLEYE BAĞLILIĞI İLE MEKAN KULLANIMI İLİŞKİSİ: ANKARA'DA KESİTSEL BİR ARAŞTIRMA

Aşçı, Yağmur
Yüksek Lisans, Kensel Tasarım, Şehir Bölge Planlama
Tez Yöneticisi: Doç. Dr. Yücel Can Severcan

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Çevreye yönelik beslenilen olumlu ve olumsuz duygular çok küçük yaşlarda başlamaktadır. Mahalle ortamlarında gözlemlediğimiz fiziksel değişimler çocukların sadece mekansal davranışlarını değil aynı zamanda psikolojik gelişimlerini de etkilemektedir. Günümüzde planlama ve tasarım uygulamalarının çocuklar üzerindeki olumsuz etkilerine ilişkin endişeler artmaktadır. Artan bu endişelere rağmen, çocukların mahalle aktivitelerinin (tür ve yoğunluk açısından) mahalleye bağları ile nasıl ilişkili olduğu konusunda sınırlı bilgimiz bulunmaktadır. Bu tez, çocukların sıklıkla kullandığı, sevdiği ve bağ kurduğu mahalle ortamlarının oluşturulmasına katkı sağlamayı amaçlamaktadır. Bu amaçla, iki ana araştırma sorusu ortaya konmuştur.

Tezin verileri Ankara'da yürütülen büyük ölçekli bir projeden toplanmıştır. Veriler, iki mahallede seçilen devlet okullarında 11-14 yaş arası çocuklarla katılımcı haritalama ve yere bağlılık anket çalışmaları ile toplanmıştır. Çocukların elde edilen veri seti CBS'ye aktarılmıştır (n=125). Daha sonra araştırma sorularını yanıtlamak için IBM SPSS İstatistik programı yardımıyla korelasyon ve bağımsız örneklem t-testi analizleri uygulanmıştır. Çocukların anket sonuçları, mahalle aktivitelerinin

etkilerini anlamak için haritalama etkinliğinin sonuçlarıyla ilişkilendirildi. Sonuçlar, çocukların aktiviteleri ile bağlanma arasında hiç veya çok küçük bir ilişki olduğunu göstermektedir. Ayrıca mahallenin konumunun aidiyeti, aktivite türlerini ve yoğunluğunu etkileyip etkilemediği tartışılmıştır. Tez, gelecekteki araştırmalar ve elde edilen bulguların etkileri ile sona ermektedir.

Anahtar Kelimeler: Mahalleye Bağlılık, Çocuklar, Çocuk Aktiviteleri, Haritalama, Yere Bağlılık Anketi

to children still playing outside…

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LIST OF ABBREVIATIONS

ABBREVIATIONS	
ANOVA	Analysis of Variance
CBD	Central Business District
GIS	Geographic Information System
ICC	International Children's Care
PA	Place Attachment
SPSS	Statistical Package for the Social Sciences
TÜBİTAK	Türkiye Bilimsel ve Teknik Araştırma Kurumu
UNICEF	United Nations Children's Fund

CHAPTER 1

INTRODUCTION

"I know we've come a long way.
We're changing day to day.
But tell me, where do the children play?"
– Cat Stevens

This chapter aims to define the problem, its context, the aim of the study, the questions posed in this thesis and gaps in knowledge. The chapter ends with the presentation of the general structure of the thesis.

1.1 Problem Definition and Context

Neighborhoods are the sites of play, transitions from home to school as well as places of social interactions with friends and the extended community for children (in this study the term children refers those who are under 18 years of age). As Jack (2015: 15) emphasized, they are the places where "children's physical and emotional worlds coincide". Despite their importance for children, some scholars argue that the neighborhoods where we live today result from a planning and design process that neglects the possible diversity of the daily experiences of people, including children (Sennett, 1977; Banerjee, 2001). These scholars argue that the contemporary planning and design practices put the emphasis largely on the physical and economic features of development instead of its social aspects.

There are increasing concerns about the adverse effects of contemporary planning and design practices on children (Proshansky & Fabian, 1987; Chawla, 1992; Min & Lee, 2006; Jack, 2015). Today, since the majority of children grow up in or live

nearby urban areas, it is argued that planning and design practices that ignore the potential richness of children have negative effects on this social group's use of places (see, for example, Gill, 2008; Jack, 2008). As stated by Huttenmoser (1995), children spend less time and are less active outside than they were used to be. Evidence also shows that compared to children lived in peripherial areas of the city, children living in inner-city neighborhoods have been affected more negatively regarding their interaction with the near-home environment (Chatterjee, 2006). Inner-city children are exposed to high traffic, dense urban form, pollution and unsafe public spaces (Relph, 1976; Chawla, 1992; Hillman, 1996; Sennett, 2000). One can therefore deduce that compared to children living in the periphery of urban areas, inner-city children engage in fewer activities (in terms of quantity).

Considering that positive and negative feelings about an environment begin at a very young age, the physical changes that we observe in neighborhood environments affect not only children's spatial behavior but also their psychological development. For example, Gill (2008) states that when public spaces ignore the needs, expectations and wishes of children, and thus are designed merely by adults for adults, children's social, cultural and mental development is adversely affected since these are the only places where children can play and socialize other than their home and school. It is also assumed that such planning and design processes adversely affect children's attachment to their neighborhood (Sancar & Severcan, 2010). Since higher levels of place attachment is associated with higher levels of place use (Hay, 1998), one can argue that depending on the availability and intensity of attractions/distractions in the near-home environment, the location of the neighborhood (living in an inner- or peripherial-city, or urban or rural area) may positively/negatively affect children's neighborhood attachment.

Today, one can observe the disconnection of children from their urban and natural environment almost elsewhere in the world. In the traditional understanding of planning, from large-scale to small-scale plans, from the eastern to the western part of the world, there is often little room for children to raise their opinions about the physical and social infrastructure of their environments (Lin, 2019). There is a

similar problem in Turkey. Children are rarely considered as an ordinary public in planning processes because of their limited political power (Sener, 2006; Severcan, 2012). Therefore, urban spaces are often planned without considering what children like and want to see around them or what constitutes a "good place" for them. It is crucial to include children in the planning process in order to plan more livable environments for children and to strengthen their relationship with the places they live in.

1.2 Aim of the Study and Research Questions

This thesis aims to contribute to the creation of neighborhood environments that are frequently used, loved and attached by children. To this end, two main research questions are posed in this thesis:

(1) Is there a correlation between children's neighborhood attachment, and the type and intensity of neighborhood activities?

(2) Do children's neighborhood attachment and type and intensity of neighborhood activities vary from inner to outer-city neighborhoods?

There is a great need to think about children and their participation in urban planning and design processes. While doing so, it is essential to investigate the places that children experience and the activities that they do (activities that allow children to have greater engagement with the place versus activities that are conducted independent of the affordances of the place), the parameters of these physical environments and whether children have developed an emotional bonding to these places with reference to previous studies.

This research is based on two main notions - place attachment and activities - and explores these concepts from the 11-to-14-year-old children's perspective. These phenomena need to be studied in a comprehensive psychological and spatial approach in order to reveal whether there is a correlation or not (see, Figure 1.1).

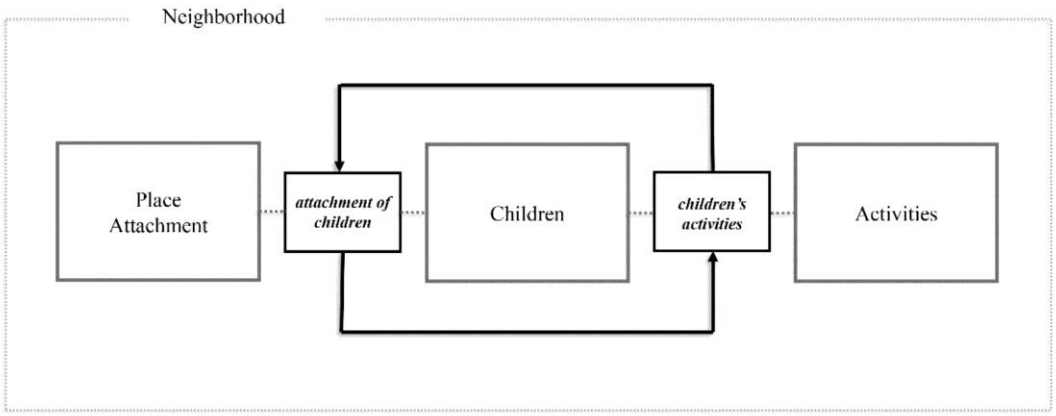


Figure 1.1. Conceptual Framework of Place Attachment, Activities and Children (Author, 2022)

1.3 Gaps in the Knowledge

A review of children's environment, urban planning, and environmental psychology literature show that there has been little research aimed at linking children's neighborhood attachment to their activities (both in terms of type and amount) and the planning and design of neighborhood environments. Little is known about which physical environmental factors affect children's place attachment. Moreover, many studies have focused on adolescents' places instead of the attachment of children aged between 9 and 14 (grade 4 to grade 8) – a period commonly referred to as middle childhood.

There are many studies on children's environments and their place use/experiences. Some scholars reviewed the children's physical environments and the features of these places (e.g., David & Weinstein, 1987; Evans, 2006), while some others focused on children the natural environment (e.g., Chawla, 1992, 2007; Kahn & Kellert, 2002; Korpela et al., 2008). Likewise, many studies have been carried out on place attachment; different methods have been used for the measurement of it. While some of these methods are quantitative (e.g., Williams et al., 1992; Shamai & Ilatov, 2005; Jorgensen & Stedman, 2011), some others are qualitative (such as

interview, mapping, and observations) (e.g., Manzo, 2005; Brown, 2005; Brown & Raymond, 2007; Morgan, 2010).

There are a growing number of studies investigating children's attachment to certain places (Chawla, 1992; Korpela et al., 2002; Severcan, 2012, 2015; Koller & Farley, 2019). Nevertheless, far less is known empirically about which activity types of children and physical environmental aspects of the neighborhood environment are associated with their place attachment. There is no empirical research about whether involvement in place-dependent activities (like playing football, socializing with peers, or watching scenery) has a more influential impact on children's neighborhood attachment than involvement in non-place-dependent activities (like listening to music). Similarly, different types of place-dependent activities may affect children's neighborhood attachment at different levels. In short, there has been limited research linking children's place attachment to their activities and the places where they live in so far. This research aims to address these gaps in the literature.

1.4 Structure of the Study

This thesis consists of five main parts (Figure 1.2). It starts with the introduction chapter, followed by the theoretical framework and methodology of the study. It then examines the case and presents the analysis and results of the main findings. Finally, it concludes by discussing the main findings.

The next chapter, **Chapter II** is the theoretical framework part. This chapter is discussed under five main headings. These are the concept of place, children's environments, place attachment, children's activities and concluding remarks that summarize the second chapter. The first part of this chapter, which deals with the concept of space and place, emphasizes the differences between two related concepts –space and place – and the components of a place in order to understand the basis of place attachment discussions. Here, the author argues that any study that examines the construct of place attachment needs to define what a place is. In the second part,

children’s environments are covered in-depth and discussed over different parameters in terms of physical, social and individual factors. The third part examines the concept of place attachment (more specifically neighborhood attachment). In this part, different approaches used for measuring place attachment and possible methods (i.e., qualitative, quantitative or hybrid) that can guide this thesis study are reviewed systematically. In the fourth part, children's activities in terms of types and categories were reviewed in order to examine the main research question. The chapter is finalized by a chapter summary aimed at linking the content of the second chapter of the thesis, the theoretical framework, to the following chapter, the method.

Chapter III is about the methodology of the thesis. After the literature review, this chapter focuses on the detail of site selection and data collection techniques. As mentioned in this chapter, the fieldwork of this thesis took place in two neighborhoods of the capital city of Turkey, Ankara, where both qualitative and quantitative data were collected. This chapter also introduces how these qualitatively and quantitatively gathered data were analyzed.

Chapter IV focuses on the results of the study.

Lastly, **Chapter V** is the conclusion chapter. After giving a brief summary of the overall study, the findings are discussed in the context of the theoretical framework. Additionally, possible urban design implications are mentioned.

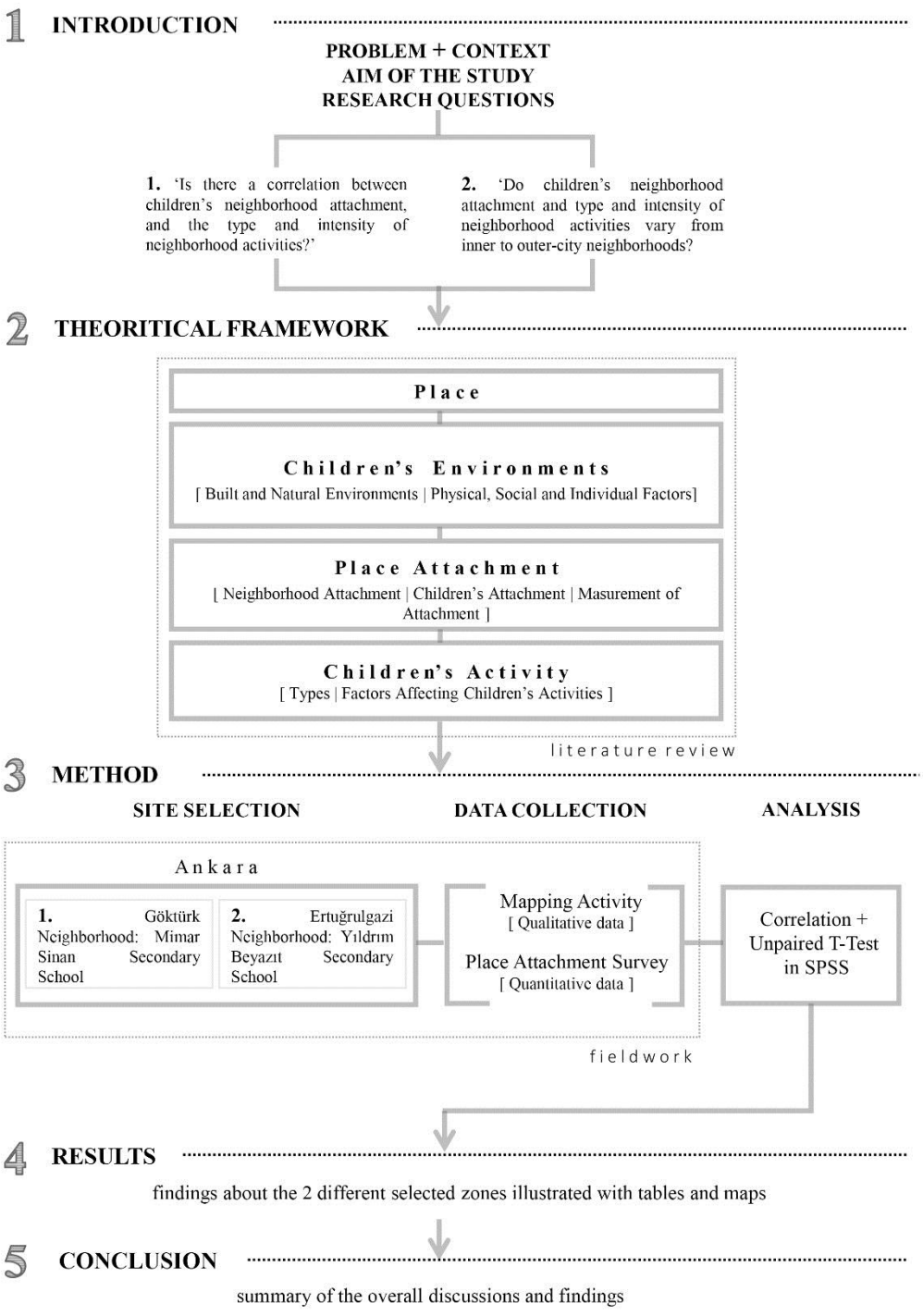


Figure 1.2. Structure of Thesis (Author, 2022)

CHAPTER 2

THEORETICAL FRAMEWORK

This chapter aims to provide a definition of the basic concepts of this study and explain how these concepts are related to each other to have a better understanding of the two main questions posed in this thesis. The chapter starts with a discussion of the concepts of space and place to provide a basis for understanding the term 'place attachment'. Next, it introduces the term 'children's environments', explains different types of children's environments, and discusses the factors that affect children's outdoor activities in different types of environments. Following this, the construct of place attachment is discussed. After a brief definition of this construct, the thesis will focus on the concept of attachment to a particular type of place, the neighborhood, as a type of place. Thereafter, with references to the existing literature, it reviews different methods for measuring individuals' neighborhood attachment. Finally, different types of children's activities (in terms of type) were reviewed. The chapter ends with a concluding remark. This final section aims to link the discussions provided in this chapter to Chapter 3 (methods) and Chapter 5 (conclusion).

2.1 The Concept of Space and Place

Defining space and place is vital for this study as they comprise the framework. These are two concepts that are often confused because they intersect with each other. As Tuan (1977) points out, place and space are intertwined concepts that constitute the nature of geography (Figure 2.1). Therefore, these two concepts cannot be considered separately. However, looking at both definitions, there are several differences as well. In the dictionary definition, space is "a continuous area or expanse which is free, available, or unoccupied" (Oxford Dictionary, 2021). Namely,

space indicates an abstract and amorphous concept. Moreover, Norberg-Schulz (1979) describes the concept of space as a three-dimensional combination of multiple elements such as the physical world and pure logical relations. Place, on the other hand, can be defined as a more dynamic concept created through everyday experiences and physical space (Relph, 1976). Clarifying the difference between space and place, Tuan (1977) states that when individuals begin to experience the space, it becomes a meaningful place. Otherwise, it is a physical environment that cannot be experienced like a blank space. Similarly, Lefebvre (1991) expressed that space exists with people and spatial relations are formed with social components. As a result of these relations, experiences occur, so the space turns into a meaningful place. In short, the place is beyond a physical setting; it is composed of the contribution of all the occurrences (Norberg-Schulz, 1979), experiences (Tuan,1977) and conceptions of individuals (Canter, 1977). As mentioned at the beginning, the concepts of space and place require one another for interpretation, although both concepts have spatial and experiential differences in definition.

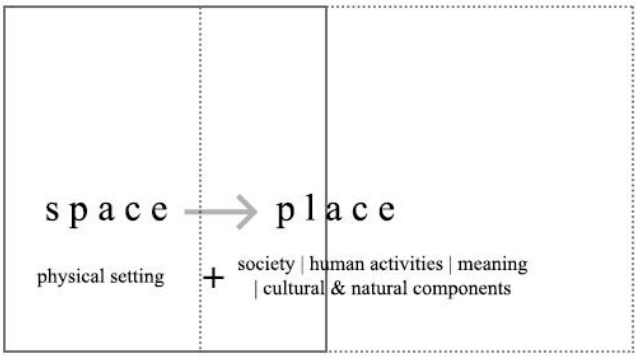


Figure 2.1. Relationship between Space and Place (Author, 2022)

The concept of place has been discussed in many studies with various contexts throughout history. Although a variety of place definitions have emerged as a result of all the discussions, it is evident that it is insufficient to define the place as an absolute physical setting since the place is a multivariate and dynamic concept. Shamai (1991) claims that the place is a dimensionless setting where all actions happen. In other words, the borders are flexible and depend on who defines the place.

Thus, a place can be a favorite armchair, a room, building, neighborhood, district, village, city, county, metropolitan area, region (Entrikin, 1991) and so on. As followed from Table 2.1, there are many different combinations to define place in the literature. Tuan (1975, 1977) describes the place as a physical environment that is the core of meaning together with human experience and activities. According to him, what makes the space a place is the individual's practices, comprehension and meanings associated with the setting (Tuan, 1977). In other words, people, uses and representations contribute to the understanding of place. Canter (1977) and Montgomery (1998) also refer to the place in relation to its users. They assert that place is the combination of activities, the conception of the users and the physical setting.

Phenomenologically, Seamon (2014) also states that place is not merely a physical environment separate from individuals associated with it. Such interaction is of great importance to define the place because it is a continuous and endless process consisting of the everyday lives of users, social activities and environmental existence (Ataöv, 1998; Seamon and Sowers, 2008). In addition to this, according to Altman & Low (1992) and Stedman (2003), cultural processes, social relationships and feelings contribute to the meaning of a place. Therefore, the concept of place is associated with a valuable, complex and dynamic phenomenon.

To summarize, space and place are two different but inseparable concepts. While space can be defined as an amorphous concept, the place is more than a physical setting where everyday experiences, feelings, social activities and cognition are intermingled (Table 2.1). As a result, definitions of the place concept will differ with individuals' variety of existence, experiences and involvement in the world (Malpas, 2012).

Table 2.1 Key Place Definitions

Author(s), Year	**Place is a combination of …**
Relph, 1976	physical form + everyday experiences
Tuan, 1975, 1977	use + cognition + meaning
Canter, 1977	actions + conceptions + physical form
Norberg-Schulz, 1979	human acts + existence
Shamai, 1991	events + actions +feelings +dreams
Lefebvre, 1991	everyday experiences + social components
Altman & Low, 1992	cultural processes + social bonds + feelings + emotions
Montgomery,1998	activity + physical form + meaning
Stedman, 2003	society + their social context + physical form
Seamon, 2008, 2014	physical form + existence + social activities

2.1.1 The Concept of Neighborhood as an Everyday Life Spaces

With a very general definition neighborhood is “a limited territory within a larger urban area where people inhabit dwellings and interact socially.” (Anderson & Hallman, 1984: 13). Neighborhood is also defined as “the area of a town that surrounds someone’s home, or the people who live in this area” in the dictionary

(Cambridge Dictionary, 2022). However, as Friedmann (2007) emphasized that it is complicated to define neighborhoods. More precisely, although the neighborhood is usually defined uniformly for each individual in the spatial extent, there are a variety of neighborhood definitions in the literature based on different physical environmental determinants and social relations (see for example, Kyttä et al., 2015; Pfeiffer & Cloutier, 2016; Egli et al., 2019).

Perec (1997) describes a neighborhood as a part of the city where inhabitants easily move as a pedestrian. He also added to his definition that the neighborhood is not the place where people practice their profession, it is the area where people live. In contrast to Perec (1997)'s description, Coulton & Korbin (2007) interpret a neighborhood as a social structure where people both live, socialize and work.

In empirical studies, the subjective nature of neighborhood borders is well acknowledged (Furstenberg & Hughes, 1977; Coulton et al., 2001). Studies have shown that there are several influences on the definition of neighborhood boundaries. Some scholars define neighborhood boundaries with the urban-suburban location of neighborhoods (Haney & Knowles, 1978; Logan & Collver, 1983), some of them describe it with social affiliations, use of public amenities (e.g., schools, shopping centers) and physical barriers (e.g., high traffic) (Sastry et al., 2004), and some others define so-called neighborhood boundaries with resident's own personal attributes like gender and age (Guest & Lee, 1983). Briefly, the borders of neighborhoods are not always precise, the extent of one's perceived neighborhood is person-specific and cannot be generalized in social sciences (Chaix et al., 2009; Hasanzadeh et al., 2017). That is, people are commonly experienced broad areas that do not meet the exactly defined distances (Kyttä et al., 2015).

On the other hand, children experience smaller areas than adults due to limited independent mobility. Children can define the neighborhood in close proximity to where their homes are located because most of them spent time within the home-range in their daily lives. In light of this, Clarence Perry, in 1929, suggested the 'neighborhood unit' which was based on the idea that children are able to walk from

their homes to schools safely. Apart from that, neighborhood boundary can also be defined with (1) administrative boundary, (2) linear (800 meters or 1 kilometer) walking distance from home and (3) amorphous area that comprises the places used by inhabitants.

To sum up, neighborhoods are built environments where people meet their daily needs, live, work and socialize without very exact boundaries. Also, neighborhoods are having a substantial impact on children's development.

2.2 Children's Environments

"The most important thing in life is

to see through the eyes of a child."

Albert Einstein

The concept of place should not be neglected when theorizing the daily life of children and their perception of place. Within the scope of this research, the places that children prefer to use and their reasons are of great significance to investigate the relationship between attachment to the place through the environmental elements. Within the various contexts, some differences will exist between how children and adults use and perceive 'activities, time and places' (Hernández et. al., 1996). An example of this could be that while adults define the landscape mostly with its physical elements, children perceive the landscape with its affordances (Gibson, 1979; Heft, 1988). Therefore, it is crucial to consider children as an individual who uses the place different from the way adults do, since children's relationship with the place is different than adults', and also children use their immediate surroundings ten times more frequently than adults (Cooper-Marcus, 1974; Cornell et. al., 1992). Blanc et al. (1994) summarized this argument as the idea that children are individuals with rights and the potential to enhance their own lives and the communities in which they live is crucial. When the idea that children are the co-creators of their lives is considered, children's environments and their

attachment to those places become closely linked (Christensen & James, 2017). To conclude, children's environments can be developed through providing things to observe, think about, make decisions about, attracting their interest, allowing them to participate in activities and meet new people.

2.2.1 Types of Children's Environments

Children's daily experiences are spatial and unique. From the age of three, perhaps earlier, children start to form places for themselves (Hart, 1979). Especially, the home environments (which means local places or the places near the to home), seem special to children since they tend to spend more time in these places. Eventually, children's environments are located mostly around the areas where children's homes are located.

According to many scholars, the physical, social, cognitive and psychological development of children is influenced by the richness and quality of the places in which they engage in activities (see, e.g., Moore and Young, 1978; Hart, 1979; Matthews & Limb, 1999). In other words, multiple frames of reference, spatial interactions and cognitive representations provided by places enhance qualitative differences in children's place experiences (Tversky et. al., 1999). Also, when a child has meaningful interactions, a sense of security and room to explore, s/he develops place attachment. Then, children's comprehension of place is coded and special bonds with the place develop (Rasmussen, 2004) so children describe spaces within a larger frame of reference and with a variety of spatial terms (Bell, 2002). Therefore, children should have found opportunities for physical activity, active transportation, social engagement and independent mobility in the settings (Broberg et. al., 2013). All in all, although 'children's environments' may not define exact boundaries, by grasping the knowledge of 'children's environments', the aim is to enable planners and designers to become more aware of places that involve children both physically and psychologically. In this study, children's environments (both built and natural)

will be investigated in order to understand the richness of children's outdoor experiences.

2.2.1.1 Children and Built Environment

One of the determinants is the type of environment, which impacts activities to different extents in a variety of ways. Built environments are of great significance to contact with other people in a city or residential setting. By this means, children, for instance, have a chance to gather with other children; to take part in their activities or observe them. Concisely, all types of built environments provide possibilities for children to enhance their sense of identity; facilitate the development of attachment and growth; allow social engagement while ensuring security and trust (Weinstein & David, 1987).

The built environment that children frequently use include homes, neighborhood open spaces (like playgrounds or streets), schools and special-care environments. According to Gehl (2011: 25), "children stay and play primarily where the most activity is occurring, or in places where there is the greatest chance of something happening" so the outdoor environments alongside the streets and residences, public spaces and workplaces will also be important places for children's development. Especially, the neighborhood is one of the most influential environments for children because it defines not only a physical environment but also a social universe for them (Proshansky & Fabian, 1987). In addition, as Carr & Lynch (1968) emphasize the streets are also places without borders that have interesting experience opportunities for children. Moreover, public spaces are recognized as laboratories since they provide many affordances for children to develop, learn and play. In line with this, studies show that outdoor public spaces are more preferred than interior private spaces by children for free time activities (e.g., Karsten, 2003; Severcan, 2012).

2.2.1.2 Children and Natural Environment

There is consensus about the benefits of natural areas on children's outdoor experiences. According to Chawla (1992) children start to attach to natural outdoor environments from very early ages. She adds that this interaction allows children to investigate and alter the natural surroundings, and create places for themselves to play and socialize. Similarly, Andel (1990) provides two reasons for why children like certain places: places may either offer a variety of activities such as doing sports or picnic; or they may include natural elements like open areas, trees or gathering spaces with their friends. Existing studies show that even the presence of a single tree in the home range affects children's use of space and cognitive abilities (Wells, 2000).

Some of the children's liked places in natural environments can be listed as the sports fields such as football, tennis; parks with a variety of play equipment, jumping and climbing places; waterways like creeks, small ponds and rivers; woodlands; green dominant landscapes like forests, grasslands, climbing up trees, agricultural fields, orchards; sliding and hiding areas such as hills, topographically challenged areas, and even empty lots and abandoned buildings (see, e.g., Hart, 1979; Sancar and Severcan, 2010). In addition to such places, children see special their 'found places' which refers to places where children transform the original function of the area according to their own physical, social, psychological and recreational purposes. It is seen that natural areas are appealing to children because of their diversity and uniqueness (White & Stoecklin 1998).

Briefly, green and natural areas have a significant role in the outdoor experiences of children because there are more likely to have action-level affordances in environments where lots of green spaces. Children also value spaces where they interact directly with natural elements such as flora, soil, water and other inhabitants. Eventually, these places contribute to the development of a child's sense of place and enhance local engagement and the sense of belonging (Moore & Young, 1978; Malone & Tranter, 2003).

2.2.2 Factors that Affect Children's Outdoor Experiences

Spending time in the outdoors contributes to children's emotional development and, as this thesis assumes, plays a central role in creating their attachment to the place. Many studies looked at where children spent the majority of their active playtime as well as the factors affecting their site selection and activity in the outdoor environments (see for example, Davidson & Lawson, 2006; Perry et al., 2016; Lambert et al., 2019). However, the types of activities and their frequency and the degree of attachment to the place may differ from child to child. Thus, considering different parameters in studies conducted to measure children's neighborhood attachment are highly valuable.

By referring to Urie Bronfenbrenner's ecological model (see Bronfenbrenner, 1979), Owen et al. (2000) categorized the factors that affect children's use of outdoor areas as illustrated in Figure 2.2: physical, social and individual factors. The physical factors consist of a scale, urban design and level of affordances sub-categories. While social factors cover parental restrictions, friendships and involvement topics, individual factors consist of demographics such as age and gender and familiarity subheadings.

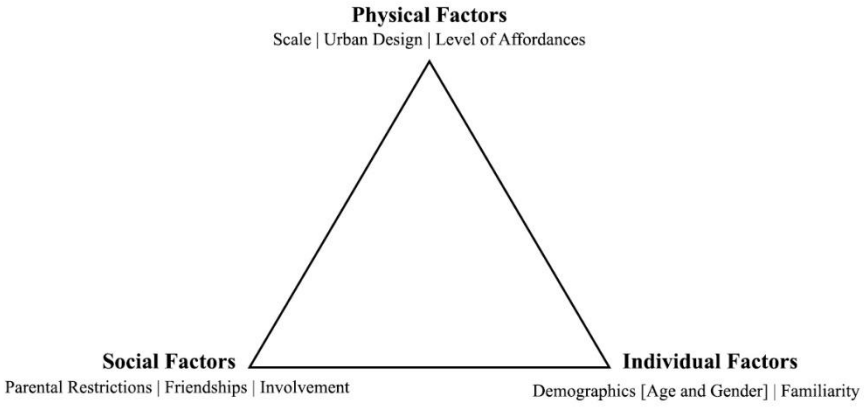


Figure 2.2. Main Factors Affecting Children's Outdoor Experiences (Adapted from Owens et al., 2000, by the Author)

2.2.2.1 Physical Factors

Physical factors are analyzed under three sub-headings: (1) scale, (2) urban design and (3) level of affordances. Briefly, the scale provides a framework for integrating and comprehending many types of environments (Bell, 2006). Urban design helps us to better understand children's needs in physical environments (more specifically, the physical environmental factors that affect children's activities and emotional bonds with places). Finally, the level of affordances gives a psychological framework to understand the interaction between children and environments.

Scale

In spatial studies on cognition, attachment and decision making, scale is an important component to examine. The scale provides a framework for integrating and comprehending many types of environments (Bell, 2006). Children's places can be mentioned as places where children gradually develop personal and active interaction with their environments (Kyttä, 2003). These interactions change depending on the size of the place. This is partly because while growing, children's awareness of their surroundings widens gradually. Children interact with different places. In early stages of life, children's understanding is oriented around the small places like their room or home (Chawla, 1991), and then in later stages, they establish consciousness in larger contexts such as neighborhoods, the city and unfamiliar places around the home environments. In addition, children can quickly perceive topographical relations on large scales although their perception is limited to eye level. Briefly, they seek appropriate places for their own scale because the scale grants a sense of security for them (Tuan, 1977). In other words, children feel pleasant where it is appropriate for their size (Tuan, 1977).

Urban Design

In spatial studies involving children, urban areas are just as crucial as natural environments because children's daily lives mostly take place in solid, physical environments. Therefore, the design of cities has significant effects on children's use

of places (Lynch, 1981; Francis & Lorenzo, 2002); though, as Rasmussen (2004) mentioned that the everyday places of children are generally determined and designed by adults. Also, many researchers emphasized that what makes a place pleasant for adults may not apply to children's environments since the way how children perceive and use the places differs from how adults perceive them (Moore, 1987; Sebba, 1991; Talen & Coffindaffer, 1999; Elsley, 2004).

Children like to discover and try a variety of activities that are not limited to activities coming to mind in the first sense (like running or jumping) so urban design elements are able to influence their experiences. The arrangement of open spaces is one of the design decisions that offer children different experiences. For instance, Veitch and her colleagues' research (2006) shows that having a little yard or no yard at all does have an impact on whether or not the child plays outdoors. Veitch et. al. (2006) also mentioned that the accessibility of open spaces has another design issue to engage children in outdoor experiences. Elements such as the presence and continuity of sidewalks, protection from weather conditions, safe crossings and low level of traffic enhance children's use of places (Lynch, 1977). Moreover, mix-use streetscapes have a positive effect on children's spatial experiences and place attachment (Zukin, 2003). In other words, cultural, recreational and commercial uses should all be integrated into the neighborhood design; as a result, children can access areas more easily where they can feel like part of the neighborhood.

Level of Affordances

According to Kyttä (2002), affordances are associated with the environment's functional opportunities with reference to the corporeality of one. With another description, everyone perceives the environment from their own perspective, and the perception of affordances from each perspective can differ based on the context and the individual. This is why children of different age groups recognize affordances offered by the place differently due to different physical characteristics, functional needs and current motivations. Gibson (1979) describes affordances as functional key elements of the environment which is a psychologically valued notion to

investigate the interaction between children and environments. These functionally and socially useful features of settings allow a child to interact freely with the surroundings (Gibson, 1979; Heft, 1988; Kyttä, 2002). Especially some places make more sense for children; this is because they can do whatever they want to do there. Thus, the diversity of the built and natural environment provides a great set of affordances for children (Fjørtoft, 2000). The accessibility of functional components in natural settings also enhances opportunities to increase children's use of natural places. For example, smooth and on-level terrains enable them to cycle or jog, slopy areas allow them to slide and areas with natural elements like trees and bushes can be used for a hide and seek. Although there is no certain sub-classification of affordances in terms of places, green spaces have a significant role in children's experiences (Kyttä, 2002). Affordances at other immediate surroundings such as the schools, play areas, sports fields as well as streets and vehicular routes could be counted in addition to green areas.

Places that draw more attention from children are the settings that offer a wide variety of affordances for children's spatial experience and active play (Castonguay & Jutras, 2009). This is partly because the everyday life of children has hidden geography and "their bodies tactically point out that they need different places than those adults create for them" (Rasmussen, 2004: 161). And vice versa, the more children use outdoor places in the neighborhood, the more and various affordances the place will offer (Kyttä, 2002). As a result, the value of the relationship between children and their surroundings should be emphasized in order to improve children's place uses and affordances.

2.2.2.2 Social Factors

As Hart (1979) mentioned, discussing spatial experience in a social context is of great importance. Social parameters such as (1) parental restriction and level of independence, (2) friendships and (3) involvement may have a substantial impact on children's use of place (Franzini et al., 2009). Having good friendships and

involvement in neighborhood-related activities can enhance children's place use whereas parental restrictions may have the opposite effect in general.

Parental Restriction and Level of Independence

One of the factors that affect children's outdoor play including the level of a child's independence is parental factors. Studies show that parents of 9-10-years-old children are more likely than parents of 6-8-years-old children to allow their child to use their neighborhood environments without their supervision (see for example, Valentine & McKendrick, 1997; Pooley et al., 2005). However, it is obvious that younger children often depend on their parents to walk to school, ride their bikes to a relative's house, or to a nearby outdoor environment. Therefore, parents' safety concerns are the main topics limiting children's level of independence while spending time in the outdoors on their own (Blakely, 1994; Evans, 2000; Prezza, 2007). Studies show that parenting norms are connected to the obscurity towards strangers, teenagers (e.g., youth gangs), crowded vehicular traffic (Veitch et al, 2008; Castonguay & Jutras, 2009) and unfavorable trends (like smoking, drinking alcohol, and drug-taking) (Valentine & McKendrick, 1997). Especially in densely urbanized contexts, children's independent mobility and territoriality are restrained by parental limitations (see, e.g.; Sanders & Woolley, 2005; Severcan, 2012). In other words, parental fears and interference result in a decrease in the independence level of children, and this trend may have a negative impact on the development of children's place attachment. For example, the presence of parents monitoring outdoor environments (such as playgrounds and parks) significantly affect the activities of the children in a negative way, so they may not adopt the place as much as independent children (Floyd et al., 2011).

Friendships

One of the determinants influencing children's outdoor use is the existence of friends and social interaction (Veitch et al., 2006). Contrary to parents' presence, most of the children indicate that they feel pleasure at being outside when they are with their best friends (Sancar & Severcan, 2010). In addition, they like places that allow them to

socialize with their companions (Korpela et al., 2002; Min & Lee, 2006). As a result, they tend to look for places in which unique for themselves and their friends. Parents also feel comfortable letting their children go outside when they have friends to play with in the street, parks and other public spaces. On the other hand, having other children adversely affects outdoor experiences (Van Andel, 1990) because they may fear being bullied or having their play interrupted.

Involvement in Neighborhood Social Activities

Children's environments and involvement in neighborhood social activities are closely linked since children are co-creators of environments (Christensen & James, 2017). As recreational users of outdoor spaces, children contribute to the mosaic of daily life on the physical space (Chawla, 2002; Christensen & O'Brien, 2003).

The participation of children in neighborhood social activities is an essential tool for increasing their place use and developing place attachment. Horelli (1998) found that when children are involved in such activities, their awareness of their physical environments increases. Severcan (2012) found that this increased awareness positively affects children's neighborhood attachment. In addition, there are many studies that focus on the importance of children's participation, the development of a sense of identity and attachment, and the positive shaping of their spatial experiences and projecting them into the future (see for example, Moore & Wong, 1997; Chawla, 2002). As Percy-Smith (2010) exemplifies in his research, children have the ability to consciously alter their surroundings and participate in society. In order to ensure the active participation of children, it is necessary to create opportunities that bring all the users of the neighborhood together, ensure their interaction, and learn and decide mutually. Supporting Percy-Smith's (2010) argument, studies investigating children's participation in planning, decision-making processes and neighborhood activities have also shown that children who take an active role in these activities tend to spend more time in outdoors (see e.g., Taylor and Percy-Smith, 2008; Tisdall, 2008). Moreover, children's participation in neighborhood activities provides opportunities for other members of the

neighborhood to interact with young people and make the future of communities sustainable. From a broader perspective, the participation of children in planning processes helps planners, designers and decision-makers to understand the needs and problems more holistically and to produce more humane and child-friendly environments since city planning can not only be considered as a physical and technical process, it also includes a socio-cultural interaction (Driskell, 2002).

Looking at all of these aspects, the involvement of children in neighborhood activities and planning processes enriches all the relevant spatial decisions. Namely, the role of children in community development and involvement contributes to both the shaping of the places and the use of space by children (Taylor & Percy-Smith, 2008).

2.2.2.3 Individual Factors

Individual factors will be explained under two subheadings in this study. These are (1) demographics and (2) familiarity.

Demographics

Demographics (like age and gender) point out the parameters that affect children's place and activity preferences. According to several studies, age differences have an influence on children’s choices whereas some other research indicates that there are no significant differences that occur as a result of age. For instance, most of the studies conducted in Europe concluded that certain age groups (7-9-year-olds and 11-13-year-olds) are more likely to prefer natural environments than 15-16-years-old ones (Hart, 1979; Karsten, 2003; Prezza, 2007). Considering their enhanced capabilities for independent mobility, older children have various needs than younger ones when it comes to their use of urban space. For example, while older children highly prefer open spaces such as parks and playgrounds due to their awareness of land uses and activities, younger ones are more likely to like places close to their home or where they have pals (Prezza, 2007). On the other hand, some

of the studies conducted in the United States show that there is no significant difference between age groups in the preference of natural settings (Schiavo, 1988; Malinowski & Thurber, 1996). All age groups without differentiation are in favor of their homes, sports facilities and shopping areas (Korpela, 2002). All in all, children, of all ages, who have been experienced being outside in their home range are able to establish a kind of 'presence' that is essential for the development of place attachment (Ross, 2007).

Apart from age differences, gender differences may sometimes influence children's outdoor experiences. In terms of gender differences, findings from several studies demonstrate that boys are more active in outdoor settings than girls (see, for example, Lever, 1978; Cunningham & Jones, 1991). Girls, for example, mostly spend time in their home range, whereas boys tend to be engaged in sports areas or found places farther from their homes (Blakely, 1994). Therefore, in some of the outdoor areas, girls are seen as a 'minority' (Cunningham & Jones, 1991). Moreover, the outdoor play behaviors of boys and girls may vary (Hart, 1979). Some activities are nearly male-dominated like playing football, while some others are female-oriented like doing gymnastics (Lever, 1978). There are also activities that address to both genders like cycling or hide and seek.

Familiarity

As several studies have discussed, children have mostly developed connections with three places in their everyday lives which are their home sites, schools and open spaces (like parks, playgrounds and streets) (Moore & Young, 1978; Cunningham et. al., 1996; Rasmussen, 2004; Sancar & Severcan, 2010). These environments are generally located within the children's home range. Home range refers to the child's everyday region; that is, locales to be used on a daily basis nearby the home (Moore, 1987). Children's home ranges can also be described as the area including the child's most used places without an adult accompanying them.

Familiarity is a factor that influences children's use of urban environments and leads to positive associations with specific local places. Thus, the home range also refers

to an area for children to strengthen their relationship with the places since they are as close to the places, with which they are familiar, as possible (Christensen et al., 2014). In addition to closeness to familiar places, the proximity of a child's home causes them to feel happy and to establish a relationship with the place (Severcan, 2012). For instance, children find niches in the open spaces of their apartment or play on the street which is close to their homes or within their neighborhood. Therefore, neighborhoods play a particular role in children's environmental experiences, because they allow children to spend time as close to home and familiar places as possible. Thereafter, as the children expand their scope beyond the home range, other places, such as school and neighborhood outdoor activity settings, become increasingly important in their experiential process (Prohansky & Fabian, 1987).

2.3 The Concept of Place Attachment

Place, people and attachment are phenomena that affect each other. Attachment theory begins with interpersonal attachment put forward by Bowlby (1969) and Ainsworth et al. (1978). According to their theory, attachment is a result of evolutionary progress, and Bowlby (1969: 194) defined it as "lasting psychological connectedness between human beings". Therefore, place attachment is an indispensable part of humans from the very beginning of life (see Figure 2.3). Eventually, with its most general definition 'attachment' is defined as "a strong feeling of being emotionally close to someone or something" (Cambridge Dictionary, 2022).

Since the 1960s, the place attachment concept has been discussed in various disciplines such as environmental psychology, geography, sociology, architecture, design and planning (Windsong, 2010). In geography, attachment begins to relate with a place in a much more substantial sense (Giuliani, 2003). Indeed, the concept of place attachment plays an important role in analyzing complex relationships between an individual and place. Although the definitions and explanations made for place attachment have similar features in the literature, there are also small

differences. In general explanation, ‘place attachment’ is an affective bond between people and specific places (Relph, 1976; Altman & Low, 1992; Hidalgo & Hernández, 2001; Manzo, 2003; Lewicka, 2005).

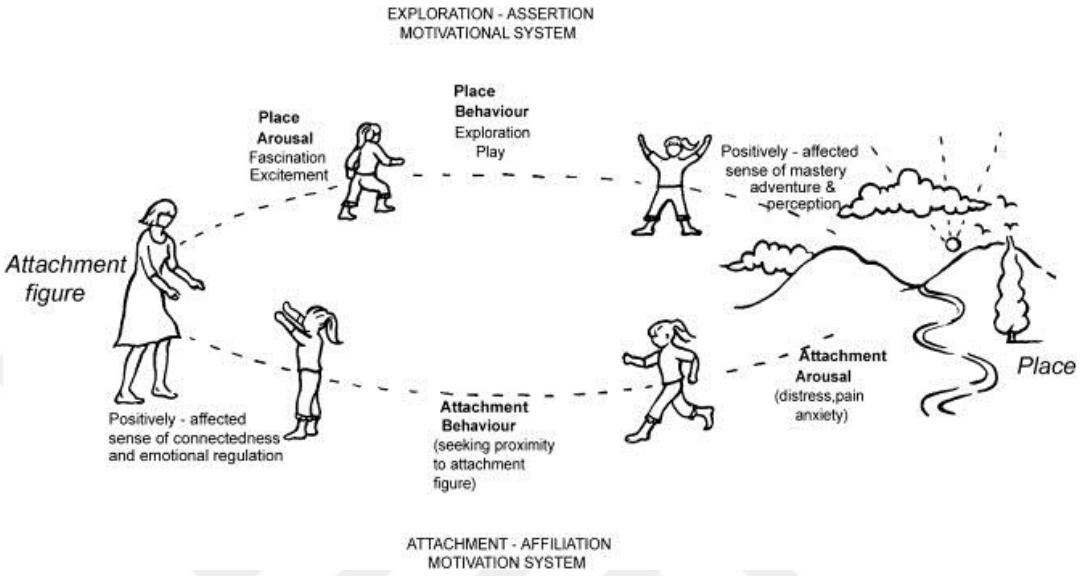


Figure 2.3. Integrated model of human attachment and place attachment (Morgan, 2010)

The place attachment notion usually has a positive connotation. Relph (1976) emphasizes the necessity of positive and deep ties with places for human existence. According to Brown and Perkins (1992), positively experienced bonds develop over time, sometimes even unconsciously, together with the socio-physical environment. Giuliani (2003) explained that the emotions that a certain place can evoke are related to the desire to stay close to that place. Similarly, Shumaker and Taylor (1983) mentioned that this association is formed between a person and the immediate environment of the place where s/he lives. In addition, Hummon (1992) and Low (1992) relate place attachment to emotional involvement and social connections in a particular setting. Moreover, it is investigated that while people aged, the feeling of attachment to a place deepens (Hay, 1998). In other words, the ties strengthen over time as a result of the individual’s increasing level of interaction with the environment (Hay, 1998; Manzo, 2005). In short, it is a piece of a ‘larger lived

synergy' where an individual and place mutually affect one another over time (Seamon, 2012b). Scannell and Gifford (2010) had collected all these multidimensional definitions under a comprehensive and integrative framework called 'the tripartite model of place attachment' (see Figure 2.4).

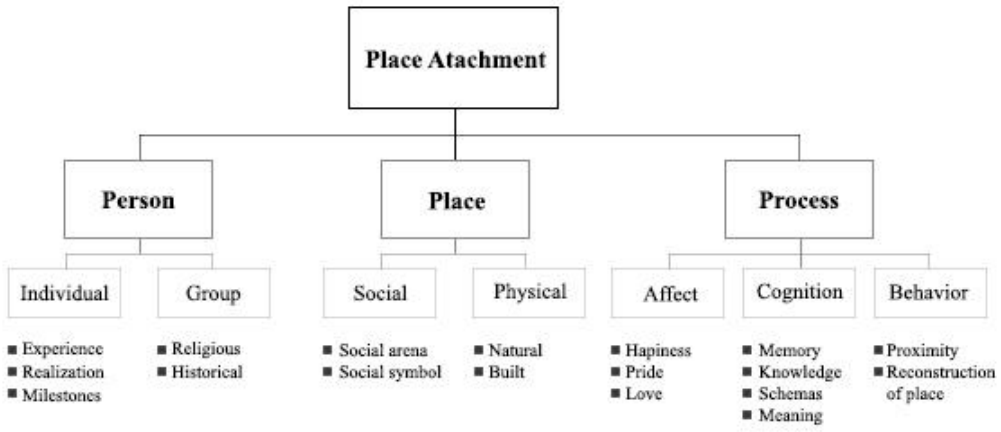


Figure 2.4. The Tripartite Model of Place Attachment (Scannell & Gifford, 2010)

According to Scannell and Gifford (2010), there are three dimensions of place attachment which are person, place and psychological process. The first dimension is the person - individual and collective. Even individual and collective place attachment may overlap quite often; different places may evoke a diversity of meanings for different individuals. The second one is the psychological process which concerns how the person-place interaction is established and includes affective, cognitive and behavioral factors. The last but maybe the most important dimension is the place itself. It has been investigated at various geographic scales, from a single room to the entire planet (Hummon, 1992). Stokols & Shumaker (1981) highlight that the physical features are key for attachment due to resources helping people to achieve one's goals. Including spatial level, specificity and social or physical (both built and natural) components constitute the place characteristics of attachment.

To sum up, considering the complexity of people and place relationship, when the studies in the literature were examined (see Table 2.2), it is seen that the place attachment concept is discussed in relation to the physical characteristics (Relph, 1976), the social characteristics of place (Hummon, 1992; Low, 1992) and both (Scannell & Gifford, 2010; Seamon, 2012b). Some are more powerful or noticeable than others, while others are intertwined with each other and appear indivisible, and just a couple of them are visible to observers (Scannell & Gifford, 2010). In its most general definition, attachment to place can be defined as the affective bond that individuals establish with certain physical and social environments where they meet their expectations and needs (Relph, 1976; Altman & Low, 1992; Hidalgo & Hernández, 2001; Manzo, 2003; Lewicka, 2005). Within the scope of this study, the place attachment concept will be discussed in individuals' relation to a physical place.

Table 2.2 Different Definitions of Place Attachment

Author(s), Year	**Place Attachment**
Relph, 1976	a unique and emotional ties with a place that meets one of the basic human needs
Shumaker & Taylor, 1983	an emotional bond or association between the individual and their residential environment
Altman & Low, 1992	the symbolic and emotional bond that characterized by multidimensional and complex relationships between individuals and places which are significant to them
Hummon, 1992	emotional involvement with places
Giuliani & Feldman, 1993	psychological well-being would like to stay close to a place
Hidalgo & Hernández, 2001	the emotional bond that people form with place settings in places where they tend to stay and feel comfortable

Table 2.2 Different Definitions of Place Attachment (continued)

Manzo, 2005	crucial moments, and their meanings associated with a specific location
Scannell & Gifford, 2010	the cognitive and emotional bond formed between individuals and a particular environment
Seamon, 2012	a piece of a 'larger lived synergy' where an individual and place mutually affect one another

2.3.1 Neighborhood Attachment

As it was mentioned previously, people can be attached to a variety of spatial scales such as their homes, neighborhoods and cities. Furthermore, the degree of attachment differs in accordance with the different spatial levels (Hidalgo & Hernández, 2001). Among these scales, the neighborhood has the most dynamic and probably the highest level of social interaction (Brown and Perkins, 1992). However, as Lewicka (2011) mentioned, the borders of neighborhoods may not be precisely definable because boundaries may psychologically become blurred especially in the big cities (here, it should be noted that in behavioral studies, the term neighborhood refers not to an administrative area with defined invisible borders but to an experiential area, which may change from person to person). Although there are no clear borders of neighborhoods, the place attachment concept is quite often studied in neighborhoods- the mid-scale of place order (Lewicka, 2011). As understood from conducted studies, there is an implicit assumption that most of the individuals (between 40% and 65%) are highly attached to their neighborhoods (see, Gerson et al., 1977; Cuba & Hummon, 1993; Lewicka, 2011).

Neighborhood attachment is described as a socio-psychological phenomenon referring to the 'positive affective bond or association between individuals and their residential environment' (Shumaker & Taylor, 1983: Brown et al., 2003). The nature

of this bond is mostly subjective so that the characteristics of the physical environment and the perception of it can influence one's neighborhood attachment (Unger & Wandersman, 1985; Hummon, 1992). In other words, not only the features of the built environment but also the characteristics of the residents will evolve this emotional bond. Therefore, neighborhood attachment might differ from person to person although most neighborhoods are somewhat homogenous areas (Brown et al., 2003).

Various scholars explain the evolving sense of neighborhood attachment with a set of different variables. According to Riger and Lavrakas (1981), the length of residence and homeownership are strongly associated with residents' neighborhood attachment. Similarly, Comstock et al. (2010) put emphasis on the time spent in the neighborhood. According to these scholars, when the length of residency is increased, a person becomes more attached to that certain place. Riger and Lavrakas (1981) also mentioned that social relationships, a sense of belonging and familiarity affect the level of attachment. In other words, social interaction among the community is positively associated with attachment. In addition, neighbors can establish a 'sense of community' which includes feelings of belonging and membership as well as shared affective ties (Ungers & Wandersman, 1985). On the other hand, Fried's (1982) study had little emphasis on social interactions and illustrated that neighborhood attachment is mostly based on the physical characteristics of the place. These physical predictors can be characteristics of the home, urban form, observed incivilities and gated communities (Lewicka, 2010).

All in all, the concept of 'place attachment' is important for neighborhood research since it can be used to create a synthesis of the physical environment, social bonds and the individual who lives in the neighborhood. There is a mutual relationship between social relations and physical space; that is, while social interactions are influenced by the physical environment, they are determined by the individual who lives in and experiences it (Lee, 1968).

2.3.2 Children's Neighborhood Attachment

At early ages, children start to develop positive and negative emotions about their surroundings. Studies show that the neighborhood attachment emerges in the childhood era and develops over time (see, for example, Chawla, 1992; Hay, 1998; Morgan, 2010). Chawla (1992: 64) interprets how children are attached to a particular place in her leading framework as follows: "children are attached to a place when they show happiness at being in it and regret or distress at leaving it, and when they value it not only for the satisfaction of physical needs but for its own intrinsic qualities". She also adds that the place attachments of children are correlated with beloved family members and the home range. The primary reason the majority of children develop attachment within the home range is the feeling of safety and protection (Zen & Mohamad, 2014). In addition to the core family, for many children, friendships are seen as essential to the attachment to a certain place like a neighborhood because places and socializing seem strongly intertwined (Rogers, 2012).

Attachment to places develops over time with a series of experiences in children's lives such as starting school or engagement with important activities (Jack, 2008). After a certain age, children tend to develop special affective ties within their home range so their daily lives are likely to become reliant on these places due to the special meanings attributed to them (Stokols & Shumaker, 1981; Low & Altman, 1992). It has also been observed that children residing in their neighborhood for more than five years indicate more attachment to their neighborhood than those who have been living less than five years (Severcan, 2012). In addition to the time spent in the home range, according to many scholars, what makes children attached to a neighborhood are the physical, social and symbolic features of a place. As mentioned previously, the existence of relatives, family members and friendships (Shumaker & Taylor, 1983; Ross, 2007; Sancar & Severcan, 2010) are among the essential social characteristics. In addition, activities and rituals (Mazumdar & Mazumdar, 2004) can be shown among both social and symbolic features of the children's place

attachment. Besides these characteristics, physical features such as landmarks and clearly defined borders (Gieryn, 2000) and natural elements (Jacobs & Jacobs, 1980; Chawla, 2007; Severcan, 2018) are important factors.

Much of the literature argues that children develop positive ties with outdoor places (Jacobs & Jacobs, 1980; Moore, 1987; Passon et al., 2008; Cheng & Monroe, 2012). Moreover, they prefer to spend their spare time in outdoor environments rather than indoor spaces. It has been revealed that elements such as beautiful landscapes, visually attractive structures and cultural and historical contexts contribute significantly to children's outdoor use and attachment (see, for example, Moore & Young, 1978; Kyttä, 2003; Muñoz, 2009; Severcan, 2018). Especially, they prefer places where there are diversified and more natural elements since the presence of green elements (like gardens and trees) and water elements (like fountains) have a substantial impact on increasing children's engagement with their environments. In other words, children are likely to consider the environment to be meaningful to them and are attached to it when certain affordances of the place encourage them using it to fulfill their needs (Spencer, 2005; Min & Lee, 2006).

As children grow up and begin school, their perception of the environment widens. Children eat, rest, socialize and learn in a variety of settings, depending on their individual needs, desires and concerns. Thus, they begin to assess the places based on their needs and distinct features of the place (Prohansky & Fabian, 1987). Parallel with the claim of Scannell (2008), one of the most important dimensions of attachment to a place is the place itself and its physical, social and symbolic characteristics. All these environmental features are equally important and none of them should be underestimated. As a result of all these, it is possible to observe that children develop an attachment to their blocks, neighborhoods and some specific places which are close proximity to their homes.

2.3.3 Measuring Place Attachment

Attachment can be measured by using a range of methods (Boley et al., 2021). Giuliani and Feldman (1993: 271) expressed that: “the most important challenge for researchers in this area of inquiry is to integrate different viewpoints and approaches”. This diversity means that researchers should manage a wide range of concepts that can be analyzed quantitatively, qualitatively, or by using combined methods.

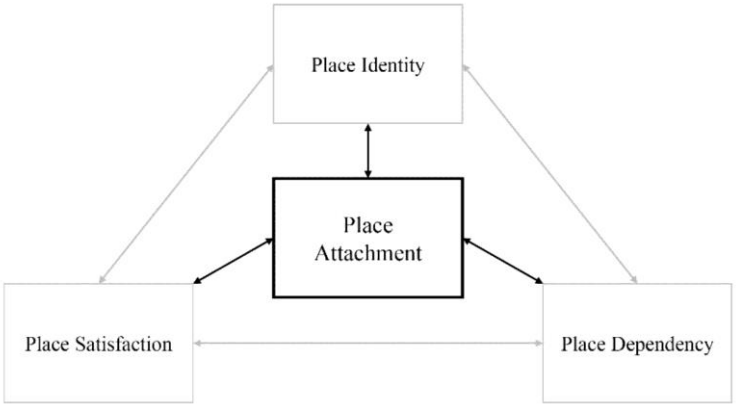


Figure 2.5. Constructs of Place Attachment (Author, 2022)

As illustrated in Figure 2.5, place attachment can be measured with several constructs and their relations with each other; place satisfaction (e.g. Stedman, 2003; Chen et. al., 2014b), place dependency (e.g. Stokols & Schumaker, 1981; Williams et. al., 1992; Jorgensen & Stedman, 2001) and place identity (e.g. Proshansky, 1978,1983; Williams & Patterson, 1999).

Place Satisfaction

Satisfaction is defined as the functional value of a place to meet certain basic needs (Guest & Lee, 1983). Place satisfaction, which is an integral part to measure place attachment, is described by Stedman (2003) as positive and negative attitudes toward a physical environment. In addition, Chen et al. (2014b) indicate that place satisfaction is a subjective way of measurement. Namely, it includes individual differences, motivations and values while evaluating the physical environment. This

evaluation can have positive outcomes, such as liking a place, or negative outcomes, such as not liking a place (Stedman, 2003). Moreover, place satisfaction is not a prerequisite for place attachment; that is, one may be satisfied in a place but not feel attached to that place (Stedman, 2003). Looking at the literature, a number of questions were used to measure one's place satisfaction, such as "Are you happy in your place?" and "How would you rate your place overall regarding your satisfaction with it?" (e.g., Stedman, 2002, 2003). However, with some exceptions (please see, e.g., Severcan, 2012, 2015), these studies are usually done with adults.

Place Dependency

Place dependence is described by Stokols and Schumaker (1981) as a number of possibilities offered by physical environments for people's activities and aspirations as part of needs. In other words, if a particular setting meets specific behavioral goals better than an alternative, place dependency will develop (Stokols & Shumaker, 1981). Therefore, the quality and functionality of the place affect the intensity of dependence and attachment of a person or community to a place as a venue for activities and social engagement (Stokols & Shumaker, 1981). In addition to physical units, Jorgensen and Stedman (2001) define place dependency as a cognitive domain that describes how people's needs are provided within their community. "Do you miss your place?" and "Is your place the best place to do things?" questions are the most prevailing questions to measure place dependency in the literature (e.g., Jorgensen & Stedman, 2001; Williams & Vaske, 2003).

Place Identity

Place identity is another component of place attachment that has been discussed. Place identity is usually described by comparing it with the sense of self. Similarly, Proshansky (1978) explained it as a personal and strong link between one's identity and a place. This construct includes the continuity, conscience, identity and uniqueness of self (Rajala et al., 2020). In other words, it arises when an individual integrates memories, ideas, values, feelings and preferences about the physical environment into their own identity. Therefore, it is possible to explain place identity

not only as an exact experience (Proshansky et al., 1983) but also as an emotional attachment that has evolved through time (Williams & Patterson, 1999). Briefly, place identity refers to people's identification with a particular place (Severcan, 2012).

Eventually, as each place is experienced, place identity creates a cognitive 'database' (Proshansky, 1983). For example, individuals can develop place identity toward the natural environments due to repeated use (Moore & Graefe, 1994) or their unique features (Twigger-Ross & Uzzell, 1996). To understand whether one develops a place identity or not, "Do you consider your place as special?" and/or "How important is your place to you?" are some of the most common questions to ask (e.g., Moore & Graefe, 1994: Williams & Vaske, 2003).

2.3.3.1 Quantitative Methods

In quantitative studies of sense of place (and related constructs like place attachment, which is a parameter of sense of place), meaning is generally defined as individual perceptions or attitudes (Steadman, 2008), rather than socially and discursively developed images of particular places. In other words, in such studies, participants are usually asked to rate a place according to their perceptions of its physical, social and symbolic features. While rating, the majority use Likert-type scales. These studies either clearly define attachment dimensions, place dependency and place identity as essential parts of a sense of place (Jorgensen & Stedman, 2001), where dependence refers to the operational and goal-oriented ties to a place and identity indicates a kind of attachment originated from the place's symbolic value and feelings or simplify sense of place to a unidimensional scale that measures levels of attachment (Shamai & Ilatov, 2005).

As a very early example of a quantitative place study, Burdge and Ludtke (1972) used an 'identification with place' scale to assess people's emotional attachments to their neighborhood. The scale is composed of 12 items that were scored on Likert

scales and had a good level of reliability with Cronbach's a = 099. Behavioral expressions like 'This place is truly a piece of me' to comprehend identity and 'I don't really have significant attachment to this place' to understand attachment were asked to rate by participants. Likewise, Williams et al. (1992) used a 13-item scale to assess attachment, asking respondents to score their agreement with phrases such as "This location means a lot to me"' and "I wouldn't substitute any other area for doing the type of things I did here". As a result of combining responses, the place attachment scale is formed. The researchers did not give information on the degree of correlation between dependence and identity sub-scales; however, they reported that there is excellent overall scale reliability with Cronbach's a = 093.

2.3.3.2 Qualitative Methods

In the last decade, the number of qualitative research has risen. These researches aim to capture reality in a comprehensive manner while ensuring a high level of participation. Lewicka (2011a) classifies them into two groups which are using verbal metrics and visual display.

The first group, the most prevalent data gathering methods in qualitative place attachment research, usually consists of interviews. As mentioned previously, there are no standardized questions or a scale for assessing a place attachment. Therefore, different scholars develop differently designed instruments to deal with it (see, for example, Manzo, 2005; Morgan, 2010). For instance, Manzo (2005) employed in-depth, qualitative interviews involving 40 people to investigate the nature of affective ties to places. Participants' answers were then collected and analyzed by using a grounded theory framework to uncover key themes in attachments to place and to determine the predominance of these. Another example is the study of Morgan (2010) using qualitative analysis of semi-structured interviews conducted with adults to seek for attachment in place in relation to positively affected childhood place experiences. There were three parts in the interviews to understand the cognitive interpretations that individuals attributed to their childhood place memories. The

output of interviews was divided into a number of ‘meaning units’ or short sequences of uniform meaning. Then, utilizing the phenomenological reduction technique, themes that emerged from the interviews were recognized, and meaning units were categorized in accordance with them.

Other qualitative studies, in the second group, utilized visuals to identify place attachment responses. Gould and White (1982) introduced the mapping method offering the participants a map of the site and asking them to mark the places where they attribute special meanings to them such as liked-disliked, safe-dangerous, boring-appealing, and so on. Similarly, Brown (2005) uses a map-based method in which participants are requested to mark the special places. To spatially define place meanings, Cacciapaglia and Yung (2013) also adopted a participative mapping approach in their studies since physical environmental determinants of place attachment are combined in cartographic measures to provide insight into the meanings given to particular places on maps. Moreover, Brown and Raymond (2007) used public participation GIS (PPGIS) tools to see whether place attachment is associated with the mapping and assessment of spatial characteristics utilizing non-spatial psychometric measures. After the mapping stage, the responses of the participants are digitized in the GIS environment and presented in composite maps, where the points are given on the map generally present the differences in the number of choices. As a consequence, the final map will be able to show numerous findings. Therefore, it has the capability of identifying place attachments as well as displaying the relevant assessment through the final overlapping selections.

Besides them, observation is another method mostly used to study children’s behaviors (Bredekamp, 1987). For observing children, different techniques are used such as video and audio recording (Lowry, 1993), diary writing (Peterson, 1991) and ranking scales (Taylor et al., 2002). Then, to discover specific patterns and develop hypotheses, raw descriptive data on children are gathered, categorized, evaluated and quantified.

As can be seen from all these studies, the most common methods used for measuring place attachment were interviews, mapping and observations. Continued use of these qualitative approaches, together with proper analysis tools similar to those used in other relevant fields, may contribute to the development of studies on place attachment.

2.3.3.3 Combined Methods

As Altman and Low (1992: 4) mentioned place attachment is a "complex phenomenon that incorporates several aspects of people-place bonding". And it is often observed that quantitative and qualitative approaches are applied separately from each other in place attachment studies. Therefore, in order to analyze the place attachment more comprehensively, combined (qualitative and quantitative) measures have been developed (also called hybrid or mixed method measures) (e.g. Beckley et al., 2007; Devine-Wright & Howes, 2010). A mix of qualitative and quantitative approaches can enhance knowledge of the psycho-environmental processes when data collection methods and appropriate strategies for the analysis come together.

Beckley et al. (2007) use photographs and interviews obtained from the respondents in a qualitative phase. The findings from this phase are then utilized in a quantitative phase to create a questionnaire to collect the data needed to test a correlation between variables expressed as a structural model. Likewise, Devine-Wright and Howes (2010) integrate interviews, discussion groups and questionnaires to assess the place attachment in an area. After the qualitative data collection stage, inter-rater reliability was used to analyze the responses, which resulted in a 97 percent consensus. For each variable, quantitative data indicates correlations or ANOVA.

Such a combined study should include an extension of existing measures as well as sub-scales to examine the scope of place attachment spatially localized or generalized. By this means, in a combined approach, it can be evaluated whether a

quantitative scale-based study, as a complement to the qualitative method adopted, validates the findings.

2.4 Children's Activities

Children, as individuals, have different and varied activities, just as they have their own spaces (Hernández et. al., 1996). Play is an activity that is part of the daily lives of children all over the world and the importance of play for children has been acknowledged worldwide by the 1959 Declaration of the Rights of the Child (United Nations Convention on the Rights of the Child, 2013). According to Frost (1979: 21), "play is an active, spontaneous, fun, purposeless, self-initiated and serious activity". Such activities help children to enhance their motor skills, cognition, social initiative and identity (Smilansky, 1968; Pellegrini, 2005). Thus, it is important for children's physical and psychological health. Researchers also emphasized the positive impact of activities on children's social development (Wells, 2000), cognitive development and creativity (Taylor et al., 1998). However, factors such as high traffic speeds and volumes, development of high-rise buildings and lack of mixed uses reduce children's access to activity spaces, reduce their life quality and restrict geographic abilities. Therefore, studies are needed to develop places where children can engage in activities and increase their participation in neighborhood environments.

2.4.1 The Concept of Activity Setting

Activity settings are the framework in which people and places engage and shape one another with a variety of co-occurring and integrating activities (King et al., 2013). Key elements of the activity settings are the individuals, their roles and actions, the physical environment, time and symbols (O'Donnel & Tharp, 1990; Wilson & Morren, 1990). As Kelly (1987) mentioned that each participant's actions

and these features are interrelated. Namely, the social mechanism that underlies individuals' engagement is based on activity settings (O'Donnell et al., 1993).

Today, parents and children can be also collaborators in a variety of everyday activities (e.g. shopping and having picnic) when interaction takes place (Gallimore & Goldenberg, 1993). Therefore, everyday activities in children's lives all over the world provide contexts for developing meaningful behavior. In other words, the everyday activity settings give children experiences that improve their growth, which in turn helps them to participate more in other activities and further forms their development (Farver, 1999). Parallel to this Gallimore and Goldenberg (1993: 315) emphasized that "Children's activity settings are the architecture of their everyday life and the context of their development". According to Dunst et al. (2001a: 70) an activity setting is a "situation-specific experience, opportunity, or event that involves a child's interaction with people, the physical environment, or both, that provides a context for a child to learn about his or her own abilities and capabilities as well as the propensities and proclivities of others".

More precisely, activity settings compose of both place and activity (King et al., 2013) such as playing football in a park or walking on the street, and address not only a single child but also child-in-context.

2.4.2 Factors Affecting Children's Activities

Different types of children's activities appear in particular places. Furthermore, in some particular types of places (like larger playgrounds), children tend to engage in more activities compared to some other types of places (like smaller playgrounds); the characteristics of the place determine the amount and range of children's activities (see for example, Ward, 1990; Moore et al., 1997; Veitch et al., 2008). Unsurprisingly, kids do their activities about a 10-minute walk from their homes. Thus, it is important to understand the relationship between children's activities and

physical and psychological development, especially in neighborhoods. There is a range of parameters that affect these activities.

A review of children's environment literature shows that:

(1) There is a positive correlation between the age of the children and the type, duration and intensity of the activities (Bao et al., 2021).

(2) The presence of friends in the home range is a social factor that affects children's activities (Veitch et al., 2006).

(3) The location of the setting is another important factor that influences the intensity of outdoor activity (Ward, 1990); for instance, according to studies, the children living in the outer city are able to go further from their home range and encounter a wider range of activities than their peers living in the inner-city areas.

(4) The presence of open and green spaces and the affordances they provide have a significant impact on the variety and duration of activities (Bao et al., 2021).

(5) Having various play spaces causes children to do different kinds of activities (Luchs and Fikus, 2013); for example, while smaller or more private places create chances for more social activity, places contain natural and flexible materials that afford constructive play.

(6) Lower traffic levels are linked to more time spent with outdoor activities (Lambert et al., 2019).

(7) High density and high urbanization in the area are associated with less activity (Lambert et al., 2019).

In short, a child-friendly environment provide children opportunities for a variety of play types, physical activity, active transport, social interaction and independent mobility (Broberg et al., 2013). In other words, neighborhoods are critical for children in urban settings to encourage them to play, be free, and experience the outdoors in ways that might not be done in their homes.

2.4.3 Types of Activities

Children can enhance their knowledge of the physical environment, their awareness of themselves and society, and their capacity to communicate with their peers and adults, and hence increase their attachment to neighborhood environments through certain activities.

Activities are categorized in different ways in the literature. As a result of the studies, it seems that there are two different main categorizations. The first is the scheme developed by Parten (1932) and consists of five categories based on social interaction, which are (1) solitary (singular) play, (2) spectator play, (3) parallel play, (4) associated play and (5) cooperative play.

Solitary/ Singular Play

Activities performed independently without interaction with others are defined as singular play (Parten, 1932). That is, children engage in individual activities with their own materials.

Spectator Play

Spectator play is a term used to describe when children observe others playing but do not participate. An example of this type of activity can be watching other performances.

Parallel Play

Parallel play refers to activities in which children play nearby other children, perhaps in common materials, but still independently (Parten, 1932). Children in the group do not try to control each other.

Associated Play

Associated play is defined as activities in which children do similar actions with their peers and materials are shared; however, they are activities for which there is no

common goal. In short, although communication has been established the children do not put their own personal goals to play.

Cooperative Play

Cooperative play can be defined as children engaging in a social activity together for a certain common purpose.

The other is the categorization based on a cognitive background created by Smilansky in 1968. This classification sometimes overlaps with Parten's (1932) scheme, (1) functional play, (2) constructive play, (3) dramatic play and (4) cooperative play.

Functional/ Locomotor Play

Due to the need to be physically active, a child's activities begin with simple repetitive muscle actions which require gross motor abilities. Functional activities are types of activities that require an intense physical effort in terms of strength, balance and coordination but less skill and creativity (Fjørtoft, 2000). Running, cycling, climbing and skateboarding can be given as examples of this type. Thanks to locomotor activities, children can use their physical abilities as well as have the opportunity to experience their immediate surroundings. Moreover, Pellegrini (2005) argues that physical environmental determinants, especially natural landscape elements, facilitate functional play. In parallel with this, Kuh et al. (2013) mentioned that playgrounds are typical places where most physical activity is occurs.

Constructive Play

Constructive play is activities based on the child's constructing or creating structures for a purpose (Kuh et al., 2013). In the hierarchy of cognitive dimensions, Smilansky (1986) points out that children's experiences shift from functional - repetitive muscle movements - to constructive one - building structures -. While doing constructive activities, children tend to produce new formations by using and manipulating the materials found in the environment. Playing with sticks, building a bridge or a castle

and ball-bearing can be given as an example of these physical activities, which are generally of moderate intensity.

Dramatic/ Imaginative Play

Dramatic or imaginative games can be described as activities in which children imitate what they observe in their environment together with their imagination and creativity (Maxwell et al., 2008). In this way, they have the opportunity to develop their physical and social skills as well as their imagination. Role-play and performing, activities that usually change with the child's imagination, can be good examples of imaginative play. Moreover, natural features such as rocks, logs, trees and sticks, in contrast to conventional playgrounds, allow kids to be more involved in imaginative play (Bell, 2006).

Games with rules/ Cooperative Play

Ruled or cooperative play is defined as the transition of children from playing alone or in parallel (playing with a peer) to engaging in an activity in a group with a certain goal (Parten, 1932; Kuh et al., 2013). In other words, they are a part of a self-organized playgroup collaborating toward a commonly defined goal in cooperative activities (Frost, 1992). Activities such as football, hide-and-seek, taekwondo and playing games with certain rules can be given as examples of this category. Generally, these activities take place in larger places like parks, sports fields, or some ‘found places’ like undeveloped lands.

In addition to these categories, Fjørtoft (2000) also defines ‘passive type’.

Passive Type

Passive activities, unlike other activities, involve very little physical effort and are mostly based on children's visual perception (Fjørtoft, 2000). Sitting, standing, waiting for someone, and watching the surroundings are some of the passive activities. It is possible for children to do these activities wherever they spend time.

There are also ‘other types’ of activities that exist in the daily life of children but do not fit into any following category. Moreover, as Coffin (1989) points out, there is not only one category for each activity, and that types can overlap with each other. For instance, building a bridge (constructive play) can include both the use of physical abilities (functional play) and collaboration with others (cooperative play).

2.4.3.1 Activity Categorization in relation to Place Attachment

In the literature, categorizations are mostly based on physical activity with simple muscle movements. However, since this thesis study questions the correlation between children’s activities and place attachment, the factors affecting place attachment should be considered. That is, categorizations need to include whether there is engagement with the place or not and what kind of social relations are there. A review of the literature from this perspective shows that there are no studies that have investigated the relationship between the type and number of activities conducted in neighborhood environments and individuals’ (both children’s and adults’) neighborhood attachment.

Undoubtedly, it is expected that the activities where the use of place is the highest and the act of shaping the place will affect the place attachment considerably. For example, playing football and gardening (with family) can be considered under social and recreational activities. Furthermore, activities related to shaping the place (like gardening) can be considered as an activity that increases the relationship with the place. As Severcan (2015) found, engagement in activities where children shape their environments increases their neighborhood attachment more than engagement in activities that are not place-based or place-dependent. In addition to these, since the studies frequently refer to recreational activities, examining the recreational and non-recreational sub-categories will help in the creation of place attachment-related activity categories.

Table 2.3 Activity Categorization in relation to Place Attachment (Author, 2022)

Engagement with/out place	Individual/ Social	Recreational / Non-recreational	Place Shaping	Explanation	Examples
Engagement with place	Individual-based	Recreational	Shaping the place	Recreational activities where the individual interacts with the place by shaping the space or where the place shapes the activity	Gardening, street art activity, building huts and shelters with mud or sand alone, etc.
			Not shaping the place	Recreational activities where the individual interacts with the place without interfering with the place or where the place shapes the activity	Watching the scenery, sitting, walking, skating, cycling, feeding animals, etc.
		Non-recreational	—	Non-recreational activities performed by the individual by establishing a relationship with the place	Shopping, attending a course, eating something, etc.
	Social	Recreational	Shaping the place	Recreative activities based on shaping the place where the relationship with the place and social interaction is high	Gardening, street art activity, building huts and shelters with mud or sand with friends or community etc.
			Not shaping the place	Recreative activities where the relationship with the place and social interaction is high, without interfering the place	Playing football, hide-and-seek, playing a game, walking with family members, watching the scenery with peers, etc.
		Non-recreational	—	Non-recreational activities performed by a group with social interaction by establishing a relationship with the place	Having a chat, listening a music with friends, role-playing, having a picnic with family members etc.
Engagement without place	Individual-based & Social	—	—	Activities that do not relate to the place and/or where the characteristics of the place do not affect the activity	Reading a book, daydreaming, praying, etc.

Consequently, as Table 2.3 illustrates, it is possible to define different activity categorizations by considering all activity types that may affect children's neighborhood attachment at different levels.

2.5 Concluding Remarks

This section is a brief summary of the theoretical framework. The theoretical background of the study, which questions the correlation between activities, physical environmental determinants and children's attachment to the place, is conceptualized in Figure 2.6.

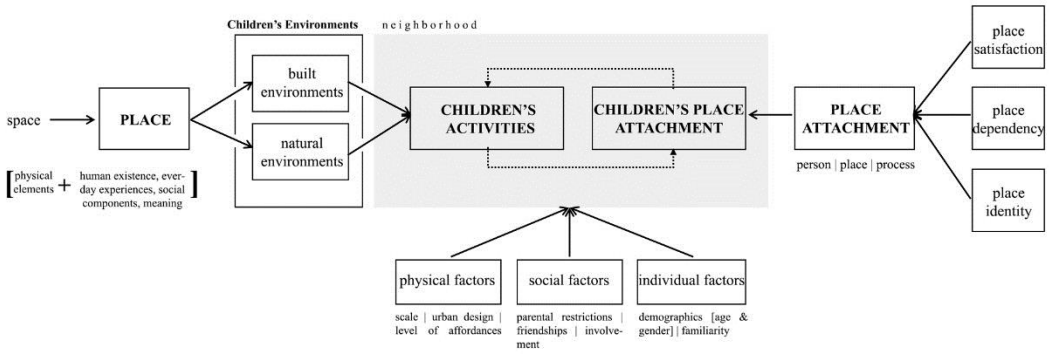


Figure 2.6. A Brief Summary of Theoretical Framework (Author, 2022)

Firstly, to define the components of place attachment that constitute the basis of this study, understanding the concept of place in depth is crucial. The concepts of space and place are interlaced. As seen in Figure 2.6, unlike the concept of space, the place is defined as the combination of many different elements such as human existence, everyday experience, social components and meaning. In other words, the place is a dynamic concept created through everyday experiences and physical space (Relph, 1976). Since built and natural environments exist with their users and do not define just as physical settings, they can be discussed under the place, not space. While conducting this research, identifying such environments helped the author to understand the context of places where children do activities frequently.

Secondly, the study was focused on the relationship between children and these two environments (see Figure 2.6). Children often describe their environments within the home range, and these boundaries expand after they start school. Although there are no clear boundaries, homes, streets and neighborhoods are examples of physical environments, and outdoor areas such as parks, sports areas, forests, or 'found places' like undeveloped lands are examples of natural environments. The factors affecting children's place use and activities, which are physical, social and individual factors, are discussed over the ecological model of Owen et. al. (2000), which was adopted from Urie Bronfenbrenner.

Place attachment is defined as an affective bond between people and specific places (see for example, Relph, 1976; Altman & Low, 1992; Hidalgo & Hernández, 2001;

Manzo, 2003; Lewicka, 2005). This multidimensional concept was gathered by Scannell and Gifford (2010) under a holistic and integrative framework: person-place-process. Children begin to develop a place attachment to their immediate environment, home, from a very early age. From the perspective of city planning, children's participation in decision-making and place-making processes is essential. However, empirical studies that include children are very few. Moreover, in the literature, place attachment was measured using qualitative, quantitative and combined (or hybrid) methods. The primary constructs of measuring place attachment can be listed as place satisfaction, place dependency and place identity (see Figure 2.6). As mentioned before, most place attachment studies have focused on adults; thus, studies that empirically measure place attachment in children are pretty inadequate. In addition, when studies done with children are examined, there are also very few studies that combine both qualitative and quantitative data together. At this point, participatory methods that can attract the attention of children are needed as Hester (1999) and Francis (1999) mentioned. As will be mentioned in the next chapter, these gaps led the author to use hybrid methods to investigate children's neighborhood attachment.

Last but not least, based on the hypothesis that there is a relationship between children's activities and their attachment to the place, children's activities are reviewed with their types and affecting factors. As the literature has shown, activities are beneficial for children to establish a relationship with the place and to enhance their physical, social and psychological development. Although there are many studies on the categorization of activities, two main categorizations are prominent. The first categorization is Parten's (1932) classification based on social interaction, the other is Smilansky's (1968) cognitive-based schema, which also has common points with Parten's (1932) classification. Generally, the studies follow these schemes and make some additions (such as passive type and other types) or changes depending on the context. Moreover, there is not just one category for each activity, and types can intersect (Coffin,1989). This thesis, on the other hand, required the classification of activities in a different way because of the way research questions

were posed. It required the author to consider the impact of an activity on children's place attachment, and thus assess which activities may increase children's interaction with place. It was assumed that based on their location (and thus urban form characteristics) in different neighborhoods children are engaged in different types and intensities of activities.

In sum, it is hypothesized that there will be a correlation between physical environmental components and children's place attachment. Both physical and natural environments can impact on children's unique and spatial everyday experiences. As a result, these environments within their home range needed to be examined with different aspects to understand children's place attachment. The following chapter is going to give information about the research design and methodology of the study, and how to investigate this relationship.

CHAPTER 3

METHOD

This chapter explains the methodology of the study. The first section introduces the research design. The second section focuses on site selection. This section provides a brief history of the chosen city, and explains the rationale behind the selection of neighborhoods as the cases. Next, it explains the selection of the child participants from the chosen neighborhoods. Finally, it introduces the data collection tools and data analysis methods in detail.

3.1 Research Design

The data of this thesis is collected from a large-scale project conducted in Ankara, entitled 'The link between urban form, air quality and childhood asthma'. The data collection process is financially supported by TÜBİTAK (the Scientific and Technical Research Council of Turkey) (Project no. 219K243). This project aimed to investigate the relationship between various meso and micro-scale urban form features, air quality, and children's asthma. While investigating this, it is aimed to determine the places that are frequently used by 9-to-14-year-old children, so that in the later phases of the study these places can be visited for measuring air quality. Thus, in one of the project activities (mapping children's places), children were asked a number of questions that have been used in previous studies to measure and map children's neighborhood attachment (see, Severcan, 2012). This thesis draws on the data collected from this large-scale research project.

The author contributed to the aformentioned project as a research assistant. Among with the principal investigator and some other research assistants, she assisted in the analysis of the chosen neighborhoods regarding different urban form variables (e.g.,

level of land use mix, street connectivity and building density), helped in collecting data from children and analyzing this data.

The data collection phase of the study was designed with appropriate tools that would require the active participation of children and professionals. As can be seen from Figure 3.1, the participatory methods that were used in this study includes mapping activities with children in the selected schools. In addition to the site-specific data collected from the mapping activities, a survey was conducted to measure the children's attachment to their neighborhood.

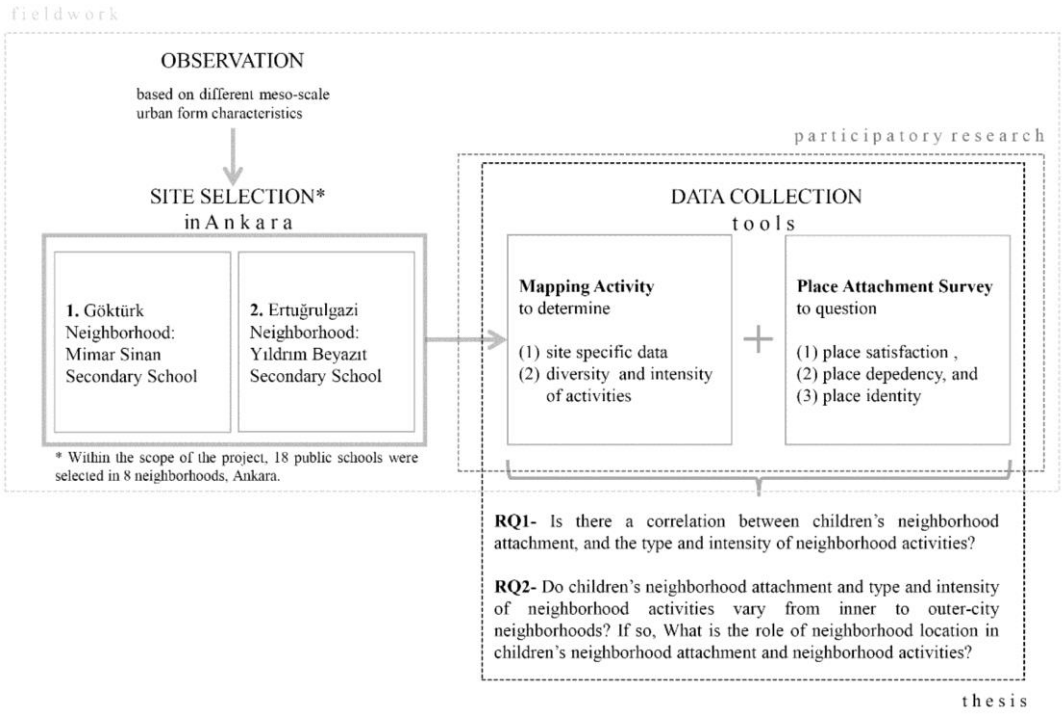


Figure 3.1. Research Design (Author, 2022)

3.2 Context of the Study

Ankara is the modern and planned capital of the Republic of Turkey. After its declaration as the capital of the country in 1923, Ankara received rapid migration from rural to urban areas. This required the government to plan and design the city not only to reflect the modernization goals of the country but also to house the

incoming masses. This rapid growth caused pressure on meeting the needs of the residents. As a consequence of this, 'Yeni Şehir' was designed as an administrative district with the name of 'Çankaya', together with the 1924 Lörcher plan (Cengizkan, 2010). After Lörcher's plan, Jansen proposed development in three directions around the old city in 1928 (Cengizkan, 2010). In this plan, it is noteworthy that the main spine of the city (Sıhhiye-Yeni Şehir-Kızılay axis) is defined by the green park system and pedestrian circulation (TMMOB Mimarlar Odası Ankara, 2004). Ankara's city center was started to be planned within this period. Moreover, there is evidence that open green space systems and public spaces of the city were considered in both plans. However, today, it is observed that they gradually lose their characteristics due to rapid physical and social changes.

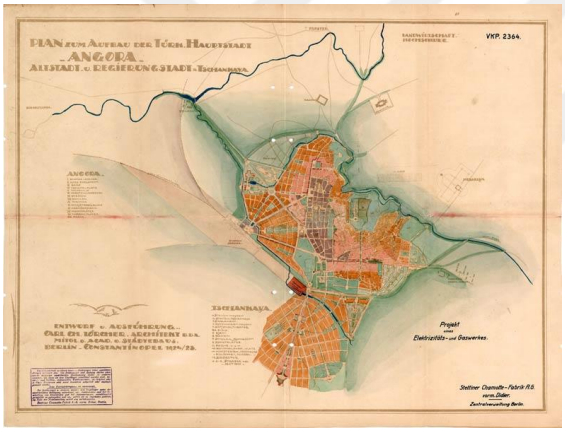


Figure 3.2. 1924 Lörcher Plan

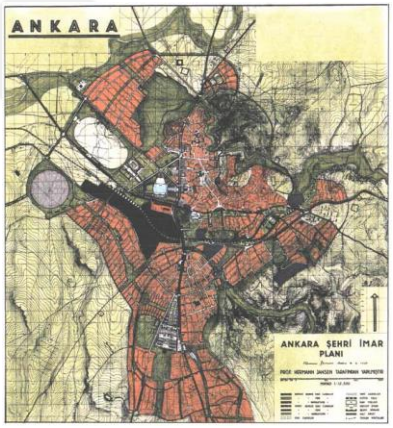


Figure 3.3. 1928 Jansen Plan

With the 1990 Ankara Master Plan, urban sprawl was observed along the western axis of the city. As the city center expanded to the west, CBD become conflicting place in terms of urban form characteristics (Altaban & Güvenç, 1990). As a result of the expansions, the city also started to sprawled around the Eskişehir corridor and the Çayyolu region (Balta & Eke, 2011). In addition, most of the major urban development projects such as Sincan slum prevention districts, new residential area

developments, Batıkent housing project and industrial zones were allocated to the western sectors of the city with this plan (Altaban and Güvenç, 1990).

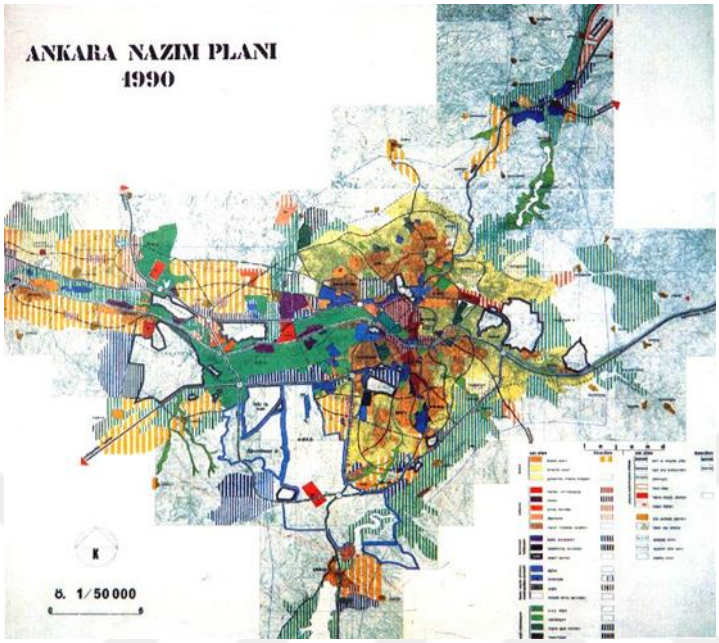


Figure 3.4. 1990 Ankara Master Plan

Overall, all these different planning processes in Ankara have caused the city to grow by leaps. Today, the city continues to grow uncontrollably unlike the period when it was declared as a capital city in 1923. Therefore, it is possible to observe different urban form characteristics in each part of the city, especially in the city center and different peripheral areas.

3.3 Site Selection

To answer the research questions of this thesis, among eight neighborhoods that were chosen in the context of the larger-scale project, two neighborhoods were selected. One of these neighborhoods, the Göktürk neighborhood, is located close to 'Yeni Şehir' on the southern part of Kızılay square, and the other neighborhood is located in the periphery of the city, Ertuğrul Gazi neighborhood in the Sincan district (see Figure 3.5). Among eight neighborhoods, these two neighborhoods were chosen by

the author based on the initial observations obtained from the field research and satellite images. (Here is should be noted that although the research data were collected from 8 neighborhoods of the city, where more than 1000 children participated in the project activities, because of the time limitations, in this thesis study the author aimed to draw on the data that were collected only from two neighborhoods, which seemed to have different urban form characteristics).

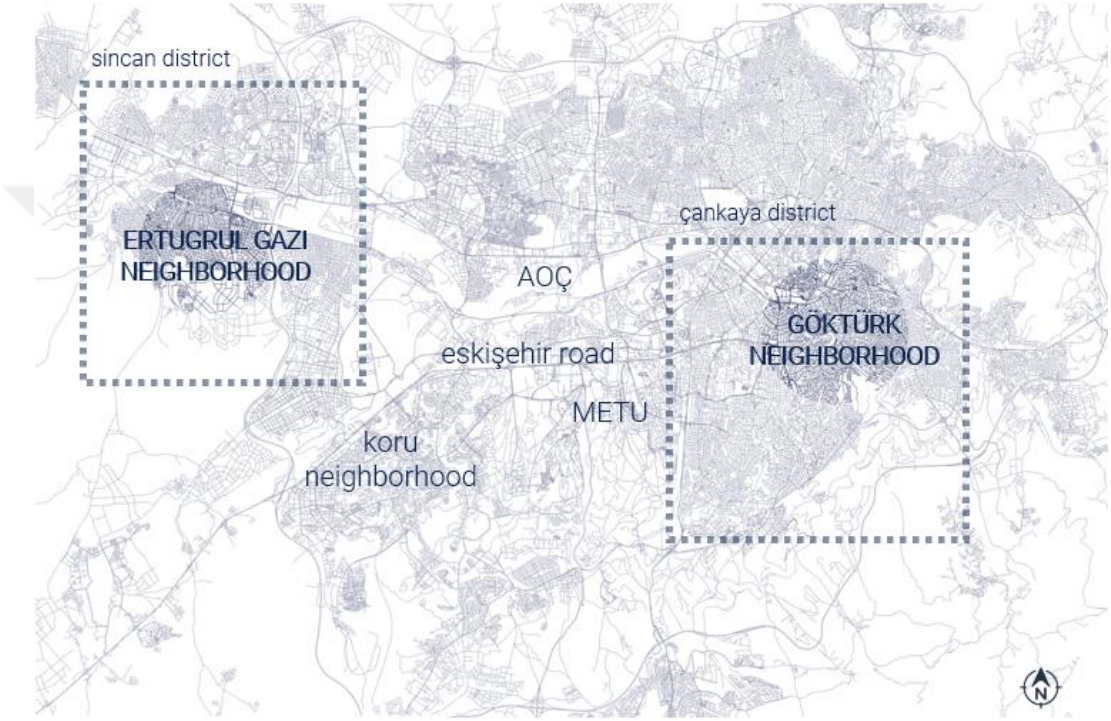


Figure 3.5. Selected Neighborhoods in Ankara

As part of this thesis, the author drew on the data that were collected from one of the schools from each of the chosen neighborhoods: Mimar Sinan secondary school in the Göktürk neighborhood and Yıldırım Beyazıt secondary school in the Ertuğrul Gazi neighborhood. Then, buffer areas were created within 800 meters of walking distance (equal to approximately 10-minutes walk for a child) from the selected schools in order to make the spatial analysis. These buffer areas symbolize the school range. The project team assumed that children who attend public schools in Turkey usually live in the school range (Severcan, 2018). In walkability studies, 800 meters usually corresponds to the neighborhood environment (home/school range) of 9-to-

13-year-old children (see for example, Jones et al., 2009; Villanueva et al., 2012; Smith et al, 2021). Studies also show that most of the activities take place within about 10 minutes of walking distance home (Jones et al., 2009). Moreover, the 800 meters buffer area is defined as the optimal area for children's place uses and active mobility (Timperio et al., 2010; Smith et al., 2021). Therefore, a circle was drawn with 800 meters radius, centering the selected public school as done in many studies (please see, Braza et al., 2004; Ozbil et al., 2016). Detailed analyses of the 800 meters buffers are given in Table 3.1, Table 3.2, and Table 3.3 with explanations below.

Table 3.1 Solid and Void of Selected Neighborhoods

	Inner-city Neighborhood | Göktürk	Peripheral Neighborhood | Ertuğrul Gazi
Satellite Images		
Solid-Void		

Table 3.1 presents satellite images and solid-void analysis of the two 800 meters buffer areas with comparison. There is a dense urban texture in the Göktürk

neighborhood, in the city center, compared to the Ertuğrul Gazi neighborhood although there are slum areas. In addition, different street patterns are observed in both neighborhoods.

Table 3.2 Open and Green Spaces of Selected Neighborhoods

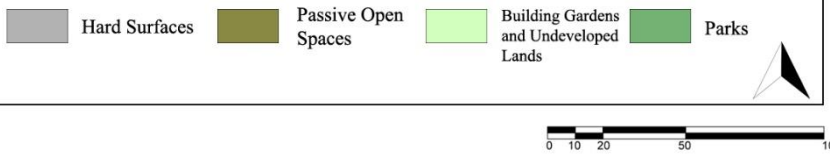
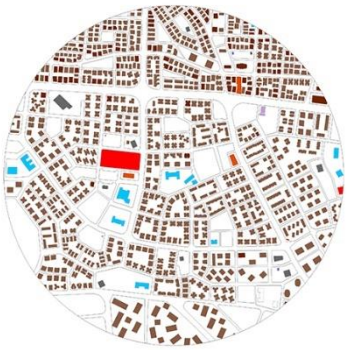
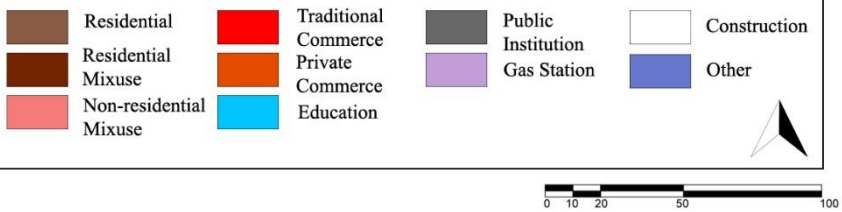
	Inner-city Neighborhood | Göktürk	Peripheral Neighborhood | Ertuğrul Gazi
Open and Green Spaces		
		

Table 3.2 illustrates the open and green spaces in both buffer areas comparatively. Analyzing open and green spaces, open and green space densities (by the total area of active + passive open spaces/area of 800 meters buffer) in Göktürk and Ertuğrul Gazi neighborhoods are 0,58 and 0,50, respectively. In other words, despite its dense urban texture, open and green space density is higher in the Göktürk neighborhood. The reason for this is that the Göktürk neighborhood is one of the neighborhoods parallel to Ankara's green area system extending from north to south. This creates proximity to large green areas such as Kuğulu Park, Seğmenler Park and large consulate gardens.

Table 3.3 Landuse of Selected Neighborhoods

	Inner-city Neighborhood | Göktürk	Peripheral Neighborhood | Ertuğrul Gazi
Landuse		
		

Land use affects children's use of place (see for example, Malinowski & Thurber, 1996; Severcan, 2018). Thus, the general land use of buildings within the 800 meters buffer areas are analyzed (see Table 3.3). Examining both circles, as it was expected, it is seen that the Göktürk neighborhood has a more diverse land use. The buildings in the Göktürk neighborhood are sometimes used as workplaces, public institutions or art galleries, etc. Moreover, there are often traditional commercial uses (like market, bakery, stationery) in the ground floor usages in both areas.

3.4 Data Collection

This section detailly discuss the selection of the participants, and the data collection phase with the participation of children in the field within the scope of the project and this research.

3.4.1 Selection of Participants

The study was conducted with 11-14-year-old child participants (fifth to eight graders). As mentioned previously, there is limited research on examining this age groups' attachment to neighborhood environments. In addition, since the middle-childhood children are using outdoor spaces actively, children in this age range were selected for this study.

Children participating in this study were selected from public schools in the neighborhoods -Göktürk and Ertuğrul Gazi neighborhoods- detailed in the site selection section above. The schools selected within the scope of the TÜBİTAK project and approved by the Ministry of National Education were visited by the project team. Then, in an initial meeting, the content of the study was explained to the children in each classroom. After this explanation process, the children who wanted to participate in the study were asked to have their parents sign a parental consent form. All children ages between 11 and 14 (fifth to eight grade students) who were willing to participate in the study and brought the consent form with their parents' signature were able to participate in the mapping activity and place attachment survey.

The data collection method of the study was shaped by communication and interaction between a moderator and 4 to 7 children in each session, as in focus group studies so it was expected to be carried out with approximately 40 children from each school beforehand.

Table 3.4 Sample Size

Name of the Neighborhood	Göktürk Neighborhood	Ertuğrul Gazi Neighborhood
Name of the School	Mimar Sinan Secondary School	Yıldırım Beyazıt Secondary School
Sample Size	n=40	n=85

As a result of field study, as seen in Table 3.4, the mapping studies were completed with the participation of 40 children from Mimar Sinan secondary school and 85

volunteers from Yıldırım Beyazıt secondary school (for two neighborhoods sample size, n=125), which is a higher sample size than expected.

3.4.2 Data Collection Tools

It is difficult to create an instrument that could be used to investigate the place attachment of children aged between 9 and 14 (the targeted age group in the larger-scale research project); therefore, there is a need for basic tools which are easily understood and attracted by children. Within the scope of the study, (1) mapping activity with children in order to obtain spatial data and document the activities, and (2) place attachment survey tool, in parallel with literature, to measure place attachment were used.

3.4.2.1 Mapping Activity

Mapping activity is an effective and productive method for assessing the children's place conception which is important for planners and designers while making decisions on physical environments. In other words, the mapping method helps to obtain data with geographic and physical information that may not be obtained in surveys and interviews, etc. According to Hart (1979), there is a positive correlation between the accuracy and children's maps and their home range. Similarly, Christensen et al. (2014) also emphasized that researchers can identify unexplored and unique physical elements of children's immediate surroundings with the help of mapping activities. Moreover, due to its interactive nature, mapping activity does not help only provide more accurate data for researchers but also creates a fun environment for children which encourages more children to participate in such studies (Severcan, 2012).

In this study, the mapping activity aims (1) to understand where children spend time in their neighborhoods, (2) which activities they do and (3) to describe the physical environmental determinants of the areas frequently used by children.

The mapping study was conducted with a total of 125 children. In each school, approximately 8 groups were formed to engaged children in a survey intregrated mapping activity. Each group consisted of a moderator (project coordinator, scholars and postgraduate students) and approximately 5 children (min. 4, max. 7) (Figure 3.6). Since the study was carried out under COVID-19 conditions, groups of 5 people were distributed in classrooms as wide as possible and with a maximum of 3 groups in each classroom.



Figure 3.6. Photos from Mapping Activity (taken by Göksun Yıldırım, 2022)

A mapping activity takes almost 2 hours and is composed of 2 steps. In the first phase of the study, which lasts about 15 minutes, children are taught how to read a satellite image over the prepared base maps. These base maps, prepared in the form of colorful posters in 70*50 cm size (see, Appendix A), are satellite images taken from the Yandex Map application containing the neighborhood within the 800 meters of walking distance and including the children's school in the center (see, 3.3 Site Selection). Moderators ask and facilitate each child separately to mark their schools and houses and draw routes that they walk from home to school on the map. During this first phase, each child uses a different colored pencil and sticks different stickers for showing their homes. Then, moderators noted which child uses which colored pen and sticker in the legend section at the bottom of the poster (see examples, Figure 3.7 and Figure 3.8). Since the study is done anonymously, the moderators also encode the first letter of each child's name and surname into the legend in order to facilitate the gathering of the obtained data. After identifying the school and each

children’s home, the first phase of the study is done and the learning process is completed quite successfully with participants aged between 11 and 14.



Figure 3.7. Children's Places that Promote their Place Attachment in Yıldırım Beyazıt Secondary School



Figure 3.8. Children's Places that Promote their Place Attachment in Mimar Sinan Secondary School

In the second phase, children are asked to mark the places they spend time on the same map. In this process, the desk managers guide children with questions such as "Where do you spend time?", "What activities do you do here?", "Who else is doing the same activity here?" and "Where else do you spend time?" in order to ensure the participation of each child in the group and to facilitate the process. In this way, children are given time to think and can confirm the accuracy of the data. A different sticker is defined for each new activity performed in these places. Moreover, each child is asked to use a different sticker so that the author can identify which activity is conducted by which children. For instance, if a child is riding a bicycle in the park, s/he will stick a bicycle-shaped sticker on the park and if another friend is playing football in the same park, a ball-shaped sticker is added to that park on the map. If more than one child is doing the same activity in this mentioned area, the moderator noted this to the legend (e.g., Child X, Child Y and Child Z plays football in the park). At the end of the mapping activity, each physical map is photographed and archived for digitization in the GIS environment (see, Appendix C).

3.4.2.2 Place Attachment Survey

Surveys are simple and exciting exercises for researchers to do with children of different ages in any community. Therefore, children in this study were also asked to answer a 3-question survey to measure place attachment to their neighborhood after mapping activity in each school.

To understand children's place attachment in the context of the neighborhood, children were asked questions about place satisfaction, place dependency and place identity respectively, as seen in Table 3.5, which were based on the existing literature (see Severcan's study 2012, 2015, where the same questions were used to measure children's neighborhood attachment). A 5-point Likert Scale was used to rate these questions (also see, Appendix B). In this way, the answers can be collected as numerical data.

Table 3.5 Survey Questions to Measure Place Attachment

Place Satisfaction	"Are you ***happy*** in your neighborhood?"
Place Dependency	"Do you ***miss*** your neighborhood when you leave it?"
Place Identity	"Do you consider your neighborhood ***a special place***?"

After the mapping activity, "Are you happy in your neighborhood?", "Do you miss your neighborhood when you leave it?" and "Do you consider your neighborhood as a special place?" questions were asked to the children one by one. Then, they were requested to rate each question from 1 (strongly disagree) to 5 (strongly agree) with the help of a moderator from the TÜBİTAK project team (the moderators informed the children about what each number refers to avoid the researcher bias). Therefore, a minimum value of 3 for a child who does not feel attached to the neighborhood (the total score if a child rates all questions 1) and a maximum of 15 for a child who has developed a place attachment (the total score if a child rates all questions 5) can be obtained as a result of the survey. Just as in the mapping study, the first letters of the name and surname of each child were coded in each column of the survey by moderators in order to match place attachment and place-specific data.

3.5 Data Analysis

Data collected from a total of 125 children from mapping studies and place attachment survey were analyzed based on 2 research questions, as follows. Analyzes are aimed to understand and interpret (1) the relationship between neighborhood attachment, and types of children's activities and (2) frequencies with correlation analysis for the first question, and the effect of the location (whether in the inner or outer city), (3) on neighborhood attachment and (4) on the types of

neighborhood activities and (5) frequencies with unpaired Student's T-test for the second question. These analyses were made with the help of the IBM SPSS Statistics 26 software.

3.5.1 Analyzing the Correlation Between Children's Neighborhood Attachment and Neighborhood Activities

To answer the first research question (Is there a correlation between children's neighborhood attachment and the type and intensity of neighborhood activities?), correlation analysis in SPSS was applied to test whether there is a relationship between the variables. If there is a relationship, correlation analysis also gives information about the direction and magnitude of a relationship.

Depending on the degree of measurement and the type of the data, SPSS provides a variety of alternative statistics. Pearson Correlation was adopted as the calculating tool in this study. Afterwards, two separate correlations were applied, one for the relationship between place attachment and activity types and the other for the relationship between place attachment and intensity of neighborhood activities mentioned by children in the participatory mapping activity. The latter three different categorizations, shown in Table 3.6, Table 3.7 and Table 3.8, were done to investigate the impact of the activities by decreasing bias with reference to Table 2.3 provided in the previous chapter of this thesis.

Table 3.6 Activity Categorization Based on Individual and Social Activities that do/do not Require Engagement with Place with the Data Obtained From Mapping Activities

Activities	SPSS_Code	Category
Skating/Skateboarding	1	Individual-based recreational activities that require an engagement with place
Walking	1	
Watching cars	1	
Cycling	1	
Playing with the animals	1	
Waiting	1	
Jumping rope	1	
Shopping	2	Individual-based non-recreational activities that require an engagement with place
Eating something	2	
Attending a course (i.e. Quran and Guitar course)	2	
Visiting somewhere/somebody	2	
Flying a drone	2	
Going to the hairdresser	2	
Playing a game	3	Social and recreational activities that require an engagement with place
Doing sports	3	
Spending time	4	Social and non-recreational activities that require an engagement with place
Having a picnic	4	
Praying	5	Activities (individual and/or social) that do not require an engagement with place

With reference to Table 2.3, the first categorization is based on individual and social activities that do/ do not require engagement with place and is composed of five activity types. These activity types are: (1) Individual-based recreational activities that require an engagement with place, (2) Individual-based non-recreational activities that require an engagement with place, (3) Social and recreational activities that require an engagement with place, (4) Social and non-recreational activities that require an engagement with place and (5) Activities (individual and/or social) that do not require an engagement with place (see, Table 3.6).

Table 3.7 Activity Categorization Based on Recreational and Non-Recreational Activities that do/do not Require Engagement with Place with the Data Obtained From Mapping Activities

Activities	SPSS_Code	Category
Skating/Skateboarding	1	Recreational Activities that Require an Engagement with Place
Walking	1	
Watching cars	1	
Cycling	1	
Playing with the animals	1	
Waiting	1	
Jumping rope	1	
Playing a game	1	
Doing sports	1	
Shopping	2	Non-Recreational Activities that Require an Engagement with Place
Eating something	2	
Attending a course (i.e. Quran and Guitar course)	2	
Visiting somewhere/somebody	2	
Flying a drone	2	
Going to the hairdresser	2	
Spending time	2	
Having a picnic	2	
Praying	3	Activities that do not require an engagement with place

With reference to Table 2.3, the second categorization is based on recreational and non-recreational activities that do/ do not require engagement with place and is composed of three activity types. These activity types are: (1) Recreational activities that require an engagement with place, (2) Non-recreational activities that require an engagement with place and (3) Activities that do not require an engagement with place (see, Table 3.7).

Table 3.8 Activity Categorization Based on The Engagement with Place with the Data Obtained From Mapping Activities

Activities	SPSS_Code	Category
Skating/Skateboarding	1	Activities that Require an Engagement with Place
Walking	1	
Watching cars	1	
Cycling	1	
Playing with the animals	1	
Waiting	1	
Jumping rope	1	
Playing a game	1	
Doing sports	1	
Shopping	1	
Eating something	1	
Attending a course (i.e. Quran and Guitar course)	1	
Visiting somewhere/somebody	1	
Flying a drone	1	
Going to the hairdresser	1	
Spending time	1	
Having a picnic	1	
Praying	2	Activities that do not require an engagement with place

With reference to Table 2.3, the third classification is based on the engagement with place. The third classification includes two activity types: (1) Activities that require an engagement with place and (2) Activities that do not require an engagement with place (see, Table 3.8).

The former analysis is between the place attachment score and the frequency of mentioned activities. The results of these analyzes are visualized with matrices and scatterplots with a detailed explanation in the Results chapter.

The correlation coefficient (r) obtained as a result of the analysis gives information about the direction and size of the relationship, where r values can range from -1 to +1. The plus sign in front indicates positive association and the minus sign indicates negative association. The magnitude of the absolute value (ignoring the sign) represents the relationship's strength, which means the strength of correlation of r= .2 and r= –.2 is the same. While values of -1 or +1 indicate perfect correlation, a correlation of 0 shows that the two variables have no relationship. The value ranges of the Pearson correlation coefficient and the strength they indicate are shown in Table 3.9. The results of the analysis are interpreted by using this table.

Table 3.9 The Scale of Pearson's Correlation Coefficient

The Value of Correlation Coefficient	The Strength of the Relationship
$0 \leq r \leq 0.19$	very weak relation
$0.2 \leq r \leq 0.39$	weak relation
$0.40 \leq r \leq 0.59$	moderate relation
$0.60 \leq r \leq 0.79$	strong relation
$0.80 \leq r \leq 1.0$	very strong relation

The author also checked for the two-tailed P-value (see, Sig. (2-tailed)) in SPSS. P-values less than 0.05 indicate that there is a relationship whereas values more than 0.05 demonstrates that there is no correlation in the 95% confidence level. On the other hand, in the 99% confidence level, the value less than 0.01 shows a very strong relationship between the two variables.

3.5.2 Analyzing The Role of Location on Neighborhood Attachment and Type and Intensity of Neighborhood Activities

To answer the second research question (Do children's neighborhood attachment and type and intensity of neighborhood activities vary from inner to outer-city neighborhoods?), the independent samples t-test was applied with the help of SPSS software. An independent t-test (also termed as an unpaired student's t-test) examines the averages/means of two independent or separate groups to see whether there is a statistically significant difference between them.

The two hypotheses of an unpaired t-test are as follows:

- The null hypothesis (H0) asserts that the means of the two groups are not significantly different.
- The alternative hypothesis (H1) asserts that the two population means differ significantly and that this difference is unlikely to be due to sampling error or chance.

There is no need to have the same number of observations in each group for the unpaired t-test so Mimar Sinan Secondary School with 40 sample size and Yıldırım Beyazıt Secondary School with 85 participants were compared in this study. In addition, Mimar Sinan Secondary School's 800 meters buffer area represents the inner-city location and Yıldırım Beyazıt Secondary Schools's buffer area represents the peripheral location. Independent samples t-test was conducted separately for (1) neighborhood place attachment, (2) type of activities (for each determined category) and (3) intensity of activities. In each analysis where the effect of location is questioned, variables were grouped according to the location of the neighborhood (i.e., inner-city or peripheral). As a result, t-test tables were obtained and also results were visualized with boxplots.

The p-value (2-tailed) and lower and upper confidence interval of the difference are used to understand whether the test results support the hypothesis. If the p-value is less than 0.05, there is a significant difference between the two datasets; if it is larger than 0.05, it means there is no significant difference. The magnitude of the differences between the variables is calculated with the effect size statistics. Eta squared is calculated by the formula given in Figure 3.9 below because SPSS does not provide eta squared values.

$$\text{Eta squared} = \frac{t^2}{t^2 + (N1 + N2 - 2)}$$

Figure 3.9. Calculation of the Eta Squared Value

Eta squared and Cohen's d are the two most frequently used ratios (ranging from 0 to 1) to interpret the effect size (see Table 3.10).

Table 3.10 The Scale of Eta Squared Values

Size	Eta squared (% of variance explained)	Cohen's d (standard deviation units)
Small	.01 or 1%	.2
Medium	.06 or 6%	.5
Large	.138 or 13.8%	.8

The confidence interval of the difference is the second way of determining whether or not there is a significant difference. If the lower and upper limits run through, it means that there is no significant difference between these two datasets.

In the next sections, the results of these analyzes will be shared and discussed.

CHAPTER 4

RESULTS

This chapter presents the results of this research. In the first part, general statistics of the activity categories, frequencies of activities mentioned by children and place attachment scores are introduced. Thereafter, the results for the two research questions posed in this study are presented in two separate sections.

4.1 General Statistics of Activities Mentioned by Children and A Brief Overview of the Place Attachment Survey Findings

As mentioned in '2.2.2 Main Factors Affecting Children's Outdoor Experience', each child's relationship with place is affected in different ways depending on various physical, social and/or individual factors. In addition, it is possible to classify activity types in many different variations such as individual/social, social/recreational or engage with/out place (please see, Table 2.3). These explain why each child participant mentioned different activities in different frequencies. It was observed that some children prefer activities they do individually, while others prefer social activities. Some children engage in recreational activities more often, while others were more likely to do non-recreational ones.

Table 4.1 The Percentage Distribution of Activity Types Based on Individual and Social Activities that do/do not Require Engagement with Place

	Individual-based recreational activities that require an engagement with place	Individual-based non-recreational activities that require an engagement with place	Social and recreational activities that require an engagement with place	Social and non-recreational activities that require an engagement with place	Activities (individual and/or social) that do not require an engagement with place	TOTAL (N)
The number of children who mentioned the activity	63	76	92	79	9	125
Percentage	50,4%	60,8%	73,6%	63,2%	7,2%	100%

With reference to Table 3.6, Table 4.1 shows the number of children who mentioned each activity type. For instance, it shows that 63 children (out of 125 children) mentioned an individual-based recreational activity that require an engagement with place. It shows that the first category, individual-based recreational activities that require an engagement with place, is indicated by 50.4% of the children (n=63). The second activity category, individual-based non-recreational activities that require an engagement with place, is mentioned by 60.8% of the children (n=76). The third category, social and recreational activities that require an engagement with place, is mentioned by 73,6% of the children (n=92). The fourth activity category, social and non-recreational activities that require an engagement with place, is indicated by 63,2% of the child participants (n=79). The last category, activities (individual and/or social) that do not require an engagement with place, is mentioned by 7,2% of the children (n=9). In short, in the selected neighborhoods, children are most frequently involved in social and recreational activities that relate to the place, such as doing sports and playing a game. On the contrary, activities (individual and/or social) that do not require an engagement with place such as praying and daydreaming, which arguably do not have a relationship with both the place and the place attachment, are the least observed activities. Briefly, findings show that there is a general tendency that children are more likely to be engaged in social and recreational activities, which might affect their place attachment positively due to the place-dependent and social-oriented nature of these activities.

Table 4.2 The Percentage Distribution of the Activities Based on Their Intensities (Frequency of Mention)

	Individual-based recreational activities that require an engagement with place	Individual-based non-recreational activities that require an engagement with place	Social and recreational activities that require an engagement with place	Social and non-recreational activities that require an engagement with place	Activities (individual and/or social) that do not require an engagement with place	TOTAL
How many times did the children mention each category?	108	166	252	175	9	710
Percentage	15,2%	23,4%	35,5%	24,6%	1,3%	100%

Table 4.2 illustrates how many times did the children mention each category. These results are parallel to the findings presented in Table 4.1. The results show that most participants did the social and recreational activities that require an engagement with place (35.5%) more often than the others. Other categorizations of activities based on their intensities are social and non-recreational activities that require an engagement with place (24.6%), individual-based non-recreational activities that require an engagement with place (23.4%), individual-based recreational activities that require an engagement with place (15.2%) and activities (individual and/or social) that do not require an engagement with place (1.3%), respectively.

Table 4.3 The Percentage Distribution of Activity Types Based on Recreational and Non-Recreational Activities that do/do not Require Engagement with Place

	Recreational activities that require an engagement with place	Non-recreational activities that require an engagement with place	Activities that do not require an engagement with place	TOTAL (N)
The number of children who mentioned the activity	100	101	9	125
Percentage	80%	80,8%	7,2%	100%

Table 4.3 displays the number of children who indicated each activity category in relation to Table 3.7. It shows that the first category, recreational activities that require an engagement with place, is indicated by 80% of the children (n=100). The

second activity category, non-recreational activities that require an engagement with place, is mentioned by 80.8% of the children (n=101). The last category, activities that do not require an engagement with place, is indicated by 7,2% of the children (n=9). Briefly, findings show that children are almost equally engaged in recreational activities (e.g., doing sports and playing a game) and non-recreational activities (e.g., shopping) that relate to the place in the selected neighborhoods.

Table 4.4 The Percentage Distribution of the Activities Based on Their Intensities (Frequency of Mention)

	Recreational activities that require an engagement with place	Non-recreational activities that require an engagement with place	Activities that do not require an engagement with place	TOTAL
How many times did the children mention each category?	360	341	9	710
Percentage	50,7%	48%	1,3%	100%

Table 4.4 shows the percentage distribution of the activity types based on recreational and non-recreational status and their intensities. The findings indicate that children mentioned recreational and non-recreational activities that require an engagement with place almost the same frequency (50,7% and 48%, respectively) whereas they referred to activities that do not require an engagement with place less frequently (1,3%).

Table 4.5 The Percentage Distribution of Activity Types Based on Engagement with Place

	Activities that require an engagement with place	Activities that do not require an engagement with place	TOTAL (N)
The number of children who mentioned the activity	119	9	125
Percentage	95,2%	7,2%	100%

With reference to Table 3.8, Table 4.5 presents the number of children who mentioned each activity type. It shows that the first category, activities that require an engagement with place, is indicated by 95,2% of the children (n=119). The second activity category, activities that do not require an engagement with place, is mentioned by 7.2% of the children (n=9). More precisely, results indicate that in this study, the majority of children are engaged in recreational activities that relate to the place, which may have a positive impact on their neighborhood attachment due to the place-dependent characteristic of these activities.

Table 4.6 The Percentage Distribution of the Activities Based on Their Intensities (Frequency of Mention)

	Activities that require an engagement with place	Activities that do not require an engagement with place	TOTAL
How many times did the children mention each category?	701	9	710
Percentage	98,7%	1,3%	100%

Table 4.6 shows how many times did the children mention each activity category based on engagement with place. The results are parallel to the findings presented in Table 4.5. It indicates that the majority of children did activities that require an

engagement with place (98,7%) and very few children did activities that do not require an engagement with place (1.3%).

Table 4.7 Statistics of Place Attachment Score

Place Attachment Score

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	3	5	4,0	4,0	4,0
	4	6	4,8	4,8	8,8
	5	9	7,2	7,2	16,0
	6	9	7,2	7,2	23,2
	7	10	8,0	8,0	31,2
	8	11	8,8	8,8	40,0
	9	14	11,2	11,2	51,2
	10	16	12,8	12,8	64,0
	11	13	10,4	10,4	74,4
	12	14	11,2	11,2	85,6
	13	7	5,6	5,6	91,2
	14	9	7,2	7,2	98,4
	15	2	1,6	1,6	100,0
	Total	125	100,0	100,0	

Statistics

pa_score

N	Valid	125
	Missing	0
Mean		9,12
Median		9,00
Minimum		3
Maximum		15

Table 4.7 shows the frequencies and percentages of children's total place attachment scores. It shows that only 1.60 percent of the children mentioned that they are highly attached to their neighborhoods. More than half of the participants had an average (9) or higher place attachment score; that is, 74 out of 125 people children (60%). Four percent of the children mentioned that they are not satisfied with their neighborhoods at all.

4.2 Children's Activities and Neighborhood Attachment

This section presents the results for the first research question: 'Is there a correlation between children's neighborhood attachment and the type and intensity of neighborhood activities?'. The analyzes are presented in 2 parts: (1) the relationship between activity types and neighborhood attachment and (2) the intensity of mentioned activities and neighborhood attachment.

4.2.1 The Correlation between Children's Neighborhood Attachment and Type of their Activities in the Neighborhood

Correlation analysis was conducted to investigate the relationship between activity types (separately for each activity categorization) and neighborhood attachment both for Göktürk and Ertuğrul Gazi neighborhoods.

4.2.1.1 Activity Types Based on Individual and Social Activities that do/do not Require Engagement with Place and Neighborhood Attachment

To examine the correlation between children's activity types and neighborhood attachment, first, it was determined which categories each child refers to with reference to Table 3.6, activity categorization based on individual and social activities that do/do not require engagement with the place (coded 1 if it referred, 0 if not). The results between the five categories and the place attachment score are illustrated separately in Table 4.8. As a result of the correlation analysis, no relationship was found between any activity category and children's overall place attachment score ($p>0.05$).

Table 4.8 Correlation between Activity Type Categorization based on Individual/Social and Place Attachment Score

Correlations

		Place Attachment Score
Individual-based recreational activities that require an engagement with place	Pearson Correlation	-,064
	Sig. (2-tailed)	,475
	N	125
Individual-based non-recreational activities that require an engagement with place	Pearson Correlation	-,095
	Sig. (2-tailed)	,292
	N	125
Social and recretional activities that require an engagement with place	Pearson Correlation	,113
	Sig. (2-tailed)	,211
	N	125
Social and non-recreational activities that require an engagement with place	Pearson Correlation	-,065
	Sig. (2-tailed)	,472
	N	125
Activities (individual and/or social) that do not require an engagement with place	Pearson Correlation	-,014
	Sig. (2-tailed)	,881
	N	125

Table 4.8. shows the results regarding the Pearson correlation, the correlation coefficients between each category and place attachment score, the significance level and the number of cases. The relationship between the types of activities and place attachment was investigated using the Pearson product-moment correlation coefficient. Preliminary investigations for each category were carried out to check that the assumptions of normality, linearity and homoscedasticity were not violated.

As a result of the analysis, for the first category, which is individual-based recreational activities that require an engagement with place, there is no or very weak correlation between these two variables (r = - .064, n = 125). Also, P-Value equals .475; that is, since P-Value is higher than .0,05 means that there is no correlation. For the second activity category, individual-based non-recreational activities that

require an engagement with place, there is also no or very weak correlation between these two datasets (r = - .095, n = 125). In addition, P-Value equals .292, indicating that there is no association because P-Value is greater than 0.05. For the third category, social and recreational activities that require an engagement with place, as in previous findings, there is no or very weak correlation between these two variables (r = .113, n = 125). The P-Value of the correlation analysis equals .211, indicating that there is no relationship. For the fourth category, social and non-recreational activities that require an engagement with place, there is no or very weak correlation between these two variables (r = - .065, n = 125). P-Value equals .472, confirming that there is no association. For the final activity category, activities (individual and/or social) that do not require an engagement with place, there is also no or very weak correlation between two datasets (r = - .014, n = 125). The P-Value of the correlation analysis equals .881; that is, since P-Value is higher than . 05 means that there is no correlation.

4.2.1.2 Activity Types Based on Recreational and Non-Recreational Activities that do/do not Require Engagement with Place and Neighborhood Attachment

With reference to Table 3.7, activity categorization based on recreational and non-recreational activities that do/do not require engagement with the place, it was specified which categories each child referred to in order to investigate the relationship between children's activity types and neighborhood attachment (coded 1 if it referred, 0 if not). The results between the three categories and the place attachment score are illustrated separately in Table 4.9. No association between any activity category and children's total place attachment score was identified by the correlation analysis ($p>0.05$).

Table 4.9 Correlation between Activity Type Categorization based on Recreational/Non-Recreational and Place Attachment Score

Correlations

		Place Attachment Score
Recreational Activities that Require an Engagement with Place	Pearson Correlation	,032
	Sig. (2-tailed)	,722
	N	125
Non-Recreational Activities that Require an Engagement with Place	Pearson Correlation	-,124
	Sig. (2-tailed)	,167
	N	125
Activities that do not Require an Engagement with Place	Pearson Correlation	-,014
	Sig. (2-tailed)	,881
	N	125

As a result of the analysis, for the first category, which is recreational activities that require an engagement with place, there is no or very weak correlation between these two variables (r = .032, n = 125). Also, P-Value equals .722; that is, since P-Value is higher than .0,05 means that there is no correlation. For the second activity category, non-recreational activities that require an engagement with place, there is also no or very weak correlation between these two datasets (r = - .124, n = 125). In addition, P-Value equals .167, indicating that there is no association because P-Value is greater than 0.05. For the final activity category, activities that do not require an engagement with place, there is also no or very weak correlation between two datasets (r = - .014, n = 125). The P-Value of the correlation analysis equals .881; that is, since P-Value is higher than .0,05 means that there is no correlation.

4.2.1.3 Activity Types Based on The Engagement with the Place and Neighborhood Attachment

To examine the correlation between types of children's activities and neighborhood attachment, it was identified which categories each child refers to with reference to

Table 3.8, activity categorization based on the engagement with the place (coded 1 if it referred, 0 if not). The results between the two categories and the place attachment score are illustrated separately in Table 4.10. The correlation study revealed that there was no association between any activity category and the children's total place attachment score (p>0.05).

Table 4.10 Correlation between Activity Type Categorization based on Engagement with Place and Place Attachment Score

Correlations

		Place Attachment Score
Activities that Require an Engagement with Place	Pearson Correlation	,063
	Sig. (2-tailed)	,485
	N	125
Activities that do not Require an Engagement with Place	Pearson Correlation	-,014
	Sig. (2-tailed)	,881
	N	125

The results of analysis show that there is either no or very weak correlation between these two variables for the first category, activities that require an engagement with place (r = .063, n = 125). Additionally, P-Value equals to .485; this indicates that since P-Value is larger than 0.05, there is no association. For the second activity category, activities that do not require an engagement with place, there is also no or very weak correlation between these two datasets (r = - .014, n = 125). In addition, P-Value equals .881, indicating that there is no correlation because P-Value is greater than 0.05.

To summarize, Pearson correlation analyzes were performed separately for three different activity categorizations created with the variations obtained from Table 2.3. As a result of the analyses, no correlation was found between any activity type (and any categorization) and place attachment score.

4.2.2 The Correlation between Children's Neighborhood Attachment and the Intensity of their Activities in the Neighborhood

To examine the correlation between the intensity of activities and place attachment regardless of activity types, a 2x2 matrix containing both variables was produced. As detailed in the tables below, the results obtained from the correlation matrix of intensity and place attachment values show no correlation between these two variables.

Table 4.11 Descriptive Statistics

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Intensity of Children's Neighborhood Activities	125	0	24	5,70	4,698
Place Attachment Score	125	3	15	9,04	3,122
Valid N (listwise)	125				

As shown in Table 4.11, for the variable intensity of mentioned activities, there is information from 125 respondents, ranging from 0 to 24, with no missing value and a mean of 5.70. For the place attachment score, there has also information from 125 respondents parallel with intensity data collected from mapping activity. It ranges from 3 to 15, with no missing value and a mean of 9.55.

Table 4.12 Correlation between Intensity of Children's Neighborhood Activities and Place Attachment Score

Correlations

		Intensity of Children's Neighborhood Activities	Place Attachment Score
Intensity of Children's Neighborhood Activities	Pearson Correlation	1	,028
	Sig. (2-tailed)		,754
	N	125	125
Place Attachment Score	Pearson Correlation	,028	1
	Sig. (2-tailed)	,754	
	N	125	125

For Pearson correlation results, the correlation coefficients between two variables presented, the significance level, and the number of cases are all listed in a 2x2 matrix (see Table 4.12). The relationship between the intensity of activities and place attachment was investigated using the Pearson product-moment correlation coefficient. Preliminary investigations were carried out to check that the assumptions of normality, linearity, and homoscedasticity were not violated. As a result, there is no or very weak correlation between these two variables (r = .028, n = 125). Also, P-Value equals .754; that is, since P-Value is higher than 0.05 means that there is no correlation.

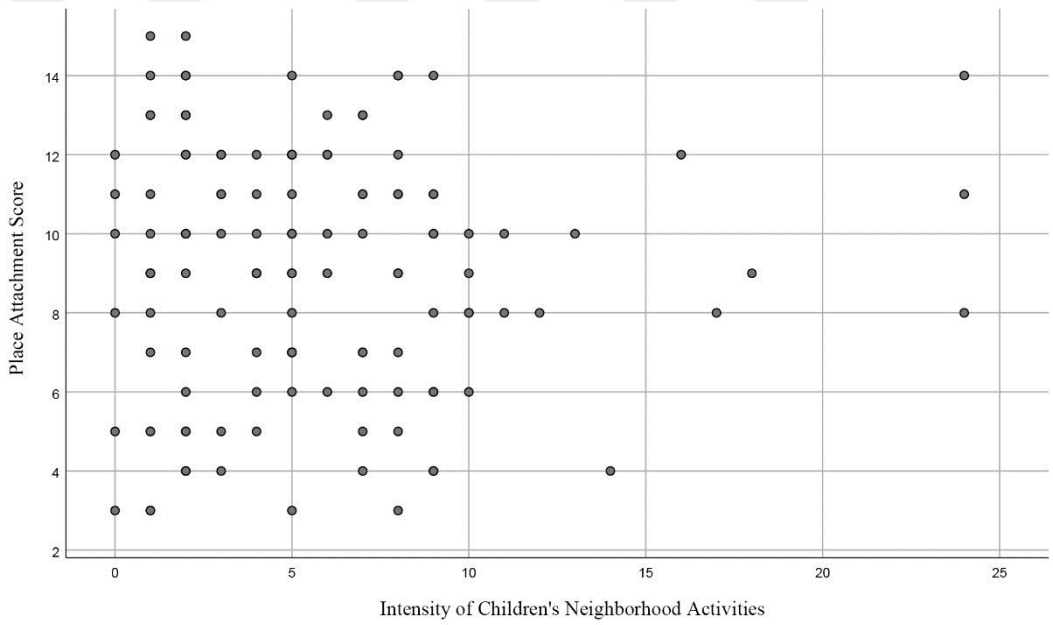


Figure 4.1. Scatterplot of Intensity of Children's Neighborhood Activities and Place Attachment Score

In the scatterplot, each data point in Figure 4.1 illustrates a student, where the x-coordinate represents the place attachment score and the y-coordinate intensity of children's neighborhood activities. A relatively linear line indicates a relationship between two items of the data set. However, when the figure is checked, it is not possible to see a trend in any direction. More precisely, the distribution in the

scatterplot demonstrates that a correlation is not found between the intensity of activities and the place attachment of children.

To sum up, in part 4.2, which seeks to answer the first research question, the relationship of the neighborhood attachment with activity types and the intensity were examined. The results of the analyzes, using SPSS software, are presented with correlation tables (including r and p-values). No correlation was found between neighborhood attachment and both of the examined variables which are activity type and the intensity of activities.

4.3 The Role of Neighborhood Location on Children's Activities and Neighborhood Attachment

This section provides the unpaired t-test analysis results for the second research question posed in this thesis, 'Do children's neighborhood attachment and type and intensity of neighborhood activities vary from inner to outer-city neighborhoods?'. Analyzes investigating the effect of neighborhood location are presented in 3 sections below: the role of neighborhood location on (1) neighborhood attachment, (2) activity types and (3) intensity of activities where the Mimar Sinan Secondary School's 800 meters buffer area represents the inner-city neighborhood (Göktürk neighborhood) and Yıldırım Beyazıt Secondary School's buffer area represents the peripheral neighborhood (Ertuğrul Gazi neighborhood).

4.3.1 The Role of Neighborhood Location on Children's Neighborhood Attachment

Table 4.13 and 4.14 illustrate the group statistics and unpaired student's t-test results for place attachment score.

Table 4.13 Group Statistics for Place Attachment Score

Group Statistics

	Neighborhood Name	N	Mean	Std. Deviatio	Std. Error Mean
Place Attachment Score	Göktürk	40	9,55	3,113	,492
	Ertuğrul Gazi	85	8,80	3,116	,338

Table 4.14 Independent Samples T-test Results for Place Attachment Score

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Place Attachmnet Score	Equal variances assumed	,011	,916	1,256	123	,212	,750	,597	-,432	1,932
	Equal variances not assumed			1,256	76,550	,213	,750	,597	-,439	1,939

Results show that there is no significant difference in scores for Göktürk, inner-city neighborhood (M = 9.55, SD = 3.11) and Ertuğrul Gazi, peripherial neighborhood (M = 8.80, SD = 3.12; t (123) = 1.27, p = .212). The magnitude of the differences in the means (mean difference = .75% CI: – .43 to 1.93) is very small (eta squared = .013), which means only 1.3 percent of the variance in neighborhood attachment is explained by location.

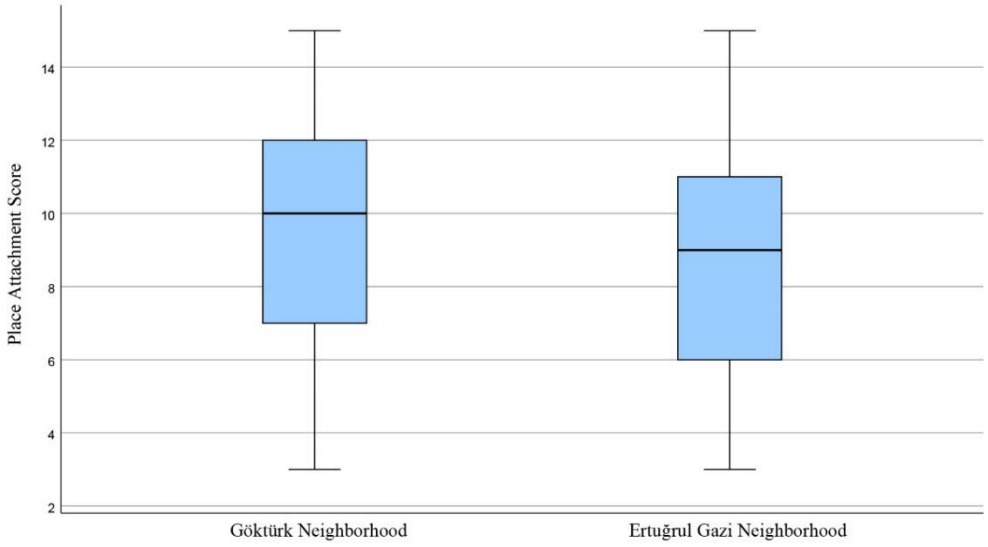


Figure 4.2. Box plots of the Location-specific Place Attachment Scores

Figure 4.2 provides box plots of the distribution of place attachment scores for the selected neighborhoods. The medians of the place attachment scores in both schools are positive and almost the same in size, with above the average place attachment scores, 9. No outliers were detected.

4.3.2 The Role of Neighborhood Location on Activity Types

An independent-samples t-test was conducted to compare the activity types (each activity categorization separately) for Göktürk and Ertuğrul Gazi neighborhoods.

4.3.2.1 The Role of Neighborhood Location on Activity Type Categorization Based on Individual and Social Activities that do/do not Require Engagement with Place

Individual-Based Recreational Activities that Require an Engagement with Place

The group statistics and unpaired student's t-test results for individual-based recreational activities that require an engagement with the place in both neighborhoods are shown in Tables 4.15 and 4.16, below.

Table 4.15 Group Statistics for Individual-Based Recreational Activities in Two Neighborhood Contexts

Group Statistics

	Neighborhood Name	N	Mean	Std. Deviation	Std. Error Mean
Individual-Based Recreational Activities that Require an Engagement with Place	Göktürk	40	,53	,506	,080
	Ertuğrul Gazi	85	,49	,503	,055

Table 4.16 Independent Samples T-test Results for Individual-Based Recreational Activities that Require an Engagement with Place

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Individual-Based Recreational Activities that Require an Engagement with Place	Equal variances assume	,167	,683	,320	123	,750	,031	,097	-,160	,222
	Equal variances not assumed			,319	76,095	,751	,031	,097	-,162	,224

Tables 4.15 and 4.16 show that there was no significant difference in scores for Göktürk neighborhood (M = 0.53, SD = 0.51) and Ertuğrul Gazi neighborhood (M = 0.49, SD = 0.50; t (123) = 0.32, p = .75). The magnitude of the differences in the means (mean difference = .03, 95% CI: – 0.16 to 0.22) is very small (eta squared = .0008).

Individual-Based Non-Recreational Activities that Require an Engagement with Place

The group statistics and unpaired student's t-test results for individual-based non-recreational activities that require an engagement with place are displayed in Tables 4.17 and 4.18, below.

Table 4.17 Group Statistics for Individual-Based Non-Recreational Activities in Two Neighborhood Contexts

Group Statistics

	Neighborhood Name	N	Mean	Std. Deviation	Std. Error Mean
Individual-Based Non-Recreational Activities that Require an Engagement with Place	Göktürk	40	,65	,483	,076
	Ertuğrul Gazi	85	,59	,495	,054

Table 4.18 Independent Samples T-test Results for Individual-Based Non-Recreational Activities that Require an Engagement with Place

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Individual-Based Non-Recreational Activities that Require an Engagement with Place	Equal variances assume	1,984	,161	,656	123	,513	,062	,094	-,125	,248
	Equal variances not assumed			,662	78,213	,510	,062	,093	-,124	,248

The values for Göktürk neighborhood (M = 0.65, SD = 0.48) and Ertuğrul Gazi neighborhood (M = 0.59, SD = 0.50; t (123) = 0.66, p = .06) were not significantly different. With reference to Table 3.10, the size of the mean differences (mean difference = .06, 95 percent CI: –0.12 to 0.25) is fairly small with eta squared = .004.

Social and Recreational Activities that Require an Engagement with Place

Tables 4.19 and 4.20 illustrate the group statistics and unpaired student's t-test results for social and recreational activities that require an engagement with place.

Table 4.19 Group Statistics for Social and Recreational Activities in Two Neighborhood Contexts

Group Statistics

	Neighborhood Name	N	Mean	Std. Deviation	Std. Error Mean
Social and Recreational Activities that Require an Engagement with Place	Göktürk	40	,80	,405	,064
	Ertuğrul Gazi	85	,71	,458	,050

Table 4.20 Independent Samples T-test Results for Social and Recreational Activities that Require an Engagement with Place

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Social and Recreational Activities that Require an Engagement with Place	Equal variances assumed	5,728	,018	1,110	123	,269	,094	,085	-,074	,262
	Equal variances not assumed			1,161	85,704	,249	,094	,081	-,067	,255

There was no significant difference in results between Göktürk neighborhood (M = 0.80, SD = 0.41) and Ertuğrul Gazi neighborhood (M = 0.71, SD = 0.46; t (123) =

1.11, p =.27). The magnitude of the differences in the means (mean difference = .09, 95% CI: –0.07 to 0.26) is small (eta squared = 0.01).

Social and Non-Recreational Activities that Require an Engagement with Place

The group statistics and unpaired student t-test findings for social and non-recreational activities that require an engagement with placeare shown in Table 4.21 and Table 4.22.

Table 4.21 Group Statistics for Social and Non-Recreational Activities in Two Neighborhood Contexts

Group Statistics

	Neighborhood Name	N	Mean	Std. Deviatior	Std. Error Mean
Social and Non-Recreational Activities that Require an Engagement with Place	Göktürk	40	,68	,474	,075
	Ertuğrul Gazi	85	,61	,490	,053

Table 4.22 Independent Samples T-test Results for Social and Non-Recreational Activities that Require an Engagement with Place

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Social and Non-Recreational Activities that Require an Engagement with Place	Equal variances assume	2,112	,149	,680	123	,498	,063	,093	-,121	,247
	Equal variances not assumed			,688	78,816	,494	,063	,092	-,120	,246

The values for Göktürk neighborhood (M = 0.68, SD = 0.47) and Ertuğrul Gazi neighborhood (M = 0.61, SD = 0.49; t (123) = 0.68, p = .50) were not statistically significant. With reference to Table 3.10, the size of the mean differences (mean difference = .06, 95 percent CI: –0.12 to 0.25) is very small with eta squared = .004.

Activities (Individual and/or Social) that do not Require an Engagement with Place

Tables 4.23 and 4.24 illustrates the group statistics and unpaired student's t-test results for activities (individual and/or social) that do not require an engagement with place.

Table 4.23 Group Statistics for Activities (Individual and/or Social) that do not Require an Engagement with Place in Two Neighborhood Contexts

Group Statistics

	Neighborhood Name	N	Mean	Std. Deviation	Std. Error Mean
Activities (Individual and/or Social) that do not Require an Engagement with Place	Göktürk	40	,00	,000	,000
	Ertuğrul Gazi	85	,11	,310	,034

Table 4.24 Independent Samples T-test Results for Activities (Individual and/or Social) that do not Require an Engagement with Place

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Activities (Individual and/or Social) that do not Require an Engagement with Place	Equal variances assume	23,990	,000	-2,159	123	,033	-,106	,049	-,203	-,009
	Equal variances not assumed			-3,154	84,000	,002	-,106	,034	-,173	-,039

By conventional criteria, the difference between Göktürk neighborhood (M = 0.00, SD = 0.00) and Ertuğrul Gazi neighborhood (M = 0.11, SD = 0.31; t (123) = 2.16, p = .033) is considered to be statistically significant. The magnitude of the differences in the means (mean difference = - .11, 95% CI: -0.20 to -0.01) is very small (eta squared = .0001).

Overall, when analyzing each activity category separately, the differences of individual-based recreational activities that require an engagement with place (p-value = 0.75), individual-based non-recreational activities that require an engagement with place (p-value = 0.06), social and recreational activities that require an engagement with place (p-value = 0.27), social and non-recreational activities that

require an engagement with place (p-value = 0.68) are considered to be not statistically significant whereas for the activities (individual and/or social) that do not require an engagement with place (p-value = 0.03), the difference is considered to be statistically significant since the p-value is smaller than .05.

4.3.2.2 The Role of Neighborhood Location on Activity Type Categorization Based on Recreational and Non-Recreational Activities that do/do not Require Engagement with Place

Recreational Activities that Require an Engagement with Place

Tables 4.25 and 4.26 illustrate the group statistics and unpaired student's t-test results for recreational activities that require an engagement with place.

Table 4.25 Group Statistics for Recreational Activities that Require an Engagement with Place in Two Neighborhood Contexts

Group Statistics

	Neighborhood Name	N	Mean	Std. Deviation	Std. Error Mean
Recreational Activities that Require an Engagement with Place	Göktürk	40	,85	,362	,057
	Ertuğrul Gazi	85	,78	,419	,045

Table 4.26 Independent Samples T-test Results for Recreational Activities that Require an Engagement with Place

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Recreational Activities that Require an Engagement with Place	Equal variances assume	4,051	,046	,955	123	,342	,074	,077	-,079	,226
	Equal variances not assumed			1,007	87,626	,317	,074	,073	-,072	,219

There was no significant difference in results between Göktürk neighborhood (M = 0.85, SD = 0.36) and Ertuğrul Gazi neighborhood (M = 0.78, SD = 0.42; t (123) = 0.96, p =.34). The magnitude of the differences in the means (mean difference = .07, 95% CI: –0.08 to 0.23) is very small (eta squared = 0.007).

Non-Recreational Activities that Require an Engagement with Place

Tables 4.27 and 4.28 illustrate the group statistics and unpaired student's t-test results for non-recreational activities that require an engagement with place.

Table 4.27 Group Statistics for Non-Recreational Activities that Require an Engagement with Place in Two Neighborhood Contexts

Group Statistics

	Neigjborhood Name	N	Mean	Std. Deviatior	Std. Error Mean
Non-Recreational Activities that Require an Engagement with Place	Göktürk	40	,85	,362	,057
	Ertuğrul Gazi	85	,79	,411	,045

Table 4.28 Independent Samples T-test Results for Non-Recreational Activities that Require an Engagement with Place

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Non-Recreational Activities that Require an Engagement with Place	Equal variances assume	2,883	,092	,813	123	,418	,062	,076	-,089	,212
	Equal variances not assumed			,852	86,058	,397	,062	,073	-,082	,206

The values for Göktürk neighborhood (M = 0.85, SD = 0.36) and Ertuğrul Gazi neighborhood (M = 0.79, SD = 0.41; t (123) = 0.81, p = .42) were not significantly different. With reference to Table 3.10, the size of the mean differences (mean difference = .06, 95 percent CI: –0.09 to 0.21) is fairly small with eta squared = .005.

Activities that do not Require an Engagement with Place

The group statistics and unpaired student's t-test results for activities that do not require an engagement with place are displayed in Tables 4.29 and 4.30, below.

Table 4.29 Group Statistics for Activities that do not Require an Engagement with Place in Two Neighborhood Contexts

Group Statistics

	Neighborhood Name	N	Mean	Std. Deviation	Std. Error Mean
Activities that do not Require an Engagement with Place	Göktürk	40	,00	,000	,000
	Ertuğrul Gazi	85	,11	,310	,034

Table 4.30 Independent Samples T-test Results for Activities that do not Require an Engagement with Place

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Activities that do not Require an Engagement with Place	Equal variances assume	23,990	,000	-2,159	123	,033	-,106	,049	-,203	-,009
	Equal variances not assumed			-3,154	84,000	,002	-,106	,034	-,173	-,039

According to conventional criteria, there is a statistically significant difference between Göktürk neighborhood (M = 0.00, SD = 0.00) and Ertuğrul Gazi neighborhood (M = 0.11, SD = 0.31; t (123) = 2.16, p = .033). The magnitude of the differences in the means (mean difference = - .11, 95% CI: -0.20 to -0.01) is very small (eta squared = .0001).

Briefly, while examining each type of activity separately, the differences of recreational activities that require an engagement with place (p-value = 0.34) and non-recreational activities that require an engagement with place (p-value = 0.42) are found to be not statistically significant; on the other hand, similar with first activity categorization, the differences for activities that do not require an engagement with place (p-value= 0.03) is considered to be statistically significant because the p-value is less than .05.

4.3.2.3 The Role of Location on Activity Type Categorization based on Engagement with Place

Activities that Require an Engagement with Place

The group statistics and unpaired student's t-test results for activities that require an engagement with place are displayed in Tables 4.31 and 4.32, below.

Table 4.31 Group Statistics for Activities that Require an Engagement with Place in Two Neighborhood Contexts

Group Statistics

	Neighborhood Name	N	Mean	Std. Deviation	Std. Error Mean
Activities that Require an Engagement with Place	Göktürk	40	,95	,221	,035
	Ertuğrul Gazi	85	,95	,213	,023

Table 4.32 Independent Samples T-test Results for Activities that Require an Engagement with Place

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Activities that Require an Engagement with Place	Equal variances assume	,020	,887	-,071	123	,943	-,003	,041	-,085	,079
	Equal variances not assumed			-,070	74,075	,944	-,003	,042	-,086	,080

Tables 4.31 and 4.32 show that there was no significant difference in scores for Göktürk neighborhood (M = 0.95, SD = 0.22) and Ertuğrul Gazi neighborhood (M = 0.95, SD = 0.21; t (123) = - 0.71, p = .94). The magnitude of the differences in the means (mean difference = - .00, 95% CI: – 0.08 to 0.08) is fairly small (eta squared = .004).

Activities that do not Require an Engagement with Place

Tables 4.33 and 4.34 illustrate the group statistics and unpaired student's t-test results for activities that do not require an engagement with place.

Table 4.33 Group Statistics for Activities that do not Require an Engagement with Place in Two Neighborhood Contexts

Group Statistics

	Neighborhood Name	N	Mean	Std. Deviatior	Std. Error Mean
Activities that do not Require an Engagement with Place	Göktürk	40	,00	,000	,000
	Ertuğrul Gazi	85	,11	,310	,034

Table 4.34 Independent Samples T-test Results for Activities that do not Require an Engagement with Place

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Activities that do not Require an Engagement with Place	Equal variances assume	23,990	,000	-2,159	123	,033	-,106	,049	-,203	-,009
	Equal variances not assumed			-3,154	84,000	,002	-,106	,034	-,173	-,039

By conventional criteria, the difference between Göktürk neighborhood (M = 0.00, SD = 0.00) and Ertuğrul Gazi neighborhood (M = 0.11, SD = 0.31; t (123) = 2.16, p = .033) is considered to be statistically significant. With reference to Table 3.10, the size of the mean differences (mean difference = - .11, 95% CI: -0.20 to -0.01) is very small with eta squared = .0001.

Briefly, while the differences of activities that require an engagement with place (p-value = 0.94) are found to be not statistically significant, the differences for activities that do not require an engagement with place (p-value= 0.03) is considered to be statistically significant as in the previous two activity type categorizations.

4.3.3 The Role of Neighborhood Location on Intensity of Activities

An unpaired student's t-test was conducted to compare the intensity of mentioned activities for Göktürk Neighborhood (inner-city neighborhood) and Ertuğrul Gazi Neighborhood (peripherial neighborhood).

Table 4.35 Group Statistics for Intensity of Children's Neighborhood Activities

Group Statistics

	Neighborhood Name	N	Mean	Std. Deviation	Std. Error Mean
Intensity of Children's Neighborhood Activities	Göktürk	40	7,20	6,501	1,028
	Ertuğrul Gazi	85	4,99	3,372	,366

Table 4.36 Independent Samples T-test Results for Intensity of Children's Neighborhood Activities

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Intensity of Children's Neighborhood Activities	Equal variances assumed	11,542	,001	2,507	123	,013	2,212	,882	,466	3,958
	Equal variances not assumed			2,027	49,133	,048	2,212	1,091	,019	4,404

The group statistics and unpaired student's t-test results for intesity are given in Table 4.35 and Table 4.36. By conventional criteria, the difference between Göktürk, inner-city, neighborhood (M = 7.20, SD = 6.50) and Ertuğrul Gazi, peripherial, neighborhood (M = 4.99, SD = 3.37; t (123) = 2.51, p = .013) is considered to be statistically significant. The degree of the differences in the means (mean difference = 2.21% CI: .47 to 3.96) is very small (eta squared = .005) so .5 percent of the variance in intensity of neighborhood activities is explained by location.

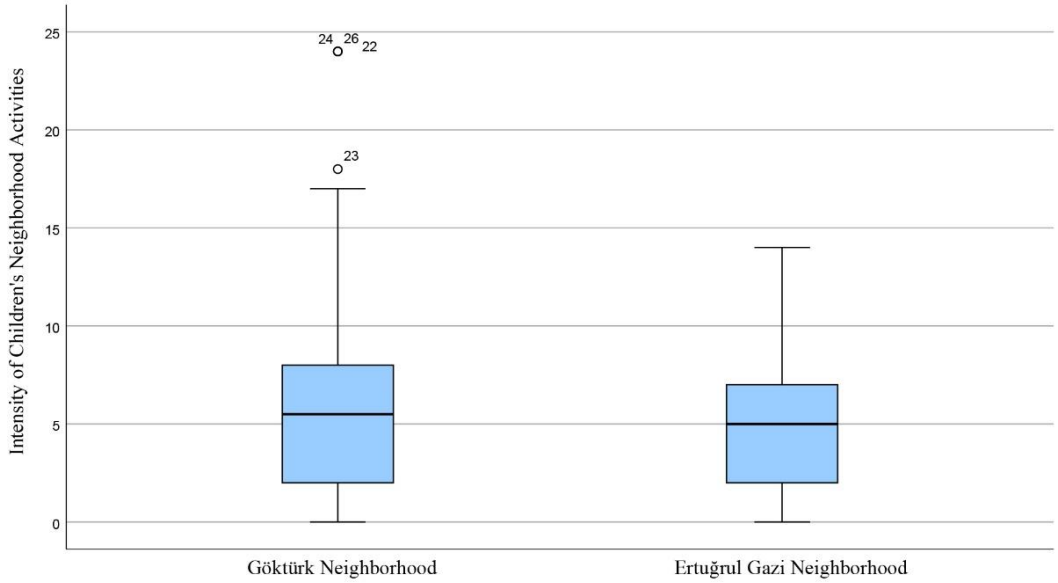


Figure 4.3. Box plots of the Location-specific Activity Intensities

Figure 4.3 presents box plots of the distribution of location-specific intensity of activities (intensity) for Göktürk neighborhood and Ertuğrul Gazi neighborhood. The medians of the intensity in both schools are positive and nearly identical in magnitude. Four outliers (see, 22, 23, 24, 26) were identified, but they did not adversely affect the outcome of the study. There were errors.

To sum up, the study findings show that the null hypothesis (H0) was rejected in activity type: activities (individual and/or social) that do not require an engagement with place and intensity of activities and concluded that there is a difference in activity type: activities (individual and/or social) that do not require an engagement with place and intensity between Göktürk, inner-city, neighborhood and Ertuğrul Gazi, peripheral, neighborhood.

4.4 Evaluation of the Findings

There are two ways to evaluate the results:

1. The relationship between children's neighborhood attachment and their activities in terms of type and intensity

2. The role of location on children's neighborhood attachment, type and intensity of activities

In the first phase of evaluation, the relationship between neighborhood attachment, types and intensity of children's activities were investigated. Neighborhood attachment was evaluated based on 3-question survey and 5-point Likert Scale was used to rate. The neighborhood activities of children were determined by mapping activity and they are generally composed of activities that require an engagement with place. Social and recreational activities (eg., walking with family members and playing game with friends) are among the activities most frequently mentioned by children. It is seen that children generally use places in their daily lives to socialize. On the other hand, activities that do not require an engagement with place (e.g., praying and reading book) are less mentioned ones. However, when relationship with neighborhood activities and neighborhood attachment was questioned, no significant results were found although it was revealed as a result of the survey that more than half of the children participants were attached to their neighborhood. That is because the mentioned activities are most very typical everday activities, not activities that directly affect the neighborhood attachment. In other words, it is seen that they are not mentioned activities which are enhances neighborhood attachment by shaping the place such as planting trees, gardening, painting facades. As a result of all analysis for the first research question, no or very weak relationship was found between neighborhood attachment and types and intensity of activities.

The second phase of the evaluation is based on whether the location has an impact on children's neighborhood attachment, intensity and type of activities. In this respect, 800 meters buffer areas determined in 2 neighborhoods (one referring to the

inner-city and one to the peripheral neighborhood) were examined. As a result of all analysis for the second research question, it is found that there is a significant difference in activities (individual and/or social) that do not require an engagement with place and intensity between inner-city neighborhood and peripheral neighborhood. When the evaluations about the two different locations were examined, it is seen that children living in the peripheral neighborhood done more activities, parallel with the literature. Although the urban form characteristics of the peripheral neighborhood are similar to the inner-city in the context of Ankara, diversity of land uses, street connectivity and low traffic density in the peripheral neighborhood had a positive effect on children's place uses in the neighborhood compared to the inner-city neighborhood.

CHAPTER 5

CONCLUSION

This final chapter provides a quick look at the 'children's neighborhood attachment' and 'children's activities' concepts elaborated throughout the thesis. It also highlights the limitations of the study and gives clues about further research. To make this discussion more concrete in terms of city planning and design, this chapter comes up with possible urban design implications.

5.1 A Brief Summary of the Thesis

Given that children's feelings about their environment begin in an early childhood era, environmental changes in children's settings have an impact not only on their place uses but also on their psychological development. Concerns regarding the negative consequences of current planning and design approaches on children are growing (Proshansky & Fabian, 1987; Chawla, 1992; Min & Lee, 2006; Jack, 2015), but little is known about the physical environmental characteristics that influence children's attachment to their surroundings. Therefore, this study aimed to investigate the places that children experience and the activities that they do. Also, it aimed to contribute to the creation of neighborhood environments that are frequently used, loved and attached by children. Understanding whether there is a relationship between places, activities and place attachment is of great importance to the creation of children's environments for city planners and designers. To this end, two main research questions are posed; (1) Is there a correlation between children's neighborhood attachment and the type and intensity of neighborhood activities? and (2) Do children's neighborhood attachment and type and intensity of children's neighborhood activities vary from inner to outer-city neighborhoods?

The data of the thesis is collected from a large-scale project conducted in Ankara. In the light of research questions, two neighborhoods with different physical environmental features (i.e., block size, building density, land use) were selected. These neighborhoods are the Göktürk neighborhood in the inner city and the Ertuğrul Gazi neighborhood in the periphery. The data was collected with a participatory place attachment mapping and survey activity with 11-to-14-year-old children in the selected public schools in these neighborhoods, as the mapping activity is an effective and attractive method to collect data from children. The children's obtained data set were transferred to GIS (for two public schools, n=125) in order to digitize the data. Thereafter, to answer research questions, correlation and independent samples t-test analyses were applied with the help of IBM SPSS Statistics 26. Children's place attachment survey results were matched to the results of the mapping activity to understand the effects of the neighborhood activities. The methodological approach presented here contributes to the literature aiming to find the relationship between children's neighborhood attachment and the type of activities conducted in neighborhood environments.

Key findings for the first research question can be summarized as no or very weak correlation was found between both independent variables (type of the activities and intensity of the activities) and neighborhood attachment. For the second research question, it has been revealed that only activities (individual and/or social) that do not require an engagement with place and intensity of children's neighborhood activities vary based on location.

5.2 Discussion of the Findings

Outdoor activities are of great importance for children's physical and psychological development in their daily lives. As Jack (2008) emphasized, attachment to places develops over time due to various events in a child's life, such as beginning school or participating in social activities. However, as Huttenmoser (1995) said, children spend less time and are less active in outdoor environments than they were used to

be, so their attachment to places is also affected. In this context, the answers to the first and second research questions were covered in the previous parts of the chapter.

Based on the correlation analysis results for the first research question, there are several reasons why a correlation could not be found between neighborhood attachment and activity types and intensity. First, children do certain activities in their daily lives (e.g. playing ball in the schoolyard, shopping, doing sports in the park) whether or not children are attached to their neighborhoods. A child who has been living in the same neighborhood for 10 years do these activities as well as a child who has just moved to the neighborhood (therefore has not developed a place attachment yet) also does these activities. In the participatory mapping activity, the number of children who actually did activities that could be indicators of attachment (e.g., planting trees, gardening, painting facades, collecting garbage and cleaning the environment) was very few- even none. That is, the results obtained in the mapping study consist of very typical and everyday activities, as mentioned above. Eventually, it is not a coincidence that the desired results have not been achieved. The second one is that the weights of the activities were not measured in this study. In other words, each type of activity may have a different weight effect on the place attachment, and no studies have been done on determining and measuring these weights. For example, a child doing a single activity can be more place attached than a child who does many activities because an activity that helps shape the place, such as gardening, enhances the relationship with the place much more than an activity does not relate to the place. In addition to weight, the duration of the activities, whether the children experience the activity as something that lasts a long period or a short time, should be considered to understand the relationship with neighborhood attachment. Another reason is that the answers given by the children are not only associated with the physical environmental features (see Chapter 2.2.2 Factors that Affect Children's Outdoor Experiences). Social and individual factors also affect the level of place attachment (Owens et al., 2000). During the mapping activity, it is observed that children mentioned that they do not spend time in some places because they do not have friends, as a parallel to a theoretical framework discussing the

importance of the existence of friendships (Veitch et al., 2006). This supports the idea that activities can not be taken as only a single parameter when measuring place attachment. Moreover, studies showed that a person could feel a low level of place attachment or be attached to more than one place due to high mobility (see for example, Feldman, 1996; Giuliani, 2003). To put it another way, in the study, there were children living outside the 800 meters buffer area (who also came to school by car/bus and therefore had little opportunity to experience the environment) and they are not eliminated during the analysis phase. Unsurprisingly, the fact that children express their missing and liking for the places outside of the 800 meters buffer area explains that they can be attached to places outside the studied area in mapping activity, or they can be attached to more than one place.

Another issue that has been considered in this research is the role of location on children's neighborhood attachment, type and intensity of activities. Thus, the second research question addresses how location affects the children's spatial and psychological experience by asking: 'Do children's neighborhood attachment and type and intensity of neighborhood activities vary from inner to outer-city neighborhoods?'. The study's findings support the statements made within the theoretical framework regarding the intensity of activities. Chatterjee (2006) emphasized that children experience, who lives in inner-city locations, are more adversely affected by high traffic, dense urban form and lack of green and open spaces than children living in the peripheral neighborhood. Results of the study also showed that children from the Ertuğrul Gazi neighborhood, representing the peripheral neighborhood, do more activities than their inner-city peers living in Göktürk neighborhood; the reason for this is that less dense urban texture, less traffic and the existence of plenty of open and green areas like parks in Ertuğrul Gazi neighborhood. Apart from that, it has been documented during the mapping studies that children living in the Ertuğrul Gazi neighborhood mostly live within a determined 800 meters buffer area compared to children living in the Göktürk neighborhood. This indicates that the responses are mostly within the defined buffer area due to active mobility and less parental supervision. Considering some other

social aspects, it is possible to say that the frequency of activities has increased as they have more friends in this case area.

All in all, although there is still a gap in the literature on investigating the relationship between children's attachment to the neighborhood and place use, the findings of this research open a new discussion.

5.3 Limitations of the Study and Further Research

This study has been conducted as cross-case research comparing two distinct neighborhoods to understand the correlation between children's neighborhood attachment and activities and whether the location of the neighborhood affects them. This study, however, has some potential limitations, as observed in many other social sciences studies. These occur due to location, sample group and size, implementation of data collection method and multidimensional nature of the place attachment.

In this research, one of the limitations is the location of the selected cases. Within the scope of the study, only 2 case areas were analyzed. Firstly, studying with different inner- and peripheral neighborhoods than selected cases may alter the results because it is quite difficult to examine the inner and peripheral neighborhood physical environmental characteristics in the Turkish case in parallel with the literature. For example, it will be possible to obtain different results by choosing another peripheral neighborhood with different physical characteristics instead of the Ertuğrul Gazi neighborhood which built up like the inner city neighborhood. The results also will vary if more neighborhoods with different physical environmental characteristics (rather than inner and peripheral) are added to this study. Moreover, for further studies, if the study is conducted in different national or international contexts, where diverse physical and social dynamics are, change the results. For instance, doing the research in the US context, where urban and suburban neighborhoods are more defined than Turkish context, will make cases more comparable.

Another limitation is related to sample group and size. The sample group consists of children between the ages of 11 and 14, attending secondary school. For that reason, basic tools that are understood and appealing to children are required. However, although the children learned to read maps successfully with the help of their moderators during the mapping activity, factors such as the child's attention affect the results. In addition, due to time limitations, the author did not present the findings obtained from the other public schools in the chosen neighborhoods and from the other 6 neighborhoods that were chosen in the context of the larger-scale research project. The analysis of this larger set of data may affect the study findings. In other words, the number of children (sample size) studied increases, reaching the number of children engaged in place-dependent activities also increases and the error in the results will decrease. To take the study one step further, a larger sample size would have provided more accurate outcomes.

Additionally, the implementation of the data collection method is one of the limitations. Due to the fact that the study was conducted during the COVID-19, there were changes in the activity patterns of the children because park and playground restrictions were frequent throughout the COVID-19 outbreak. Children's time spent outdoors and engagement in social activities decreased. In the mapping activity, some children asked whether they should mention about the activities that they were doing before the pandemic. Although we asked them to include those activities, a memory bias might have occured or some children might have mentioned only the activities that they were doing during the pandemic. This might have affected the validity of the collected data. During the COVID-19 period, technology became an indispensable part of children as everyone. Eventually, children became ‘digital natives’ which means they do not experience life without the impact of technology and the Internet. Concordantly, the answers to the mapping study demonstrate that children spend most of the day indoor areas in front of computers, tablets and cell phones. In addition to these, parental factors and level of independence should be taken into account in the method part, as well. Questions should be elaborated to understand how parental concerns and restrictions affect the use and attachment of

the place during the mapping activity and survey. As a result, data collection questions should be revised for future studies and include the 'Why?' in the end of each question. Questions for/related to parents should also be added.

Lastly and most expectedly, due to the multidimensional nature of the place attachment, some limitations occurred in this study. The literature review showed that not only physical factors but also individual and social factors affect children's outdoor experiences and place attachment (Owen et al., 2000). Also, Hart (1979) emphasized that while discussing spatial experience, it is also crucial to consider social environment. Therefore, parental restriction, the existence of friendships, and involvement factors should be taken into account. In other words, to develop a complete picture of the relationship between children's neighborhood attachment and activities, additional parameters need to be examined as well.

Overall, the findings of the study need to be evaluated in the context of these limitations. For further research, the limitations should be taken as a guideline.

5.4 Implications for Urban Design

The home range consists of places where children meet and socialize. Children can move easily in the home range and even change the environment. Open and green areas that allow a variety of recreational activities are enjoyed by children. In addition, green and accessible places are inviting for children to socialize. Walking and biking around supports their understanding of the home environment. In other words, being part of daily life develops children's attachment to a place.

Play is of great importance for children. Play in urban open spaces, on the other hand, contributes both to their physical and psychological development. Especially, the neighborhood where the child lives contains places for learning outside the school. When these environments are inclusive, they strengthen the child's cognitive development and attachment to place. However, city planning and design processes are mostly based on adult-centered participation in Turkey. Hence, it is required to

consider children as individuals who use the places as adults do. More precisely, urban planners and designers should include children in the planning processes to create more livable environments for children and to deepen their bonds with their communities. Within the scope of the thesis, this study aims to help urban designers understand children's neighborhood attachment through their place uses in their neighborhood with mapping and survey activities. Eventually, it proposes urban design strategies to provide child-friendly neighborhood environments and encourage children to use these places actively.

In accordance with the results obtained from analyses, the proposed implications can be followed from Table 5.1:

Table 5.1 Design Principles and Implications for Child-friendly Environments

	Built Environment		**Natural Environment**	
	Design Principles	**Design Tools**	**Design Principles**	**Design Tools**
Attachment of Children	Continuity Human Scale Legibility Safety	* Increasing comfortable, healthy, natural and barrier-free environments * Ensuring a human-scale and protected circulation that does not ignore the child * Ensuring uninterrupted access	Diversity Inclusivity Naturality	* Highlighting natural elements and activities * Providing a variety of designs that allow children of different ages and physical abilities
Children's Activities	Ease of Movement Diversity of Uses Social Interaction	* Providing a variety of land uses or activity settings * Arranging differentiated scaled places * Leaving balanced, spatially undefined, and hidden areas * Providing areas that allow interactive social activities	Accessibility Integrity	* Creating opportunities to create a unique play environment * Ensuring spatial integrity

Firstly, due to the absence of places that will directly affect the place attachment in the context of the neighborhood, study results revealed that children's neighborhood attachment is not associated with their activities very strongly, so it is needed to include physical and social factors that affect children's attachment. Hence, the design of the children's places in neighborhood should be based on i. continuity, ii.

human-scale, iii. legibility and iv. safety principles. Design solutions will be as follows:

- Increasing comfortable, healthy, natural and barrier-free environments suitable for play in neighborhoods,
- Ensuring a human-scale, protected, and uninterrupted circulation that does not ignore the child; for instance, by reducing vehicle flow around the activity areas that the child frequently uses.

As a result of the mapping study, it has been observed that the use of places where children can come together and spend time in neighborhoods is limited. In addition, it has been revealed that accesibility of existing places is problematic due to traffic and lack of pedestrian crossings. To support children's activities and active mobility in a neighborhood built environment, i. ease of movement, ii. diversity of uses and iii. social interaction design principles should be followed. Some of the design suggestions are given below:

- Providing a variety of land uses or activity settings; for instance, allocating planting and grooming areas for growing crops, harvesting and communicating with animals,
- Leaving balanced, spatially undefined, and hidden areas by constructing the space from small spaces or sections that are moderately differentiated and come together in an orderly manner.
- Providing areas that allow interactive social activities.

Secondly, the analysis results show that the green and open spaces in the neighborhoods are very few and these green areas are not commonly used by children because they do not provide affordances. In the light of the results, within the framework of i. diversity, ii. inclusivity and iii. naturality design principles, natural open green spaces should be added in neighborhood plans and designs. Design suggestions will be as follows:

- Highlighting natural elements and activities by using natural ground materials such as sand, soil, and grass, and including trees, flowers, shrubs, water and animals in the child's environment,
- Providing a variety of designs that allow children of different ages and physical abilities.

The study revealed that children's involvement with their natural surroundings is low level. Therefore, the design of the children's places in natural spaces should be based on i. accessibility and ii. integrity principles to enhance their place use. Design solutions for the natural environment to enhance children's activities are given below:

- Creating opportunities to create a unique play environments that support the child's use of different senses and motor development,
- Ensure spatial integrity between built and natural environment with soft interface areas.

In addition to all principles and proposed solutions, it is necessary to emphasize that a variety of actors should work collaboratively in the process of planning and designing child-friendly neighborhood environments.

Participation of Actors

One of the essential pillars of reflecting the child's perspective on design decisions in the design of a child-friendly urban environment is to ensure that the target audience, decision-makers, practitioners and experts are active participants in the decision-making process. Some of the participation methods are as follows:

- Establishing work groups that will ensure the representation of all non-governmental organizations related to children's rights and needs in local governments.
- Cooperating with national and international associations such as UNICEF and ICC that have active studies on children's rights and needs.

- Organizing a child platform consisting of representatives of children from schools at the neighborhood and city scales.

To conclude, according to the thesis results, the relationship between children's neighborhood attachment and activities should be examined together with physical, social, and individual factors. Thus, there will be a need for more research. The children-friendly neighborhood environments, which are developed with implications in line with all these findings, are able to provide more attractive places for children to use and develop bonds.

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APPENDICES

A. Mapping Activity Basemaps



KENT FORMU, HAVA KİRLİLİĞİ VE ÇOCUKLUK DÖNEMİ ASTIMI İLİŞKİSİ
SİNCAN | ERTUĞRUL GAZİ MAHALLESİ | YILDIRIM BEYAZIT ORTAOKULU



Anahtar | Lejant

"Okulum"

Katılımcı Sayısı:
-Kız:
-Erkek:

B. Place Attachment Survey

TÜBİTAK 219K243 "Kent Formu, Hava Kirliliği ve Çocukluk Dönemi Astımı İlişkisi" Projesi Mahalle Memnuniyet/Bağlılığı Araştırması

Mahalle İsmi: _____

Okul İsmi: _____

Masa Yöneticisi Adı, Soyadı: _____

Seans Bilgisi: _____

Aşağıdaki metin, haritalama çalışması sonlandıktan sonra çocuklara iki defa okunur, sonra her çocuğun cevabı tabloya sorunun yanına yazılır:

"Okulunuzun çevresinde hem vakit geçirmeyi sevdiğiniz ve mutlu olduğunuz hem de olumsuz duygular beslediğiniz yerleri düşünerek şimdi sizlere okuyacağım ifadelere ne derecede katılıp katılmadığınızı, "1: Kesinlikle katılmıyorum, 2: Katılmıyorum, 3: Hem katılıyorum hem katılmıyorum, 4: Katılıyorum ve 5: Kesinlikle katılıyorum" u ifade edecek şekilde belirtebilir misiniz?"

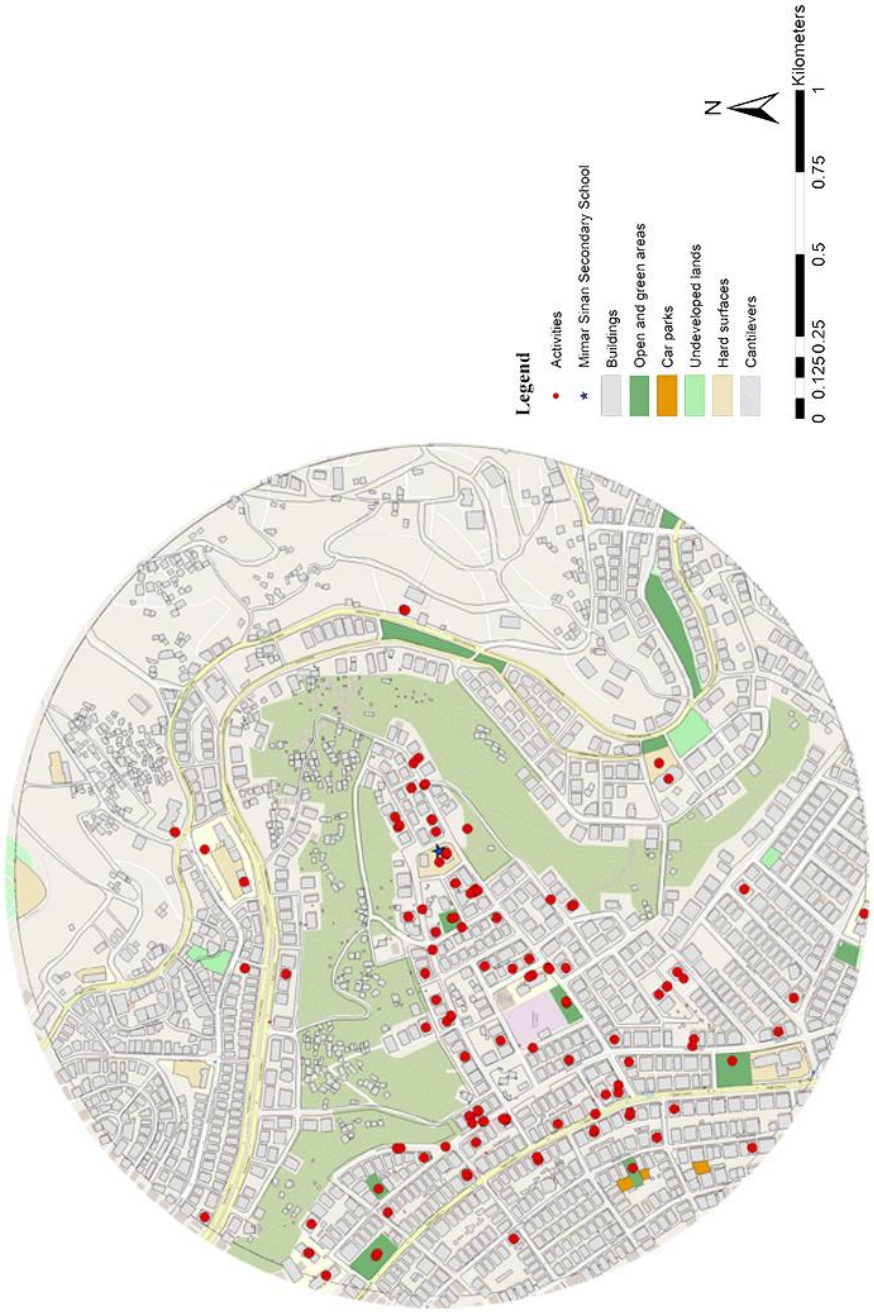
	Çocuk Katılımcı No. (Çocuk Baş Harfleri Boşluğa Eklenmeli)							
	1	2	3	4	5	6	7	8
1. Mahallemde çok mutluyum								
2. Mahallemden ayrılınca mahallemi çok özlüyorum								
3. Mahallemi çok özel bir yer olarak görüyorum								

Seans Bilgisi: _____

	Çocuk Katılımcı No. (Çocuk Baş Harfleri Boşluğa Eklenmeli)							
	1	2	3	4	5	6	7	8
4. Mahallemde çok mutluyum								
5. Mahallemden ayrılınca mahallemi çok özlüyorum								
6. Mahallemi çok özel bir yer olarak görüyorum								

C. Mapping Activity Digitized Maps

Mimar Sinan Secondary School, Göktürk Neighborhood



Yıldırım Beyazıt Secondary School, Ertuğrul Gazi Neighborhood

