THE IMPACT OF NEIGHBORHOOD PLACES ON CHILDREN'S HAPPINESS: A COMPARATIVE STUDY FROM ANKARA

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ABSTRACT

THE IMPACT OF NEIGHBORHOOD PLACES ON CHILDREN'S HAPPINESS: A COMPARATIVE STUDY FROM ANKARA

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The environments where people live affect them both in physical and psychological way. As cities get bigger, people's happiness can be negatively affected. Since cities are not planned with children in mind, they create various problems for children regarding their well-being. Although there are many studies examining the relationship between the happiness of adults and neighborhood places, there are only a limited number of studies investigating this relationship within the scope of children's happiness. This thesis investigates whether subjectively measured children's happiness are related to the objectively measured features of the built environment. The neighborhood environment is the environment that encourages and hinders children's happiness. For this purpose, as part of a larger-scale study, two neighborhoods with different urban characteristics are selected from the periphery and the inner-city of Ankara. In this context, Selçuklu neighborhood in Sincan district and Abidinpaşa neighborhood in Mamak district are chosen as the study areas. By using GIS, the green area and land use mix ratios of these two neighborhoods are obtained. Then, third and fourth grade students who wanted to participate in the study are selected from the public schools in the chosen neighborhoods. A participatory mapping activity is conducted with the child

participants. In this activity, children are asked to mark and discuss their happy and unhappy places on the maps of their neighborhoods. After the mapping study, children are expected to answer a questionnaire about their happiness levels in their neighborhoods. In total, 150 children's questionnaire data, maps, and data from objective measurements of their neighborhood are analyzed. This thesis contributes to the existing literature by indicating that children's happiness varies according to different neighborhood places. The study findings show the important role of school areas, traditional commercial establishments, public open areas and big box stores in children's happiness. The results of the study aim to help urban designers in creating places that promote children's happiness and to actively involve children in the planning and design process.

Keywords: Happiness, Children, Built Environment, Place Mapping, Neighborhood

ÖZ

MAHALLE YERLERİNİN ÇOCUKLARIN MUTLULUĞUNA ETKİSİ: ANKARA'DAN KARŞILAŞTIRMALI BİR ARAŞTIRMA

Yıldırım, Göksun
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Yaşanılan çevre, insanları hem fiziksel hem de psikolojik olarak etkilemektedir. Şehirler büyüdükçe insanların mutluluğu da bu durumdan olumsuz şekilde etkilenebilmektedir. Şehirler, çocuklar düşünülerek planlanmadığı için çocukların refahları açısından çeşitli sorunlar yaratmaktadır. Yetişkinlerin mutluluğu ile mahalle yerleri arasındaki ilişkiyi inceleyen çok sayıda çalışma olmasına rağmen bu ilişkiyi çocukların mutluluğu kapsamında inceleyen sınırlı sayıda çalışma bulunmaktadır. Bu tez, çocukların öznel olarak ölçülen mutluluğunun, yapılı çevrenin nesnel olarak ölçülen özellikleriyle ilişkili olup olmadığını araştırmaktadır. Mahalleler, çocukların mutluluğunu hem teşvik eden hem de engelleyen ortamlardır. Bu amaçla, daha büyük ölçekli bir çalışma kapsamında Ankara ilinin çeperinden ve merkezinden farklı kentsel özelliklere sahip iki mahalle seçilmiştir. Bu kapsamda çalışma alanı olarak Sincan ilçesine bağlı Selçuklu mahallesi ve Mamak ilçesine bağlı Abidinpaşa mahallesi seçilmiştir. CBS kullanılarak bu iki mahallenin yeşil alan ve arazi kullanım çeşitliliği oranları elde edilmiştir. Sonrasında, seçilen mahallelerdeki devlet okullarından, araştırmaya katılmak isteyen üçüncü ve dördüncü sınıf öğrencileri seçilmiştir. Seçilen öğrencilerle katılımcı bir haritalama etkinliği gerçekleştirilmiştir. Bu etkinlikte çocuklardan mutlu ve mutsuz oldukları yerleri mahalle haritalarında işaretlemeleri ve tartışmaları istenmiştir. Haritalama çalışmasından sonra, çocuklardan mahallelerindeki mutluluk düzeylerine ilişkin bir

anketi yanıtlamaları beklenmiştir. Toplamda 150 çocuğa ait anket verileri, haritalar ve mahallelerinin nesnel ölçümlerinden elde edilen veriler analiz edilmiştir. Bu tez, çocukların mutluluğunun farklı mahalle yerlerine göre değişiklik gösterdiğini belirterek mevcut literatüre katkı sağlamaktadır. Araştırma bulguları, çocukların mutluluğunda okul alanları, geleneksel ticaret alanları, açık kamusal alanlar ve zincir marketlerin önemli rolünü göstermektedir. Çalışmanın sonuçları, kentsel tasarımcıların çocukların mutluluğunu artıran mekanlar yaratmalarına ve çocukları planlama ve tasarım sürecine aktif olarak dahil etmelerine yardımcı olmayı amaçlamaktadır.

Anahtar Kelimeler: Mutluluk, Çocuk, Yapılı Çevre, Haritalama Çalışması, Mahalle

To Halit Yıldırım

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CHAPTER 1

INTRODUCTION

This chapter has three main parts. The first part explains the problem context. The second part introduces the purpose of the study and explains the research questions. The last part gives a preview of the main chapters in the thesis.

1.1 Problem Context

Nowadays, cities are getting bigger and their population is increasing. A significant portion of the world's population lives in urban areas. The number of people living in urban areas around the world increased from 751 million to 4.2 billion from 1950 to 2018 (United Nations, 2019). As cities increase in size, so do their impact on the people's happiness (Okulicz-Kozaryn, 2017).

When the case of Turkey is examined, as in many other countries, there is a distinct difference between the population living in urban and rural areas. According to a report published by the Turkish Statistical Institute in 2020, while 93% of the population lives in provincial and district centers, only 7% live in small towns and villages in Turkey (TÜİK, 2021). However, there are doubts about the extent to which these urban areas respond to the rapidly increasing population and people's needs. In addition to meeting the needs of people, how urban areas affect the way people feel are important points that urban planners and decision-makers need to consider. Although urban life provides job, health and educational opportunities, the way our contemporary neighborhoods are planned and designed causes many problems such as pollution, traffic and crime. Such problems also affect the psychological health of individuals. According to a study conducted in the US, it was found that living in high-density urban areas lowers people's self-reported happiness levels (Winters & Li, 2016).

Two researchers from Oslo (Norway), Carlsen & Leknes (2019), pointed out that it is a paradox that people feel more unhappy in big cities but there is still a higher population in such settlements. They link the reason of this paradox to the high costs of moving to rural areas and the desire of groups with low mobility (e.g., those who do not have access to private automobiles) to stay in urban areas. These researchers also pointed out that people who live in urban areas are between two bad options: being unhappy in a city where they are exposed to low wages and the serious costs of moving (Carlsen & Leknes, 2019).

In addition to all these, the cities we live in also have some problems for children. The environments in which we live are not planned with children in mind, so it cannot provide sufficient criteria for the development of children (Churchman, 2003). Churchman emphasized that it is necessary to investigate whether this tremendous increase in cities makes a difference in the lives of children. She states that (2003: 109) *"Children inherently have the right to a better environment. Their future and the future of our societies will be better, if the children live in better environments in the broadest possible sense."*

1.2 Aim of the Research and Main Research Questions

Since a significant portion of the world population lives in urban areas, neighborhood places and built environment elements are crucial in terms of their effects on the happiness of people. There are many studies examining the relationship between the happiness of adults and the features of the built environment (Park et al., 2020; Deutsch-Burgner et al., 2014; Janahi et al., 2018). However, only a limited number of studies (especially studies that were conducted in Turkey) have investigated how the built environment affects children's happiness. This thesis aims to focus on this gap by linking the neighborhood places and children's happiness. It also aims to provide information to local governments, planners and locals by addressing the importance of the neighborhood places in promoting children's happiness.

In this context, the current study aims to explore the relationship between neighborhood places and the happiness levels of children. By focusing on neighborhoods with various urban form features in the capital of Turkey, Ankara, this thesis seeks answers to the following research questions:

1. Do children feel happier in some neighborhood contexts more than others, and if yes in which contexts?
2. Which places of the neighborhood promote children's happiness?
3. Which places of the neighborhood predict children's happiness? In other words, do some of the neighborhood places significantly affect children's happiness?

These three questions are answered in a large-scale empirical study, aiming to document the places used by children. Before answering them, the author provides a comprehensive review of the urban happiness literature to answer the following questions:

1. What are the factors that affect happiness? More specifically, is there a relationship between where we live and happiness?
2. How can we measure happiness in general? How can we measure happiness in children?
3. Which attributes of the built environment in general may affect children's happiness?
4. What are the key findings in the literature that link children's happiness to neighborhood places and adults' happiness to neighborhood places? Are there similarities and oppositions in these two groups of literature?
5. Which human place relationship constructs are correlated with happiness? Is there evidence in the literature showing the correlation between children's liked places (place satisfaction) and the places where they felt happy. If yes, what are the children's liked places?

These questions guide the author in constructing the theoretical framework and shaping the methods of the study.

1.3 Structure of the Thesis

There are five chapters in this thesis.

Chapter 1 consists of an introduction part. This section includes topics such as problem statements, research questions and the purpose of the thesis.

Chapter 2 covers the theoretical framework. Happiness, place, children's happiness and children's place are the main topics of discussion.

Chapter 3 provides detailed information of the method of the study, the selection of the study area, the selection of the study group and the data collection methods.

Chapter 4 indicates the analysis and results of the study. This part includes different analysis for the research questions.

Chapter 5 provides the conclusion of the thesis. This chapter includes discussion of findings, implications for urban design and future research.

CHAPTER 2

THEORETICAL FRAMEWORK

This chapter provides a theoretical framework to answer the research questions. First of all, it deals with happiness in general and the relationship between neighborhood places and happiness, then examines child happiness and the relationship between child happiness and neighborhood places. Finally, it gives a summary of the literature reviewed in the conluding remark.

2.1 The Concept of Happiness

Happiness and its definition have been studied in several disciplines throughout history. Philosophers have seen happiness as the highest motivation and goal for human beings (Diener, 1984). Researchers from multiple disciplines define the concept of happiness in different ways and happiness is used in many senses. Sometimes it is expressed in emotion or feeling, used as a mood and used to express that a person can do what he wants in his life (Chekola, 1974). There are also various approaches to the concept of happiness, including philosophical, scientific and social. One of the main researchers studying the concept of happiness is Veenhoven and he contributes to the happiness literature with many studies. Veenhoven (1997: 5) defines happiness as; *"Happiness is the degree to which a person evaluates the overall quality of his present life-as-a-whole positively. In other words, how much the person likes the life he/she leads*."

While making this definition, Veenhoven draws attention to the holistic evaluation of current life because a person may be happy in the past or be happy in business life but unhappy in family life. However, Veenhoven avoids this confusion by defining happiness as the evaluation of one's whole life.

Also, to show the perception of time and wholeness more clearly, Benditt adds that if a person is satisfied with his life for a certain period, he is happy as a whole during that time when describing the state of being happy (1974).

While some researchers use concepts such as quality of life or satisfaction with life when describing happiness (Veenhoven, 1997; Benditt, 1974), others draw attention to the internal state (Lu & Shih, 1997).

The components that compose happiness are used by many scholars when describing happiness. In this context, Veenhoven mentions that happiness has two main components: Hedonic level of affect (affective definition of happiness) and contentment (cognitive definition of happiness). Hedonic level of affect covers emotions, moods and feelings, whereas contentment is the awareness of the desires in one's life (Veenhoven, 2009). In addition, some researchers draw attention to different aspects of happiness. Davis (1981) emphasizes the occurrent and dispositional sense of happiness while working on happiness. He draws attention to the perception of time of happiness and explains the distinction as while dispositional happiness is related to events that last for a long time, occurrent happiness may come or disappear within seconds or minutes. Delle Fave et al. (2011) emphasize the two distinct aspects of happiness from different perspectives and state that the definition of happiness can be examined in terms of context and content.

Some researchers reveal that the concept or definition of happiness may differ from culture to culture. For example, according to Oishi et al. (2013), the concept of happiness is defined as good luck and fortune in the past but also it is valid even for today. Similarly, Lu & Shih (1997) examine the variation of happiness between Western populations and Chinese people. Study findings reveal both differences and similarities. According to their results, although the nature of happiness is common, the source of happiness differs. Lu & Shih (1997) exemplifies these differences as follows; while Western cultures see control and success as sources of happiness, Chinese philosophy sees improvement and self-control as the path to happiness. In

short, these studies show that although the general definition of happiness is similar, the source and factors affecting happiness may differ from culture to culture.

Many studies have been conducted on the concept of happiness from the past to the present. In these studies, happiness has been defined in various ways. Additionally, several terms have been used around the concept of happiness. While some researchers consider happiness separately from similar concepts, some use happiness and other concepts as interchangeable. For example, Veenhoven touches upon the special and different meanings of the concepts of quality of life, well-being and happiness. At the same time, he emphasizes the concept of happiness while examining the concept of quality of life. He states that one of the most inclusive criteria of quality of life is the length and happiness of a person's life (Veenhoven, 2000). Easterlin (2003) considers concepts such as well-being, life satisfaction and happiness as interchangeable concepts. On the other hand, the study of Tomlinson et al. (2016), examining the effect of positive schema on life satisfaction and happiness of children and adolescents, confirms that life satisfaction and happiness are related but different terms. Also, Diener (1984) uses the concept of subjective well-being as a general term that includes concepts such as happiness, satisfaction and morale.

In this context, as a contribution to this discussion, a study is conducted to examine the meanings, similarities and differences of the concepts, which are sometimes used synonymously and interchangeably, from the eyes of people. The study of Carlquist et al. conducted with 500 adults in Norway examines the people's understanding of the concepts of good life, satisfaction and happiness. According to the findings of the study, the common feature of these three concepts is that they are defined in a wide range in both psychological and contextual components and as for the differences, satisfaction involves more psychological connotations than happiness, while the good life seems the broadest defined concept. In addition, the study results also reveal when good life and happiness are compared, Norwegians consider good life more with living standards and the material side of life (Carlquist et al., 2016).

Delle Fave et al. (2011) conduct a study involving two aspects of happiness and develop the 'Eudaimonic and Hedonic Happiness Investigation (EHHI) project.' This project explores both the qualitative aspects of happiness in relation to the hedonic aspect, defined as emotion, and the quantitative, eudaimonic aspect, which can also be defined as the long-term self-improvement. It mainly aims to explore the more unique aspects of happiness and to associate happiness with other elements of well-being. Since it is important for people to express how they define happiness in their own words, the study examines people's definitions of happiness, the meaningful things in their lives, and the relationship between similar concepts, such as happiness, life satisfaction and meaningfulness. Research findings show that happiness is mostly associated with social ties and close relationships. In addition, it is seen that the answers including the eudaimonic aspect of happiness were more dominant. Besides, research findings show that people's rating and opinions differ in terms of happiness, meaningfulness and life satisfaction (Delle Fave et al., 2011).

Benditt (1974) draws attention to the distinction between good life and happiness. Similarly, Brülde examines the concepts of happiness and good life, and explores the role of happiness in good life. While examining the concept of good life, he talks about the theory of pure happiness. He mentions that pure happiness theory claims that an individual's quality of life depends on how happy the individual is. While explaining the pure happiness theory, Brülde mentions that there can be at least four concepts of happiness and explains each of the concepts as (2007: 9-10):

1. The cognitive view: Happiness is treated as a cognitive attitude in this approach and is considered a positive attitude towards an individual's overall life. According to the pure affective view, happiness symbolizes an affective state.

2. The hedonistic theory of happiness: According to this theory, happiness is the balance of pleasures and discontent.

3. The mood theory: Happiness is associated with positive mood states.

4. The hybrid view: In this case, happiness is a more complex state and has both cognitive and affective components.

The results of these studies show that these similar terms, which have often been used synonymously in the past studies, are interrelated but do not have the same meaning. In order to studies be more clear, it should be considered that these concepts are relevant, but they should be examined and studied separately.

2.1.1 Measurement of Happiness

Throughout history, it has been a matter of debate whether subjective concepts such as happiness can be measured or not. Contrary to traditional research methods, the measurement of more subjective concepts such as happiness or well-being attracts attention. In general, the method used for measurement is self-reports, in which individuals rate their own happiness level. The lack of trust or doubt in self-report systems stems from two things; whether people are fully capable of telling the truth, and whether people will tell the truth (Bradburn, 1969).

In Angner's study, whether happiness can be measured or not is investigated, he states that scientific practice recommends that measurements do not have to have satisfactory observable conditions. (Angner, 2013). Also, Ballas and Dorling (2007) emphasize that having measures of happiness and well-being is very useful for determining what factors affect these concepts. These researchers emphasize that a concept does not necessarily have objective or countable properties to be measured.

According to Veenhoven (2017), the most obvious way to measure happiness is to ask individuals about their own happiness since happiness can be defined as a holistic positive evaluation of individuals' own quality of life. Also, Veenhoven (2007) emphasize that happiness is often measured by self-reported surveys which are generally composed of a single direct question. The single direct question technique has many advantages; it is clear what is being measured, takes less time and has high construct validity (Veenhoven, 2017). Several studies on subjective concepts like

happiness, life satisfaction or well-being have directly survey individuals and ask them to indicate their own level or elements that contribute to this level (e.g., Chen & Zhang, 2018; Su et al., 2021; Ettema & Schekkerman 2016; Gür et al., 2019; Sepe, 2017; Cao, 2016; Han & Kim, 2019; MacKerron & Mourato 2013).

Ballas explains the transition from objective types of measurement and more concrete concepts to subjective concepts in the following words (2013: S47);

> *"There has been a very long and successful history of urban and regional research into the determinants of QoL. Most of the research studies to date were based on relatively 'objective' measures of QoL. There has been renewed interest in this field recently with the emergence of the new 'Science of Happiness' which explores whether subjective happiness can be measured, whether it should be measured, how it should be measured and what are the factors affecting it."*

2.1.2 Factors Associated with Happiness

According to Veenhoven (1997), while most people enjoy their lives, not everyone's level of happiness is the same. Thus, the happiness level of people can vary between individuals of the same country as well as between individuals from different countries. As Veenhoven defines, there are various determinants of happiness (1997: 11-18) (see Figure 2.1):

1. Life changes

   1.1 Quality of society (material affluence, security, freedom, equality, cultural climate, social climate, population pressure, modernity)

   1.2 Individual Position in Society (social status, age, gender, income, education, occupation, social ties, social participation)

   1.3 Individual Characteristics (health, ability, personality)

2. Course of Life Events
3. Flow of Experience
4. Inner Process of Evaluation

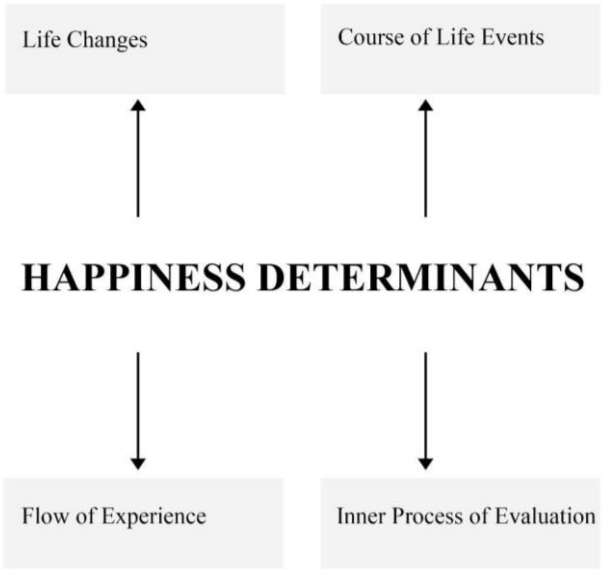

Figure 2.1. The Main Determinants of Happiness as Defined by Veenhoven (1997)

Also, the following figure shows the evaluation of life; a sequence model of conditions and processes as defined by Veenhoven (1997: 31).

Evaluation of life; a sequence model of conditions and processes

LIFE-CHANCES ---------->	COURSE OF EVENTS -->	FLOW OF EXPERIENCE --->	EVALUATION OF LIFE
Societal resources * economic welfare * social equality * political freedom * cultural lush * moral order * etc...	Confrontation with:	Experiences of:	Appraisal of average affect
Personal resources * **social position** * material property * political influence * social prestige * family bonds * etc...	* deficit or affluence * attack or protection * solitude or company * humiliation or honor * routine or challenge * ugliness or beauty * etc...	* yearning or satiation * anxiety or safety * loneliness or love * rejection or respect * dullness or excitement * repulsion or rapture * etc...	Comparison with standards of the good life Striking an overall balance
* **individual abilities** * physical fitness * psychic fortitude * social capability * intellectual skill * etc...			
conditions for life-satisfaction		appraisal process	

Figure 2.2. Evaluation of Life; a Sequence Model of Conditions and Processes (Source Veenhoven, 1997*)*

According to figure 2.2, the evaluation of life is based on the flow of positive and negative life experiences and mental reactions to the course of life events create the flow of experience. At the same time, life events depend on the conditions and capacities. Current life chances are based on past events and chance structures (Veenhoven, 1997).

After researchers conceptualize and understand happiness, they turn to investigate what causes happiness. Hence, factors affecting happiness have also been studied in past studies. Diener deals with the factors and sources affecting happiness under three main headings as genetic factors, demographic factors (age, gender etc.) and the factors under the control of the individual such as social relations, goals, leisure time (Diener, 2009).

Kim et al. examine Korean people's perceptions of happiness and ask them questions such as what makes them happy or who they can describe as happy people. The study findings show that Korean people's perceptions of happiness include not only life satisfaction and positive affect, but more. According to the results, 16 factors can be associated with the happiness of Korean adults. These factors are (2007: 283):

1. Money
2. Self-acceptance
3. Leisure
4. Social status
5. Personal growth
6. Autonomy
7. Social environment
8. Religion
9. Helping others
10. Relationship with children

11. Relationship with parents and siblings
12. Intimate relationship
13. Relationship with others
14. Appearance
15. Positive attitude
16. Health

Table 2.1. Three Factors that Affect the Happiness level of Korean Adults

Categorization	**Factors**
Intrapersonal	Self-acceptance
	Personal growth
	Autonomy
	Positive attitude
	Religion
Interpersonal	Helping others
	Relationship with children
	Relationship with parents and siblings
	Relationship with others
	Intimate relationship
Living Conditions	Money
	Leisure
	Social Status
	Social Environment, Appearance, Health

Kim et al. (2007) categorize these factors in three main groups; intrapersonal, interpersonal, and living conditions. Table 2.1 shows the categorization of these three factors that affect the happiness level of Korean adults.

Similar to this categorization, Veenhoven (1997) mentions that the determinants of happiness can be found in two main areas which are external and internal factors. While investigating the sources of happiness of community residents in Taiwan, Lu & Shih (1997) categorize happiness similarly and state that when asked what happiness means to people, they give two kinds of answers; it either expresses a positive emotion or fun or expresses satisfaction with life. Hence, according to results, these two kinds of responses may also be possible components of happiness. Therefore, Lu & Shih (1997) categorize the happiness sources into nine categories which are:

1. Gratification of need for respect
2. Harmony of interpersonal relationships
3. Satisfaction of material needs
4. Achievement at work
5. Being at ease with life, taking pleasure at others' expense
6. Sense of self-control
7. Self-actualization
8. Pleasure and positive affect
9. Health

In addition, Lu & Shih (1997) point out that the source of happiness may change as age changes. While pleasure and positive affect are sources of happiness in the younger group, items such as the need to be respected and be at peace with life are seen as sources of happiness in the older group.

Besides, various factors that can affect happiness have been studied by researchers. In this context, the study of Diener and Seligman (2002) with 222 undergraduates reveals that very happy people have richer and more satisfying social relationships. Similarly, in Azizi's (2017) study with individuals aged 15-54, good relations with

other people are also among the important factors of human happiness. At the same time, it can be stated that high income contributes to happiness as it facilitates individuals' access to their needs and wishes (Azizi, 2017). In the study of Kye and Park (2014) with 1530 Koreans, younger individuals, those who have more income, who live in more environmentally and activity-friendly areas, who have less stress, who do not smoke, who eat healthy and who exercise regularly, defined themselves as happy. All these studies show that there are a wide variety of factors that affect happiness.

Considering all the factors affecting adult happiness, the categorization can be made as follows: individual, interpersonal and environmental. Also, in the following chapters, in terms of examining the literature on children's happiness, the same categorization will be used. Environmental factors will be examined in more detail and separately as they included within the domain of city planners. Also, environmental factors will be considered as neighborhood places in this thesis.

2.2 The Concept of Place

Place is a key concept in environmental psychology. Tuan (1975) approaches place from two main perspectives; ''place as a location'' and ''as a unique artifact''. He mentions that if we look from a theoretical perspective, places are elements in the spatial system, and on the contrary, they are instinctive feelings and both extremes are rarely known because one option is entirely free from sensory experiences while the other presupposes emotional attachment. Tuan (1975) adds that many people in the modern world perceive places in the midst of these two experiences. He notes that;

> "*In this range places are con-structed out of such elements as distinctive odors, textural and visual qualities in the environment, seasonal changes of temperature and color, how they look as they are approached from the highway, their location in the school atlas or road map, and additional bits*

of indirect knowledge like population kinds of industries" (Tuan, 1975: 152-153).

As Cresswell mentions, the concept of place is a term we use frequently in our daily life as well as in academic use. Usually, people use the concept of place in their daily life as a verb to simply express locating something (Cresswell, 2004). Stephenson uses the concepts of place and landscape interchangeably, emphasizing that both involve physical and non-physical features, and the concept of place often refers to a more localized area (Stephenson, 2010).

Canter emphasizes the non-physical aspects of place and uses it in a slightly different sense than other researchers and treats it as personal, social, and culturally important aspects of settled activities in proposing the theory of place. He determines the main hypotheses of the place theory. Firstly, the theory sees the concept of place as a focal point of environmental activities and experiences. Secondly, these experiences include personal, social and cultural human-place transactions. Thirdly, all these components are reflected by the functional, spatial and formal aspects of place. And lastly, there are structural similarities that reflect the psychological components of the space (Canter, 1996). Hence, the concept of place has both physical and non-physical features and has many aspects such as: social and cultural. Daniels also emphasizes the social and cultural aspects of the place (Daniels, 1992).

Although places are used in many different meanings, it can become more specific in 3 dimensions. The first is to use the place as a location, the second is to use the place as a setting for locales or daily activities, and the last is to treat the place as a sense of place or distinctive community or environment (Agnew, 2011).

Relph (1976) mentions about three components of the place which are *activity, physical setting* and *meaning* (see Figure 2.3). Similarly, Montgomery (1998) offers several guidelines for constructing an urban sense of place and he mentions them in three components of sense of place.

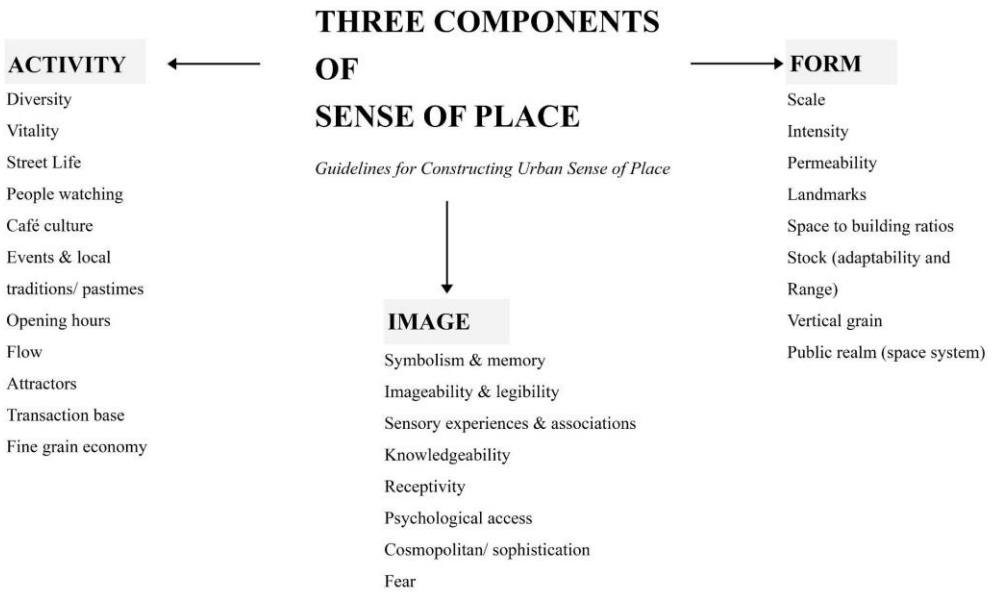

Figure 2.3. Three Components of Sense of Place and Guidelines Highlighted by Montgomery (1998)

2.2.1 Space and Place

Space and place are terms that are very close to each other. However, they have different meanings. The debate between these two concepts has been going on for a long time. As Agnew (2011) states, both space and place are about where something is. However, he still indicates the difference that while the place is more specific, the space is more general.

Space is not a concrete concept that can be defined directly; on the contrary, it is an abstract and intangible concept (Relph, 1976). Cresswell (2004: 8) similarly emphasizes the differences between space and place by noting *"Space is a more abstract concept than place. When we speak of space we tend to think of outer space or the spaces of geometry. Spaces have areas and volumes. Places have space between them"*. Similarly, Tuan (1977) emphasizes that space is a much more abstract concept than place. He points out that the concepts of space and place need

each other to be defined. Undifferentiated space becomes a place as we get to know it and attach meaning to it. Parallel with these researchers, Jack (2008) draws attention to this distinction and states that people attribute meaning to an undifferentiated space and turn it into place. Most of the researchers argue that when spaces are experienced, gain character and contain meanings, they return to the concept of place. Contrary to this view, Dourish (2006) argues that both spaces and places are part of the social system. Similarly, Cele (2006) states that both terms are not contradictory but interdependent. Hence, she has used the concept of place as where the space locates and considers it as a more localized space without thinking that the concept of space is more abstract.

Relph categorizes some conceptions of space (1976: 8-26):

Pragmatic or primitive space is a kind of space that is the domain of actions in which we act instinctively without thinking.

Perceptual space is a more advanced kind of space that focuses more on needs and practices.

Existential space is a kind of space shaped by human activities and lives.

Sacred space is a religious experience, equipped with symbols and sacred spaces.

Geographical space is the space where humanity reflects its awareness of the world and its connection with its environment.

Architectural space and planning space, these two kinds of spaces are related to each other. The concept of space used in planning is more related to a specific location where certain functions and interactions occur.

Cognitive space is a more abstract and homogeneous space.

Abstract space is a space where there are more logical relations and does not need certain descriptions.

2.2.2 Importance of Place

Cresswell (2004) emphasizes the importance of the concept of place and he notes that place is a way of seeing, understanding and knowing the world. He mentions that when we look around, we see various places and different things and we also see the interdependence and relationship between human beings and places. In short, it allows us to see the world more meaningfully. In parallel with Creswell, Friedmann (2007) also emphasizes the importance of studying places, because places pose a challenge for urbanists and studying the character, transformation or recovery of a place whispers to urbanists many stories. It gives information about the meaning of life and our identity.

Sack (1993) mentions that being in one place and being in another makes a difference for each person, that is, it shows that this geographic place and space affects everyone. Also, Sack (1993) draws attention to the bond between place and people. While he emphasizes the relationship between people and geographical factors, he mentions that place and space are the creators of nature, social relations and meanings and these elements are also parts of the place. Since humans are natural and social beings, the bond within them is also explained by their bond to the place and he notes that people are always in a place, and the place restricts, activates and directs them.

While referring to the bond between place and human, Jack says that (2008: 756);

> *"People's country of origin; the region, city, town, estate or village in which they grew up; the house(s) in which they lived; the schools they attended; the shops they visited; and the 'special' places where they played with their friends or had their first kiss are all likely to form essential components of their identity, underpinning their feelings of security and belonging."*

2.2.3 Meaning of Place

Some researchers investigate the importance and meaning that people give to places. Rapoport (1990: 13) expresses the meaning people give to their environment as *"It appears that people react to environments in terms of the meaning the environments have for them."*

In the study of Stephenson (2010) in New Zealand, he asks participants to identify variables that are important about their environment and surroundings to see what meaning community members attach to their landscapes and places. He notes the features as follows (2010: 12):

- Natural features
- Historic structures and features
- Contemporary structures and features
- Current and traditional activities
- Natural processes
- Sensory responses
- Spiritual connections
- Genealogical connections
- Historic events
- Stories relating to place
- Feeling of belonging

Besides, in Gustafson's study (2001: 9), the meanings that people attribute to place are examined in three main poles; *self, others* and *environment*. Study results show that, depending on the scale of place, the types of meaning people attribute to place may also change. For example, while people attribute more self-related meanings to smaller spaces, the situation is the opposite for large spaces. This study is very important for learning what meaning people attach to places, and as the researcher states, future researchers may suggest contributions to see different meanings from

different social groups. In this context, this thesis examines children's perception of place and the meaning they attribute to places.

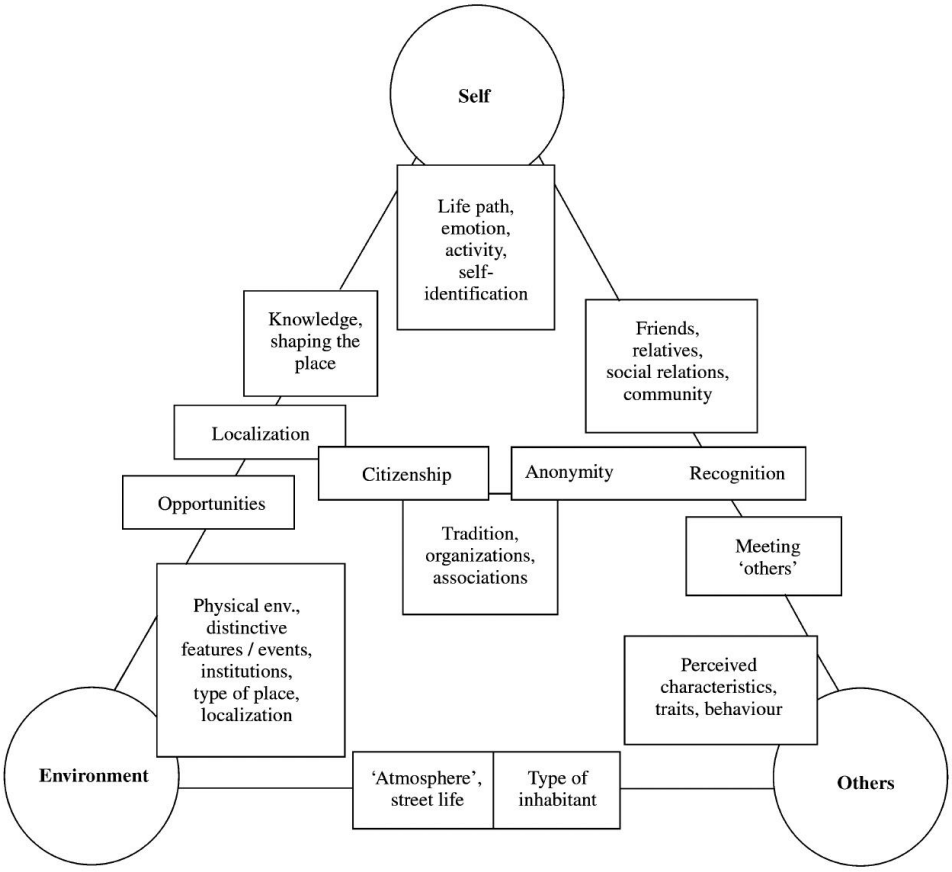

Figure 2.4. The Three Pole Model, created by Gustafson, showing the meaning people ascribe to place (Source: Gustafson, 2001: 10)

As Cuba & Hummon (1993) mention, places allow us to find out who we are, to get to know ourselves and identify ourselves, so places can affect the identification process as physical, social and cultural environments. All these studies in the literature draw attention to the importance of the concept of place for human beings and the meaning people ascribe to places.

2.2.4 Scales of Place

Jack (2008: 757) says;

> *"Place exists at different scales, ranging from a particular part of the house or garden in which a person lives, through the streets, shops and other facilities and landmarks of the local neighbourhood or town in which they grow up, out to the wider countryside, region and nation of residence (or origin)."*

As Gustafson (2001) emphasizes, the meaning that people attribute to place may vary depending on the scale. In this context, the concept of place includes environments, neighborhoods, cities and countries. This study focuses on the built environment features at the neighborhood scale.

2.2.4.1 The Concept of Neighborhood

> *"Neighborhoods are tricky to define. Usually, they have a name. They may be identified by local institutions such as a barbershop, a tea room, a pub, or a temple devoted to a patron saint, all of which are physical places of encounter"* (Friedmann, 2007: 259).

The neighborhood in which one lives is not only a physical space, but also a place that provides many opportunities and social relations to the residents (Pfeiffer & Cloutier, 2016). As Entwisle (2007) points out, neighborhoods are referred to local ecologies with their built and natural environments and they are a concept that has both social and spatial aspects as well as various opportunities and all these aspects also express the concept of place.

Perec (1997) defines neighborhoods as areas where we can walk and move around the city limits, where we do not work and live. He states that neighborhoods usually consist of neighbors, shopkeepers, pharmacies, post offices and many elements that

we search for in daily life. While Perec (1997) limits the definition of neighborhood as the places that we live, Coulton & Korbin (2007) emphasize that neighborhoods as a social organization are both social and geographical places where people live and work.

Neighborhood boundaries are defined in different ways in different studies. While some of the studies define neighborhood boundaries with the administrative boundary, neighborhood boundaries change in line with the use and mobility of the person especially in behavioral studies (Wong & Shaw, 2011). Hasanzadeh et al. (2017) also used the definition of the neighborhood boundary specific to the individual. Roux (mentions that different neighborhood definitions and criterias can be based on different categories such as historical, characteristics of the individual and administrative and notes (2001: 1785);

> *"Neighborhoods defined on the basis of people's perceptions may be relevant when the neighborhood characteristics of interest relate to social interactions or social cohesion, administratively defined neighborhoods may be relevant when the hypothesized processes involve policies, and geographically defined neighborhoods may be relevant when features of the chemical or physical environment (e.g., toxic exposures) are hypothesized to be important."*

On the other hand, neighborhood boundaries for children are smaller than for adults, since mobility is lower in children. Sometimes the house and the street in front of their house are their neighborhood. Hence, a home-centered environment creates the child's neighborhood in their daily life. In this context, it can be categorized with three main approaches while defining the neighborhood boundary:

1. Administrative Boundary

2. Linear (800 m or 1 km) walking distance taken from home

3. Amorphous area that includes only the places used by residents

The neighborhood and environment we live in affects us in many ways. While examining the effects of the neighborhood features on people, Entwisle (2007) draws attention to the fact that the neighborhood of residence can be affected by their health and daily life. People choose where they live and they may choose their neighborhoods according to weather conditions, socioeconomic features, accessibility and natural features, and all these features can affect both people's choices and their health (Entwisle, 2007).

In the light of all these definitions, neighborhoods can be defined as places where we interact with people, meet our needs, live and sometimes work.

2.2.4.2 The Concept of Built Environment

Built environment is both the physical environment and the environments in which we engage in daily activities that we live in every day (Hillier, 2005).

> *"The built environment includes all elements of a neighborhood that are man made and influenced by local zoning, building codes, and land use regulations: buildings, infrastructure systems, open and green spaces, and the interactions among these elements"* (Pfeiffer & Cloutier, 2016: 4).

The built environment has various effects on people, and these effects are both physical and non-physical. In this context, Kent and Thompson (2014) mention the impacts of the built environment on people and they add that various design elements in the built environment determine how people feel, whether they feel safe or comfortable while walking or cycling.

Kent and Thompson (2014: 240) state that the built environment supports health in three ways:

1. Physical activity

The built environment supports physical activity with decisions such as land use decisions, transportation methods such as public transportation, walking and cycling, and various open green spaces.

2. Community interaction

The built environment contributes to community connection and interaction with clean safe public spaces, streets and various land use decisions.

3. Healthy eating

The built environment supports healthy eating with various agricultural land decisions, some farmer market and community garden uses.

2.3 Place and Happiness

The connection between human and place is discussed in the previous section of the thesis. People's mental health is affected by the places in which they live, work and interact. Hence, it is not possible to separate the pursuit of understanding and building the happiness of the city from life and design in the city (Montgomery, 2014).

As Sepe (2017: 725) asserts;

> *"Urban happiness can be defined as a concept that gives a positive perception of a place to the people who live in it and which induces them to spend a long time there and/or to opt to live there again with the same experience."*

There are some researchers in the literature who study the impact of place, environment or geography on people. In this context, Brereton et al. (2003) examine the effects of geography and environment on people's happiness. The aim of the study is to investigate the effects of place and space on the well-being of individuals.

This study reveals that spatial variables are determinants of well-being and happiness, and that geography and environment have a much greater influence on human happiness than one might imagine (Brereton et al., 2008). Similarly, while addressing how design affects happiness, Petermans and Nuyts (2016) state that a building or a place can host activities or events that increase happiness levels of people, even if they cannot directly make people happy.

2.3.1 The Role of Neighborhood Places in People's Happiness

The concept of happiness has attracted the attention of psychologists and philosophers but has also been the focus of designers, planners and architects. Literature indicates that the environment we live in, urban design features, physical and built environment have an impact on people's happiness (e.g., Chen & Zhang, 2018; Su et al., 2021; Pringle & Guaralda, 2018).

According to Evans (2003: 536);

> *"The built environment affects mental health in two major ways. Characteristics of the built environment can directly influence mental health. Environmental characteristics with direct effects on mental health include housing, crowding, noise, indoor air quality, and light"*

Engineer et al. (2021) discuss how the built environment may affect our physical, social and psychological health. They state that (Engineer et al., 2021: 1-2);

> *"All (levels of health) can be influenced by all the elements of the environment to which we are exposed, including light, sound, views, spatial design, greenery/nature, air quality/chemistry, air flow, temperature, and humidity. The indoor and outdoor built environments of home, school, and work – indeed, any built environment – include these elements, which impact all aspects of health and wellbeing."*

There are several studies examining the relationship between the built environment and human happiness. Some researchers have revealed the relationship between the built environment elements and the happiness of people in their studies. In this context, Chen & Zhang (2018) examines the physical environment and its impact on residents' happiness. The study is carried out with 5 communities in Taiwan. In the results of the study, it is revealed that "green area, community layout, aesthetics, transportation service, social service" can contribute to the residents' happiness (Chen & Zhang, 2018: 5). Similar results are found by Pringle and Guaralda (2018). They examine the impact of natural and built environment features on human happiness. In their study, the photos associated with happiness are first collected in the research conducted on the social media application Instagram. Afterwards, a questionnaire is applied to the individuals about the urban characteristics that facilitate happiness. A survey is conducted with 22 Brisbane residents or users. At the same time, eleven images are presented to the respondents, and they were asked to choose the image in which they felt the happiest. Brisbane residents or users are surveyed about urban form elements that are associated with their happiness. The study reveals that various natural and built environment features in urban areas can be associated with happiness in residents or users. According to this study, natural elements, historical buildings and green spaces are important sources for happiness (Pringle & Guaralda, 2018). Another similar conclusion is drawn by Yin et al. (2019), whose study covers many neighborhoods and cities in China. Their study examined the relationship between neighborhood and city scale built environment, commuting and happiness. While the researchers use "neighborhood population density, neighborhood type, distance to transit station, distance to CBD (Central Business District), greening coverage rate, sports facility, square, library and bank" while examining the built environment at the neighborhood scale, they use "population size, metro, public transit supply and road area per capita" in their analysis at the city scale (Yin et al., 2019: 309). As a result of the study, it is revealed that the built environment is related to happiness in both scales, and happiness is more relevant with the built environment at the neighborhood scale. Also, the results

show that lower residential density, better transit, more green space and better public services improve residents' happiness (Yin et al., 2019). Ying and Shao (2021), in their study with 7837 people in China, examine the effects of built environment features and commuting on happiness. The study results show that the built environment and commuting duration play a very decisive role in happiness. At the same time, household income, population density and distance to transit rank are also very effective in terms of contribution to happiness (Yin & Shao, 2021).

Jeon et al. (2014) examine the impact of demographic and environmental factors on both individually and socially oriented happiness. Since the researchers explore two kinds of happiness, the study differs from other studies. They express that while individual happiness is more related to the individual's own conditions, social happiness is related to family, friends and components of society. As a result of the study, it is revealed that demographic variables are more related to individually oriented happiness and environmental variables are more related to socially oriented happiness. The study findings also show that following environmental factors are effective on socially oriented happiness (Jeon et al., 2014: 62):

- Transportation
- Urban living environment
- Trust
- Social status
- Group participation
- Individual participation
- Leisure Activity

Researchers studying the relationship between the urban built environment and happiness have investigated different subjects and elements of the built environment. There have been scholars who have touched on different aspects of the urban design features that have been related to happiness, such as green space (Bertram & Rehdanz, 2015; MacKerron & Mourato, 2013), transportation decisions (Gim, 2021; Loo, 2021), social interaction (Montgomery, 2014; Leyden, 2003), public spaces

(Sepe, 2017), air pollution (Welsch, 2006), housing (Gür et al., 2019), urban form (Mouratidis, 2019). In this context, studies examining the relationship between neighborhood places and happiness can be examined under 4 main headings: public places, open green areas, mixed use and urban transportation.

2.3.1.1 Public Places and Happiness

As Benita et al. (2019:9) notes:

> *"Public spaces are fundamental features of cities because they represent sites of sociability and face-to face interaction, they provide a unique opportunity to boost the experience of subjective well-being."*

There are studies in the literature examining the relationship between public spaces and happiness (Kumar, 2017; Sepe, 2017). Usually, when researchers examine the relationship between happiness and public spaces, they mentioned that public spaces increase social interaction, and the literature has concentrated in this direction.

2.3.1.1.1 Social Interaction and Happiness

According to Kim and Kaplan (2004: 316) *"Social interaction is defined as formal (e.g., active, planned) or informal (e.g., casual, unplanned) social opportunity in which two or more residents attend to the quality of their relationships."* Hence, community and people are inseparable, and community cannot exist without people and their interaction as Bahadure and Kotharkar (2012) emphasize.

Some scholars (like Jane Jacobs who believes that people should interact with the streets and explains in detail the new principles of urban planning in her book: The Death and Life of Great American Cities) argue that urban design and the built environment influence social interaction. In this context Montgomery emphasizes the importance of social interaction for happier cities. He draws attention to how

urban design shapes social interaction and relationships. He proposes a recipe for urban happiness considering what features cities should have other than basic needs for people. He emphasizes that a city should enable strong relationships between relatives, friends or strangers (Montgomery, 2014). According to Leyden's (2003) study, which examines the city of Galway in the Republic of Ireland, the built environment has an impact on social capital, physical and mental health. Four aspects of social capital are examined in the study: *"How well residents knew their neighbors, their political participation, their trust or faith in other people, and their social engagement"* (Leyden, 2003: 1548). As a result of this study, it is seen that residents who live in more walkable and mixed-use neighborhoods are more likely to have these four kinds of social capital (Leyden, 2003). A similar result is revealed in the study of Mavruk et al (2020) and the scholars find that social capital is one of the determinants of happiness and seeing a friend or relative often increases the probability of happiness.

2.3.1.2 Open Green Areas and Happiness

Humans are an indispensable part of nature. Therefore, the happiness of people is affected by their bonds with nature. As stated by Katsui and Ghotbi (2012), happiness can be achieved if the connection between human beings, nature and living systems is well understood.

Green spaces are crucial for people and their daily lives, so their absence or inadequacy can cause many problems. Wang et al.'s (2021) study examines the elements of the built environment that affect people's mental health. This study shows that environmental degradation and absence of green spaces are highly effective risk factors for mental illness. The study also guides the planning discipline in the production of various policies that increase mental health.

As Kent and Thompson state (2014: 244) *"The presence of green, natural settings is important in facilitating good mental health and community connection, as well as promoting physical activity."*

Open green spaces and their impact on human mental health and well-being has been widely studied in the literature (Bertram & Rehdanz, 2015; Bell et al., 2018; Han & Kim, 2019). General findings show that open green spaces can have several positive effects on human health and well-being. Open green spaces and their use can reduce stress and stress-related disorders. In the study of Grahn and Stigsdotter (2003) in Sweden, it is discussed whether there is a relation between the use of urban open green spaces and people's stress-related depression. The results prove that people who spend more time in open green spaces are less affected by stress (Grahn & Stigsdotter, 2003). In parallel with these results, as Han and Kim (2019) note, green environments have many benefits. They can provide meeting space for residents to interact with each other, and they can contribute to physical health by increasing physical activity. Hence, green spaces play an important role in increasing the happiness levels of residents. Han and Kim (2019) prove this promise with their study which was conducted with ninety respondents in Korea to investigate the relationship between residents' happiness levels and use of open green spaces. The study findings indicate that 90% of residents consider green spaces very important for their life in terms of both physical and mental health. In their study, most of the residents stated that green spaces contribute to their happiness levels (Han & Kim, 2019). Similarly, in the study of Birenboim (2017), which is conducted in Jerusalem, Israel, the impact of the urban environment on subjective momentary experiences is examined. The study aims to understand which factors affect the experiences in students' daily lifes. The result of the study, conducted with ninety-one students, shows that, in general, students are happier in open spaces. However, it is also noted that although they are happier in open spaces, they feel less secure (Birenboim, 2017). Another study is by MacKerron and Mourato (2013), who examine the relationship between environmental factors, nature and well-being of people. 21,947 participants in the UK have participated in this study. With an application developed

over the phone, users both answer the questionnaire at random times and their locations are determined by GPS signals. The result of the study shows that happiness is much higher in natural environments (MacKerron & Mourato, 2013). While examining green space, human happiness and well-being from another perspective, Zhang et al. (2017) examine residents' perspectives on green space quality and affordances. In this context, two neighborhoods, De Hoogte and Corpus-Noord from Groningen in the Netherlands, are examined. The results of the study show that residents of neighborhoods with more accessible and usable green areas have higher neighborhood satisfaction, and that neighborhood satisfaction is also positively related to well-being. However, as a result of the study, it is seen that there is no significant difference between the 'happiness' levels of the residents of both neighborhoods, but that high neighborhood satisfaction is also correlated with happiness levels of residents (Zhang et al., 2017). While most studies examine the happiness levels of individuals or neighborhood residents, a study involving a different scale is conducted by Kwon et al (2021). In this study, the relationship between urban green space and happiness is compared among sixty developed countries. Urban green space scores of each country are determined by using high resolution satellite images. The result shows that the happiness levels of people living in developed countries (with higher GDP) are associated with the amount of urban green spaces in these countries (Kwon et al., 2021). Finally, Cömertler & Cömertler (2020) aimed to investigate the relationship between environmental quality and happiness in the context of green cities. They find that the environmental performance of green cities is a factor in the high level of happiness of people (Cömertler & Cömertler, 2020).

2.3.1.3 Mixed -Use Neighborhoods and Happiness

People want to meet their basic needs within short distances and to be able to do various activities in their environment (Bahadure & Kotharkar, 2012). Therefore, to have the opportunity to live in mixed-use neighborhoods is very important for both

physical and mental health of people. Mixed-use neighborhoods allow people to socialize in their home environments, increase physical activity and have more opportunities in their readily accessible environments. Bahadure and Kotharkar (2012: 77) state;

> *"Mixed land use is an appropriate mix of various land uses in an area, where a variety of living activities like live, work, shop and leisure are in close proximity. As mixed-use areas tend to promote walkability and social inclusion, they are safe and accessible thus, persuade social aspects."*

Also, mix-use uses reflect the character of individuals, the culture and spirit of the city. Cities live and change constantly, as our cultural values and social behaviors change, that is, as we change, we also change cities and mixed-use neighborhoods reflect all these values and changes (Grant, 2002). According to Grant (2002), mixed-use areas have gained importance by providing opportunities for life and vitality, providing environmental quality and equity. Grant (2002) also adds that mixed-use neighborhood supporters talk about many benefits such as providing activity, reducing car dependency, making mixed housing more affordable and accessible, and enabling people to find opportunities such as play, work or shopping in their neighborhoods. "*Mixing uses thus forms part of a strategy for sustainable development as well as a theory of good urban form, with the objectives of economic vitality, social equity, and environmental quality"* (Grant, 2002: 73).

Kent and Thompson (2014) point out that mixed land uses provide a variety of possibilities with commercial uses in residential areas and encourages people to be physically active by providing shorter distances.

Mixed land use also plays a very important role for people and community in terms of social relations (Bahadure & Kotharkar, 2012). In six neighborhoods in Nagpur, India, Bahadure and Kotharkar (2004) examined the relationship between the social impact of sustainability and mixed land use. According to the results of this study, it is found that neighborhoods with balanced facilities, infrastructure and mixed land uses are more likely to be preferred by residents. Also, mixed land use decisions play an important role in terms of attachment to community and community identity, so

residents with more diverse mixed land use feel more connected to their communities (Kim & Kaplan, 2004).

In addition to all these benefits, there are also studies examining the relationship between mixed use neighborhoods and happiness. According to Kumar (2017), people with access to adequate facilities in their neighborhoods are happier than people with less access to neighborhood facilities.

Although there are studies examining the various effects of mixed land use decisions on people, studies examining the relationship between happiness and mixed use remain incomplete. For example, little is known about whether children who live in neighborhoods with more land use mix index are happier than children who live in neighborhoods with less land use mix index.

2.3.1.3.1 Access to Commercial Areas and Happiness

Landscape components and land use decisions have been previously studied in the context of neighborhood satisfaction in the study of Kweon et al. (2010). The study is carried out in Texas with 276 participants. To analyze the land use components, a GIS tool is used, and residents' neighborhood satisfaction is measured via a questionnaire tool. In this study, the contribution of neighborhood satisfaction to individual well-being is also considered. Study result reveals that commercial land uses are associated with undesirable situations such as noise pollution, crowds, and traffic. However, it is found that these areas are also very important in terms of meeting the needs of the neighborhood (Kweon et al., 2010). Similarly, the study of Bahadure and Kotharkar (2012) shows that the neighborhood with more commercial facilities causes problems such as noise and air pollution that will disturb the residents of the neighborhood due to the infrastructure facilities required by the commercial areas and the high population.

These studies show that balanced distribution in line with people's needs is very important. Although commercial areas are very important in meeting the needs of

people, their side effects should be considered, and supportive areas should be created.

2.3.1.4 Urban Transportation and Happiness

People's transportation decisions (the transportation they use or whether they have sufficient transportation facilities in their neighborhood or city) determine their happiness and well-being. According to Schwanen (2021: 23):

> *"If transport research is to contribute to the creation of sustainable, just and human scale cities for all, then it needs to allow for multiple imaginings of what wellbeing is and how it can be achieved. It also needs to critically reflect on the effects generated by the pursuit of particular versions of wellbeing through travel behaviour and policies."*

In the study of Gim, the impact of the built environment and especially transportation on happiness is studied. In this study, the 2018 Seoul Survey is used and related variables are obtained. At the Seoul Survey, happiness is measured in five areas: (1) health conditions, (2) financial conditions, (3) relations (with friends and relatives), (4) home life, and (5) social life (work, school, religion, hobbies, and fraternity/sorority). Study result shows that taxi and bus services and urban center walking areas are highly predictive for higher happiness rates. The study also highlights the role of planners in enhancing place attachment and making the physical settings more accessible (Gim, 2021).

Liu et al. (2021) examined the relationship between commuting experience and well-being. This study focused on four regions in China. Working with planning practitioners and residents, study results show that public transport, cycling and walking increases journey experience and contributes to both hedonic and eudaimonic well-being. As Liu et al. (2021) emphasize, in order to ensure and increase the well-being of people, planners and transport planners need to create strategies that are balanced with the transportation needs of the residents. Similarly,

the findings of Fan et al.'s (2021) study in China, which examined travel happiness and related factors, show that pedestrians have a higher travel happiness rating than the users of other modes of transportation, including the users of public transport. In addition, study findings show the role of the residential environment in travel happiness (Fan et al., 2021).

2.4 Children

The concept of child has been the subject of research in many disciplines such as medicine, sociology, psychology and pedagogy throughout the history. The concept of childhood, which is one of the natural and unchanging circle of the chain of life, has different meanings in different societies (Tan, 1989). The child is the adult of the future and the future of humanity. Biologically, a child refers to the period between birth and adolescence, while legally it refers to below the age of majority. In many studies in the literature, age intervals are categorized in different ways and children are included in different age intervals. According to Nithyashri & Kulanthaivel (2012), 0-12 years: child, 13-18 years: adolescence, 19-59 years: adult and 60 years and above: senior adult while WHO categorizes as 0-10 years: children, 10-19 years: adolescent, 15-24: youth, 10-24 years: young people. In the United Nations Convention on the Rights of the Child, a child is defined as any person under the age of 18.

2.5 Children's Happiness

"Every young person should have the support they need in order to enjoy a safe, happy childhood" (The Children's Society, 2020).

Considering the urban problems and the challenges thar our world faces today, we know that ensuring the wellbeing of children is highly important for decision-makers so that they can promote the development of healthy communities. Hence, children's happiness and growing up in a happy environment is crucial for our future.

2.5.1 Perception of Happiness in Children

The concept of happiness has been studied with adults for many years. However, there has been limited work with children. While well-being encompasses the present life of adults, it affects children's present life as well as their future and development (Ben-Arieh et al., 2014).

The study of López-Pérez et al. (2015), which focused on children's and adolescents' perception of happiness, reveals that the definition of happiness varies according to age group. In their study, children and adolescents were asked to describe happiness in their own words. While *'positive feelings'* as a definition is mostly made among the 9-11 age group, definitions such as *'balance and harmony'* are mostly made among adolescents. At the same time, the definition of happiness as *'achievement'* was mostly made by the eldest age group. It is also revealed that the least abstract definition of happiness was made by the younger group (López-Pérez et al., 2015: 2446).

Apart from the differentiation of the perception of happiness across age groups, it has been studied that children's perception of happiness also vary according to different creativity levels of children. According to Vinichuk and Dolgova (2016), children's perceptions of happiness vary according to their creativity levels. While children with high creativity perceive happiness more emotionally and based on communication and interaction with other people, children with low creativity perceive happiness more materially, and they express happiness as a more concrete concept (Vinichuk & Dolgova, 2016).

2.5.2 Measurement of Happiness in Children

Although we can understand the happiness of babies or young children by observing how they respond to certain situations (Benditt, 1974), the happiness of school age children can be learned by asking them directly.

Studies in the literature measure happiness levels of children generally by the method of children's rating on their own happiness levels. From time to time, parents or teachers are also asked to rate children's happiness levels (O'Rourke & Cooper, 2010; Holder et al., 2008; Holder & Coleman, 2009; Holder & Klassen, 2009). Also, some of the researchers (Holder et al., 2008) apply the faces scale which contains seven simple facial expression drawings to measure children's happiness level.

Contrary to the adult's happiness literature, studies conducted directly with children are very limited. This is because it is debatable that children can give accurate and precise answers to questionnaires about their own quality of life and life satisfaction or not (Ben-Arieh et al., 2014). However, it is very important for children to express their well-being from their own perspective. In this context, Ben-Arieh et al. state that (2014: 16):

> *"Children's well-being should take into account:*
> *(1) children's conditions of living and "objective" measures of their well-being*
> *(2) children's perceptions, evaluations, and aspirations regarding their own lives – including children's subjective well-being*
> *(3) perceptions, evaluations, and aspirations of other relevant social agents (stakeholders) about children's lives and conditions of living, i.e., the opinions of their parents, teachers, pediatricians, educators, social professionals, and so on."*

2.5.3 Factors Associated with Happiness in Children

Knowing the factors that affect the happiness levels of children is very important for happy adults and a happy society. Identifying and recognizing the factors that affect children's happiness is very important for raising happy children. For this reason, many studies have been conducted to identify the factors that affect children's happiness.

Holder and Coleman state that (2009: 330);

> *"Identifying correlates and predictors of happiness in children can help parents, educators, and researchers identify strategies to promote children's happiness. Furthermore, by comparing the factors that contribute to happiness in children with those in adolescents and adults, we can begin to understand how happiness, and the factors that contribute to happiness, differ between age groups."*

Talebzadeh & Samkan present a conceptual model of happiness for elementary schools in Iran. The model includes four main categories (2011: 1470):

- Physical
- Social-emotional
- Individual
- Instructional

In this thesis, the classification of the factors affecting the happiness of adults will be used for the literature review in the context of children:

- Individual
- Interpersonal
- Environmental

2.5.3.1 Individual Factors

Researchers examining the factors affecting children's happiness reveal the relationship between children's happiness and individual factors such as financial factors, number of siblings, age, gender, health etc. (Mertoglu, 2020). Also, the study of Demiriz and Ulutaş (2016) aims to determine the happiness levels of preschool children. The study group is consisted of 400 children who are going to preschool education institutions, and whose mothers and teachers in Ankara. The findings of

this study show that boys are happier than girls. Furthermore, while girls prefer success-oriented happiness, boys prefer fun-oriented happiness. Moreover, study findings reveal that six year old children are happier than five year old.

2.5.3.2 Interpersonal Factors

The relationship between children's social relations and their happiness is studied by many researchers. In Holder and Coleman's study (2009), which was conducted with 432 children and their families, the factors related to social relationships that affect the happiness of 9-12 years old children are examined. This study reveals that social relationships are significantly associated with children's happiness levels. This study also shows that demographic variables associated with the family are not highly related to the happiness levels of children (Holder & Coleman, 2009).

In the study of Mertoğlu (2020) with third to twelfth grade 2187 students, it is revealed that the subjects that make students happy are as follows:

- Enjoying being with other people
- Having self-confidence
- Wanting to go to school
- Having fun
- Feeling a school is a safe place

At the same time, the 5 top subjects that make students unhappy are:

- Being tired
- Confusion
- Having a headache
- Being nervous
- Being unpleasant

This study shows that enrolling in higher grades or getting older, unemployed fathers, divorced parents or bad family relationships make students less happy while the number of siblings they have and financial situation has no significant relation with their happiness (Mertoğlu, 2020). Similar conclusions are supported by study results from Csikszentmihalyi & Hunter (2003). The study is carried out in primary and secondary schools with young people. The study findings indicate that doing company with peers and freely chosen activities increase happiness. In addition, an extraverted lifestyle is also associated with happiness. This result is parallel with other studies in the literature that show that social relationships increase happiness (Csikszentmihalyi & Hunter, 2003). Another study supporting this result belongs to Cheng and Furnham (2002). This study explores adolescent happiness and loneliness and the factors that affect these concepts. Like other studies, Cheng and Furnham's (2002) study reveals that extraversion is an important and direct predictor of happiness. At the same time, their study result shows that friendship and self-confidence are related to the happiness of adolescents. In the study of O'Rourke and Cooper (2010), which is conducted with 312 primary school age children in Australia, students are asked to rate their own happiness levels. The results show that friendship, belonging and optimism are strong indicators of child happiness (O'Rourke & Cooper, 2010). The common point of these studies is that sociality and spending time with others are very important for children's happiness.

Children spend most of their time in school. Considering this situation, Talebzadeh & Samkan drew attention to the relationship between children's happiness and school environment. They state;

> *"Since happiness is one of the permanent goals of human beings and they search the case in different ways and methods, school is one of the most important organizations for their behavior and with a considerable share in happiness creation of people inside the school and then all people of society"* (Talebzadeh & Samkan, 2011: 1470).

Kurniawati Sugiyo Pranoto and Hong (2020) investigate the four- to six-year-old children's perception of happiness in Indonesia. According to the results of this study, the majority of the children mention that they are extremely happy. Additionally, play emerge as the most important source of positive affect in children's perception of happiness. This situation is followed by children's performance at school, financial situation, friendship and family relations (Kurniawati Sugiyo Pranoto & Hong, 2020).

There are some studies conducted in Turkey on the happiness of children. In this context, Yam's (2020) study consists of 36 female and 42 male students attending the fourth grade in a primary school located in the Black Sea region of Turkey. The study examines the concept of happiness in children's eyes by asking them directly the meaning of happiness for them. Children usually answer this question by mentioning the following factors: being together with their nearest, loving and being loved and dreaming. In addition, it is seen that children remark that they are happy when they spend time with their families, receive gifts and play games. According to the results of the study, children give importance to relational and spiritual intimacy, and it is revealed that being supported by their close environment during childhood can contribute to their level of happiness. Besides, result reveals that while some children are more happy with material factors, some children are happy with spiritual things (Yam, 2020).

Compared to the studies carried out abroad, it is very critical to carry out studies on child happiness more in Turkey. Especially as city planners, it is very important to understand and build the environments where children are happier and to produce various policies and guidelines in this context. As illustrated above, there is a gap of knowledge related to which physical environmental factors affect children's happiness in neighborhoods. As aforementioned, the importance of school and home environments are documented in the literature, but less is known, for example, about whether the presence and accessibility of green spaces, low-volume traffic streets or groceries have any effect on children's happiness.

2.6 Children and Place

Children's perception of place and their relationship with place are different from those of adults.

As Cele (2006: 37) states;

> *"As adults, we often try to use logic and analysis to understand our surroundings. Children, on the other hand, continuously explore their surroundings and their interaction with it is bodily. They smell, touch, taste, climb, swing, bend and stroke objects. They balance on things, they use smell for direction, they take their shoes off in the grass and they stamp in puddles. They let their bodies explore a place in order to understand it, to gain knowledge. They do this because it is fun, exciting and just because it is possible. Place interaction and perception is a continuously developing action and the relationships we create with places as children remain within us, in many cases for the rest of our lives."*

Similarly, James (1990) mentions that even if children use the same spaces as adults, such as parks or public spaces, what they do or their expectations from these spaces are likely to be different because children's sense of place is different from those of adults.

Children begin to produce positive and negative thoughts and perceptions about their environment from an early age (Jack, 2008). Furthermore, as Jack (2008) mentions, personal character, family situation, environmental factors and cultural context are the main determinants that affect children's use of space (Jack, 2008). It is very important to learn the place preferences of young people and how they perceive the environment in order to design places that support their well-being (Sommer, 1990).

In a PPGIS (public participation GIS) study, which is conducted in Helsinki, Finland, people from different ages, including children, are asked to mark the places that they perceive as negative and positive (see Laatikainen et al., 2017). This study reveals

that the positive places of people vary considerably according to different age groups. For example, while adults mark places closer to their homes, adolescents mark places farther away (perhaps because of their willingness to escape from daily routines and their parents). While the places of adults are mostly green and blue areas such as nature, parks, sea and water and commercial areas, the places of children and adolescents can be described as sports, residential and commercial places. In sum, children and adolescents prefer different places than adults, and the preferred or positive physical environment varies according to age groups (Laatikainen et al., 2017).

Perceiving the place from the perspective of children is very important especially for planners because children are an indispensable chance for the future and it is crucial to involve them in the planning process. As James (1990: 279) states; *"today's children are tomorrow's adults."* It is vital to learn the perspectives of children about their neighborhoods and to understand whether this way of thinking overlaps with the perspective of adults and families, in order to define the indicators and neighborhood measures necessary for child well-being (Coulton & Korbin, 2007). Besides, while addressing the concepts of space and place, Rigolon (2011) sees it as a way to involve children in the design process of their daily lives, as well as to give meaning to spaces, that is, to make space a place. In addition to considering children in the decision-making process, it is also important to include them in the planning process and get their ideas about the place where they live, their neighborhoods or cities, and it is beneficial for them to take an active and responsible role (Chawla, 2002).

Children's perception of the neighborhood is studied by van Vliet (1981) with 148 city and suburban youth in Toronto. Young people living in both areas also talk about both negative and positive aspects of their neighborhood and some answers about child density and land use patterns can be associated to examine the effect of specific environmental variables on children's perception of their neighborhood in the study. For example, if there is an area that can host many recreational activities in their

neighborhoods, children can meet new people and socialize and at the same time, if there are various land uses, children find more activities to do in their neighborhoods (van Vliet, 1981). The study is very important in terms of guiding planners to increase children's positive thoughts and experiences about their neighborhoods.

Besides, the child friendly city movement is very important in order to include the views and experiences of the children in the planning process and to enable the children to express their opinions about the environment they live in. The child friendly city concept, initiated by UNICEF, emphasizes that all young people have a right to express their opinion about their environment and cities and it uses the following expression while defining the concept;

> *"The concept of a Child Friendly City is not based on an ideal end state or a standard model. It is a framework to assist any city to become more child-friendly in all aspects of governance, environment and services"* (UNICEF, 2004a: 2-3).

The main aim of this movement is to protect the fundamental rights of children and to enable all children to live in better environments (Severcan, 2015). Some scholars in the literature use the term child-friendly in their study and they discuss child-friendly environments that can be associated with both physical and mental health of children (Adams et al., 2018; Broberg et al., 2013). The child friendly city should be handled with the participation of both children and planners, local governments, families and all persons (Gökmen & Taşçı, 2016). Chatterjee (2005) highlights the concept of place friendship while examining the relationship between children and place. She emphasizes that the concept of place friendship is a concept associated with place in childhood and supports the development of self-identity and children interact with places to fulfill some of their needs, so it is important that that place meets some needs for children to choose one place over another. Chatterjee (2005) also refers to the concept of a child-friendly place, which is an important advantage for children's development (Chatterjee, 2005). By referring to Doll's study (1996), she implies that there is close connection between children's happiness and child-

friendly cities, as children's immediate experience of their well-being determine whether their environments are child-friendly enough or not.

2.7 The Role of Neighborhood Places in Children's Happiness

Cele (2006: 39) argues;

> *"Many children grow up in cities and, having noted that it is crucial for children's well-being and construction of identity to have access to outdoor environments, it becomes important that cities function for children, too. But cities are no easy equations to solve. The rapid pace, the intensity and density, the crowds of people and the traffic – these are at once both the heartbeats and the veins of the city that many people love, breathe and live with, as well as the main issues that cause restricted mobility for children, or disabled, elderly or apprehensive people."*

Given these issues, it is very important to work with children and examine how the neighborhood places affect them. Neighborhood characteristics, places and built environment are very important in terms of mental health as well as affecting the physical health of children. The effect of the neighborhood on children has previously been studied by some scholars in the context of their physical health, walking or cycling behaviour (Timperio, 2004) and outdoor play behavior (Aarts et al., 2012). Although the relationship between the happiness and well-being of adults and the built environment has been studied extensively, studies with children are quite limited. Previous studies have mostly examined individual factors that affect children's happiness. In this context while investigating the individual, interpersonal and community effects on adolescents' well-being, Morgan et al. (2009) reveal individual, family, school and friends play an important role in determining the subjective well-being of culturally differentiated urban adolescents. However, the study does not find any evidence for whether neighborhood variables are important predictors of life satisfaction or subjective well-being (Morgan et al., 2009).

Recently, the happiness of children and the urban built environment have gained importance and attracted the attention of researchers. The relationship between happiness of child or adolescent and neighborhood places has been emphasized by many from different aspects of the neighborhood places such as, public spaces (Benita et al., 2019), open green areas (Thomas & Thompson, 2004; Barrera-Hernández et al., 2020; Cui & Yang, 2021; Adams et al., 2018), mixed used (Laatikainen et al., 2017), urban transportation (O'Brien& Tranter, 2006; Waygood et al., 2017), local activity spaces shaped by travel behaviour (Babb et al., 2017) and urban-rural differences (Rees et al., 2017; Newland et al., 2014),

2.7.1 Public Places and Children's Happiness

The relationship between children's happiness and public spaces has been studied before in the literature. In the study of Benita et al. examining public spaces and momentary subjective well-being, students aged seven-eighteen in Singapore used a one-week sensor. They report their happy moments on this sensor and geographical data is also obtained. The results of the study prove that the likelihood of momentary happiness is increasing in areas such as community centers, open spaces, or waterfronts (Benita et al., 2019).

2.7.2 Open Green Areas and Children's Happiness

There are some researchers who have investigated the role of nature in children's happiness and examine the connection with nature. Thomas and Thompson (2004) draw attention to the fact that children are losing their ties with natural areas, emphasizing that children's well-being and environmental quality are interconnected and cannot be considered independently of each other (Thomas & Thompson, 2004). Within this scope, children's relationship with nature and their happiness are examined in the study of Barrera-Hernández et al. (2020), and it is mentioned that their connectedness to nature affects their sustainable behavior and happiness levels.

The study result confirms the impact of connection to nature on sustainable behavior as well as happiness. Children who perceive themselves as more connected to nature display more sustainable behaviors and have more happiness (Barrera-Hernández et al., 2020). Results supporting the previous study are also seen in Cui & Yang's study with 458 Chinese children. Researchers examine the relation between children's happiness and their connection to nature. The study also considers gender and age differences and results of the study similarly show that connection to nature can be associated with happiness in both boys and girls (Cui & Yang, 2021). Similarly, Adams et al. (2018) also search for the relation of nature and children's well-being in their study. Their purpose is to explore the role of natural environments in the formation of Child Friendly Cities through the eyes of children (Adams et al., 2018). They also consider various implications for children's subjective well-being. The study is conducted with sixteen male and sixteen female students aged thirteen-fourteen years each living in Cape Flats, South Africa, which is a low socioeconomic region. A significant finding of the study is the importance that participants place on nature for child-friendly neighborhoods. However, it should be noted that the unsafe nature of the participants' community highly restricts participants in their contentment about their neighborhood (Adams et al., 2018).

2.7.3 Mixed Use and Children's Happiness

As stated in Chapter 2.3.1.3, mixed use uses provide opportunities such as activity diversity, physical activity and socialization. Children, like adults, prefer mixed use as areas for socialization and activities. However, although there are researchers examining the relationship between mixed use and adult happiness, examining this relationship within the context of children has been incomplete. Some researchers address some aspects of mixed-use areas such as commercial areas and emphasize that children prefer these places (Laatikainen et al., 2017).

2.7.4 Urban Transportation and Children's Happiness

Study of O'Brien and Tranter (2006), conducted in Canberra, Australia, show that children prefer more active modes of transportation. It is revealed that happiness coincides with these transportation preferences. Hence, walking or cycling can have positive effects on children's health and increase their happiness (O'Brien& Tranter, 2006). Similar findings are found in the study of Költo et al (2021). This study, which examines the relationship between the modes of transportation between home and school and the mental well-being of children, is based on Ireland and studied with the age group of 10-17. The study findings show that children who commute to school by cycling report a higher rate of positive effects on their well-being (Költo et al., 2021).

2.8 Concluding Remarks

In the theoretical framework section, the author examined the literature based on the certain topics.

The literature search is carried out from general topics to specific ones. First, the concept of happiness, its measurement and the factors affecting happiness are examined. Afterwards, the concept of place is investigated. Then, the relationship between the concepts of place and happiness is examined. Finally, all these concepts are examined based on the concept children.

Table 2.1. Main Concepts Identified for the Literature Research

Main Concepts	
Happiness	**Children**
Definition	Definition
Measurement	**Children's Happiness**
Factors	Perception
Place	Measurement
Definition	Factors
Space and Place	**Children and Place**
Importance of Place	Sense of Place
Meaning of Place	Perception
Place and Happiness	**Place and Children's Happiness**
Public Spaces	Public Spaces
Open Green Areas	Open Green Areas
Mixed Used	Mixed Used
Urban Transportation	Urban Transportation

There are many factors that affect the happiness of children. These factors can be grouped under the main topics as individual, interpersonal and environmental. It has been revealed by studies in the literature that the environmental factors affect children's happiness as much as individual and interpersonal factors. I will discuss the extent to which neighborhood places affect children's happiness levels by considering that children also take into account individual and interpersonal factors while rating their happiness levels, as will be discussed in the next section. At the same time, neighborhood places may overlap to some extent with individual and interpersonal factors. For example, children who are happier in the public spaces can explain the reason for this as social interaction. In other words, all these mentioned factors and categories are intertwined and considered in a way.

Table 2.2. Factors Affecting Happiness in the Literature and Categorization of These Factors

Categories	**Happiness Determinants**
Individual Factors	Personal Improvement
	Growth
	Spirituality
	Health
	Education
	Social Status
	Income
	Age, Gender
Interpersonal Factors	Social Environment
	Intimate Relationships
	Relationship with Others
	Social Interaction
Environmental Factors	Public Spaces
	Open Green Areas
	Mixed Use
	Urban Transportation

As discussed in the theoretical framework, there are many different determinants of happiness in the literature (Veenhoven, 1997; Kim et al., 2007; Lu & Shih, 1997; Diener, 2009). These determinants can be grouped into three main categories: individual, interpersonal, environmental. According to a city planner's perspective, the literature is examined by focusing on environmental factors afterwards.

Table 2.3. Literature Addressing the Relationship Between Neighborhood Places and Happiness of Adults from Different Aspects

Author	**Happiness Factors** **Neighborhood Components**
Kumar, 2017 Sepe, 2017 Leyden, 2003 Mavruk et al 2020	Public Places
Kent & Thompson, 2014 Bertram & Rehdanz, 2015 Bell et al., 2018 Han & Kim, 2019 Grahn and Stigsdotter, 2003 Birenboim, 2017 MacKerron & Mourato, 2013	Open Green Areas
Bahadure & Kotharkar, 2012 Grant, 2002 Kent and Thompson, 2014 Kim & Kaplan, 2004 Kumar, 2017	Mixed-Use
Schwanen, 2021 Gim, 2021 Liu et al., 2021 Fan et al., 2021	Urban Transportation

Table 2.4. Literature Addressing the Relationship between Neighborhood Places and Children's Happiness from Different Aspects

Author	**Happiness Factors** **Neighborhood Components**
Benita et al., 2019	Public Places
Thomas & Thompson, 2004 Barrera-Hernández et al., 2020 Cui & Yang, 2021 Adams et al., 2018	Open Green Areas
Laatikainen et al., 2017	Mixed-Use
O'Brien & Tranter, 2006 Költo et al., 2021	Urban Transportation

CHAPTER 3

METHOD

This chapter provides information about the context of the study, selection of the neighborhoods and participants, data collection techniques and analysis.

3.1 Research Context of the Study

The data of this thesis is collected as part of a larger scale TUBITAK (the Technological and Research Council of Turkey) funded research project entitled "The Relationship between Urban Form, Air Pollution and Childhood Asthma" (project no. 219K243). One of the aims of this project is to understand the places liked and frequently visited by children so that in the later phases of the study these places can be used to monitor the air quality at the street level. Among with the principal investigator and some other research assistants, the author of this thesis (as a research assistant in the project) is engaged in all field activities that are carried out from the initiation of the project until the submission of this thesis. The field activities included: GIS analysis for measuring the urban form characteristics of the selected neighborhoods (n=8), distribution and collection of the consent forms in the selected schools and participatory mapping activities in the chosen schools (n=19).

3.2 Planning Context of the Study

This study is conducted in the capital city of Turkey, Ankara, where a variety of urban form characteristics can be observed in different parts of the city. In this section, the history of Ankara is briefly explained and the historical events that shaped the development of the city is mentioned to provide a background information for the context of the study.

With the declaration of Ankara as the capital with the 1924 constitution, a brand-new city was established. Ankara is the symbol of the transition from an oriental world to a more rational world, and it is expected from this city to fulfill the requirements of this new world understanding and to reflect a suitable lifestyle (Tankut, 1988).

The first plan of Ankara was prepared by Lörcher between 1924 and 1925. However, after becoming the capital city, a new plan was needed because the population growth in Ankara was more than what Lörcher expected. The most important development in Ankara's master plan after 1927 was the master plan competition opened in 1927 and Jansen plan that started in 1929. The Jansen plan integrated the old and new city and proposed new development areas, largely on the southern part of the old city (Kartal, 2019). However, as the population of Ankara increased more than the expected, the Jansen plan became also insufficient. As a result of these urbanization trends, the Yücel-Uybadin plan came into effect. With the Yücel-Ubaydin plan in 1957, these problems were tried to be solved, the macroform of the city was expanded and showed an uncontrolled growth towards the west. These times also coincide with the rapid population growth and the slum problem. After Ankara became the capital city, it started to receive immigration rapidly. As a result of the intense migration and urbanization process of the city, a rapid transition has begun from the rural areas of the country to the urban areas. This construction generally took place in the empty areas of the city or in the outer corners of the old city (Tankut, 1988). Hence, the process of squatter housing started especially in areas close to urban services. Çakır (2011) gathered the causes of squatter houses problem under certain headings:

Rapid population growth

Inadequate city plans and programs

Insufficient opportunities such as health, education, transportation in rural areas

More job opportunities in city centers

The unplanned industrialization

The mechanization of agriculture

In the 1950s, Turkey moved to a multi-party system. In those years, the government did not react to the slum problem. After 1980, privatization and neo-liberal policies affected the society and urban transformation projects started to be implemented for the slum areas. Furthermore, the amnesty process of illegal structures began, and these structures were legalized. With the influence of the neoliberal policies adopted since the 1990s, these slum areas have been transformed and high-rise apartments have been built in these areas. Additionally, at these times, public uses have been shifted through the west corridor and various public uses, universities have been placed on the Eskişehir road (one of the main growth corridors of the city), and the city has grown towards the periphery where many mass housing projects have been built (Söylemez et al., 2018). During the 1990s, the city of Ankara reached the metropolitan city level. Hence, 1990 Metropolitan Area Master Plan was made. Today, city-scale strategies and zoning plans have been made under different themes such as 2023 Capital Ankara and 2038 Ankara environmental plan (cancelled) (Söylemez et al., 2018). Figure 3.1 provides the illustrations of all the plans crafter for Ankara's development from the past to present.

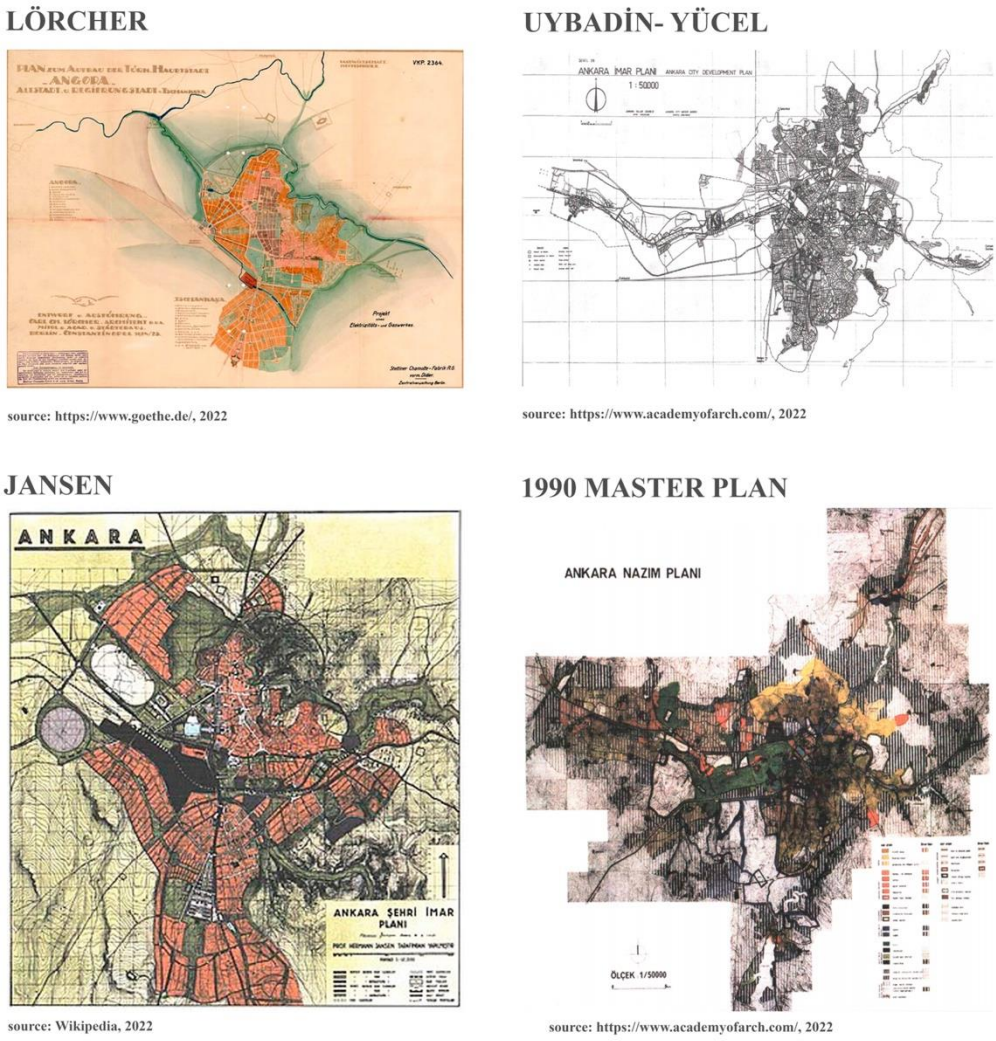

Figure 3.1. Historical Representation of Plans Involved in Ankara's Planning Process

As indicated in Figure 3.1, the plans that have shaped Ankara's planning process from past to present are as follows:

1. 1925 Lörcher Plan
2. 1932 Jansen Plan
3. 1957 Yücel-Uybadin Plan
4. 1990 Ankara Master Plan

As part of this thesis study, the author relied on the data collected from two of the chosen neighborhoods. These neighborhoods are located in different parts of the city, one in Sincan and the other one in Mamak district of Ankara. Among the eight neighborhoods chosen in the context of the larger scale TUBITAK-funded research project, the author preferred to focus on these two neighborhoods because of their varying urban form characteristics.

Sincan is a district located on the periphery of Ankara. In line with the urbanization trends of the country, especially starting after the 1990s, large-scale high-rise mass housing estates have started to mushroom in this district. On the other hand, Mamak, located in the center of the city, is a region where squatter housing areas have been built after the declaration of Ankara as the capital city of Turkey. The region has quickly joined the squatting process because it is an area that is very close to the center of the city, Ulus, but difficult to reach in terms of both geographical and physical barriers.

3.3 Selection of the Neighborhoods

The author has focused on two neighborhoods from two districts of Ankara: Abidinpasa Neighborhood from Mamak and Selçuklu Neighborhood from Sincan district (see Figure 3.2). While Abidinpaşa neighborhood is in the inner-city, close to the historic center of Ankara, Selçuklu neighborhood is located on the periphery of the city. In addition to being in different locations of the city, these two neighborhoods are selected based on their perceived different urban form characteristics. Mamak Abidinpaşa has a denser residential texture and has more windy roads whereas Sincan Selçuklu has more parks and green areas since houses are mostly in the form of mass housing (detached high rise apartments surrounded by green areas) and gardens with apartments (see Figure 3.3). The roads are more regular and there are vacant lands in the Sincan Selçuklu neighborhood. As explained in the previous section, the Mamak region is an area where slums are concentrated due to its proximity to the city center. Currently, there are many urban transformation

projects in the region and high-rise apartments are being built (see Figure 3.4). In addition, while the land uses in Sincan are mostly residential, Mamak region has different types of land uses.

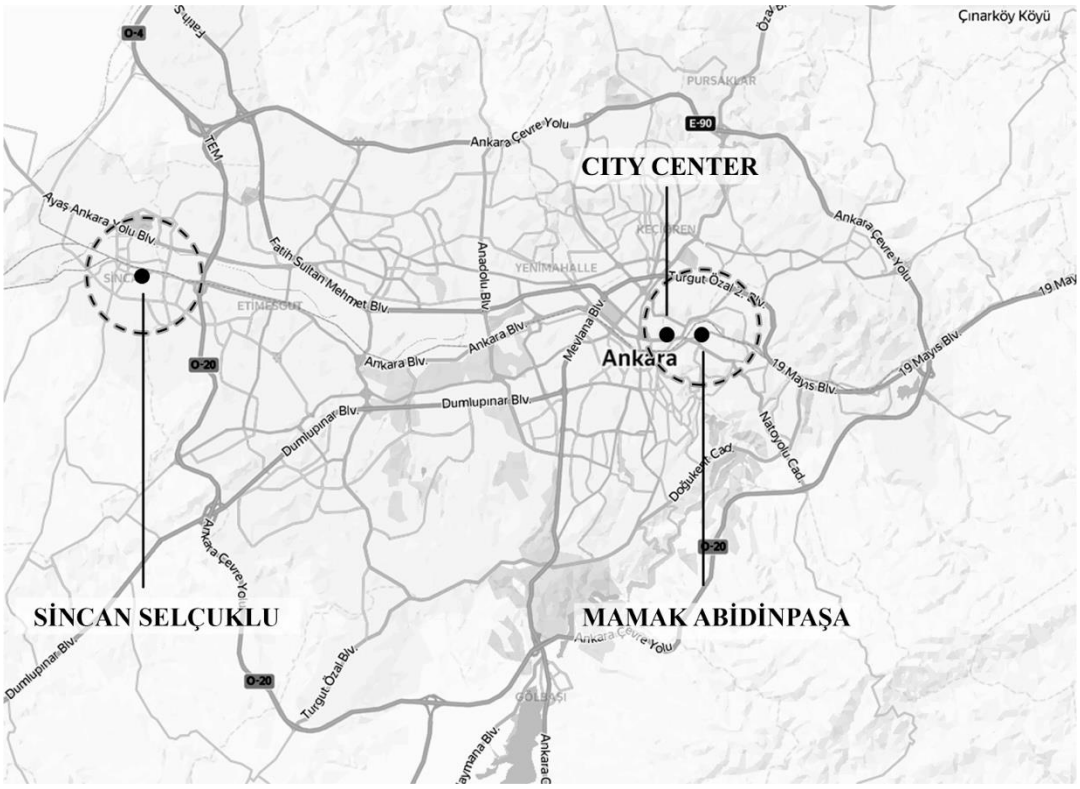

Figure 3.2. Location of the Selected Neighborhoods

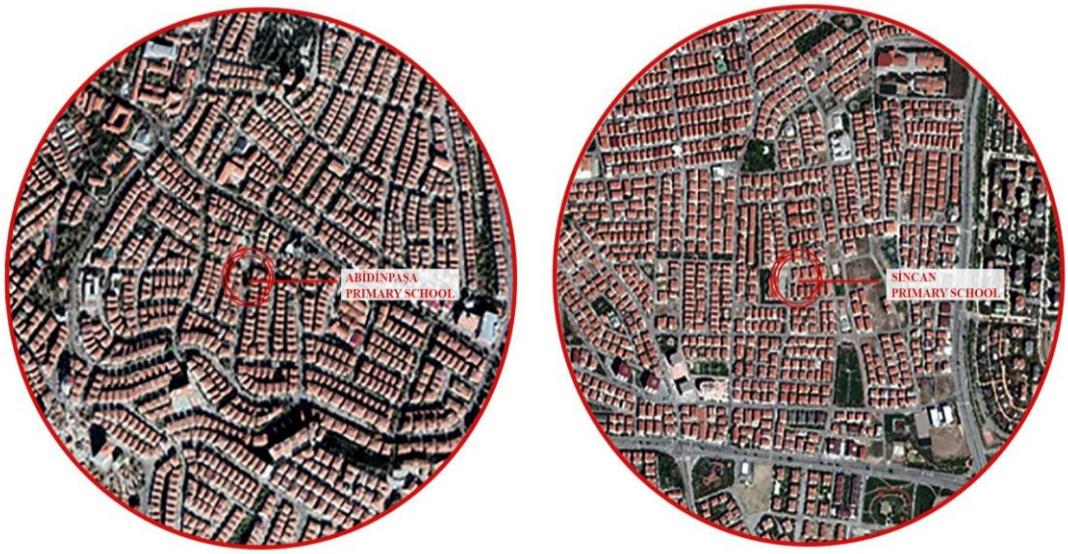

Figure 3.3. Determined Study Areas. Left: Abidinpaşa Primary School and its near environment. Right: Sincan Primary School and its near environment.

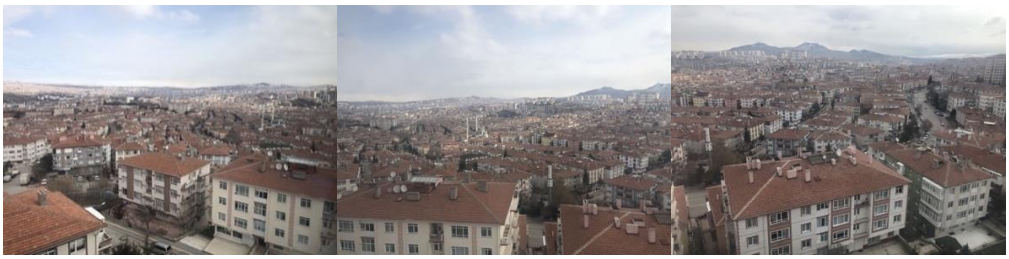

Figure 3.4. Abidinpaşa Neighborhood (Author, 2022)

Figure 3.5. Selçuklu Neighborhood (Author, 2022)

3.4 Selection of the Children

Once the neighborhoods are selected, the research team of the larger scale project has focused on all the public schools in the chosen neighborhoods for the selection of the child participants. Studies show that children who attend public schools in Turkey are more likely to walk to school than children who attend private schools (Severcan, 2018). As part of this thesis, the author has relied on the data that were collected in the public elementary schools in the chosen neighborhoods (n=2).

Children aged 9-10 (third and fourth grade) living in the selected neighborhoods constitute the sample of the study. After the introduction of the study to the school administrations, all third and fourth grade students in the chosen primary public schools were informed about the project. Afterwards, children were given consent forms and asked to deliver these forms to their parents. Within this scope, 177 parent consent forms werre distributed to Mamak Abidinpaşa Primary School and 97 forms are returned. 364 parent consent forms are distributed to Sincan Primary School and 199 of them are returned.

All children who wanted to participate in the study and whose participation was approved by their parents were included in the study. Table 3.1 shows the number of distributed and collected consent forms.

Table 3.1. Number of Distributed and Collected Consent Forms

Selected Neighborhoods	**Distributed Parent Consent Form**	**Collected Parent Consent Form**
Mamak Abidinpaşa	177	97
Sincan Selçuklu	364	199

Since the mapping activity is carried out during the COVID 19 pandemic, some children who had a consent from their parents could not participate in the study because of their sickness (some of the classrooms were in quarantine). As Table 3.2

illustrates 57 children participated in the participatory mapping activity in Abidinpaşa neighborhood (24 girls, 33 boys), and 93 children participated in this activity in Selçuklu neighborhood (55 girls, 38 boys).

Table 3.2. Sample Size and Gender Distribution of the Participants

Selected Neighborhoods	**Female Participants**	**Male Participants**	**Total Participants**
Mamak Abidinpaşa	24	33	57
Sincan Selçuklu	55	38	93

3.5 Data Collection

This thesis examines the effects of the physical attributes of the neighborhood environment on children's happiness. It asks:

1. Do children feel happier in some neighborhood contexts more than others, and if yes in which contexts?
2. Which places of the neighborhood promote children's happiness?
3. Which places of the neighborhood predict children's happiness? In other words, do some of the neighborhood places significantly affect children's happiness?

To answer these research questions, the author has used a mixed-method research approach. This included field observations, the analysis of the neighborhood places by using Geographic Information Systems, and participatory mapping and questionnaire activities with children.

3.5.1 Assessment of the Objective Measures of the Neighborhoods by using GIS

After the selection of the schools from each chosen neighborhood, as part of the larger scale TUBITAK funded research project, buffers with 800 meters are created around the selected schools. A review of the children and physical activity literature shows that a similar approach of drawing buffers around schools has been used in many studies including Broberg et al. (2013) and Ozbil et al. (2016). It is assumed that a significant amount of the student population in the selected public schools are living near-by, and hence instead of analyzing the urban form features of the administrative boundaries of the chosen neighborhoods, the project team (including the author) has decided to analyze the area that is within walking distance to the school (which is usually assumed to be 800 meters, as indicated in many studies (McDonald & Aalborg, 2009; DiGuiseppi, Roberts, Li, & Allen, 1998).

The analyzes of the selected neighborhoods are made by the project team (including the author of this thesis) via GIS and Netcad. The existing maps, received from the Ankara Metropolitan Municipality, are updated after a detailed field observation study. In the field observations, the project team recorded the land use and floor height of each building located inside the 800-meter buffer area, and whether the buildings had gardens or not. New blocks and buildings are drawn by using the recent satellite images. Next, all records from the field observations are transferred to ArcGIS for further analysis. In this thesis, the main purpose of these analyzes was to highlight the fact that both neighborhoods differed from each other regarding their urban form characteristics (e.g., land use mix, building density and greenness index). They were also used to triangulate the results collected in the later phases of the study (e.g., to cross-check whether children's marked locations exist in reality).

3.5.2 Participatory Mapping Activity

Maps are generally used to represent places in different scales. They can also be used for some other purposes like finding out the geographical location of particular places, or as stated by Powell (2010), for recording and understanding the senses and lived experiences of ordinary people (Powell, 2010). It can be used to discover the attitudes of individuals towards places. As Travlou et al. (2008: 321) states;

> *"The place mapping method provided a clear structure to the discussions and focused the attention of the participants on the geographic area represented by the map."*

The purpose of the participatory mapping activity is to learn the ideas and thoughts, problems and expectations of the participants about the places. Hence, various feelings and thoughts of people about places can determined. One of the advantages of this method is invoking connection of people with the place. While referring the advantages of the mapping method, Powell notes that (2010:553):

> *"Mapping can offer researchers a view into how people, children, parents, community members see their world, what is important to them, what their lived social relations are, and where they spend their time."*

Mapping as a research method has been widely used to understand children's interaction with their environment since it is a very practical and useful method in terms of both attracting children's attention and allowing them to express their own thoughts about places (Travlou et al., 2008; Laatikainen et al., 2017; Broberg, 2013; Severcan, 2015). Laatiken et al. (2017) carried out a mapping study with 672 children to examine the differences between age groups of different place uses. In the study of Travlou et al. (2008), with 91 young people in Edinburgh and Sacramento, researchers explored the benefits of place mapping. They revealed that the method provides a productive discussion among the participants and ensure an equitable participation.

In the pre-field stage of the study, the project team grouped the children based on their gender and class. Next, the participant lists were sent to the school

administration. Negotiations were held with the school administration regarding date, time and place of the study. Once the school administration approved the date, time and place of the study, the project team (as the moderators of the participatory mapping activity) went to the chosen public schools to carry out the participatory mapping activities with the selected children. The number of the moderators varied from one school to another and is determined by the number of the child participants in each school. The event setting also varied from one school to another. While some school administrators assigned a few classrooms some others assigned a library or theatre hall to the project team. The project team prepared the setting before inviting the children to the activity setting.

In the field stage of the study, a minimum of 4 and a maximum of 7 children are gathered at their designated place for each moderator. Each group of children were given two 50x70 cm size posters, which included the map of their neighborhood (showing approximately 1 km radius buffer around the chosen public school) and an empty legend. Next, children were informed about the purpose of the activity. Thereafter, the children were shown the location of their school and a few well-known attraction points around their school (like a hyper-market or a neighborhood park). Followed by this, each child was asked, first to find their home, record the location of their home by using a sticker, and then by using color pens to mark their way to school from home if he/she was walking to school. Finally, by using a variety of stickers, in the first poster, each child was asked to mark and discuss the places where they feel happy; in the second poster, to mark and discuss the places where they feel unhappy. Different stickers were used for different reasons of happiness and unhappiness by different children (for example a pink butterfly to represent a playground where the respondent play hide-and-seek with his/her peers) (see Figure 3.5). One child participant used as many different stickers as he/she wanted to represent where he/she felt happy and why he/she felt that way. The legends of the posters were used to indicate what each sticker or color line mean. The moderator provided the instructions and guided the child participants throughout the study. The moderators ensured that each child participated in the study equally and channeled

the discussions around the ‘tables.’ In case the child participants had issues in finding their home or points of destination, the moderators used their mobile map apps to help children finding out their points of destination.

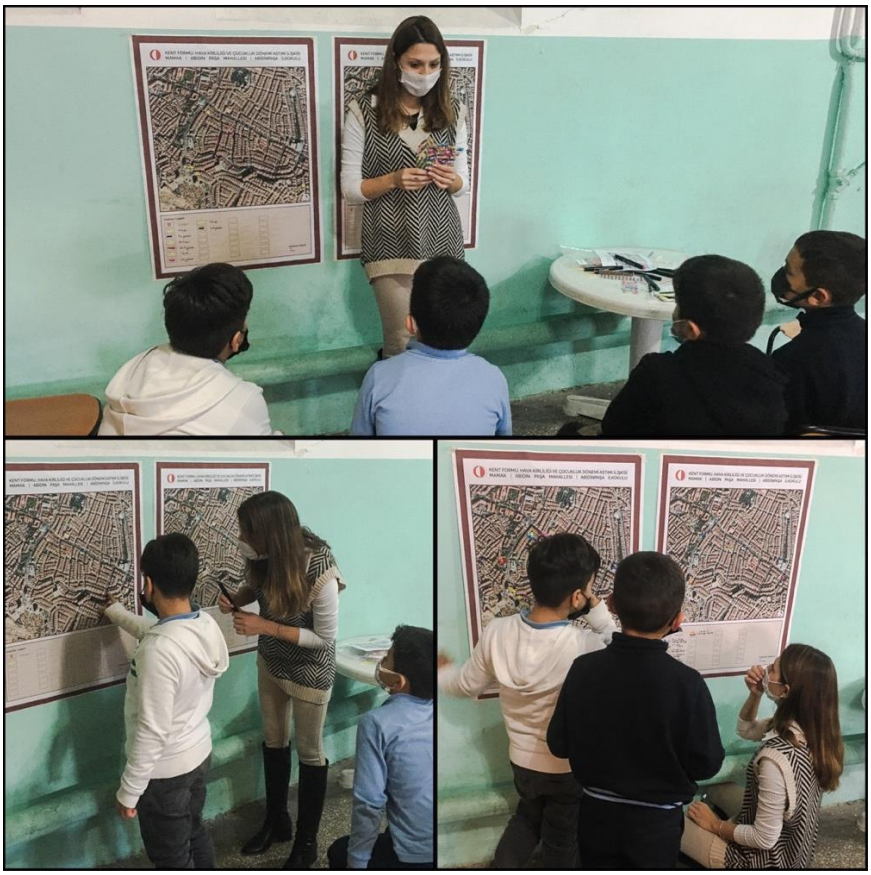

Figure 3.6. Mapping Activity: Mamak Abidinpaşa Primary School

As can be seen in Figure 3.6, the mapping study at Mamak Abidinpaşa Primary School is carried out in a large conference room. Maps are affixed to the walls and chairs for children are positioned.

Figure 3.7. Mapping Activity: Sincan Primary School

As can be seen in Figure 3.7, classrooms are provided for mapping study in Sincan Primary School by the school administration. The children are participated in the study by sitting around a table.

Figure 3.8. Examples of Mapping Activity in Abidinpaşa and Sincan Primary Schools, First Maps, Children's Happy Places. Top: Abidinpaşa Primary School, Bottom: Sincan Primary School

In figure 3.8, Abidinpaşa and Sincan Primary School 3rd and 4th grade students have marked the places where they are happy on the maps with stickers.

Figure 3.9. Examples of Mapping Activity in Abidinpaşa and Sincan Primary Schools, Second Map, Children's Unhappy Places. Top: Abidinpaşa Primary School. Bottom: Sincan Primary School

In figure 3.9, Abidinpaşa and Sincan Primary School 3rd and 4th grade students have marked the places where they are not happy and they do not like on maps with stickers.

3.5.3 Happiness Questionnaire

At the end of the participatory mapping activity, each participant was asked to respond to a question about their happiness in the neighborhood. They were asked to indicate their level of agreement with the following statement - “I am very happy in my neighborhood” - in Likert scale, where 1 indicates strongly disagree, 2 disagree, 3 neither agree nor disagree, 4 agree and 5 strongly agree.

Acknowledging the fact that in addition to a variety of physical environmental factors, individual and social factors may affect children's happiness, in the mapping activity, children largely indicated the physical environmental elements (both built and natural) that affected their happiness. Responses to the questionnaire reflected all these factors that may affect children’s happiness. However, it is also assumed that physical environmental characteristics of a neighborhood is highly influential in affecting children’s happiness in the neighborhood.

3.6 Data Analysis

This section provides information about how the author (and the project team) analyzed the obtained data.

3.6.1 Urban Form Analysis

Various analyzes are made to emphasize the different urban form characteristics of the selected neighborhoods.

3.6.1.1 Land Use Mix

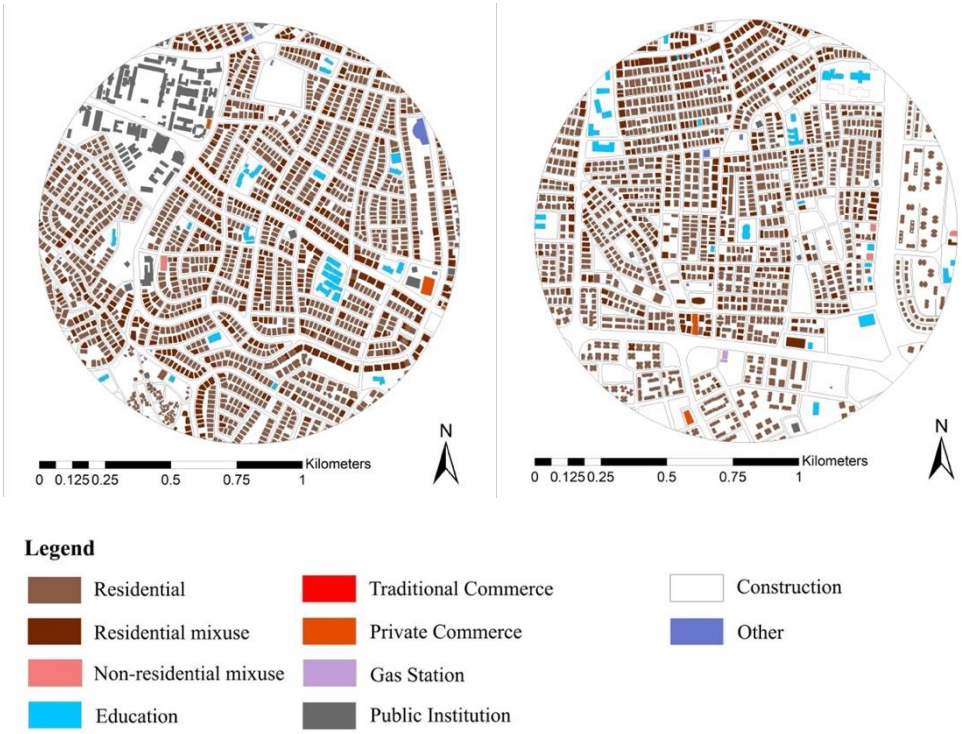

Figure 3.10. Landuse Decisions for both Neighborhoods (Abidinpaşa Neighborhood: left, Selçuklu Neighborhood: right)

While examining land use diversity, Frank et al. (2004) formula is used. According to this formula, the closer the ratio of land use diversity to the number "0", the more homogeneous land use diversity in that neighborhood. Closer to the number “1” means more land use diversity. The formula is as follows: 1 - [(RESa – N_RESa) / (RESa + N_RESa)]. In this formula, RESa and N_RESa represent the residential area and non-residential uses (commerce, school, industry, etc.) for neighborhood a, respectively.

Table 3.3. Landuse Mix Values for both Neighborhoods

Neighborhoods	LUMix
Abidinpaşa Primary School	0,52
Sincan Primary School	0,40

As can be seen in Table 3.3, Sincan Selçuklu neighborhood has a more homogeneous land use diversity as the LUMix ratio is closer to 0. The value of the Mamak Abidinpaşa neighborhood is closer to 1. Such a difference is expected because of its proximity to the center of Ankara.

3.6.1.2 Green and Open Area Analysis

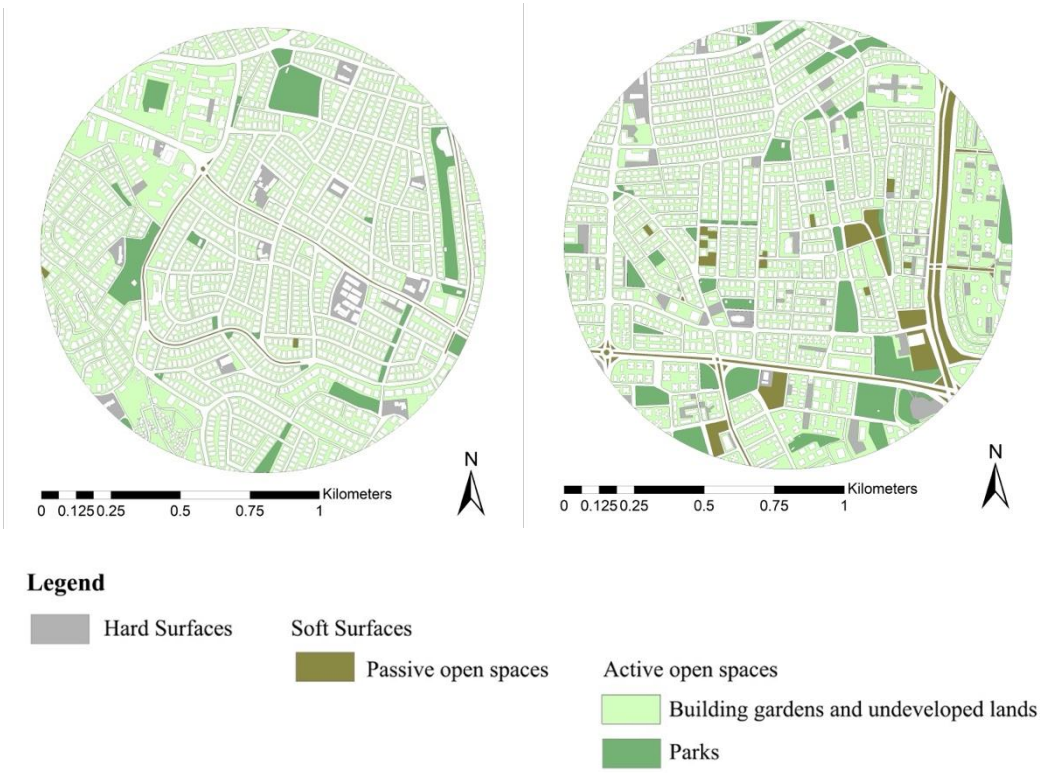

Figure 3.11. Open Green Areas for both Neighborhoods (Abidinpaşa Neighborhood: left, Selçuklu Neighborhood: right)

For each neighborhood, the following green area ratios are obtained by dividing the total active open area, the sum of the active and passive open areas and the parking areas by 800 meters buffer area (see Table 3.4).

Table 3.4. Open Green Area Ratios for both Neighborhoods

Neighborhoods	Active Open Area Ratio	Active+Passive Open Area Ratio	Park Area Ratio
Abidinpaşa PrimarySchool	0,43	0,43	0,06
Sincan Primary School	0,44	0,49	0,08

In Table 3.4, although the ratios are close to each other, the ratios of Selçuklu Neighborhood are higher than Abidinpaşa Neighborhood. This may be caused from the location of Selçuklu neighborhood and type of the housing with a site garden.

3.6.2 Analysis of the Maps and Questionnaires

After the mapping activities in each school are completed, the maps are digitized in the GIS environment. For each area, a base map is prepared in GIS. The stickers and legend items that the children affixed on the maps are digitized by assigning 'points' on the places. The digitization of the maps is prepared in three stages: processing the points where children indicated that they are happy, drawing children's walking routes between school and their home, and processing the points where children indicated that they are unhappy.

In chapter 2.3.1 and 2.7, environmental factors affecting happiness and neighborhood places were examined under 4 main headings: public spaces, open green areas, mixed uses and urban transportation. In this context, to make the categorization more inclusive, the literature on children's places and neighborhood places is examined. A systematic categorization is made to facilitate the processing of the data and the main headings are determined as main category and sub-category. Afterwards, referring to the literature on children's places in the previous chapter of the thesis (more particularly, please see Severcan, 2018), the following spatial categorization is made:

Spatial Categories

1. Public Realm
    1.1. Squares
    1.2. Streets
    1.3. Traditional Commercial Establishments
    1.4. School Area
    1.5. Public Open Area
    1.6. Recreation Area
    1.7. Public Institution
2. Privatized Public Places
    2.1. Big Box Stores
    2.2. Shopping Malls
    2.3. Private Courses
3. Work/Production Places
    3.1. Office
    3.2. Petrol station
    3.3. Warehouse
4. Nature and Found Places
    4.1. Home Gardens
    4.2. Public Green Open Spaces
    4.3. Found Places
5. Settlement Areas
    5.1. Slum Areas
    5.2. Regenerated Areas (e.g., TOKI's Mass Housings)
6. Houses
    6.1. Own House
    6.2. Other House

The reason for making such a categorization is to see what kind of places affect children's happiness in later analyzes. In addition, the category of 'Home' for

students' homes and ‘School’ for their schools is created. Second, the id number is determined for each point, and the place where that point is located and the action taken at that point are marked in GIS. The same process is repeated for the second map (the poster which shows the places where children feel unhappy). However, instead of the action, the reason why the children do not like the place, do not spend time and is unhappy is noted. This is partly because, when children are asked to indicate the reason of why they feel happy in a particular place, they usually link the reason to an activity (like a place where they play football with their peers); when they are asked to indicate the reason of why they feel unhappy in a place, they link the reason to the problems of that particular setting (like noise, pollution, presence of street dogs, etc.). The processed data is exported as an excel file to be matched with the happiness questionnaire.

To answer the first research question, "Do children feel happier in some neighborhood contexts more than others, and if yes in which contexts?”, the author has used an unpaired student t-test. To answer the second research question, “which places of the neighborhood promote children’s happiness?”, the author has used the frequency analysis in SPSS. In this context, unhappiness maps and data are also considered to compare the places where children are happy and unhappy. To answer the third research question, “which places of the neighborhood predict children’s happiness? In other words, do some of the neighborhood places significantly affect children’s happiness?”, the author has used ordinal regression model provided by SPSS to explore the predictors of the children’s happiness. Ordinal regression model is commonly used in the literature when there are ordered dependent variable such as satisfaction or happiness (Lovejoy et al., 2010; Buys & Miller, 2012; Pratiwi & Kismiantini, 2019).

Before proceeding to the analysis part, the happiness scores of each neighborhood are coded differently so that the most appropriate technique (that gives meaningful results) can be used. Three coding techniques are used. In the first one, agree and strongly agree items are coded as 2; other responses are coded as 1. In the second technique, agree and strongly agree items are coded as 3, neither agree nor disagree

response option is coded as 2 and other response options are coded as 1. Finally, in the third technique, all items received their own ordinal numeric number (e.g., strongly disagree is coded as 1, disagree is coded as 2, neither agree nor disagree is coded as 3 and so on).

These techniques are tested separately for both the significance of the main categories and the significance of the subcategories. Hence, considering the model suitability and significance of the variables, the analysis is continued with the third coding technique for both neighborhoods. Also, the ordinal regression model can be constructed in two different ways. The first way is continued with the regression option under the analysis box in SPSS and the wald values are obtained with the analysis. The second option is made under the generalized linear model option under the analysis box, and in this way, additional wald chi square and exp(B) values are obtained. Many researchers in the literature use the odds ratio (ExpB) values for detailed interpretation (Pratiwi & Kismiantini, 2019; Valente & Berry, 2016; Leyden, 2003; Chan et al., 2017). In the analysis, since happiness scores range from 1 to 5, odds ratios should be interpreted with this in mind. In other words, possibilities should be considered with a one-unit increase in the happiness score in the neighborhood. Leyden (2003) also mentions this key point in his study where he used an ordered logistic model.

3.7 Limitations of the Study

Conducting this study in school settings was challenging during the COVID 19 outbreak. Many school administrations hesitated to allow the project team to initiate the participatory mapping activities in their schools because of the intimate nature of this activity. It was a hand-on activity where children and researchers interacted face-to-face in a 1.5 hours session. However, conducting the mapping activity with small groups by considering the pandemic conditions has solved this problem in the chosen schools – both In Abidinpasa and Selcuklu neighborhoods. At the same time, primary school aged children may not be able to determine the location of their

homes from time to time and they may not spend much time outside due to the COVID 19 outbreak. To respond the first problem, as mentioned before, whenever children had issues in finding their home, the moderators helped the children by using mobile map applications (like Google Earth): children told their home address, and the moderators found the location of children's home by using these apps. The later problem has been resolved by asking children to not only consider the period after the COVID-19 pandemic, but also to consider the pre-COVID-19 period.

3.8 Concluding Remarks

This chapter examines the methods to answer the three main research questions of the thesis. In this context, three data collection methods are used: fieldwork and neighborhood analyses, happiness questionnaire and mapping study. The methods and operations are used in the data collection step are given in Table 3.5.

Table 3.5. The Measurement Details of the Main Concepts

Concept	**Type of the Data**	**Indicators**	**Analysis Method**
Neighborhood Places	Objective	Location	Satellite Image
		Land use Mix Ratio	GIS, Netcad
		Open Green Area Ratio	GIS, Netcad
		Place Categories	Mapping, GIS, SPSS, Excel
Happiness	Subjective	Overall Happiness Degree	Questionnaire

Table 3.5 shows the main operations required to measure and analyze the data. In this context, happiness as the dependent variable and neighborhood places (determined by using the participatory mapping activity) take place as the independent variable. The neighborhood places are examined by determining

various indicators in the GIS environment. Children's level of happiness in their neighborhood, on the other hand, is measured with a self-reported questionnaire.

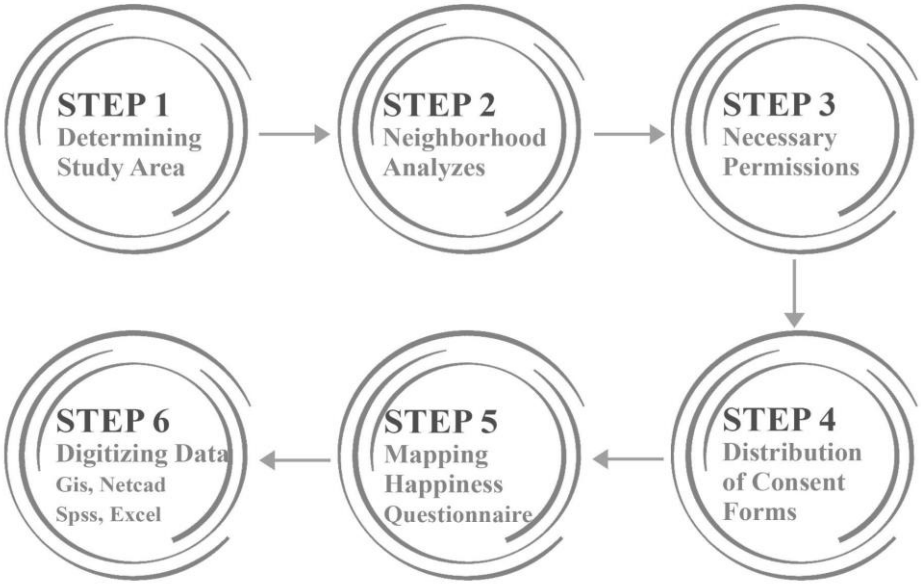

Figure 3.12. Steps of the Methodological Framework

Figure 3.12 shows a summary of the methodological framework of the thesis.

CHAPTER 4

RESULTS

This study explores the relationship between neighborhood places and the happiness of children in the neighborhood context. In this chapter, the results are presented for the three research questions posed in this thesis one by one in separate sections:

1. Do children feel happier in some neighborhood contexts more than others, and if yes in which contexts?
2. Which places of the neighborhood promote children's happiness?
3. Which places of the neighborhood predict children's happiness? In other words, do some of the neighborhood places significantly affect children's happiness?

4.1 The Neighborhood Contexts Where Children Feel Happier

Table 4.1 illustrates to distribution of children's responses in Abidinpasa Primary School to the Likert scale question asking children to indicate their level of happiness in their neighborhood. As seen in table 4.1, 36.8% of the students strongly agreed that they are happy in their neighborhoods. 19.3% of the students agreed with this sentence, 22.8% neither agree nor disagree. 12.3% of the students did not agree and 8.8% of them strongly disagree. More than half of the children (32 out of 57) state that they are happy in their neighborhoods in a sense.

Table 4.1. Frequency of the Happiness Scores in Abidinpaşa Primary School

		N	**Percentage %**
"I am very happy in my neighborhood"	Strongly Disagree	5	8,8
	Disagree	7	12,3
	Neither Agree nor Disagree	13	22,8
	Agree	11	19,3
	Strongly Agree	21	36,8
Total		57	100

Table 4.2 illustrates to distribution of children's responses in Sincan Primary School to the Likert scale question asking children to indicate their level of happiness in their neighborhood. As seen in table 4.2, 44.1% of the students strongly agreed that they are happy in their neighborhoods. 20.4% of the students agreed with this sentence, 24.7% neither agree nor disagree. 3.2% of the students did not agree and 7.5% of them strongly disagree. More than half of the children (60 out of 93) state that they are happy in their neighborhoods in a sense.

Table 4.2. Frequency of the Happiness Scores in Sincan Primary School

		N	**Percentage %**
"I am very happy in my neighborhood"	Strongly Disagree	7	7,5
	Disagree	3	3,2
	Neither Agree nor Disagree	23	24,7
	Agree	19	20,4
	Strongly Agree	41	44,1
Total		93	100

The unpaired t-test method is used to compare the happiness levels of both neighborhoods, which are selected from the center and the periphery of Ankara. Both neighborhoods have different urban characteristics and as a result, it is expected that the happiness levels will differ. In this context, the statistics of both neighborhoods are compared in the table below.

Table 4.3. T-Test Result of Abidinpaşa and Selçuklu Neighborhoods

Unpaired t-test results	**Abidinpaşa**	**Selçuklu**
Mean	3,63	3,90
SD	1,33	1,23
SEM	0,18	0,13
N	57	93

Means of two different groups are compared with the t-test method in table 4.3. According to the result, the mean of the Selçuklu Neighborhood (3.90) is slightly higher than Abidinpaşa Neighborhood (3.63). In other words, it is revealed that children in the Selçuklu neighborhood, located on the periphery of Ankara, are happier than the Abidinpaşa neighborhood, located in the center of Ankara. However, the two-tailed p value equals 0.2043 which indicates that this difference is not statistically significant (t= 1.2751 p>0.05).

4.2 Effects of Neighborhood Places on Children's Happiness

This section presents the findings of the participatory mapping activity to answer the second research question posed by the thesis: Which places of the neighborhood promote children's happiness?

4.2.1 Children's Happy and Unhappy Places, Spatial Representation of Mapping Activity

When the places where children feel happy and unhappy in their neighborhoods are examined, it is seen that the happy and unhappy places in Mamak Abidinpaşa Primary School are mostly concentrated in the school area and its immediate surroundings, while it covers more areas in Sincan Primary School (see figure 4.1). The fact that the mapping activity was carried out with more students in Sincan Primary School may have caused this difference. Also, as can be understood from figure 4.1, the places where children are happy and unhappy often overlap with each other. As children use the places where they are happy, they can more clearly observe the problems in these places.

Figure 4.1. Children's Happy (red dots) and Unhappy (blue dots) Places in Abidinpaşa (top) and Selçuklu (bottom) Neighborhoods

Figure 4.2 shows the type of places where children feel happy in Abidinpaşa Primary School (blue dots refer to active layers; e.g., in the illustration focusing on the public realm category, all places that are in the public realm category are highlighted with blue color; red dots refer to places in other place categories). As can be seen from this figure, blue dots are quite dense in the public realm category while there are few blue dots in the category of privatized public places.

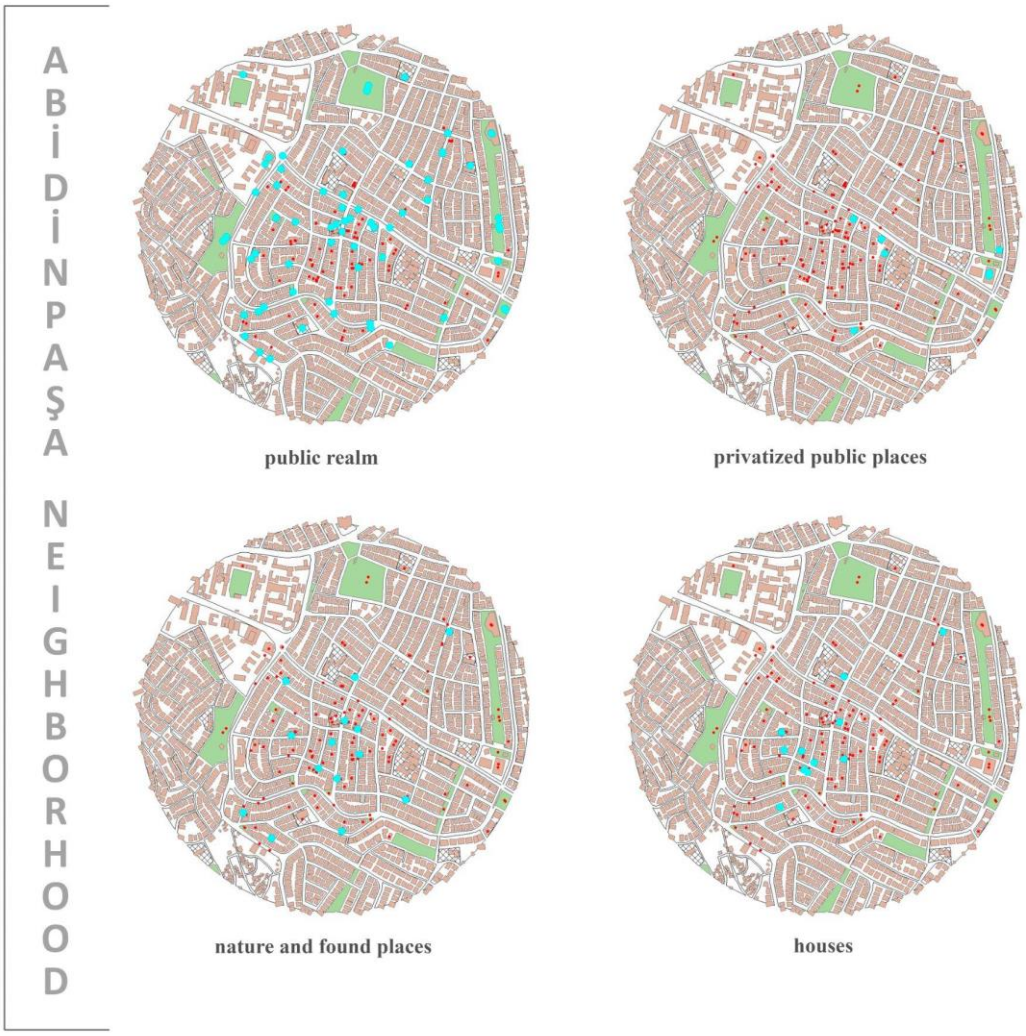

Figure 4.2. Children's Happy Places in Mamak Abidinpaşa Neighborhood in Different Categories

Figure 4.3 shows the type of places where children feel happy in Sincan Primary School (blue dots refer to active layers; e.g., in the illustration focusing on the public realm category, all places that are in the public realm category are highlighted with blue color; red dots refer to places in other place categories). Like the Abidinpaşa neighborhood, the blue dots are highly concentrated in the public realm category, while they show a similar distribution in other categories.

Figure 4.3. Children's Happy Places in Sincan Selçuklu Neighborhood in Different Categories

In Figure 4.4, places marked by children as unhappy are shown in light blue dots. As can be seen in this figure, children usually referred to public realm category as unhappy places. Houses and privatized public places categories are less marked. It is quite surprising that the category marked as the happiest overlapped with the category marked as the most unhappy (public realm).

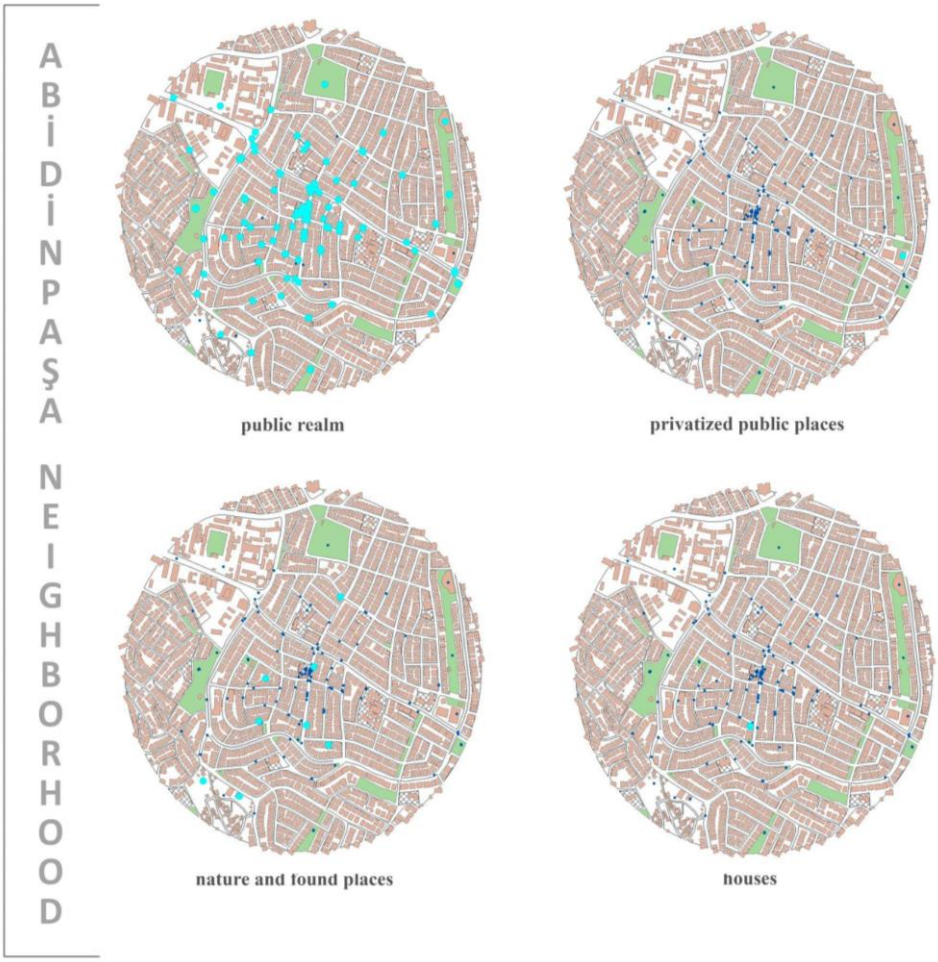

Figure 4.4. Children's Unhappy Places in Abidinpaşa Primary School in Different Categories

Figure 4.5 illustrates the places where children indicated that they feel unhappy with light blue dots. A different spatial category has emerged in the Selçuklu neighborhood which is work and production places. Like Abidinpaşa Primary School, children mostly marked the public realm category in Sincan Primary School. Privatized public places and work and production places are less marked by children.

Figure 4.5. Children's Unhappy Places in Sincan Primary School by Different Categories

4.2.2 The Places Where Children Feel Happy in their Neighborhoods

This section presents the findings regarding the percentage of children who referred to each place category and how many times a place category is mentioned in total when children are asked to mark and discuss the places where they feel happy.
Out of 57 students in Mamak Abidinpaşa Primary School, 96.5% of them stated that they feel happy in the public realm. This is followed by privatized public places (40.4%) and nature and found places (26.3%). Among the four main categories, houses are rarely mentioned (14%). This might be because children asked to mark the location of their homes in the beginning of the mapping activity. This procedure might have led some children to focus on the places outside their home as the places where they felt happy. Among the sub-categories, the areas that children mention as the happiest are the school area (77.2%), recreation area (57.9%) and streets (43.9%), respectively (see table 4.4).

Table 4.4. Statistics of the Neighborhood Places of Abidinpaşa Neighborhood base on the Student Number (n=57)

CATEGORIES	**Happiness Frequency**	**Percentage %**
1. Public Realm	55	96,5
1.1 Squares	1	1,8
1.2. Streets	25	43,9
1.3. Traditional Commercial Establishments	13	22,8
1.4. School Area	44	77,2
1.5. Public Open Area	2	3,5
1.6. Recreation Area	33	57,9
1.7. Public Institution	13	22,8

Table 4.4. (continued)

2. Privatized Public Places	23	40,4
2.1 Big Box Stores	11	19,3
2.2. Shopping Malls	17	29,8
2.3. Private Courses	3	5,3
3. Nature and Found Places	15	26,3
3.1. Home Gardens	15	26,3
3.2. Found Places	0	0
4. Houses	8	14
4.1. Own House	6	10,5
4.2. Other House	5	8,8

A total of 220 mentions are indicated in Abidinpaşa Primary School. 74.1% of these mentions are linked to the public realm, 14.1% are linked to the privatized public spaces, 6.8% are linked to the nature and found places and 5% are linked to the houses category. When children are asked to discuss the places where they feel happy, the top three most mentioned subcategories are recreation areas (23.6%), school areas (22.3%) and streets (12.7%) (see table 4.5).

Table 4.5. Statistics of the Neighborhood Places of Abidinpaşa Neighborhood base on the Mention Number (n=220)

CATEGORIES	**Happiness Frequency**	**Percentage %**
1. Public Realm	163	74,1
1.1 Squares	1	0,5
1.2. Streets	28	12,7

Table 4.5. (continued)

1.3. Traditional Commercial Establishments	17	7,7
1.4. School Area	49	22,3
1.5. Public Open Area	2	0,9
1.6. Recreation Area	52	23,6
1.7. Public Institution	14	6,4
2. Privatized Public Places	31	14,1
2.1 Big Box Stores	11	5
2.2. Shopping Malls	17	7,7
2.3. Private Courses	3	1,4
3. Nature and Found Places	15	6,8
3.1. Home Gardens	15	6,8
3.2. Found Places	0	0
4. Houses	11	5
4.1. Own House	6	2,7
4.2. Other House	5	2,3

As indicated in table 4.6, the mapping activity is carried out with 93 students in Sincan Primary School. The results show that 93.5% of the students stated that they are happy in the public realm, 54.8% in the privatized public space, 30.10% in the nature and found places, and 22.60% in the houses category. The top three subcategories are recreation areas (78.5%), school areas (65.6%) and big box stores (53.8%) respectively.

Table 4.6. Statistics of the Neighborhood Places of Selçuklu Neighborhood base on the Student Number (n=93)

CATEGORIES	**Happiness Frequency**	**Percentage %**
1. Public Realm	87	93,5
1.1 Squares	0	0
1.2. Streets	19	20,4
1.3. Traditional Commercial Establishments	26	28
1.4. School Area	61	65,6
1.5. Public Open Area	4	4,3
1.6. Recreation Area	73	78,5
1.7. Public Institution	24	25,8
2. Privatized Public Places	51	54,8
2.1 Big Box Stores	50	53,8
2.2. Shopping Malls	0	0
2.3. Private Courses	1	1,1
3. Nature and Found Places	28	30,1
3.1. Home Gardens	23	24,7
3.2. Found Places	7	7,5
4. Houses	21	22,6
4.1. Own House	6	6,5
4.2. Other House	18	19,4

A total of 457 mentions are indicated in Sincan primary school. 68.2% of these mentions are in public realm, 18.8% are in privatized public spaces, 7% are in nature and found places and 5.9% are in houses category. The three most frequently mentioned subcategories are recreation areas (33.4%), big box stores (18.6%) and school areas (15.9%) respectively (see table 4.7).

Table 4.7. Statistics of the Neighborhood Places of Sincan Neighborhood base on the Mention Number (N:457)

CATEGORIES	**Happiness Frequency**	**Percentage %**
1. Public Realm	312	68,3
1.1 Squares	0	0,0
1.2. Streets	20	4,4
1.3. Traditional Commercial Establishments	36	7,9
1.4. School Area	73	16,0
1.5. Public Open Area	4	0,9
1.6. Recreation Area	153	33,5
1.7. Public Institution	26	5,7
2. Privatized Public Places	86	18,8
2.1 Big Box Stores	85	18,6
2.2. Shopping Malls	0	0,0
2.3. Private Courses	1	0,2

Table 4.7. (continued)

3. Nature and Found Places	32	7
3.1. Home Gardens	25	5,5
3.2. Found Places	7	1,5
4. Houses	27	5,9
4.1. Own House	6	1,3

In both neighborhoods, the most frequently mentioned places are in the public realm category. Student number and mention-based analyzes of the public realm category are higher in Abidinpaşa neighborhood (96.5%, 74.1%) than in Selçuklu neighborhood (93.5%, 68.3%). Children mention the privatized public places as their second most happy places. With respect to this category, the percentages in Selçuklu neighborhood (54.8%, 18.8%) are higher than in Abidinpaşa neighborhood (40.4%, 14.1%). Nature and found places are in the third place in both analyzes. The percentages in Selçuklu neighborhood (30.1%, 7%) are higher than in Abidinpaşa neighborhood (26.3%, 6.8%). The main category with the least statistics is the houses category. The percentages of the Selçuklu neighborhood (22.6%, 5.9) are higher than the Abidinpaşa neighborhood (14%, 5%) with respect to houses category. As can be seen in the table 4.8, the order of the places most frequently chosen and mentioned by children in both neighborhoods is as follows: public realm, privatized public places, nature and found places, houses.

Table 4.8. Comparison of Neighborhoods according to the Number of Students and Mention Frequencies Regarding the Places Where Children Feel Happy

Spatial Categorization	**Abidinpaşa Primary School**		**Sincan Primary School**	
	Student Number Based %	Mentions Based %	Student Number Based %	Mentions Based %
Public Realm	96,5	74,1	93,5	68,3
Privatized Public Places	40,4	14,1	54,8	18,8
Nature and Found Places	26,3	6,8	30,1	7
Houses	14	5	22,6	5,9

4.2.3 The Places Where Children Feel Unhappy in their Neighborhoods

The statistics of the places where children are unhappy are given in detail below. Students in Abidinpaşa Primary school respectively indicated the following categories of places as unhappy: public realm (98.2%), nature and found places (15.8%), privatized public places (1.8%) and houses (1.8%) categories respectively. The first three sub-categories as the most unhappy are: street (87.7%), school area (54.4%) and recreation area (31.6%) (see table 4.9).

Table 4.9. Unhappiness Statistics Based on the Student Number in Abidinpaşa Primary School (N=57)

CATEGORIES	Unhappiness Frequency	Percentage %
1. Public Realm	56	98,2
1.1 Squares	0	0,0
1.2. Streets	50	87,7
1.3. Traditional Commercial Establishments	0	0,0
1.4. School Area	31	54,4
1.5. Public Open Area	1	1,8
1.6. Recreation Area	18	31,6
1.7. Public Institution	6	10,5
2. Privatized Public Places	1	1,8
2.1 Big Box Stores	1	1,8
2.2. Shopping Malls	0	0,0
2.3. Private Courses	0	0,0
3. Nature and Found Places	9	15,8
3.1. Home Gardens	4	7,0

Table 4.9. (continued)

3.2. Found Places	5	8,8
4. Houses	1	1,8
4.1. Own House	0	0,0
4.2. Other House	1	1,8
5. Work and Production Places	0	0
5.1. Office	0	0
5.2. Petrol Station	0	0
5.3. Warehouse	0	0

As shown in table 4.10, students in Abidinpasa Primary School referred to the following place categories: public realm (95.4%), nature and found places (3.8%), houses (0.4%), privatized public places (0.4%) and work and production places (0%) respectively. Based on their mention frequency, streets (64.6%), school areas (18.8%) and recreation areas (9.2%) are the top three places where children in Abidinpasa indicated that they feel unhappy in their neighborhoods.

Table 4.10. Unhappiness Statistics Based on the Mention Number in Abidinpaşa Primary School (N:240)

CATEGORIES	**Unhappiness Mention Number**	**Percentage %**
1. Public Realm	229	95,4

Table 4.10. (continued)

1.1 Squares	0	0,0
1.2. Streets	155	64,6
1.3. Traditional Commercial Establishments	0	0,0
1.4. School Area	45	18,8
1.5. Public Open Area	1	0,4
1.6. Recreation Area	22	9,2
1.7. Public Institution	6	2,5
2. Privatized Public Places	1	0,4
2.1 Big Box Stores	1	0,4
2.2. Shopping Malls	0	0,0
2.3. Private Courses	0	0,0
3. Nature and Found Places	9	3,8
3.1. Home Gardens	4	1,7
3.2. Found Places	5	2,1
4. Houses	1	0,4

Table 4.10. (continued)

4.1. Own House	0	0,0
4.2. Other House	1	0,4
5. Work and Production Places	0	0
5.1. Office	0	0
5.2. Petrol Station	0	0
5.3. Warehouse	0	0

Students in Sincan Primary school respectively indicated the following categories of places as unhappy: public realm (84.9%), nature and found places (41.9%), houses (7.5%), privatized public places (1.1%) and work and production places (1.1%). The first three sub-categories as the most unhappy are: street (78.5%), recreation areas (50.5%) and found places (40.9%) respectively (see table 4.11).

Table 4.11. Unhappiness Statistics Based on the Student Number in Sincan Primary School (N:93)

CATEGORIES	**Unhappiness Frequency**	**Percentage %**
1. Public Realm	79	84,9
1.1 Squares	0	0,0
1.2. Streets	73	78,5

Table 4.11. (continued)

1.3. Traditional Commercial Establishments	6	6,5
1.4. School Area	21	22,6
1.5. Public Open Area	3	3,2
1.6. Recreation Area	47	50,5
1.7. Public Institution	3	3,2
2. Privatized Public Places	1	1,1
2.1 Big Box Stores	1	1,1
2.2. Shopping Malls	0	0,0
2.3. Private Courses	0	0,0
3. Nature and Found Places	39	41,9
3.1. Home Gardens	4	4,3
3.2. Found Places	38	40,9
4. Houses	7	7,5
4.1. Own House	0	0,0
4.2. Other House	7	7,5
5. Work and Production Places	1	1,1

Table 4.11. (continued)

5.1. Office	0	0,0
5.2. Petrol Station	1	1,1
5.3. Warehouse	0	0,0

Students in Sincan Primary School referred to the following place categories as unhappy: public realm (83%), nature and found places (14.1%), houses (2.3%), privatized public places (0.3%) and work and production places (0.3%) respectively. The first three sub-categories as the most unhappy are: street (50.7%), recreation area (20.5%) and found places (12.9%).

Table 4.12. Unhappiness Statistics Based on the Mention Number in Sincan Primary School (N:341)

CATEGORIES	**Unhappiness Mention Number**	**Percentage %**
1. Public Realm	283	83,0
1.1 Squares	0	0,0
1.2. Streets	173	50,7
1.3. Traditional Commercial Establishments	7	2,1
1.4. School Area	27	7,9
1.5. Public Open Area	3	0,9

Table 4.12. (continued)

1.6. Recreation Area	70	20,5
1.7. Public Institution	3	0,9
2. Privatized Public Places	1	0,3
2.1 Big Box Stores	1	0,3
2.2. Shopping Malls	0	0,0
2.3. Private Courses	0	0,0
3. Nature and Found Places	48	14,1
3.1. Home Gardens	4	1,2
3.2. Found Places	44	12,9
4. Houses	8	2,3
4.1. Own House	0	0,0
4.2. Other House	8	2,3
5. Work and Production Places	1	0,3
5.1. Office	0	0,0
5.2. Petrol Station	1	0,3
5.3. Warehouse		

Public realm is the category that is considered the most unhappy in terms of both the number of students and the number of mentions. Student and mention-based analyzes of the public realm category are higher in Abidinpaşa neighborhood (98.2%, 95.4%) than in Selçuklu neighborhood (84.9%, 83%). The category with the second most statistics is nature and found places for both neighborhoods. The percentages in Selçuklu neighborhood (41.9%, 14.1%) are higher than in Abidinpaşa neighborhood (15.8%, 3.8%). Houses and privatized public places are the third categories for the Abidinpaşa neighborhood for both analyzes (1.8%, 0.4%). Houses category is the third for the Selçuklu neighborhood also with the value of 7.5% and 2.3%. Privatized public places and work and production places categories are the fourth categories for Selçuklu neighborhood (1.1%, 0.3%). The work and production places category is not mentioned at all in Mamak Abidinpaşa neighborhood (see table 4.13).

Table 4.13. Comparison of Neighborhoods according to the Number of Students and Mention Frequencies Regarding the Places Where Children Feel Unhappy

Spatial Categorization	**Abidinpaşa Primary School**		**Sincan Primary School**	
	Student Number Based %	Mentions Based %	Student Number Based %	Mentions Based %
Public Realm	98,2	95,4	84,9	83
Privatized Public Places	1,8	0,4	1,1	0,3
Nature and Found Places	15,8	3,8	41,9	14,1
Houses	1,8	0,4	7,5	2,3
Work and Production Places	0	0	1,1	0,3

4.2.4 Places of the Neighborhood That Promote Children's Happiness

The above-mentioned findings show that the features of the public realm are highly influential in promoting children's happiness. From the discussions in the participatory mapping activity, when explaining the reasons of their happiness children highly mentioned the role of particular land uses (like the presence of streets in front of their houses, parks with playgrounds, gardens where they can play) in affecting their neighborhood happiness. Certain features of a particular place or the activities done in that place caught the attention of the children and they referred to these items when describing the place where they were happy. They emphasized the neighborhood places and activities such as the streets where they played with their friends or walked with their families, the school gardens where they socialized and played, and the sloping streets where they rode bicycles.

4.3 Neighborhood Places Predicting Children's Happiness

Ordinal regression model is generally used to measure the relationship of an ordinal dependent variable with a large number of independent variables. In this context, the relationship between children's happiness scores and how many times they refer to each independent variable as a happy place is examined. Accordingly, it is possible to see how each independent variable predicts children's happiness. Ordinal regression model is used since children rate their happiness in Likert scale. All analyzes are run in the SPSS environment by selecting the ordinal logistic tool from the generalized linear models option under the analysis menu. Hence, additional information such as estimate (B), wald chi square, exp(B) is obtained by this way. Estimate value (B) gives an idea about the effect of independent variables on the dependent variable. Positive estimate means, the higher the score of the independent variable, the higher the probability of being involved in a higher level in the dependent variable. Negative estimate indicates that the higher the scores of the independent variable, the less likely to be included at a higher level in the dependent variable. The Exp(B) value shows the superiority values of the realization and non-

occurrence values of an event over each other. In addition, Exp(b) values (odds ratios) can be used to interpret the analyzes. If the odds ratio is greater than 1, this means increasing probability of being in a higher level on the dependent variables as values on an independent variable increase. However, if the odds ratio is less than 1, it means decreasing probability with increasing values on an independent variable. If the odds ratio is 1, it means no predicted change.

The descriptive statistics of the independent variables are given in table 4.14. The table is prepared according to how many times each child mentioned the independent variable as a happy place.

Tablo 4.14. Descriptive Statistics of Independent Variables in Abidinpaşa Neighborhood

Variable	**M**	**SD**
1. Public Realm	2,86	1,817
1.1 Squares	0,02	0,132
1.2. Streets	0,49	0,601
1.3. Traditional Commercial Establishments	0,3	0,597

Table 4.14. (continued)

1.4. School Area	0,86	0,549
1.5. Public Open Area	0,04	0,186
1.6. Recreation Area	0,91	1,057
1.7. Public Institution	0,25	0,474
2. Privatized Public Places	0,54	0,734
2.1 Big Box Stores	0,19	0,398
2.2. Shopping Malls	0,3	0,462
2.3. Private Courses	0,05	0,225
3. Nature and Found Places	0,26	0,444
3.1. Home Gardens	0,26	0,444

Table 4.14. (continued)

3.2. Found Places	0	0
4. Houses	0,19	0,515
4.1. Own House	0,11	0,31
4.2. Other House	0,09	0,285

As seen in table 4.15, none of the main categories were found statistically significant in the Abidinpaşa neighborhood. Interpretations will be made on the statistically significant variables.

Table 4.15. Main Categories Associated with Children's Happiness in Abidinpaşa Neighborhood

Variable	**B**	**Std. Error**	**Wald Chi-Square**	**Sig.**	**Exp(B)**
Public Realm	0,178	0,1398	1,619	0,203	1,195
Privatized Public Places	0,055	0,3303	0,027	0,869	1,056
Nature and Found Places	0,706	0,6211	1,292	0,256	2,026
Houses	0,500	0,5492	0,827	0,363	1,648

As seen in Table 4.16, three independent variables which are traditional commercial establishments, public open area and school area give statistically significant results

since their p values are less than 0.05. Interpretation will be made on these three variables. If the B values are examined, the traditional commercial establishments (-1.728) and public open area (-3.732) categories are negatively marked. This means higher scores of these variables, the less likely to be included in a higher level of happiness. Also, if the Exp(B) values are examined, the odds of being in a higher level of happiness increases by a factor of 0.178 for traditional commercial establishment category and 0.024 for public open area category for every one unit increase in these categories. Since their odd ratios are less than 1, increasing scores in these variables are less likely to be in higher level of happiness. The school area category has a positive estimate (2.486). That is, a higher score in the school area means higher probability of being involved in a higher level of happiness. In addition, the odds ratio indicates that the probability of being in a higher level of happiness increases 12.015 times for each unit increase in the school area category.

Table 4.16. Sub-Categories Associated with Children's Happiness in Abidinpaşa Neighborhood

Variable	**B**	**Std. Error**	**Wald Chi-Square**	**Sig.**	**Exp(B)**
Public Realm					
Squares	-2,102	1,7782	1,397	0,237	0,122
Streets	-0,335	0,5283	0,403	0,525	0,715
Traditional Commercial Establishments	*-1,728*	*0,6440*	*7,201*	*0,007*	*0,178*

Table 4.16. (continued)

School Area	*2,486*	*0,7235*	*11,809*	*0,001*	*12,015*
Public Open Area	*-3,732*	*1,8861*	*3,915*	*0,048*	*0,024*
Recreation Area	0,203	0,3141	0,416	0,519	1,225
Public Institution	-0,381	0,6764	0,317	0,574	0,683
Privatized Public Places					
Big Box Stores	-0,147	0,8959	0,027	0,870	0,864
Shopping Malls	0,686	0,7626	0,810	0,368	1,986
Private Courses	1,593	1,5666	1,034	0,309	4,919
Nature and Found Places					
Home Gardens	1,373	0,8505	2,606	0,106	3,947
Found Places	-	-	-	-	-
Houses					

Table 4.16. (continued)

Own House	0,694	1,1629	0,356	0,550	2,002
Other House	-0,118	1,0409	0,013	0,910	0,889

Note: Statistically significant values are in italics.

The descriptive statistics of the independent variables are given in this table 4.17. The table is prepared according to how many times each child mentioned the independent variable as a happy place.

Tablo 4.17. Descriptive Statistics of Independent Variables in Selçuklu Neighborhood

Variable	**M**	**SD**
1. Public Realm	3,35	2,13
1.1 Squares	0	0
1.2. Streets	0,22	0,439
1.3. Traditional Commercial Establishments	0,39	0,708
1.4. School Area	0,78	0,689
1.5. Public Open Area	0,04	0,204
1.6. Recreation Area	1,65	1,572
1.7. Public Institution	0,28	0,518

Table 4.17. (continued)

2. Privatized Public Places	0,92	1,125
2.1 Big Box Stores	0,91	1,129
2.2. Shopping Malls	0	0
2.3. Private Courses	0,01	0,104
3. Nature and Found Places	0,34	0,561
3.1. Home Gardens	0,27	0,492
3.2. Found Places	0,08	0,265
4. Houses	0,29	0,582
4.1. Own House	0,06	0,247
4.2. Other House	0,23	0,492

In table 4.18, public realm and privatized public places are found statistically significant. If the B values are examined, the privatized public places category has a positive estimate value (0.399). That is, a higher score in the public privatized places means higher probability of being involved in a higher level of happiness. Also, the odds ratio indicates that the probability of being in a higher level of happiness increases 1,491 times for each unit increase in the privatized public places category. Public realm category has a negative estimate (-0.186), so it means higher scores of public realm, less likely to coincide with a higher happiness score. If the odds ratio is examined, the probability of being in a higher level of happiness increases 0.830 times for each unit increase in the public realm category.

Table 4.18. Main Categories Associated with Children's Happiness in Selçuklu Neighborhood

Variable	**B**	**Std. Error**	**Wald Chi-Square**	**Sig.**	**Exp(B)**
Public Realm	*-0,186*	*0,0893*	*4,350*	*0,037*	*0,830*
Privatized Public Places	*0,399*	*0,1928*	*4,291*	*0,038*	*1,491*
Nature and Found Places	0,496	0,3744	1,759	0,185	1,643
Houses	0,022	0,3289	0,005	0,946	1,022

Note: Statistically significant values are in italics.

As can be seen in table 4.19, traditional commercial establishments and big box stores are found statistically significant. Since the traditional commercial establishment category has a negative estimate value (-0.648), it means that higher scores of traditional commercial establishments, less likely to coincide with a higher happiness score. Based on the odds value, the probability of being in a higher level of happiness increases 0.523 times for each unit increase in the traditional commercial establishments. Big box stores category has a positive estimate value, which means that higher scores of big box stores, the more likely to be included in a higher level of happiness. Also, the odds ratio highlights that the probability of being in a higher level of happiness increases 1.816 times for each unit increase in the big box stores category.

Table 4.19. Sub-Categories Associated with Children's Happiness in Selçuklu Neighborhood

Variable	**B**	**Std. Error**	**Wald Chi-Square**	**Sig.**	**Exp(B)**
Public Realm					
Squares					
Streets	0,400	0,5444	0,541	0,462	1,492
Traditional Commercial Establishments	*-0,648*	*0,2900*	*4,988*	*0,026*	*0,523*
School Area	0,132	0,3216	0,169	0,681	1,141
Public Open Area	1,048	1,0508	0,995	0,318	2,853
Recreation Area	-0,065	0,1252	0,269	0,604	0,937
Public Institution	-0,755	0,4217	3,209	0,073	0,470
Privatized Public Places					
Big Box Stores	*0,597*	*0,2250*	*7,036*	*0,008*	*1,816*
Shopping Malls					

Table 4.19.(continued)

Private Courses	20,980	34694,1143	0,000	1,000	1292496873,364
Nature and Found Places					
Home Gardens	0,513	0,4789	1,148	0,284	1,670
Found Places	0,499	0,8193	0,372	0,542	1,648
Houses					
Own House	1,097	0,8646	1,611	0,204	2,996
Other House	-0,209	0,4074	0,264	0,608	0,811

Note: Statistically significant values are in italics.

4.4 Concluding Remarks

The results of the studies conducted in both neighborhoods show that the neighborhood places affect the happiness of children significantly. In the Abidinpaşa neighborhood chosen close to the city center, the mean of happiness scores is 3.63 out of 5. When we look at the frequencies, if both the number of students and the number of mentions are considered, the first three main place categories where Abidinpaşa Primary School students indicated that felt the happiest are: *public realm, privatized public places and nature and found places*. The first three subcategories are *recreation areas, school areas and streets.* The mean of happiness scores in the

Selçuklu neighborhood, which is selected from the periphery of the city, is 3.90 out of 5. When we look at the frequencies, if both the number of students and the number of mentions are taken into account, the top three main places where Sincan Primary School students indicated that they felt the happiest are: *public realm, privatized public places and nature and found places.* The first three sub-categories are: *recreation areas, school areas and big box stores.* When the mean of the happiness scores of both neighborhoods is compared, the mean of the Selcuklu neighborhood (3.90) is higher than that of the Abidinpaşa neighborhood (3.63), however p value shows that there is no statistically significant difference between the two mean values. When the results of both neighborhoods are compared, the main categories of happiness overlap. In addition, when the results of unhappiness are examined, the places where children are unhappy and the places where they are happy coincide for both neighborhoods. Considering the results of ordinal regression analysis, none of the main categories are found statistically significant in the Abidinpaşa neighborhood. When the subcategories are examined, three independent variables which are traditional commercial establishments, public open areas and school areas give statistically significant results. According to the results, school area is an important predictor because the exp(B) value of the school area is the highest among these three significant categories. When the main categories of Sincan primary school are examined, the categories of public realm and privatized public places are statistically significant. The odds ratio of privatized public places is higher than the public realm and higher than 1. In other words, the privatized public places are an important predictor of child happiness in Selçuklu neighborhood. When the subcategories are examined, traditional commercial establishments and big box stores are found statistically significant. Odds ratio of big box stores is higher than traditional commercial establishments and higher than 1. Hence, the big box stores category is an important predictor for this neighborhood. As a result of the analysis, traditional commercial establishments are found statistically significant for both neighborhoods.

CHAPTER 5

CONCLUSION

This research explores the relationship between neighborhood places and children's happiness. Although many studies in the literature have examined the effects of neighborhood places on the happiness of adults, researchers examining this relationship within the context of children are quite limited. This research deals with the places of the neighborhood in certain main categories and subcategories. The study is conducted on the two neighborhoods from two districts of Ankara: Abidinpasa Neighborhood from Mamak and Selçuklu Neighborhood from Sincan district. Third and fourth grade students in selected public schools from each neighborhood constitute the sample of the study. Participatory mapping activities and happiness questionnaires are conveyed to the students so that they can express their ideas. This research seeks answers to the various research questions. In this context, different analysis methods are used through programs such as GIS and SPSS. The result of the study reveals the effects of neighborhood places on children's happiness. Also, it shows which places of the neighborhood predict children's happiness. The main findings of the study can be summarized as follows; i. There is no statistically significant difference between the happiness scores of the two neighborhoods, ii. Public realm is the category where children referred as both the happiest and the most unhappy in both neighborhoods, iii. Different results are obtained for happiness predictors in both neighborhoods. While school area is the most important predictor for Abidinpaşa neighborhood, big box store is an important predictor for Selçuklu neighborhood.

5.1 Discussion of the Findings

Neighborhood characteristics affect the children's preferred places, and their happiness levels may change accordingly. The first finding of the study is that there is no statistically significant difference between the happiness scores of children in both neighborhoods. The fact that the happiness levels of children living in both neighborhoods did not show a statistically significant difference may be due to the number of selected neighborhoods. In future studies, a significant difference can be found by selecting more neighborhoods with different urban characteristics. Although children experience different neighborhood contexts, the places they report being happy in their neighborhoods are similar. By expanding the scale of the study, a meaningful conclusion can be reached about whether the children are happier in the neighborhood with more green areas, high land use mix ratio, high density and street connectivity, etc. It is debatable whether the results would have changed if neighborhoods with more similar street structures were chosen. While the Sincan Selçuklu neighborhood has gated community type residential areas or mass housing typology, residential areas in the Mamak Abidinpaşa neighborhood are quite dense as they are integrated with the street. Considering these features, it is quite an expected that children in the Abidinpaşa Neighborhood experienced the street more than Sincan Selçuklu neighborhood. In addition, while the green areas in Sincan Selçuklu neighborhood are generally composed of site gardens and open large areas, in Abidinpaşa neighborhood, they consist of more public parks, since there are not much housing typologies with site garden. Abidinpaşa neighborhood is a very dense area. So, the land use mix ratio is higher and there are many different land uses for children to visit. The number of small businesses or traditional commercial establishments is also quite high. However, in Sincan Selçuklu neighborhood, there are mainly big box stores and wholesalers. Considering all these characteristics of the neighborhoods, the results will vary considerably when more neighborhoods with different characteristics are selected.

The second important key point drawn from the result is that children are happy in similar main categories in both neighborhoods. The findings of the study reveal that the category of public realm significantly affects the happiness of children. Public spaces are a crucial feature of cities and are essential for increasing face-to-face interaction and enhancing subjective and mental well-being (Benita, 2019). As mentioned in the existing literature (see Chapter 2.3.1.2), the relationship between public space and happiness has been revealed in both adult literature (Sepe, 2017; Mehaffy, 2021) and children's literature (Benita, 2019). However, surprisingly, the places where children mention being happiest are also places where they express themselves as unhappy. Since they spend more time in those places, they can observe the problems as they experience those places. It is quite expected that children mostly mention about recreation areas, streets and school areas. The effect of recreation areas and parks on child happiness is also supported by previous studies (Adams et al., 2018; Cui & Yang, 2021; Broberg et al., 2013). Also, as Jacobs (1992) mentions, streets are very essential features for people to interact with each other. In the context of Turkey, street is an important place where children socialize, play and spend most of their time. Although street is not as experienced by children as is used to be, due to the rapidly increasing urbanization process, traffic problems and insecurity, it is still an important place for them. The contribution of spending more time on the street (cycling, walking, playing etc.) to the well-being of children has also been revealed in the literature (O'Brien & Tranter, 2006). Furthermore, the big box store category, which is emphasized especially in the Sincan Selçuklu neighborhood, is one of the places that has become very popular in Turkey in recent years. While talking about big box stores, children mentioned the points such as being cheap and accessible compared to other markets, spending time with their friends, shopping and socializing.

Finally, when the predictors of child happiness are examined by ordinal regression analysis, traditional commercial establishments, public open areas and school areas revealed as an important predictors for Abidinpaşa neighborhood. For Selçuklu neighborhood, traditional commercial establishment and big box stores categories

are important predictors. For both neighborhoods, the category of traditional commercial establishments appears as an important predictor. As a part of the neighborhood culture, these places increase the interaction with the street and allow children to experience the street. Parallel results are found in the study of Laatikainen et al. (2017).

5.2 Implications for Urban Design

This thesis confirms the impact of the neighborhood places on children's happiness, as demonstrated in the previous studies (Cele, 2006; Waygood et al., 2017; Babb et al., 2017; Költo et al., 2021). Children need to be able to express their ideas in their own words and participate in the design and planning process. As current cities are not designed with children in mind and their participation, it has negative consequences for their development. As Cele (2006) emphasizes, children grow up in cities and cities play an important role in their development and well-being. At this point, it is very important to solve the problems in the city by considering the children. Involving children in the planning process and learning their views is a very essential policy.

This thesis has reached some main conclusions:

- There is a significant relationship between neighborhood places and children's happiness.
- Public realm category is very prominent in the happiness of children.
- Children's happy and unhappy places are in the similar categories.
- Some places are quite important in predicting the happiness of children. Traditional commercial establishments, public open areas, school areas and big box stores reveal as an important predictors for selected neighborhoods.

According to the data obtained from the discussions from the mapping activity, the suggestions of the children to the planners and the local government can be grouped under certain headings: i. quality and secure public areas ii. recreation areas where

they can play and do sports with their friends ii. affordable traditional commercial establishments and big box stores iv. safe streets for pedestrians and reduced traffic. According to the result obtained from the study, the urban design implications are summarized in table 5.1.

Table 5.1. Implications for Urban Design and Key Concepts

Implications for Urban Design	Key Concepts
The neighborhood places have a significant impact on children's happiness.	Cooperation
In this context, the cooperation of planners, local government and children is very important in creating happier and more sustainable cities.	
It is very important to encourage children to experience places and increase their use of places.	Use of Place Experiment
Different land use decisions that will increase children's activities and experiences with their environment can be applied.	Land Use Decisions
The importance of public places in the lives and happiness of people and children is quite evident.	Public Places Activities Interaction
During the design process, it is very important to design public places with children in mind.	
Public realm has a lot of benefits as it enables the following topics: activity, socialization, recreation, sense of community, interaction, cultural activity, economic activity, etc.	
Activities for children that will contribute to their physical and mental health should be considered and diversified in these areas.	

Table 5.1.(continued)

Activities that will contribute to the socialization and face to face interaction of children should be increased.	
As Sepe mentions (2017:727):	Sculptures Games Fun Elements
"The presence of sculptures, games, or other elements and amenities that can bring a smile to a person's face promotes a state of happiness."	
Consideration should be given to topics such as cleanliness, safety, maintenance, infrastructre and traffic in neighborhoods, and children's problems should be considered.	Children's Problems
Municipalities and planners should practice and rethink about these issues.	
Streets are places where children spend a lot of time and state that they are happy. Results of similar studies (O'Brien & Tranter, 2006; Költo et al., 2021) show that children prefer to spend time actively (walking, cycling etc.) on the street.	
It is very crucial to make the streets safe for children and to build them as places where they can move freely. One of the problems that children (especially in Abidinpaşa neighborhood in the city center) mention is the traffic problem.	Streets Safety Free Movement
Problems such as traffic, safety, light and pollution should be resolved and children should be able to experience the streets freely.	
The contribution of green areas to the happiness of children is supported by the results of the studies in the literature (see Chapter 2.6).	Open Green Areas
While preserving the naturalness in these areas, playgrounds and activity areas should be designed that will attract children's attention and increase their socialization.	Nature Activities

Table 5.1.(continued)

Children also mentioned the problems in these areas such as dogs, security, garbage, bad smell etc. In this context, considering that green areas affect the happiness of children significantly, the number of these areas should be increased, and the existing problems should be resolved.	

5.3 Implications for Future Research

This thesis reveals the impacts of neighborhood places on children's happiness. However, as previously discussed (see Chapter 2.4.3), social-emotional, personal and interpersonal factors also affect the happiness of children. Future research can examine how children with different sociodemographic backgrounds (age, income level, gender, etc.) are affected by the places of neighborhood.

Within the scope of this thesis, two neighborhoods are selected from Ankara. Future researchers may expand the scale of data by selecting a larger number of neighborhoods to ensure higher validity.

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APPENDICES

A. 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								

B. Basemap of Abidinpaşa Neighborhood for Mapping Activity

C. Basemap of Selçuklu Neighborhood for Mapping Activity

D. Ordinal Regression Analaysis Data, Abidinpaşa Neighborhood

Parameter Estimates

Parameter		B	Std. Error	95% Wald Confidence Interval		Hypothesis Test			Exp(B)	95% Wald Confidence Interval for Exp(B)	
				Lower	Upper	Wald Chi-Square	df	Sig.		Lower	Upper
Threshold	["I am very happy in my neighborhood"=1]	-1,658	,6234	-2,879	-,436	7,070	1	,008	,191	,056	,647
	["I am very happy in my neighborhood"=2]	-,602	,5405	-1,662	,457	1,241	1	,265	,548	,190	1,580
	["I am very happy in my neighborhood"=3]	,540	,5374	-,513	1,594	1,011	1	,315	1,717	,599	4,922
	["I am very happy in my neighborhood"=4]	1,386	,5643	,280	2,492	6,030	1	,014	3,998	1,323	12,082
KAMUSAL_ALAN		,178	,1398	-,096	,452	1,619	1	,203	1,195	,908	1,571
OZELLESTIRILMIS_KAMUSAL_ALAN		,055	,3303	-,593	,702	,027	1	,869	1,056	,553	2,018
DOGAL_AMAC_DISIALAN		,706	,6211	-,511	1,923	1,292	1	,256	2,026	,600	6,844
EV		,500	,5492	-,577	1,576	,827	1	,363	1,648	,562	4,836
(Scale)		1[a]									

Dependent Variable: "I am very happy in my neighborhood"
Model: (Threshold), KAMUSAL_ALAN, OZELLESTIRILMIS_KAMUSAL_ALAN, DOGAL_AMAC_DISIALAN, EV

a. Fixed at the displayed value.

Parameter Estimates

Parameter		B	Std. Error	95% Wald Confidence Interval		Hypothesis Test			Exp(B)	95% Wald Confidence Interval for Exp(B)	
				Lower	Upper	Wald Chi-Square	df	Sig.		Lower	Upper
Threshold	["I am very happy in my neighborhood"=1]	-1,289	,7300	-2,720	,142	3,118	1	,077	,276	,066	1,152
	["I am very happy in my neighborhood"=2]	,272	,6522	-1,006	1,551	,175	1	,676	1,313	,366	4,715
	["I am very happy in my neighborhood"=3]	1,869	,6851	,527	3,212	7,446	1	,006	6,484	1,693	24,833
	["I am very happy in my neighborhood"=4]	2,972	,7373	1,527	4,418	16,253	1	<,001	19,540	4,606	82,897
MEYDAN		-2,102	1,7782	-5,587	1,384	1,397	1	,237	,122	,004	3,989
SOKAK		-,335	,5283	-1,371	,700	,403	1	,525	,715	,254	2,014
GELENEKSEL_TICARET		-1,728	,6440	-2,990	-,466	7,201	1	,007	,178	,050	,628
OKUL_ALANİ		2,486	,7235	1,068	3,904	11,809	1	<,001	12,015	2,910	49,608
ACIK_ALAN		-3,732	1,8861	-7,429	-,035	3,915	1	,048	,024	,001	,965
REKREASYON_ALANİ		,203	,3141	-,413	,818	,416	1	,519	1,225	,662	2,266
KAMUSAL_YAPİ		-,381	,6764	-1,706	,945	,317	1	,574	,683	,182	2,573
ZINCIR_MARKET		-,147	,8959	-1,903	1,609	,027	1	,870	,864	,149	4,999
AVM		,686	,7626	-,808	2,181	,810	1	,368	1,986	,446	8,855
OZEL_EGITIM		1,593	1,5666	-1,477	4,664	1,034	1	,309	4,919	,228	106,022
EV_BAHCELERI		1,373	,8505	-,294	3,040	2,606	1	,106	3,947	,745	20,903
KENDİ_EVİ		,694	1,1629	-1,585	2,973	,356	1	,550	2,002	,205	19,559
DIGER_EV		-,118	1,0409	-2,158	1,923	,013	1	,910	,889	,116	6,838
(Scale)		1[a]									

Dependent Variable: "I am very happy in my neighborhood"
Model: (Threshold), MEYDAN, SOKAK, GELENEKSEL_TICARET, OKUL_ALANİ, ACIK_ALAN, REKREASYON_ALANİ, KAMUSAL_YAPİ, ZINCIR_MARKET, AVM, OZEL_EGITIM, EV_BAHCELERI, KENDİ_EVİ, DIGER_EV

a. Fixed at the displayed value.

E. Ordinal Regression Analysis Data, Selçuklu Neighborhood

Parameter Estimates

Parameter		B	Std. Error	95% Wald Confidence Interval Lower	95% Wald Confidence Interval Upper	Hypothesis Test Wald Chi-Square	Hypothesis Test df	Hypothesis Test Sig.	Exp(B)	95% Wald Confidence Interval for Exp(B) Lower	95% Wald Confidence Interval for Exp(B) Upper
Threshold	["I am very happy in my neighborhood"=1]	-2,781	,5706	-3,900	-1,663	23,760	1	<,001	,062	,020	,190
	["I am very happy in my neighborhood"=2]	-2,380	,5321	-3,423	-1,337	20,010	1	<,001	,093	,033	,263
	["I am very happy in my neighborhood"=3]	-,764	,4464	-1,639	,111	2,926	1	,087	,466	,194	1,118
	["I am very happy in my neighborhood"=4]	,150	,4349	-,703	1,002	,119	1	,731	1,162	,495	2,724
DOGAL_AMAC_DISI ALAN		,496	,3744	-,237	1,230	1,759	1	,185	1,643	,789	3,422
EV		,022	,3289	-,622	,667	,005	1	,946	1,022	,537	1,948
KAMUSAL_ALAN		-,186	,0893	-,361	-,011	4,350	1	,037	,830	,697	,989
OZELLESTIRILMIS_KAMUSAL_ALAN		,399	,1928	,021	,777	4,291	1	,038	1,491	1,022	2,175
(Scale)		1[a]									

Dependent Variable: "I am very happy in my neighborhood"
Model: (Threshold), DOGAL_AMAC_DISI ALAN, EV, KAMUSAL_ALAN, OZELLESTIRILMIS_KAMUSAL_ALAN

a. Fixed at the displayed value.

Parameter Estimates

Parameter		B	Std. Error	95% Wald Confidence Interval Lower	95% Wald Confidence Interval Upper	Hypothesis Test Wald Chi-Square	Hypothesis Test df	Hypothesis Test Sig.	Exp(B)	95% Wald Confidence Interval for Exp(B) Lower	95% Wald Confidence Interval for Exp(B) Upper
Threshold	["I am very happy in my neighborhood"=1]	-2,455	,6426	-3,715	-1,196	14,600	1	<,001	,086	,024	,302
	["I am very happy in my neighborhood"=2]	-2,022	,6070	-3,211	-,832	11,093	1	<,001	,132	,040	,435
	["I am very happy in my neighborhood"=3]	-,305	,5290	-1,342	,732	,332	1	,565	,737	,261	2,080
	["I am very happy in my neighborhood"=4]	,671	,5249	-,358	1,700	1,633	1	,201	1,956	,699	5,471
ACIK_ALAN		1,048	1,0508	-1,011	3,108	,995	1	,318	2,853	,364	22,371
AMAC_DISI		,499	,8193	-1,106	2,105	,372	1	,542	1,648	,331	8,210
DIGER_EV		-,209	,4074	-1,008	,589	,264	1	,608	,811	,365	1,803
EV_BAHCELERI		,513	,4789	-,426	1,452	1,148	1	,284	1,670	,653	4,271
GELENEKSEL_TICARET		-,648	,2900	-1,216	-,079	4,988	1	,026	,523	,296	,924
KAMUSAL_YAPİ		-,755	,4217	-1,582	,071	3,209	1	,073	,470	,206	1,074
KENDİ_EVİ		1,097	,8646	-,597	2,792	1,611	1	,204	2,996	,550	16,309
OKUL_ALANİ		,132	,3216	-,498	,762	,169	1	,681	1,141	,608	2,143
OZEL_EGITIM		20,980	34694,1143	-67978,235	68020,194	,000	1	1,000	1292496873	,000	.[a]
REKREASYON_ALANİ		-,065	,1252	-,310	,180	,269	1	,604	,937	,733	1,198
SOKAK		,400	,5444	-,667	1,467	,541	1	,462	1,492	,513	4,338
ZINCIR_ MARKET		,597	,2250	,156	1,038	7,036	1	,008	1,816	1,169	2,822
(Scale)		1[b]									

Dependent Variable: "I am very happy in my neighborhood"
Model: (Threshold), ACIK_ALAN, AMAC_DISI, DIGER_EV, EV_BAHCELERI, GELENEKSEL_TICARET, KAMUSAL_YAPİ, KENDİ_EVİ, OKUL_ALANİ, OZEL_EGITIM, REKREASYON_ALANİ, SOKAK, ZINCIR_
MARKET

a. Set to system missing due to overflow

b. Fixed at the displayed value.