



**GENDER-NEUTRAL  
OUTDOOR PLAYGROUND DESIGN**

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The Graduate School of İzmir University of Economics  
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# ABSTRACT

## GENDER-NEUTRAL OUTDOOR PLAYGROUND DESIGN

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Children spend a considerable amount of the time in free time activities, which have a crucial role in their learning process. Children's attitudes are affected by their interactions, play preferences, sociocultural environment, and parental background. Moreover, in their play activities, they incorporate the ones that are culturally acceptable for their gender stereotypes. For some children, this situation may cause negative social behaviors such as social exclusion, aggression or social withdrawal. Their risk-taking patterns are shaped according to gender stereotypes and hostile behaviors toward themselves in the play. This study aims to understand how gender-neutral play environments may help define children's gender-related behaviors and comprehend negative ones at an early childhood age. Individual and group play attitudes were analyzed by behavioral mapping, observations and interviews with children about playgrounds. The study focuses on playground design for reducing negative gender-related behaviors in early childhood through a collaborative design process with a design center in İzmir, Turkey. Findings show that, children's and parents' attitudes vary according to the design of the play or play equipment. and may be useful for researchers, educators and playground designers.

Keywords: Children, Children's environments, Outdoor play environments, Natural play environments, Gender-neutral play environments, Play equipment

# ÖZET

## CİNSİYETSİZ DIŐ MEKAN OYUN ALANI TASARIMI

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Tasarım alıŐmaları Yüksek Lisans Programı

Tez DanıŐmanı: Prof. Dr. Deniz Hasırcı

Őubat, 2022

ocuklar serbest zamanlarının oĐunu oyun oynayarak geirirler ve bu durum Đrenme srelerinde nemli bir role sahiptir. ocukların davranıŐları, birbirleriyle olan etkileŐimlerinden ve oyun seimlerinden etkilenirken aynı zamanda onların sosyokltrel ortamları ile ailesel altyapılarından da etkilenir. Ayrıca, ocuklar serbest zaman aktivitelerinde oyun arkadaŐı seimlerini kendilerine dayatılan cinsiyet kalıplarına uygun olarak yaparlar. Bazı ocuklar iin bu durumun dıŐlanma, saldırganlık veya ie kapanma gibi olumsuz davranıŐlara sebep olabileceĐi gzlemlenmiŐtir. ocukların risk alma eĐilimleri de bu cinsiyet kalıplarıyla birlikte oyun iindeki kendilerine ynelik negatif davranıŐlara gre őekillenir. Bu nedenle, bu alıŐmanın amacı, cinsiyet ayrımı gzetmeyen oyun alanlarının erken ocukluk aĐında ocukların cinsiyete dayalı olumsuz davranıŐlarını azaltmaya nasıl yardımcı olabileceĐini anlamaktır. Bireysel ve grup oyunlarındaki tutumları, davranıŐsal haritalama, gzlemler ve ocuklarla yapılan grŐmelere gre incelenmiŐtir. alıŐma, İzmir, Trkiye’de bulunan bir tasarım merkezi ile ortak bir tasarım sreci yrterek erken ocukluk dnemindeki cinsiyete dayalı olumsuz davranıŐları azaltmak amacıyla oyun alanı tasarımına odaklanmaktadır. Sonular, ocukların ve ailelerin yaklaŐımlarının oyun alanının tasarımına gre deĐiŐtiĐini gstermektedir ve bu alıŐma araŐtırmacılar, eĐitimciler ve oyun alanı tasarımcıları iin yararlı olabilir.

Anahtar Kelimeler: Çocuklar, Çocuk çevreleri, Dış mekan oyun alanları, Doğal oyun alanları, Cinsiyetsiz oyun alanları, Oyun ekipmanları





Dedicated to my grandfather and my family

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## **PREFACE**

This basis for this research originally stemmed from my passion for developing gender-neutral play environments for children. Children who make up the future play a key role in solving many problems in the world. Gender discrimination that we face from childhood is one of these problems. I wondered how I could support children as part of the gender equality movement in the world; and I wished to like to start with the playgrounds where children spend the most time.

It is my attempt to not only find out, but to develop gender-neutral design guidelines to break down barriers of equality for future generations.

İZMİR

04/02/2022

Beril İşci



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## **LIST OF ABBREVIATIONS**

UNCRC: The United Nations Convention on the Rights of the Child

IPA: The International Play Association

MVPA: Moderate-to-Vigorous Physical Activity

WHO: World Health Organization

FHF: Free Height of Fall

CEN: European Committee for Standardization



## CHAPTER 1: INTRODUCTION

A child's development includes gaining different skills and abilities such as physical, social, emotional, and mental skills. Children spend most of the time in free time activities, and these activities have a crucial role in their learning process related to children's preference for the type of play, peers, and social environment (Maguire et al., 2015; Czalczynska, 2014; Karsten, 2003; Shutts et al., 2017). Moreover, The International Play Association (IPA) mentioned that play environments help children's social development while contributing to their physical and mental development (IPA world, 2014). The play process increases the child's self-esteem and develops social and problem-solving skills (Ruth L., 2008; Fjørtoft, 2001; Maguire et al., 2015; Czalczynska, 2014; Karsten, 2003; Shutts et al., 2017). Accordingly, there are various studies focus on children's learning environments as kindergarten and preschool playgrounds in general (Änggård, 2011; Fjørtoft, 2001; Barbu et al., 2011; Coe et al., 2014; Granger et al., 2017; Rönnlund, 2015; Mayeza, 2016).

Child development is also affected by their sociocultural environment and social constructions related to the cultural and parental background. Besides, social constructions have an impact on gender identities and setting gender boundaries. In early childhood ages, children learn gender behaviors according to stereotypes based on their biological sex (Cherney et al., 2010; Karsten, 2003). Various studies have shown that gender is one of the substantives construct children's play behaviors and their social skills (Mayeza, 2016; Rönnlund, 2015; Änggård, 2011; Fjørtoft, 2001; Barbu et al., 2011; Coe et al., 2014; Granger et al., 2016; Harten et al., 2007). From their culture, they begin to explore gender roles and what it means to be a boy or a girl at 3-4 years old (Kuhn et al., 1978; Martin et al., 2004; Halim and Ruble, 2010). Between 5 and 6 years old, they learn about their gender identity, and express themselves in rigid rules according to gender definitions (Weinraub et al., 1984; Egan et al., 2001; Miller et al., 2009). Identifying themselves related to their sex helps children to understand their social standing while influencing their social behaviors, play peer preferences and physical activity level.



Regarding gender identity development, play attitudes vary based on peer and play environment and affect their play companion preferences (Czalczyńska, 2014; Karsten, 2003; Shutts et al., 2017; Edwards et al., 2001; Coe et al., 2014). Through their interactions and play preferences, children prefer to play with same-gender peers who incorporate culturally acceptable activities for their gender (Granger et al., 2016; Lumen Learning, 2021). This need for peer approval may cause less physical activity, social exclusion, and negative social behaviors that refer to children's interests beyond gender boundaries. In the light of this knowledge, playgrounds influence children's gendered behaviors, including negative attitudes. In general, playgrounds act as gendered sites of learning, and children perpetually observe and control each other's behaviors through exclusion and bullying (Maguire et al., 2015; Mayeza, 2016; Bagner et al., 2012; Reimers et al., 2018; Buhs and Ladd 2001; Perry et al., 1988; Edwards et al., 2001). The main reason for these negative behaviors and willingness to social approval is physical and gender boundaries that are imposed by society. It is generally thought that boys have the physical strength to achieve anything, whereas girls are vulnerable and physically weak (Edwards et al., 2001; Thorne, 1993; Buhs and Ladd, 2001; Perry et al., 1988). This hegemonic perspective causes adverse effects, which create difficulties in later years in life, and they may cause social rejection, suicidal tendencies, and weakening of social skills (Buhs and Ladd 2001; Perry et al., 1988).

Moreover, children's adverse experiences attracted The United Nations Convention on the Rights of the Child (UNCRC) attention, and UNCRC creates a specific right for all children with Article 31 to have rest and leisure, engage in play and creative activities appropriate to their age, and participate freely in cultural life. Additionally, under article 31, Committee mentioned challenges and barriers for girls according to gender stereotypes which serve to inequality and discrimination. Moreover, UNCRC argues that girls' participation rates are lower than boys' in physical activities due to their parental and cultural background (UNCRC, 2013).

As a result of these negative effects of gender impositions and stereotypes, it is significant to minimize their social boundaries with egalitarian environments. Children spend most of the time in play activities and play environments, and public playgrounds are more accessible. Accordingly, this study aims to develop gender-neutral playground design guidelines that provide equal participation in physically

active plays and minimize negative behaviors and social boundaries in the playground for all children.

### ***1.1. Scope and Aim of the Study***

Various studies have investigated children's negative behaviors in outdoor play environments (Kung et al., 2018; Hofstede et al., 2015; Buhs and Ladd, 2001; Perry et al., 1988). However, few studies focus on gender effects and playground design to help designers create more gender-neutral play environments. In general, various studies examine children's physical activity level in school environments, especially in preschool playgrounds that include professionals' interferences; although, there are a couple of studies about outdoor public playgrounds (Maguire et al., 2015; Mayeza, 2016; Bagner et al., 2012; Reimers et al., 2018; Buhs and Ladd 2001; Perry et al., 1988; Edwards et al., 2001). On the other hand, children's unstructured free-time activities in which they can test their limits and abilities while taking risks occupy a critical amount of time in their daily routines. Gender boundaries are more common in public environments concerning their risk/peril areas and social interferences (Little and Eager, 2010; Boles et al., 2005; Änggård, 2011; Fjørtoft, 2001). The study focuses on public outdoor play environments' impacts on children's gendered behaviors.

Another aim of this study is to understand how gender-neutral play environments help decrease children's negative gender-related behaviors at early childhood ages and how design helps increase girls' participation and encourage them to risk-taking in public outdoor playgrounds. This study thus aims to uncover if the gender-neutral playground design might be an effective solution for reducing negative gender-based attitudes of children, increasing girls' physical activity level, and providing equal play opportunities.

The study analyzes children's individual and group play attitudes based on negative behaviors and risk-taking patterns according to their gender. As a first step, four playgrounds were selected and categorized as far as their design features such as number of play equipment, use of materials, type of play opportunities and use of site. The analysis was made with behavioral mapping and observation checklist instruments by measuring children's attitudes simultaneously. After this step, parents and their children were interviewed to clarify parental concerns and expectations,

and to develop more suitable playground design proposals. With determining design criteria, one playground design concept was developed in terms of two bases are risk management and the gender-neutral environment.

Observations were made over a month to analyze children's play attitudes and recognize patterns of play, while using several play equipment requiring different motor skills levels. Thus, individual and group play attitudes may be understood with behavioral mapping in relation to gender-neutral and gender-typed playground design. Furthermore, the study focuses on the playground design criteria to hinder negative gender-related behaviors with learning children's peer preferences in gender-neutral and gender-typed environments according to play equipment.

The use of individual and group play equipment is analyzed according to play attitudes of mixed-gendered groups of children in İzmir, Turkey, with the collaboration with Cemer City Equipment Manufacturing Company (Kent Ekipmanları San. Tic. AŞ.), one of the playground design companies in Turkey. As a methodology, a behavioral mapping and observation checklist is used for understanding children's negative behaviors and risk-taking patterns. As the last part of the Phase 1 - collecting data, interviews were made with parents and children to determine the necessary characteristics derived from experience.

Phase 2 involves developing gender-neutral design criteria and designing modular gender-neutral play equipment. The design process used the outcomes that had been collected at phase 1.

The study's findings may provide guidance for designing playgrounds and gender-neutral environments that provide equal playing opportunities for the early childhood period for reducing negative behavior and creating awareness of gender boundaries. Initial studies found that relationship between environment and gender without developing design guideline. They were mentioned that children's attitudes vary in different type of playgrounds as public ones and pre-school environment (Barbu et al., 2011; Edwards et al., 2001; Karsten, 2003). Besides, most of them studied on pre-school environments (Antill, 2003; Boldermann et al., 2006; Buhs and Ladd, 2001; D'Haese et al., 2013; Granger et al., 2016). However, the study may be useful for developing guidelines about public playground design which are the places that children play with free-time activities.

## ***1.2. Research Question***

As given in the scope of the study, this article aims to uncover if the gender-neutral playground design might be an effective solution for reducing negative gender-based attitudes of children and increasing girls' physical activity levels.

The study focused on the following questions:

1. How do gender-neutral play environments help to decrease children's negative gender-related behaviors at early childhood ages?
  - a. What are gender-related behaviors in outdoor play environments?
  - b. What are negative gender-related behaviors in outdoor play environments?
2. How design solutions effectively encourage children to engage in physical play activities and take advantage of the risk-taking potential of an outdoor public playground?
3. How might gender-neutral playground design bring down parental concerns and adult controls on children in outdoor public play environments?
  - a. How do parental concerns about risky play affect children's physical activity level?

The findings of the study, as well as the design guidelines prepared as an extension of the findings may provide guidance for the design of play equipment and gender-neutral playgrounds that provide equal playing opportunities for the early childhood period for reducing negative behaviors and creating awareness on stereotypical gender norms.

## CHAPTER 2: CHILD DEVELOPMENT AND GENDER

Child development is a process that consists of four main sequences, which are social, emotional, cognitive, and physical development from birth. These four sequences develop in relation to each other, and it is strongly affected by genetic factors. However, children explore their abilities and limits with the guidance of their parents and socio-cultural environments. Therefore, their gender identity knowledge is affected by their physical, social, emotional and cognitive development based on their age (Antill, 2003; Reimers et al., 2018; Mayeza, 2016; Buhs and Ladd, 2001; Perry et al., 1988; Child Development, 2021).

Social and emotional learning has been defined as the process through which children understand and control their knowledge, attitudes, and skills and manage their emotions. Furthermore, they can set and achieve positive goals concerning others, establish positive social relationships, making responsible decisions, and handling interpersonal situations effectively. Moreover, the social and emotional learning process involves diverse considerations, including identifying and expressing emotions clearly (Maguire et al., 2015; Barbu et al., 2011; Edwards et al., 2001).

According to Barbu and her colleagues' research (2011) about age-related social behavior, children's play attitudes change during their social developmental process. Throughout their preschool period, they become more social, peer-oriented and open to interactions (Barbu et al., 2011; Edwards et al., 2001; Karsten, 2003). Moreover, the research clarifies that girls and boys show different attitudes such as use of equipment or space during play at the same age. Former study's findings assert there is a developmental gap between girls and boys in terms of their observation skills and developing concerns to their environment (Edwards et al., 2001; Barbu et al., 2011).

On the other hand, physical development is a process in which children test their abilities and develop motor skills. The ability to body movement and control objects are defined as motor skills. Besides, motor skills are categorized as fine motor skills and gross motor skills (Lumen Learning, 2021; Child Development, 2021). Fine

motor skills are about the muscles that allow coordinating small movements such as writing, grasping, while gross motor skills are about large muscle groups such as arms and legs that allow larger movements, including balancing and dancing. As a milestone, cognitive development takes a role along with physical development. Cognitive development comprises problem-solving and communication related to children's social and emotional skills (Lumen Learning, 2021; Child Development, 2021).

In preschool years between the ages three and five, children start to understand others' thoughts and emotions different from their own. Moreover, children use these skills for teasing and bullying others or convincing adults (Lumen Learning, 2021). On the other hand, they also realize their gender identity and discover their abilities and limits at these ages. According to their cognitive development, their tendency to bully might cause negative behaviors in terms of gender differences (Reimers et al., 2018; Mayeza, 2016; Buhs and Ladd, 2001; Perry et al., 1988).

Gender identity development has several stages related to child development and their abilities based on age. According to Health Gender Development and Young children guidance by The National Center on Parent, Family, and Community Engagement, the stages analyzed in four different groups are infancy, 18-24 months (toddlers), ages three-four, ages five-six. When infants observe messages about gender from adults' appearance and behaviors, toddlers begin to define gender, and they start to create a sense of group belonging (Kuhn et al., 1978; Langlois and Downs, 1980; Fagot and Leinbach, 1989; Baldwin and Moses, 1996; Witt, 1997; Antill et al., 2003; Zosuls et al., 2009).

At the ages three and four, children learn differences between boys and girls with gender norms. When they reach five and six ages, they start to act according to their gender identity. However, this age group learns the rules and show a tendency to follow them within the pressure from their society and parents because they have not the ability to think more deeply about the beliefs and values that many rules are based on (Weinraub et al., 1984; Egan et al., 2001; Miller et al., 2009).

According to this knowledge, children learn their gender identity in the frame of gender stereotypes and norms. The gender stereotypes that children are exposed to vary depending on the social environment they live in and socio-economic factors.

For example, while girls in regions with low income and education levels are directed to domestic roles at an early age, boys can continue to experience free play until later ages. While girls are more in domestic environments, boys have the chance to be in contact with the outside world more (Mayeza, 2016; Miller et al., 2009; Taşçı, 2010) The imposition of these stereotypes in discovering their abilities and limits can lead to different behavioral patterns in children. In addition, these behaviors can often cause negative consequences such as introversion, aggression or social exclusion (Reimers et al., 2018; Mayeza, 2016; Buhs and Ladd, 2001; Perry et al., 1988).

Previous researches has indicated that, according to gender stereotypes, girls are more introverted and face obstacles such as being unable to explore, acquire physical abilities, learn to take risks, and cope with issues. On the other hand, boys have the opportunity to further improve their physical capabilities as a result of the frequently emphasized "men are strong, men can do whatever they want" discourse. As a result, individuals can behave more fearlessly when confronted with risky situations or obstacles. This difference, which has been instilled in children since childhood, continues to have an impact throughout adolescence and maturity (İşci and Hasırcı, 2020; Änggård, 2011; Miller et al., 2009; Mayeza, 2016; Taşçı, 2010)

### **CHAPTER 3: CHILDREN, PLAY AND GENDER**

Playing and physical activity has significance for children's cognitive, emotional and social and motor skill development as well as well-being. WHO (World Health organization) explains physical activity as "any bodily movement made by skeletal muscles that necessitate the energy expenditure". Moreover, physical activity specifies all kinds of movements, including moderate and vigorous activities such as leisure time, transportation and work. Moreover, all MVPA are helpful for well-being and health (Reimers et al., 2018; WHO, 2010; WHO, 2020). While walking is assigned to moderate physical activity, running, climbing and jumping are included in vigorous activities. If the children engage in vigorous physical activities, they are included in a moderate-to-vigorous physical activity group.

In the light of this knowledge, WHO also recommended physical activity guidelines that offer children engaging in their moderate-to-vigorous physical activity (MVPA) at minimum one hour for their healthy development (WHO, 2010; WHO, 2020).

On the other hand, children do not have equal play opportunities as UNCRC mentioned. Children act by repeating what they see from their environment and according to the gender stereotypes imposed by their families and supervisor. These stereotypes include certain impositions that boys are stronger than girls and capable of anything, but girls are always more fragile and vulnerable. It has been observed that children exposed to these patterns tend to exhibit negative behaviors. If the child behaves "inappropriately" depending on the stereotypes, they may be labelled such as "tomboy" or "sissy", while being bullied and socially excluded by others. As a result, they may feel obligation to choose same-gender friends. These labels and stress might cause problems such as introversion, depression and even suicide, both in the developmental period and in the future life of children. Therefore, keeping children away from these gender impositions and stereotypes is crucial to minimize the difference between them and to ensure that they spend time in egalitarian environments. Children learn mostly in playgrounds and by playing.



### ***3.1. Types of Play***

Through their physical activities, children engage in different types of play. According to initial studies, play is classified into five main types: competitive play, constructive play, dramatic / fantasy play, physical play, and symbolic play (Edward et al., 2001; Fjørtoft, 2001; Rock and Rock Forman, 2021). All the types of play help children's different developmental processes. Competitive play provides learning of winning and losing, being part of a team, and setting rules and turn-taking (Rock and Forman, 2021). It also teaches emotional control and how to deal with loss. Furthermore, constructive play teaches building and putting objects together as blocks, magnetic tiles and puzzles. Moreover, constructive play helps to improve the cognitive skills of children by teaching them how to make things work together and the importance of trying again (Edwards et al., 2001; Rock and Forman, 2021).

During dramatic / fantasy play, children learn to cooperate, share and develop their verbal skills through imagination and creativity. Furthermore, role-play helps children to learn about how to act in larger groups. Just like dramatic play, also symbolic play provides an opportunity for children to express and develop their ideas, emotions and experiences with art and music (Fjørtoft, 2001; Edwards et al., 2001). However, children's physical activity level shows variety in different types of play and this difference depends on their gender, age and parental background. For example, constructive play provides equal efforts for both genders, whereas observations show that boys are more active than girls during symbolic play (Edwards et al., 2001; Shutts et al, 2017).

Carolyn Pope Edward and her colleagues (2001) mentioned that the observation on symbolic play clarifies differences between girls and boys. During symbolic play, boys prefer imaginative roles and scenes as having a superpower. In contrast, girls prefer more realistic and domestic roles from their daily life settings, such as being a teacher at school. Children prefer appropriate roles while they play mixed-gender groups. Boys prefer masculine roles as repairmen, whereas girls choose to be mother and wife as in female occupations. The research directly draws attention to children who do not want to play cross-gender roles in the role-play, for example boys playing the mother role while girls playing the father role.

On the other hand, physical play requires both gross and fine motor skills and encourages them to develop healthy habits such as running, climbing and jumping. (Fjørtoft, 2001; Edwards et al., 2001). Outdoor environments have more free and large spaces for physical plays. Nature provides a dynamic and rough play experience with its topography as slopes, rocks, and vegetation providing shelter and climbing activities. Children use their environment as a part of play because they are able to perceive their surroundings with their structural and functional significance, which is described as affordances. They use their environment with its challenges and obstacles as a part of the framework of their play (Änggård, 2001; Fjørtoft, 2001; Storli and Hagen, 2010). By this means, nature allows versatile play and learning opportunities with children's creativity (Fjørtoft, 2001).

### ***3.1.1. Affordances and Play***

The affordance concept was developed by Gibson (2014), and they are directly related to children's motor skills and creativity. Affordances are more common in natural environments due to the landscape features that afforded various play spaces and physical activities. Besides, the term is used for describing the quality or property of an object that defines its possible uses or makes clear how it can or should be used (Merriam-webster, 2022). For example, they can use the open areas for running, chase and catch, the spruces for hide and seek, the shrubs for building dens and shelters, trees for climbing (Fjørtoft, 2001; Änggård, 2001;). Initial studies proved that the natural environment helps children's motor skills development and creativity. Children who spend more time in natural outdoor environments are more successful with physical challenges (Storli and Hagen, 2010; Fjørtoft, 2001; Fjørtoft, 2001; Grahn et al.,1997).

Affordances are connected to individuals' experiences related to their sociocultural background. Their individual perceptions are shaped by the affordances (Kytaa, 2004). Gibson (2014) mentioned that factors such as individuals' quality, age, gender, body proportion, and abilities affect perception and actualization of affordances. For children, affordances are a way of examination of the environment (Fjørtoft, 2001; Storli and Hagen, 2010). They perceive them from birth and children's perception is shaped by their families and supervisors during their development. In this context,

affordances transfer from generation to generation (Kyttä, 2004; Gibson, 2014; Heft, 1989).

Marketta Kyttä (2004) investigated the affordances at two levels: potential and actualized ones. Potential affordances depend on individual groups and their capabilities as well as situations. However, actualized ones have been perceived, utilized and in the end, they became shaped. Separating affordances into two is also suggested by Henry Heft (1989). He mentioned that potential affordances are determined by the qualities of the environment and actualized ones explained with individual relationships with the environment. Moreover, creating new affordances and shaping its meaning becomes possible (Kyttä, 2004; Heft, 1989).

Children perceive their environments with the features' functions and use these features during physically active play (Storli and Hagen, 2010). The outdoor environment includes different components that support physical activity at different levels (Fjørtoft, 2001; Storli and Hagen, 2010). Children's play environment has various types as preschool and public, traditional and natural, gender-typed and gender-neutral, and each type consists of different levels of adult interferences. Thus, these different types affect children's physical activity preferences and play attitudes (Fjørtoft, 2001; Gibson, 2014). Previous studies examined children's preferences in traditional and natural playgrounds, including spaces that have access to the natural environment (Storli and Hagen, 2010; Fjørtoft, 2001).

Rune Storli and Trond Loge Hagen (2010) examined and discussed the children's physically active play in traditional and natural playgrounds. The study's focus group was 3-5 years old children, and the researchers analyzed children's physical activity level and environment usage by observing children in terms of actualized affordances. The results clarified that there are no play activity level differences between traditional and natural playgrounds. However, Ingunn Fjørtoft (2001) proved that children's creativity and motor skills affect positively from physical diversity of the natural playgrounds. Children were observed in both traditional and natural environments in two groups as experimental and reference groups. The experimental group consisted of 27 boys and 19 girls who used the forest every day for 1-2 hours, while the reference group consisted of 11 boys and 18 girls who used a traditional urban playground for 1-2 hours a day. The study confirms the relationship

between landscape and play functions. Besides, various supporting studies show children's need for nature (Cengiz and Boz, 2019; Moore, 1993; Storli and Hagen, 2010; Fjørtoft, 2001). Natural affordances provide gender-neutral play opportunities to encourage children to interact with each other, helping each other and experiencing task-sharing without gender boundaries (Änggård, 2011; Fjørtoft, 2001). Structured natural affordances might provide sufficient risk-taking without hazardous injuries.

As various studies mentioned, children learn how they get through challenges during their unstructured free-time activities. At this point, they exhibit an attitude that depends on variables such as gender and age, and these behaviors reveal their risk-taking patterns (Boyer, 2006; Little and Eager, 2010; Greenfield, 2004; Stine, 1997; Tovey, 2007; Heft, 1989).

### ***3.1.2. Risky Play and Risk-Taking***

According to developmental psychology, risk-taking is described as behaving as far as considering the possible negative results of action as unintentional injuries (Boyer, 2006; Little and Eager, 2010). However, risk-taking might also have positive consequences as learning, being prepared for danger and developing new skills. Besides, it is a kind of opportunity to learn different ways to explore and perceive our environment. Making choices about success and failure is also a part of risky situations (Clifford, 1991; Greenfield, 2004; Stine, 1997; Tovey, 2007). Various researchers argue that risk is not just a danger that needs to be avoided. It can be beneficial and result in positive consequences when we manage it with risk-minimizing strategies (Ball et al., 2008; Walmsley et al., 2010).

In the light of this knowledge, risk-taking has a key role in testing limits, learning results of decisions and acting properly for their safety in children's development. Furthermore, they can test the advantages of taking the risk in their play activities which occupy a large amount of time in their daily life (Greenfield, 2004; Stine, 1997; Tovey, 2007). Recent observations and interviews about understanding children's risk-taking patterns show that children encounter diverse risky situations. They exert different behavior such as, risk avoidance, exploratory risk appraisal (asking parents), moderating risk (Little and Eager, 2010).

Helen Little and David Eager (2010) classified risk-taking patterns in their research. The classification includes six behaviors: risk avoidance, exploratory risk appraisal (asking parents), moderating risk, very low risk, low risk, and high risk with positive and negative outcomes. According to their description, risk avoidance means avoiding and unwillingness to complete tasks; exploratory risk appraisal means requiring adult supervision; very low risk means there is no injury inappropriate and inappropriate equipment use. These three behaviors cause risk-free results, while low risk, moderate risk and high risk can cause both positive and negative consequences in terms of the use of equipment. If children tend to behave negatively as inappropriate use, scaring or disturbing each other, the play may end with undesirable injuries that differ from the risk level. However, risk minimization strategies may help minimize those negative behaviors.

Risk management avoids serious injuries by eliminating hazards and creating playgrounds that provide sufficient risk-taking for children (Lester and Russel, 2008; Tovey, 2007). Parental safety concerns cause increasing safety measures, and safety has become a priority in playground design. As a result, play environments become more controlled and structured places by adults, and children spend less time in play because activities have become less exciting and enjoyable (Little and Eager, 2010). However, sufficient risk in play makes the experience more exciting and beneficial for children.

According to Sandseter's research (2007), the observations and interviews clarified that children prefer to be more independent, "out of control" and they show a tendency to try dangerous play. Their behavioral risk-taking patterns show variation depending on their age, gender, temperament, sensation seeking, socialization experiences and play companion's behaviors (Little and Eager, 2010; Boles et al., 2005). During play, children have the capability to comprehend the functions of landscapes and their environment through their imagination; and they experience the environments' all obstacles and challenges (Fjørtoft, 2001; Änggård, 2001; Ärlemalm-Hagsér, 2010). This tendency increases parental concerns about the play environment, and this apprehension about risk-taking can affect girls' physical activity level. Moreover, prohibition on girls could encourage boys to intimidate girls in playgrounds (Little and Eager, 2010; Änggård, 2011; Fjørtoft, 2001). Gender stereotypes have widespread belief in girls' physical skills, implying that they are

unable to succeed in physically demanding equipment as well as boys (Little and Eager, 2010; Änggård, 2011; Fjørtoft, 2001). Correspondingly, this research also examined risk-taking patterns among girls with the argument that playground design might change this situation and provide a more equal activity level for both genders.

### ***3.2. Play Attitudes***

During the free-time activities, children exhibit different play attitudes according to types of play as unoccupied play, solitary play (independent play), onlooker play (observing others), parallel play (playing beside), associative play (playing with others without assigned roles or organization), cooperative play (playing in coordinated) (Rock and Forman, 2021; Parten, 1932; Barbu et al., 2011). According to Parten's framework, which is connected with the social spectrum of children's behaviors in peer play, the framework analyzed their play attitudes in 3 groups: non-social activities, semi-social activities, and social activities. The framework defined non-social activities: unoccupied play and solitary play; semi-social activities are onlooker play and parallel play, and social activities are associative play and cooperative play. Moreover, recent research mentioned that interaction with adults was observed frequently in outdoor play environments (Barbu et al., 2011).

- Unoccupied play: wondering around, focus on interest, or staring off into space
- Solitary play: playing individually or playing away from others
- Onlooker play: observing the others and acting same with other children but not involved
- Parallel play: playing close to the others with the same materials but not involved
- Associative play: being involved in similar activities with social exchanges

On the other hand, sex differences were observed by various studies in the developmental process of children (Barbu et al., 2011; Edwards et al., 2001; Davies, 2003; Änggård, 2011). Thus, this developmental gap is observable in playgrounds. The recent studies examine girls' display of social and structured play earlier than boys (Table 3). For example, boys frequently show associative play at four and five years and cooperative play at five and six years, while girls frequently show associative play at 3-4 years and cooperative play at four and five years (Barbu et al.,

2011; Braun et al., 2016). The situation can cause girls' emotional and social development to start earlier than boys.

### 3.2.1. Gender-based Play Attitudes

When the sex differences among two six-year-old children taken into consideration, it is substantiated that each age group has different play attitudes related to the gender of children as seen in Table 1, differences in play attitudes based on gender, age and activity type (Barbu et al., 2011; Änggård, 2011; Karsten, 2003; Braun et al., 2016; Edwards et al., 2001). In comparison, boys and girls act similarly at two and three, in unoccupied, solitary, associative and cooperative play, girls' percentage in interaction with adults more than boys. At three and four years, girls prefer associative play more than boys; however, associative play, solitary play, and parallel play share the same amount of time. However, cooperative play was more frequent in girls at four and five years. Nevertheless, associative play became more frequent in boys than in girls at this age. While cooperative play became the primary play type for both genders during the age five and six, observations show that interacting with peers more frequently in girls, whereas cooperative play is more frequent in boys (Barbu et al., 2011; Harten et al., 2007).

Table 1. Differences in play attitudes based on gender, age and activity type. (Source: Barbu et al., 2011)

ACTIVITY TYPE	PLAY TYPE	GIRLS	BOYS
NON- SOCIAL ACTIVITIES	UNOCCUPIED PLAY	2-3 YEARS	
	SOLITARY PLAY	2-3 YEARS	
SEMI-SOCIAL ACTIVITIES	ONLOOKER PLAY	2-3 YEARS	
	PARALLEL PLAY	2-3 YEARS	
SOCIAL ACTIVITIES	ASSOCIATIVE PLAY	3-4 YEARS	4-5 YEARS
	COOPERATIVE PLAY	4-5 YEARS	5-6 YEARS
	INTERACTING WITH ADULTS	5-6 YEARS	

Another research by Edwards and colleagues (2001) found that children have different social abilities and play styles according to their gender. The recent researchers examined girls consider their social environment and consciously select their play companion while communicating with them, whereas boys select according to their shared interests in physical style. These different interests may cause different play styles. For example, when boys tend to play in large groups with monopolizing their environment, girls tend to play with same-gender peers in small

groups (Edwards et al., 2001; Karsten, 2003; Braun et al., 2016; Harten et al., 2007; İşci and Hasırcı, 2020). Girls' observation and incorporating skills provide them with developing concerns and expectations about their play peers. Besides, girls are aware of different play scenarios as dangerous or hazardous. These concerns may be influenced by their social and parental background (Edwards et al., 2001; Karsten, 2003; Reimers et al., 2018; İşci and Hasırcı, 2018). According to that, this study also focuses on girls' risk-taking patterns.

The United Nations Conventions on the Rights of Child (UNCRC) mentioned that girls' participation rates are lower than boys' in physical activities due to their cultural and parental background related to gender stereotypes (UNCRC, 2013). Thus, girls have limitations even in the playgrounds.

Otherwise, the girls' and boys' preferences may be affected by parents' attitudes to risk-taking. In gender stereotypes, there is a general approach to girls' physical abilities as they cannot be successful as boys in physically demanding equipment. However, in child development, risk-taking has a crucial role in perceiving hazardous situations and avoiding injury while exploring their environment. Children learn their abilities and limits with risk-taking (Little and Eager, 2010; Änggård, 2011; Fjørtoft, 2001).

Children tend to play in different themes and play behaviors according to their gender during the play activities. According to recent studies, while boys choose physical activities concerning good and evil, girls prefer to play related to their everyday experiences (Karsten, 2003; Braun et al., 2016; Harten et al., 2007; Änggård, 2011). Gender is constructed in children's everyday experiences and affects children's environmental settings. At that point, nature has lots of opportunities for gender-bending (Davies, 2003; Änggård, 2011). Nature leads children to play adventurous and exciting games. Furthermore, when children play role-play while mimic animal which is described as “animal play”, they tend to try both gendered and non-gendered play behaviors, including gender-bending. Sex and gender roles are insignificant in animal play, and nature takes the lead as a dominant force (Änggård, 2011; Fjørtoft, 2001). The initial research examined that play equipment impacts children's play attitudes and play companion preferences (İşci and Hasırcı, 2020). The observations of seven different play equipment units established that



children take a gendered role depending on the characteristics of the equipment. In contrast, group play equipment provided mixed-gender group play. When boys behave more confidently, girls act open to manipulation and prefer to play with same-gender peers to feel more comfortable, confident, and relaxed. The situation is more visible in physically demanding play equipment such as hanging bars, rope swings, and climbing ropes (İşci and Hasırcı, 2020).

### ***3.2.2. Negative Attitudes***

Negative behaviors are described as the undesirable behaviors may cause harm to well-being such as aggression, disturbing or restriction. The desire to social acceptance imposed by society is the primary cause of these unfavorable actions (Buhs and Ladd 2001; Perry et al., 1988; Maguire et al., 2015)

In early childhood, negative behaviors are pervasive, and it may cause long-term risk for children's social development (Bagner et al., 2012; Reimers et al., 2018; Mayeza, 2016; Buhs and Ladd 2001; Perry et al., 1988; Edwards et al., 2001). According to various studies, negative behaviors are categorized as internalizing behaviors and externalizing behaviors. When social withdrawal, introversion, and depression are examples of internalizing behaviors, externalizing behaviors could explain aggression, disruption, and social exclusion. Furthermore, there are accepted concerns about these problematic behaviors regarding their potential long-term impact on child development (Maguire et al., 2015; Mayeza, 2016; Bagner et al., 2012; Reimers et al., 2018; Buhs and Ladd 2001; Perry et al., 1988; Edwards et al., 2001). According to previous empirical studies, gender-typed play behavior through childhood affects future physical aggression (Kung et al., 2018). The research shows that boys are more physically aggressive than girls at nearly age 4. However, girls used relation aggression more than boys (Hofstede et al., 2015). Relation aggression means social exclusion and playing same gender-peer groups. Thus, girls prefer playing with same peers without involving new play companions (Hofstede et al., 2015)

Fewer social skills and suicidality occur as a result of negative behaviors as social rejection and feeling lonely (Buhs and Ladd 2001; Perry et al., 1988). Children learn their social roles during free-time activities and play. According to researches, children's play companion preferences are based on a desire for peer approval and

avoiding adverse reactions (Edwards et al., 2001). In general, professionals and parents tend to encourage children to play with same-gender peers to help them to teach them their social roles in gender norms. Besides, domestic games are presented for girls and physical plays are presented as masculine-type plays for boys. This situation causes labels in the children's world. For example, if the child plays cross-gender games based on gender stereotypes, others may label them as "sissy" or "tomboy". As a result, children started to avoid cross-gender plays and negative reactions. However, diverse researchers mentioned that same-gender peer preferences started in preschool years, increasing during middle school and then decreasing adolescence period (Edwards et al., 2001; Thorne, 1993). These findings clarified professionals' and parents' role in children's negative attitudes in play.



## CHAPTER 4: CHILDREN, NATURE AND GENDER

Children have the ability to play in all kinds of places without separating indoor and outdoor spaces. because they can transform their environment into their own spaces with their creativity. Children's play patterns may change in different environments according to the environments being defined as, "places for children" or "children's places" (Rasmussen, 2004; Fog Olwig and Gullov, 2003). "Places for children" are designed and constructed by adults, while children's places created by children. Architects and city planners involved the process of creating "special" places for children; and restrictions and rules were included in playgrounds by adults. However, initial studies clarified that children preferred to play unstructured environments which away from adult interferences (Taşçı, 2010; Cunningham and Jones, 2004). Children can add different meanings, symbolic functions to their environment. In their playtime, children involved social interactions with each other and the spaces. They describe the places differently than the adults. (Rasmussen, 2004; Rönnlund, 2015; Fog Olwig and Gullov, 2003). Children's imagination and creativity shape children's places and they increase in natural environments. Stuart Brown mentioned that children's playful imaginations evoked by nature. For example, in the natural play environments, children use affordances for playing and they create their special experiences. For example, they use tree for climbing, bush for hiding, open areas for chase and catch (Brown, 2019). As various studies have mentioned the importance of affordances and nature in children's play attitudes (Rasmussen, 2004; Rönnlund, 2015; Fjørtoft, 2001; Fjørtoft and Sageie, 2004; Änggård, 2011). Affordances has a key role defining "children's places" and "places for children", because children may play everywhere at any time due to affordances, and by using their imagination, they can transform any space into a playground. Thus, affordances in nature allow for greater unrestricted play as they're more frequent in natural contexts (Brown, 2019).

### *4.1. Natural Settings and Play*

Children's experiences in natural settings are crucial to their personal development (Cengiz and Boz, 2019; Moore and Wong, 1997; Rasmussen, 2004; Coe et al., 2014; Fjørtoft, 2001; Fjørtoft and Sageie, 2004; Änggård, 2011; Karsten, 2003; Edwards et al., 2001; Barbu et al., 2011; Reimers et al., 2018; Mayeza, 2016; Little and Eager,

2010; Brown, 2019). Natural environments help children's motor skills and encourage them to get through obstacles. Thus, natural elements such as topography, vegetation, water and sand provide various play opportunities depending on children's creativity. Children assess the natural environment based on their ability to engage with it rather than its aesthetics (Moore, 1993). They use natural affordances as a part of their play and categorize the features with its functional manner. Accordingly, they perceive the environment as climb-on-able, jump-on-able, hide behind-able, swing-on-able depending on their approach (Baker and Wright, 1951; Heft, 1988). In the light of this knowledge, ecological functions and natural settings provide unstructured environments and act as children's places instead of places for children (Cengiz and Boz, 2019; Rasmussen, 2004). It means nature provides more independent and equal play opportunities without adult interferences related to gender norms.

In terms of respecting nature, protecting it, being inspired and integrating it into social life, biophilic design has a key role. In playgrounds, environmental factors must be intervened in a way that does not create a safety problem. The initial studies determined that the parental concerns continue in completely natural environments (Cunningham and Jones, 2004). For example, the possibility of the falling from the tree, the thought that the bushes may cause injuries, the ground surface that may cause injury if the child falls, or the thought that the child can easily get lost in the woodland are some of the points that families worry about. However, the gender-related intervention rate of families seems to be lower in natural spaces when compared to traditional playgrounds (Coe et al., 2014; Änggård, 2011; Maguire et al., 2015; Mayeza, 2016; Bagner et al., 2012; Reimers et al., 2018; Buhs and Ladd 2001; Perry et al., 1988; Edwards et al., 2001).

In the light of these knowledge, the study argue that natural playground design may be a solution and biophilic design criteria may have a key role in designing gender-neutral spaces.

Biophilic playgrounds provide contact with nature with controlled way which include natural elements as topography, plants, trees and water. Besides, natural elements provide open ended affordances and play opportunities while supporting

children's mental and physical health and emotional development (Cengiz and Boz, 2019; Titman 1994; Brown, 2019).

Cramer and Browning first described a Biophilic Design concept framework in 2008, which established that the human-nature relationship is divided into three categories—nature in the space, natural analogues, or nature of the space. Terrapin's researchers divided these three categories into fourteen patterns (Nogueira, 2017; Cengiz and Boz, 2019).

1. Visual connection with nature
2. Non-visual connection with nature
3. Non-rhythmic sensory stimuli
4. Thermal and airflow variability
5. Presence of Water
6. Dynamic and diffuse light
7. Connection with natural systems
8. Biomorphic forms and patterns
9. Material connection with nature
10. Complexity and order
11. Prospect
12. Refuge
13. Mystery
14. Risk / Peril

Kellert and Callabrese (2015) explained these patterns as a way that interacting the nature, and analyzed these patterns into three sub-titles which are direct experience of nature, indirect experience of nature and experience of space and place.

The direct experience of space consists of;

- air,
- water,
- plants
- light
- natural landscapes and ecosystems
- fire
- weather

Indirect experience of nature consists of;

- natural colors
- natural materials
- naturalistic shapes and forms
- experience of nature
- images of nature
- stimulating natural light and air
- age, change and the patina of time
- natural geometries
- biomimicry
- information richness

Experience of space and place consists of;

- prospect and refuge
- Organized complexity
- Integration of parts to wholes
- Transitional spaces
- Mobility and way findings
- Cultural and ecological attachment to the space

When the experience of space and place explained in design consideration, refuge is defined as “a place that provides shelter and protection” with sense of safety and security, prospect is defined as “a place that provides observation and planning” and risk and peril areas defined as provide risk-taking without any harm and injuries due to risk management. Lastly, mystery is defined as place that provide something can be explored with sense of reward. (Browning et al., 2014). Those areas provide diverse play activities for children due to their imagination and creativity. Moreover, they are beneficial in terms of learning to controlling the environment, exploring the surrounding and learning to taking risks and fighting against obstacles.

As a result, based on playground design, ten biophilic design pattern were selected and analyzed. Besides, in terms of children’s experience of space and place, prospect and refuge, risk/ peril, transitional spaces, mystery areas added on the case study. Only four patterns which are thermal and airflow variability, dynamic and diffuse light, biomorphic forms and patterns, complexity and order did not include the

playground classification checklist in the case study because they were not observable in the playgrounds on the Bostanlı-Karşıyaka coastline where the research was conducted.

#### ***4.2. Natural Environments and Gender***

Natural places can be analyzed with natural settings and natural play environments can be suggested for children. However, these natural settings need to be addressed by considering the expectations of children's behavior patterns. Only then can it be ensured that both boys and girls are equally active in the same playground. The main reason for this is that families take a more protective attitude towards girls when they are worried and feel danger (Cunningham and Jones, 2004; Cherney and Dempsey, 2010; Rasmussen, 2004). For this reason, the relationship between children, gender and natural settings should be analyzed correctly. Various studies argue that nature provide non-gendered play experience (Davies, 2003; Änggård, 2011). From the perspectives of initial studies, nature provide equal experience for all children in terms of encouraging children to interact with each other, helping each other and experiencing task-sharing without gender boundaries. Stuart Brown (2019), also mentioned that play is part of nature and natural instinct which develop both children's and adults' emotional, social and cognitive skills. Besides, according to Moore (2014) nature provides tacit learning opportunities which is helpful for developing problem solving skills. Play is an essential for learning to live together in harmony. While children may move freely and spontaneously in natural environments, adults are released from their stresses by nature's serenity and tranquility. Moreover, unstructured world of nature is away from structured limitations by adults, which are shaped by gender-stereotypes (Rasmussen, 2004; Heft; 1988; Reimers et al., 2018; Davies, 2003; Änggård, 2011). Nature derives its power from the affordances it possesses which promote creativity (Heft, 1988; Storli and Hagen, 2010).

Furthermore, nature has complexity based on diversity. In the world of children, complexity means something to discover. Therefore, they can be more physically active in places where there is diversity and confusion. The hills, pits and labyrinths offered by nature are not only an adventure for children, but also areas where they

learn to cooperate and socialize while coping with difficulties in mix-gender groups (Änggård, 2001; Fjørtoft, 2001; Grahn et al., 1997; Fjørtoft and Sageie, 2004).

In natural environments, only parental interferences are about unintended injuries, while in structured environments, parents also think about safety of equipment, its durability, its compatibility with the age of the child, and the concern of being disturbed by other children and strangers (Little and Eager, 2010; Lester and Russel, 2008; Sandseter, 2007). At that point, design may create a solution to provide structured natural play spaces for children which are minimize parental concerns and interferences on children. Minimizing those intervenes are significant in terms of providing independent and equal play opportunities. Regarding to this, various studies clarify that girls affected parental interferences more than boys due to gender-norm which are based on girls are more vulnerable and need protection. However, girls need to same play opportunities for their healthy development and emotional, social skills Reimers et al., 2018; WHO, 2010; WHO, 2020; UNCRC, 2013; Edwards et al., 2001; Thorne, 1993; Buhs and Ladd, 2001; Perry et al., 1988)



## CHAPTER 5: OUTDOOR PLAY ENVIRONMENTS

The outdoor play environment is a place that encourages children to be physically and mentally healthy, take a role in society and support their learning experience (Coe et al., 2014; Fjørtoft, 2001; Fjørtoft and Sageie, 2004; Änggård, 2011; Karsten, 2003; Edwards et al., 2001; Barbu et al., 2011; Reimers et al., 2018; Mayeza, 2016; Little and Eager, 2010). According to Stuart Brown, MD who is the founder of National Institute for Play, natural environments have lots of benefits for both children's and adults' mental and physical health. He defines the play as natural instinct attitude for human well-being. Besides, he mentioned benefits of play based on initial studies, which are trust, mutual attunement, empathy, resilience, adaptability, innovation, creativity, optimism, communal belonging, immune system benefits and sustained intrinsic motivation (Brown, 2020).

As well as indoor play environments, outdoor playgrounds need to be organized and safe for children, including diverse types of play opportunities. Outdoor playgrounds are comprised of different types of playgrounds as preschool and public, traditional and natural playgrounds in several researches (Coe et al., 2014; Fjørtoft, 2001; Fjørtoft and Sageie, 2004; Änggård, 2011; Karsten, 2003; Reimers et al., 2018; Mayeza, 2016; D'Haese et al., 2013;). The number of them mentioned gender-typed and gender-neutral playgrounds (Thorne, 1993; Karsten, 2003; Änggård, 2011; Fjørtoft, 2001; Mayeza, 2016; Reimers et al., 2018). In general, natural playgrounds were discussed as gender-neutral ones. The main reason is about similarities of these two types of playgrounds depending on encouraging both genders in physical activities, material use and their design features (Fjørtoft, 2001; Karsten 2003). Accordingly, different types of outdoor play environment features are analyzed in terms of gender approaches in this research.

### ***5.1. Preschool Playgrounds and Public Playgrounds***

Children spend their free time in both preschool playgrounds and public playgrounds. However, their experiences differ in these environments. Karsten (2003) explains these varieties with adults' interference. Preschool playgrounds include teachers' or other professionals' hindrance, and mainly they decide the

duration and the type of the play, whereas, in public playgrounds, adults rarely get involved. Moreover, children and adult interaction might induce negative behaviors if the child feels being observed, s/he may think that under pressure and being limited, in this case, children may exhibit negative attitudes (Reimers et al., 2018; Mayeza, 2016). Furthermore, an observed-child might be bullied physically and verbally by other children, and s/he might prefer to be less active in the playground.

Like schoolyards, public playgrounds are also places where children can choose activities and play companion. However, in school environments, especially in preschools, children are supervised by teachers and they obey certain rules and they are based on the regulations that encourage children to certain behaviors. All of these obligations affect children's social interactions with each other as well as their identity process. Furthermore, identity processes include gender identity development. While identity is relational and spatial, also constructed by institutions and social structures; gender identity is described with an intersubjective process that individuals act and act upon when they are both subjects and objects (Rönnlund, 2015).

Various studies have shown that school playgrounds act as a place that usually gender-segregated and where gender identity constructed, reconstructed and negotiated (Rönnlund, 2015; Connolly, 2003; Epstein et al., 2001; Thorne, 1993). The findings clarify the importance of play environments on children's gender identity development and process being part of the society. On the other hand, according to the Karsten (2003), public playgrounds act the same with the school environment in terms of gender identity process. Both school playgrounds and public playgrounds designed by adults. However, the school environment is designed to reflect the institution's perspective and teach children proper curriculum (Rasmussen, 2004; Titman, 1994). As a result, all applications are based on spatial regulations and provide different social relationships to children.

On the other hand, public playgrounds allow children to decide which playing field they want to visit (Karsten, 2003). Furthermore, children mainly know each other in preschool, while public playgrounds allow interaction with a new play companion. This situation helps them to improve their social skills more than in a preschool environment. Moreover, public playfields are accessible for more children and

children can test their own abilities and develop their physical and motor skills (Reimers et al., 2018; Karsten, 2003).

Another effect on children's physical activity level is playground density. In preschools, playgrounds density is more frequent than public playgrounds, and this situation affects children's use of space and play quality (Reimers et al., 2018; D'Haese et al., 2013). Recent studies proved that the lower playground density can provide better physical activity opportunities (Reimers et al., 2018; D'Haese et al., 2013). Moreover, Reimers and colleagues' observations (2018) clarified that children do not prefer to have a large number of children around them in their playtimes.

### ***5.2. Gender-typed and Gender-neutral Playgrounds***

Gender-neutral means that something is not associated with any gender (European Institute of Gender Equality, 2021). Depending on this definition, it is possible to say that natural environments act as gender-neutral. However, this argument is not fixed structured natural environments. According to Thorne (1993), outdoor play environments include different gender problems. She mentioned in her ethnographic study, outdoor playgrounds and equipment have fixed gender-typed features. However, according to the study, the play environment has the potential to become a free area with minimum adults' interferences and children should be relatively free to choose their own activities (Reimers et al., 2018; Mayeza, 2016; Änggård, 2011; Karsten, 2003).

Control of professionals and parents might cause different problems such as leading to children being involved in gender-appropriate plays when they try to avoid injuries, also adults' interferences induce limitations on girls and children's independent mobility (Reimers et al., 2018). Parental concerns such as road and equipment safety mainly affect girls because they think girls need to be more protected. This situation creates gender boundaries in outdoor public playgrounds more frequently than in preschool environments. Additionally, recent studies clarify that children's activity level depends on variables such as location, the time of the day and the activity opportunities. (Karsten, 2003; Reimers et al., 2018) Accordingly, this study focuses on public outdoor playgrounds for gender studies.

According to Änggård (2009), natural affordances provide a non-gendered experience for all children in terms of encouraging children to interact with each

other, helping each other and experiencing task-sharing without gender boundaries. Besides, nature does not force children into gender stereotypes. Furthermore, natural play environments have an opportunity to avoid gender discourses, which are generally embedded in manufactured artifacts as play equipment (Änggård, 2011; Fjørtoft, 2001;). Besides, recent studies clarified that nature has the potential to promote equity, because nature materials are not gender-coded, and with children's creativity, their meanings can be transformed with affordances. For example, according to Swedish preschool playground obligations, the professionals should build affordances in place, space and equipment to promote gender-equal playing and learning environments (Änggård, 2001; Fjørtoft, 2001; Ärlemalm-Hagsér, 2010). Besides, natural environments help children's sensory-motor skill development and affordances provide different play themes that include mixed-gender group play (Änggård, 2001; Fjørtoft, 2001; Grahn et al., 1997). While gender-typed playgrounds offer basic activities as traditional playgrounds, gender-neutral ones allow children to do more physical activity with the affordances. Climbing units, labyrinths, boulders and trees help children to explore nature with playing and develop their creative thinking (Fjørtoft, 2001; Fjørtoft and Sageie, 2004;). Besides balancing structures, hide and seek areas, rope swings allow independent mobility. Neutral colors which are not associated with any gender by society and natural material use might be helpful for thinking out of the gender boundaries due to nature's non-gender coded being.

Structured natural affordances might provide sufficient risk-taking without hazardous injuries. Designing artificial but nature conscious spaces may be beneficial to risk management and independent play.

As an example, Spencer Luckey, the architect and the playground designer, constructs gender-neutral play units, as shown in Figure 1 (Irvine Spectrum Center Project, Luckey Climbers). His works promote a supportive and inclusive play area for children to climb and hide and seek features. He uses vertical structures for creating a jungle atmosphere with safety measures. Form of a tree is used as its natural affordance and climbing unit is designed in safety way. Also, selected colors do not refer to any gender knowledge that popular wisdom of the society. In terms of naturality, this playground is also described as a natural playground with its design features. All the prospect areas, refuges, form of the equipment, color use, visibility and accessibility provide natural playground design features.



Figure 1. Irvine Spectrum Center Project, Luckey Climbers (Source: Luckey Climbers, 2021)

Another example is “La Serpentina project by ELEMENTAL (Alejandro Aravena) in Chili, Valparaíso's Cultural Park, shown in Figure 2. (La Serpentina Project). The project is developed for children of all ages. The 40-meter undulant structure provides a zone for running, jumping, hiding and sliding. Just like Luckey climbers’ units, La Serpentina has safety measures that eliminate parental concerns. Accordingly, both girls and boys spend time equally in the structure.



Figure 2. La Serpentina Project (Source: Archdaily, 2018)

The “Five Fields Play Structure” by Brandon Clifford from Matter Design and Michael Schanbacher from FR|SCH is shown in Figures 5.3 (Section view of the “five field play structures” Project) and 5.4. (General view of the “five field play structures” Project). The structure is comprised of different units, but it provides an area for exploration and creative play through supporting inventiveness and independence with its labyrinth type design. Besides, the structure consists of various features that engage with the child's senses. Children of all ages find an activity that is proper with their age. For example, while some of them crawl, some of them climb to reach the other parts of the structure. Doors and windows allow the transition and provide vistas. Using natural materials provides a touch from nature. Moreover, prospect, mystery, risk/peril, and refuges areas are included, while visibility has not a priority. The multi-play unit located in a very large forest area without any boundaries. This situation still increases the parental interferences; and it might be showing an alteration depending on sociocultural background.

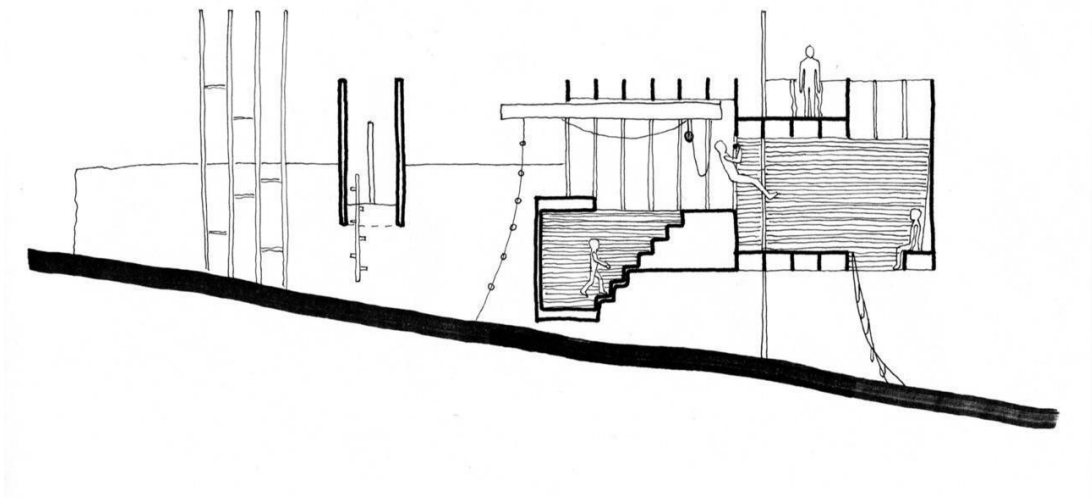


Figure 3. Section view of the “five field play structures” Project (Source: Archdaily, 2017)



Figure 4. General view of the “five field play structures” Project (Source: Archdaily, 2017)

Another playground example is from Kinnear Landscape Architects. The project Drapers Field in London, designed for the neighbourhood community on the school's road (Figure 5). It is kind of a pavilion that includes a hub and cafe. However, children have a place in this enormous landscape. The undulant surfaces made of grass and concrete increase the challenges of the play. All of the playing structures lead children to play in mixed and large groups. Trampolines, water plays, hills for climbing and sliding, hiding zones, water plays and cycling routes encourage the children to join different physical activities and improve their creativity and social skills.





Figure 5. Drapers Field Project (Source: Archdaily, 2016)

Open Fabric and Dmau Architects also create adventurous and natural playgrounds for children in the Netherlands (Figure 6). This playground integrates three different areas (indoor area, outdoor area and thresholds) into one ensemble: the outside zones provide a sports court, trees for climbing, while the interior is a wild natural playscape. Moreover, thresholds between interior and outdoor areas also include traditional play equipment. This natural playscape consists of rapid growing plants as reeds, and these plants provide construction and destruction opportunities to children. They can create their own space and express their ideas freely. While they are in contact with nature that provides visual variety, they also improve their social and physical skills. Colors in playground are selected in neutral colors that are accepted by both two genders. Topography is used in the design of the equipment and it became part of the playground. All the prospect and risk/peril areas are in sight, that means supervisors can easily follow the children without interferences.



Figure 6. Into the Wild Project (Source: Archdaily, 2016)

As seen in the examples, gender-neutral environments have a connection with nature and natural settings. Natural affordances, refuges, risk/peril areas, vegetation and topography usage are common features with natural or biophilic playground design. These features help children to versatile play as hiding, climbing, crawling, exploring. Children use their imagination with affordances (Fjørtoft, 2001; Fjørtoft, and Sageie, 2004; Edwards et al, 2001; Cengiz and Boz, 2019). Also, neutral colors without gender-coded visuals, natural and sustainable material use are one of the common features in biophilic design and gender-neutral design (Nogueira, 2017).

On the other hand, gender-typed playgrounds have standard play equipment as slides, swing and climbing units with usually synthetic material use. They are similar to traditional playgrounds in terms of their limited play activities, gender-coded color and material use. The Table 2 clarifies the gender-typed and gender-neutral playfields feature based on real-life examples are shown in Figure 1 to 5.6.

Table 2. Playground classification (created by author, 2021).

	NATURAL PLAYGROUNDS	TRADITIONAL PLAYGROUNDS	GENDER-NEUTRAL PLAYGROUNDS	GENDER-TYPED PLAYGROUNDS
LANDSCAPE DESIGN	VEGETATION	X		X
	TOPOGRAPHY USAGE	X		X
	REFUGES	X		X
	RISK / PERIL	X		X
	MISTERY	X		X
PLAY EQUIPMENT FEATURES	SAFETY FIRST		X	X
	RISK MANAGEMENT	X		X
	NATURAL MATERIALS	X		X
	SHORLIVED MATERIALS		X	X
	PLASTIC MATERIALS		X	
	NEUTRAL COLORS	X		X
	VIVID-BRIGHT COLORS		X	X
	VERSATILE PLAY	X		X
	LIMITED PLAY ACTIVITY		X	
	STANDARD PLAY EQUIPMENTS		X	X
CHILDRENS BEHAVIOURS	SAME-GENDER GROUP PLAY		X	X
	MIX-GENDER GROUP PLAY	X		X
	NEGATIVE BEHAVIOURS		X	X
PARENTS BEHAVIOURS	MINIMUM ADULT INTERFERENCES	X		X
	ADULT INTERFERENCES		X	X
	SAFETY CONCERNS		X	X

### ***5.3. Traditional Playground and Natural Playgrounds***

As a basis, playgrounds can be classified into two categories; traditional playgrounds and natural playgrounds. Traditional playgrounds utilize set structures as slides, swing sets and teeter-totter, while natural playgrounds provide a more natural experience with trees, green spaces and boulders (Coe et al., 2014). Furthermore, materials of play equipment have differences in natural and traditional playgrounds. Traditional playgrounds include brightly colored plastics and metal structures, whereas natural playgrounds include recycled materials such as tires, ropes, sand and water that provide an opportunity to create different play scenarios (Nicholson, 1971; Coe et al., 2014). According to researchers, these kinds of natural approaches provide more cooperative and constructive plays with children's shared-used spaces. (Kuhn et al., 2013). Besides, various studies have analyzed children's physical activity levels increase, and they behave more cooperatively in natural playgrounds compared to traditional playgrounds (Fjørtoft and Sageie, 2000; Boldermann et al., 2006).

According to Stuart Brown, MD, natural environments have lots of benefits for both children's and adults' mental and physical health. Spending time in natural spaces reduce stress level, increase creativity and provide playful engagement. Regarding this, playing in natural environments regularly improves empathy, enthusiasm and stabilizes humans' emotional reactions (Brown, 2019).

The natural environment provides a dynamic and rough play experience with its topography as slopes, rocks and vegetation that provide shelters and climbing activities. Thus, nature includes a functional approach, which is better for children's interactions (Änggård, 2001; Fjørtoft, 2001; Gibson, 2014; Brown, 2019). According to Fjørtoft (2001), children use their environment with its challenges and obstacles, and they have the ability to perceive the functions of landscape with their creativity. In the terminology, affordance is used for describing this awareness of the environment and its functional significance. The affordance theory was developed by Gibson (2014), and affordances are directly related to children's motor skills and creativity. The landscape features afforded a variety of play spaces and activities. For example, they can use the open areas for running, chase and catch, the shrubs for

hide and seek, building dens and shelters, and appropriate for function and role-plays. (Fjørtoft, 2001; Änggård, 2001; Boldermann et al., 2006).

On the other hand, the traditional playgrounds offer three fundamental activities that are sliding, teeter-totter and swing. However, children need more physical activity for their healthy development. According to researchers, climbing, sandpits, labyrinths, and other natural features help children to learn and explore nature with playing (Fjørtoft, 2001; Fjørtoft and Sageie, 2004).

For several years, the public playground approach has changed into contemporary playgrounds, which provide multiple play equipment with different skills. Besides, renovated natural playgrounds provide more open spaces, which allow the children more cooperative and associative play. According to the study by Coombes and colleagues (2013), green environments encourage more physical activity. Moreover, shaded areas which may provide comfortable zones, and it influences children's physical activity duration. As a result, renovated natural playgrounds include more shaded areas and are located under large trees (Coe et al., 2014; Boldermann et al., 2006).

## **CHAPTER 6: CONTEMPORARY PLAYGROUND DESIGN AND THE GENDER-NEUTRAL APPROACH**

Playgrounds are the environments specifically designed for children to support their development, expand their movement capabilities, and provide to explore their surroundings (Little and Eager, 2010). Moreover, the outdoor play environments support children's physical and mental health, encourage them to take a role in society and support their learning process (Coe et al., 2014; Fjørtoft, 2001; Fjørtoft and Sageie, 2004; Änggård, 2011; Karsten, 2003; Edwards et al., 2001; Barbu et al., 2011; Reimers et al., 2018; Mayeza, 2016; Little and Eager, 2010). For those purposes, playgrounds include various play equipment and activities that offer different play experiences and challenges. However, there is some issues about safety of children. Children affected differently by challenges and safety issues in playgrounds based on their gender and socially accepted behaviors (Karsten, 2003; Edwards et al., 2001; Barbu et al., 2011). All around the world, playground standards are applied in the design process with the priority of safety issues. However, while these standards consider the skills arising from age differences among children, they do not pay attention to problems such as more parental intervention and limitations for girls due to their gender. At that point, design take a key role to risk management for providing sufficient risk and eliminating unintentional injuries and hazards (Little and Eager, 2010). Minimizing risks and ensuring controlled risk-taking may not be sufficient for families. In this case, they may have different restrictions depending on the gender of their children. Previous studies have argued that girls are affected by these restrictions more than boys (Taşçı, 2010; UNCRC, 2013; Edwards et al., 2001; Thorne, 1993; Buhs and Ladd, 2001; Perry et al., 1988). For this reason, this study also discusses a relationship between risks in the playground and family interventions.

Accordingly, playground standards and design obligations were obtained and analyzed for determining the missing points. Besides, the standards are helpful for developing playground design guideline.

## ***6.1. Playground Standards and Design Obligations***

Playground standards and design obligations are implemented all around the world and the EN code is determined as EN 1176 by European Committee for Standardization (CEN). It consists of subtitles and EN 1176-1, Playground equipment and surfacing is the related ones with this study. The summary knowledge of EN 1176-1 standards were obtained from Cemer City Equipment Manufacturing Company (Kent Ekipmanları San. Tic. AŞ.) in İzmir within the corporation.

### ***6.1.1. Safety Requirements***

The EN 1176-1 standards clarified the safety requirement into two headings are materials and; design and manufacture.

Materials must be chosen and preserved in such a way that the structural integrity of the equipment or impact attenuating surfacing made from them is not compromised before the next appropriate inspection and maintenance (CEN, EN 1176-1:2017).

Moreover, materials specified according to their features as flammability, timber and associated products, metals, synthetics and dangerous substances. To avoiding risk of fire and related hazards, flammable materials must not be used in playgrounds.

To using timber and associated products, construction methods are clarified in EN 1176-1. The priority about these materials, it shall not be allowed drain and water accumulation. The timber should have sufficient natural resistance that suitable for classes 1 and 2 of the natural classification given in EN 350:2016, 5.2. Besides, it has to be treated with wood preservatives in accordance with EN 351-1:2007.

Metal parts of the equipment may be affected by atmospheric conditions and cathodic corrosion. To prevent these effects, metal parts should be protected with non-toxic coating. (CEN, EN 1176-1:2017)

For synthetic materials, maintenance process determines the material use type. The EN 1176-1 mentioned brittle parts into two groups are visually identifiable or difficult to determined ones. If it is difficult to determine, manufacturers have to give a time period about replacing to gelcoat of glass reinforced plastic parts before undesirable injuries. On the other hand, excessive wear of gelcoat should be visually

identifiable. For example, this can be managed by inserting different colored layers onto the sliding surface. (CEN, EN 1176-1:2017)

### ***6.1.2. Design and Manufacture***

The design of the play equipment should be considered to age, abilities and needs of user group. Accordingly, the play equipment's dimensions and complexity are shaped appropriately to the target user. The risks in the playscape should be visible and predictable for the children. For safety requirements, the steep elements, elements for protection against falling and easily accessible equipment have to be considered.

All the equipment has to be designed to allow adults access to assist children. (CEN, EN 1176-1:2017)

#### ***6.1.2.1. Protection Against Falling***

The protection type show variety depends on the free height of fall. The elevated platforms need different protection types such as ramps and stairs handrails, flat surfaces need guardrails or barriers. In general, impact attenuating surfaces, barriers and guardrails required. The dimensions are determined as Table 3 which knowledge of handrails, guardrails and barriers should be in between 600-850 mm above the foot position.

Guardrails are required when the platforms have 1000mm-2000mm height from the play surface. Further, it should completely encircle the platform, except entrance and exit openings. The entrance and exit openings should have maximum 500 mm length, except stairs, ramps and bridges. These dimensions are also applied on barriers. However, the appearance of the barriers gains importance. Their appearance should not encourage children to climbing on, stand or sit on them. Moreover, the openings between the horizontal rails or bars must not allow passage to prevent falling or squeezing. (CEN, EN 1176-1:2017)



Table 3. Required dimensions of protection elements (Source: CEN, EN 1176-1:2017)

	Required height	Min. Height	Max. Height	Length of openings
Guardrails	1000mm-2000mm	600mm	850mm	500-1200mm
Barriers	2000mm and plus	600mm	700mm	500-1200mm

Guardrails and barriers also have grip and grasp parts. They are support full body weight and griped parts should be in between 16-45mm diameter, while grasped part have a maximum 60mm length.

Another protection is about moving parts of the play equipment. Between moving and stationary parts of the equipment, there should be no crushing or shearing points. If the moving parts of the element pose a danger to the body, its height from the ground must be at minimum 400 mm (CEN, EN 1176-1:2017).

#### ***6.1.2.2. Protection Against Entrapment***

Openings should not have parts with a slope of less than 60° that joining downwards. Entrapment hazards separated by EN 1176-1 as given below and these injuries are controlled with different test methods.

- Entrapment of the head and neck are tested with probe test.
- Entrapment of the clothing / hair is tested with toggle test.
- Entrapment of the whole body
- Entrapment of the foot or leg
- Entrapment of fingers

To prevent head and neck entrapments, length of openings is determined as max. 600mm. If the openings are placed between moving or flexible parts as suspended bridges, they should be minimum 230 mm diameter. However, clothes and hair can easily trap the spinning/rotating parts or protrusions. To prevent it, the placement and joinery are highly important. (CEN, EN 1176-1:2017).

Tunnels and suspended parts may cause entrapment of the whole body. Accordingly, the requirements are determined as tunnels should have maximum length of 10.000mm and minimum 750 mm diameter. Footholds, handholds or completely bound rigid surfaces may cause entrapment of foot or leg. To prevent any injuries, gaps limit is determined as 30 mm for the surfaces. This requirement should not apply to surfaces with a slope of more than 38° to the horizontal. Also, chains, swinging or sliding may cause entrapment of fingers. Minimum clearances of gaps whose dimensions may change during use of the element must be 12 mm in each position (CEN, EN 1176-1:2017).

### ***6.1.2.3. Protection Against Injuries During Movement and Falling***

Protection against injuries during movement and falling is analyzed into to headings are determination of free height of fall and determination of spaces and areas.

Free height of fall shows variety depends on type of equipment use are standing, sitting, hanging, climbing and bouncing. The maximum movement of the equipment should be into account. The distance from the foot support to the bottom surface is calculated for use with standing; whereas the distance from seat to the bottom surface is calculated for use with sitting (CEN, EN 1176-1:2017).

When full body support is provided with hands and full body is lifted with hand support, this type of use defined as hanging. Accordingly, free height of fall is measured from hand support to the lowest point of the space. On the other hand, if the full body support provided with both hand and legs, the type of use described as climbing. For climbing units such as climbing rope or sliding fireman's pole, the maximum height has to be 3m, maximum hand support has to be 4m means free height of fall have to be 3m. If the climbing unit has more than 3m height, the access should not be allowed. Lastly, for bouncing area, the free height of fall has to be 900 mm from suspension bed to the lowest points of falling space. As a conclusion, free height of fall should not be more than 3 m for any case.

On the other hand, determination of spaces and areas described in four subheadings are minimum space, free space, and extent of the impact area and extend of the falling space. Minimum space refers to space that occupied by the equipment, free space (if any) and falling space (CEN, EN 1176-1:2017).

Free space determined according to the movement of user in series of cylindrical spaces. Dimensions are determined as 1000 mm radius for both standing and sitting. Height of standing 1800mm whereas sitting 1500 mm. Besides, radius 500mm for hanging and height is between in 300-1800mm.

As determination of spaces and areas, the impact area also determined with accounting to possible user movement. To prevent possible falling injuries, impact area may be extended. Moreover, free height of fall should be more than 1500mm with the extant impact area. It can be increased for forced movement or decreased for an element placed on or against a wall or a completely enclosed element (CEN, EN 1176-1:2017).

#### **6.1.2.4. Protection Against Injuries from The Surface of The Impact Area**

The impact area should not include any sharp-edged parts or projections which are create any entrapment. The spaces analyzed depends on their features such as adjacent platform and according to their free height of fall. In case of using loose particulate materials such as rubber flooring, its' layer thickness should be more than 100 mm. If the equipment has a free height of fall more than 600 mm or with forced movement, impact attenuating surfacing should be used. Material thickness show variety depends on materials as shown in Table 4.

Table 4. Impact attenuating materials types and depths (Source: CEN, EN 1176-1:2017)

Material	Description	Minimum Depth	Maximum FHF
Turf/ Topsoil	-	-	-
Bark	20 to 80 particle size	200 or 300 mm	2000 or 3000mm
Woodchip	5 to 30 particle size	200 or 300 mm	2000 or 3000mm
Sand and Gravel	0.25 to 8 grain size	200 or 300 mm	2000 or 3000mm
Other materials	-	Should be tested	FHF should be tested

In case of free height of fall (FHF) more than 1000mm in adjacent platforms, the lower platform should have impact attenuating surface.

#### ***6.1.2.5. Means of Access***

Access to play equipment may provide with different elements are ladders, stairs, ramps, steep play elements, ropes, chains, and easily accessible units.

The access provided with ladders, rungs, and steps should be non-rotating and equally spaces. This equal spacing requirement is not necessary for rope ladders. However, for appropriate steps, there should be a space without any obstacles afterwards of the ladder minimum 90 mm from the center of the rungs or tread should be constructed at 90° to the ladder. Besides, rungs and steps shall be horizontal to within  $\pm 3^\circ$  (CEN, EN 1176-1:2017).



Figure 7. Example of Ladders (Source: Playlsi, 2021)

Guardrails and barriers should be placed from the first step of the ladder and stairs in accordance with the EN 1176-1 requirements. The slope of the stairs should constant and at least 3 steps. The length of the tread is determined as maximum 140mm and depth of them is minimum 110 mm. If the stairs have more than 2000mm height, intermediate landings should be inserted with minimum 1000 mm length. Moreover, ramps should have max. 38° angle. Guardrails and barriers should be placed from the beginning of the ramp. Thus, foot supports may be used to reduce the risk of slipping (CEN, EN 1176-1:2017).



Figure 8. Example of Ramps (Source: Schoolscape, 2021; Pentagonplay, 2021)

Steep play elements can be inserted in easily accessible equipment. In case of using step play elements; free height of fall should be max. 2000mm. In terms of easily accessible equipment features, ramps provide the easiest access. Afterwards, stairs and ladders follow them.

For suspended ropes between 1 m and 2 m in length, the ropes should be fixed from one side. the distance between ropes and fixed equipment should be minimum 600 mm. Moreover, the distance between ropes and swinging equipment should be minimum 900 mm. On the other hand, for the suspended ropes between 2m and 4m, the distance between ropes and fixed equipment should be minimum 1000mm. The diameter of the ropes should be between in 25mm and 45 mm (CEN, EN 1176-1:2017).

In case of using chains as a parts of swinging equipment, chain openings should conform the requirements in EN 818-2:1996+A1:2008, except openings are between 8,6-12 mm.

#### ***6.1.2.6. Foundations***

Foundations should be designed according to prevent hazards and injuries. The bottom of the foundations should above minimum 400mm from the surface of the play equipment, whereas top of the foundation is replaced minimum 200mm (CEN, EN 1176-1:2017).

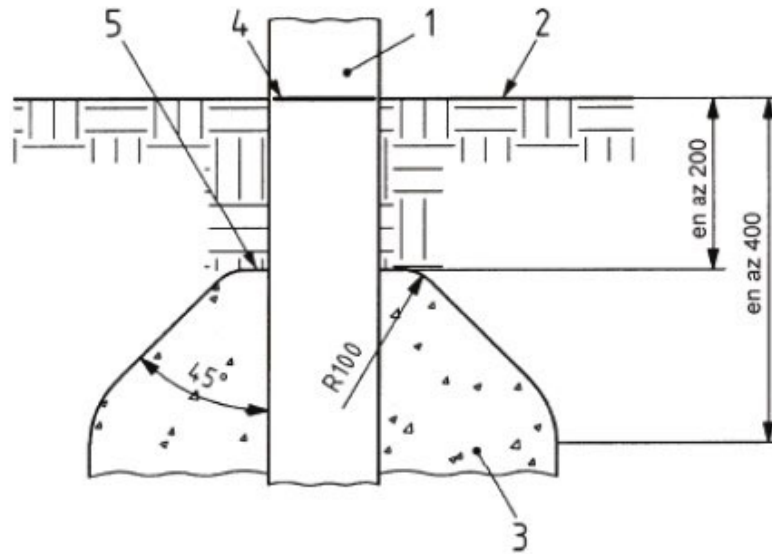


Figure 9. Dimensions for Foundations (Source: CEN, EN 1176-1:2017)

#### **6.1.2.7. Heavy Suspended Rigid Beams**

Minimum 25 kg suspended rigid beams are accepted heavy ones. Their minimum height from the surface should be 400 mm. The profile radius should have minimum 50 mm. the movement range should not exceed 300mm. Besides, free space towards standing construction should be minimum 230 mm.

#### **6.1.2.8. Bouncing Facilities**

The bouncing facilities are classified according to their occupied space. If suspension bed is smaller than 1,44 m<sup>2</sup>, it is described as smaller bouncing facilities and their falling space should be 1500 mm. However, if it has more than 1,44m<sup>2</sup>, it is described as large bouncing facilities and falling space should be 2000mm. In case of allowing bouncing, the falling space should be 3000mm. 20 mm radius for the edge lines should be used on unprotected surfaces. Additionally, there should be a 3500mm gap on the jumping mat. The openings on the suspension surface should be minimum 30mm (CEN, EN 1176-1:2017).

Moreover, the bouncing facilities dimensions show variety according to climbing activities. If the barriers around the suspension bed allow climbing, free height of fall should be minimum 1800 mm, and it should not allow the falling. In case of barriers has more than 2400 mm, the surface should not allow the climbing (CEN, EN 1176-1:2017).

## CHAPTER 7: METHODOLOGY

The study analyzes children's individual and group play attitudes depending on gender and their negative behaviors and risk-taking patterns in public outdoor playgrounds. This research has two phases, which are the data collection and the play equipment design process phases. For both phase one and two, a collaboration protocol has been signed with Cemer City Equipment Manufacturing Company (Kent Ekipmanları San. Tic. AŞ.) within the scope of the "university-industry collaboration project" definition of İzmir University of Economics. Besides, the Ministry of Industrial and Commerce in Turkey supports Cemer City Equipment Manufacturing Company in developing their academic infrastructure.

Cemer City Equipment Manufacturing Company is an Industrial Design Center which has received the approval of The Ministry of Industry and Technology of The Republic of Turkey since 2016. They are a member of the World Design Organization (WDO), and they design and build children's play equipment and playgrounds all over the world. In line with this information, collaboration has been established, where the researcher shared literature and empirical research regarding gender-neutral play environments, and the company shared experience and know-how regarding the design during the design phase.

According to this collaboration and the aim of the study, four playground designs have been selected as a first phase, and analysis were made with behavioral mapping and observation checklist with measuring children's play attitudes and environment use simultaneously. After this step, interviews were made with parents and their children for clarifying parental concerns, expectations and developing a more suitable playground design. With determining design criteria, one playground design concept is developed in terms of three bases are risk management and the nature-themed environment without any gender stereotypes.

### ***7.1. Participants***

The participants were determined as between 3-7 years old children and their parents and were selected randomly depending on the number of people on observation days. The number of participants was anticipated as 50 parents and 50 children for

interviews; and 30 parents and 28 children were volunteers. During the observations, approximately 100 children were observed and photographic data was collected as their risk-taking, negative behaviors examples. Children were subjectively divided into three groups in related to peer as “individual play-girl and boy, same-gender play both boys – boys and girls – girls, mix-gender play as girls – boys”.

## **7.2. Setting**

The research takes place in three different playgrounds in İzmir; Bostanlı, Olof Palme Park, Bostanlı / Footbridge Park and Karşıyaka coastline playgrounds. The playgrounds were chosen according to their design features, play equipment and locations. Each playground was located in Bostanlı-Karşıyaka Coastline. For eliminating socio-cultural differences between different regions, the playgrounds were selected from same area. The maintenance, play activity diversity and playground density were the criteria. Besides, these four playgrounds are designed playgrounds and have better conditions in terms of maintenance and design in comparison to other parks in İzmir. The condition of the playgrounds show variety based on user profile which affected by socio-economic background of the region. Moreover, according to collaboration with Cemer, playgrounds has been designed by them were analyzed in terms its design features; and selected two of them which are Footbridge Park and Olof Palme Park. The majority was in Bostanlı-Karşıyaka line, for this reason other two playground also were chosen there which are Hill Park and New Generation Park in Karşıyaka.

Playgrounds classified as natural playgrounds and traditional playgrounds to understanding gender-related differences in different type of play spaces. Each playground was visited on six different days between 18.30-20.30. A typical weekend day and one whole week were chosen in terms of number of children and variation of gender in the playgrounds. Considering the summer season, the visiting hours have been chosen according to the hours when children play intensively in the playgrounds. A preliminary observation was made to determine the hours.

Number of children and adults were recorded with their play attitudes that grouped four main categories: negative behaviors, risk-taking behaviors, parental interferences and environment use as an approach of understanding to children's negative attitudes and risk-taking patterns in their play activity with regards to their



gender. Parental interferences were included on the checklist regarding play equipment. For analyzing these variables, observation sheets will be used with behavioral mapping.

### ***7.3. Research Process***

The aim is to develop design guidelines leading to a prototype design that borrows significant features from nature and is gender-neutral. Through the collection of empirical data from playgrounds, observations and interviews with children and parents on gender roles in playgrounds were made. This research has two phases, which are collecting data and the play equipment design process.

Accordingly, the study followed the steps below.

#### ***7.3.1. Phase 1: Collecting Data***

1. Two playgrounds from different companies and two playgrounds that Cemer City Equipment Manufacturing Company has already built are selected based on the following characteristics. The chosen play environments should have central locations, including natural affordances and traditional facilities with different activities.

Before determining the playgrounds, initial research was made and locations of the Cemer playgrounds shared by Cemer. According to playground classification table (Table 2), design features of playgrounds are designed by Cemer analyzed as seen on Table 5.

Table 5. Design Features of Playgrounds Are Designed By Cemer City Equipment Manufacturing Company  
(Created by the author, 2021)

	BALÇOYA / CUMHURİYET PARK	BORNOVA / FOLKARTI INCITY	İNCİRALTI / SAHİLEVLERİ PARK	BAYRAKLI / FERİH SEKİN PARK	BOSTANLI / OLUF PALME PARK	BOSTANLI / FOOTBRIDGE PARK	ALSANCAK / HARBOUR PARK	BUÇA / HASANAGA PARK (PILOT STUDY)	KARŞIVAKA / BOSTANLI COAST LINE
VEGETATION						X			X
TOPOGRAPHY USAGE				X		X			X
NATURAL MATERIALS	X	X	X	X	X	X	X	X	X
NEUTRAL COLORS	X	X	X	X		X	X	X	X
VERSATILE PLAY	X	X							X
RISK MANAGEMENT	X			X	X		X	X	
REFUGES									
RISK / PERIL	X			X	X		X	X	X
MISTERY									
MINIMUM ADULT INTERFERENCES									
STANDARD PLAY EQUIPMENTS	X	X		X	X	X		X	X
SHORLIVED MATERIALS				X	X			X	
PLASTIC MATERIALS	X			X	X		X		X
LIMITED PLAY ACTIVITY			X						
VIVID BRIGHT COLORS	X	X	X	X	X				
SAFETY FIRST ADULT INTERFERENCES		X	X			X		X	X

\*\* KARŞIVAKA / BOSTANLI COAST LINE WILL BE OBSERVED ON 14 AUGUST. INITIAL OBSERVATION SHOWS NATURAL SETTINGS.

The essential criteria for playground selection are its design features and the locations. The selected playground should provide both traditional play equipment and interaction with nature. The locations of the two selected play areas need to close due to the elimination of social background differences between the neighborhoods. Therefore, four different locations have been selected due to these two criteria as shown in Table 6. Bostanlı - Karşıyaka coastline consists of long walking path with a wide range of play spaces that completed the criteria. Furthermore, the coastline acts as a central public play environment. It might be providing more objective results than small neighbourhood playgrounds regarding social differences.



Table 6. Selected Playgrounds and Their Classification

PLAYGROUND NAME	EQUIPMENTS	NATURAL PLAYGROUNDS					BIOPHILIC DESIGN PATTERNS										TRADITIONAL PLAYGROUNDS									
		VEGETATION	TOPOGRAPHY USAGE	NEUTRAL COLORS	VERSATILE PLAY	RISK MANAGEMENT	MINIMUM ADULT INTERFERENCES	VISUAL CONNECTION WITH NATURE	NON-VISUAL CONNECTION WITH NATURE	PRESENCE OF WATER	NON-RHYTHMIC SENSORS	STIMULI	BIOFORMIC FORMS AND PATTERNS	MATERIAL CONNECTION WITH NATURE	REFUGES	RISK / PERIL	PROSPECT	MYSTERY	STANDARD PLAY EQUIPMENTS	SHOULDED (PHEMERAL) MATERIALS	PLASTIC MATERIALS	LIMITED PLAY ACTIVITY	VIVID-BRIGHT COLORS	SAFETY FIRST	ADULT INTERFERENCES	
BOSTANLI	FOOTBRIDGE PARK	X	X	X		X	X	X				X	X	X	X	X	X	X	X		X					
	OLOF PALME PARK	X		X	X	X															X	X	X	X	X	X
KARŞIYAKA	HILL PARK	X	X				X					X	X	X	X	X	X				X	X	X			
	NEW GENERATION PARK	X			X	X						X	X	X	X	X	X	X	X	X			X	X	X	X

According to this knowledge and focus points, four playgrounds were selected that re Footbridge Park and Olof Palme Park in Bostanlı, Hill Park and New Generation Park in Karşıyaka. The Footbridge and Hill Park were observed as natural playground example while Olof Palme and New Generation Park were observed as traditional playground.

The Karşıyaka coastline offer a play chance based on these specified criteria. However, the coastline consists of playgrounds that are designed by different companies than Cemer. At this point, information on the exact locations of all playgrounds designed by Cemer in İzmir has been obtained from the company and the playgrounds classified Bostanlı coastline for Cemer's design, Karşıyaka Coastline for other company's design.

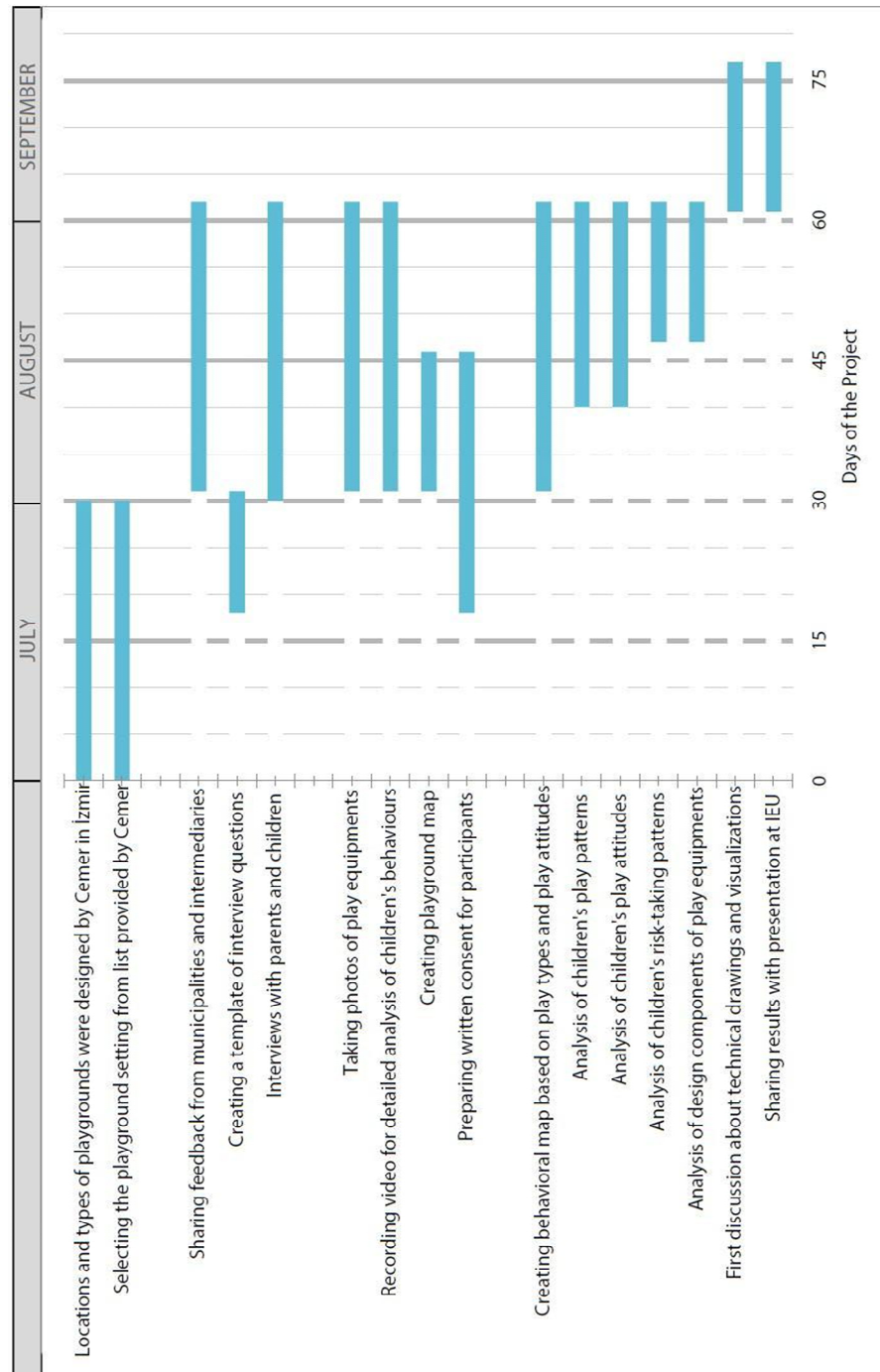
- a. **Interviews** to understand parental concerns about risk-taking, abilities based on gender, and children's expectations on play equipment and play environments, as well as feedback from municipalities and intermediaries, which are obtained from Cemer.
- b. **Playground observations** for understanding children's play attitudes depending on negative behaviors and risk-taking patterns in the chosen playground.
- c. **Video recording and photographs** for analyzing children's play patterns and play behaviors. The use of video recording and photographs to document their negative behaviors and equipment use.

The process of Phase 1 is clarified, and the task definitions are shown in Table 6, and the Gantt chart is prepared as seen in Table 7 for follow up during collaboration.

Table 7. Phase 1 Task List

PHASE 1: COLLECTING DATA						
* = an automatically calculated cell						
TASK NAME	START DATE	END DATE	START ON DAY*	DURATION* (WORK DAYS)	TEAM MEMBER	PERCENT COMPLETE
<b>Selecting playground within the scope of the research</b>						
Locations and types of playgrounds were designed by Cemer in izmir	1/7	30/7	0	30	CEMER	0%
Selecting the playground setting from list provided by Cemer	1/7	30/7	0	30	Bi+DH (IEU)	0%
<b>Interviews with parents and children</b>						
Sharing feedback from municipalities and intermediaries	1/8	31/8	31	31	CEMER	0%
Creating a template of interview questions	19/7	31/7	18	13	Bi+DH (IEU)	0%
Interviews with parents and children	31/7	31/8	30	32	Bi+DH (IEU)	0%
<b>Video recording and photographs</b>						
Taking photos of play equipments	1/8	31/8	31	31	Bi+DH (IEU)	0%
Recording video for detailed analysis of children's behaviours	1/8	31/8	31	31	Bi+DH (IEU)	0%
Creating playground map	1/8	15/8	31	15	Bi+DH (IEU)	0%
Preparing written consent for participants	19/7	15/8	18	28	Bi+DH (IEU)	0%
<b>Playground Observations</b>						
Creating behavioral map based on play types and play attitudes	1/8	31/8	31	31	Bi+DH (IEU)	0%
Analysis of children's play patterns	10/8	31/8	40	22	Bi+DH (IEU)	0%
Analysis of children's play attitudes	10/8	31/8	40	22	Bi+DH (IEU)	0%
Analysis of children's risk-taking patterns	17/8	31/8	47	15	Bi+DH (IEU)	0%
Analysis of design components of play equipments	17/8	31/8	47	15	Bi+DH (IEU)	0%
First discussion about technical drawings and visualizations	31/8	15/9	61	16	Bi+DH (IEU)	0%
Sharing results with presentation at IEU	31/8	15/9	61	16	Bi+DH (IEU)	0%

Table 8. Phase 1 Gantt Chart



The expected results of analysis;

- a. Design components that encourage girls and boys equally and gender-typed play equipment are determined.

The gender type refers to offering same gender group play instead of mix-gender group play. In addition, some design aspects cause more risk-based parenting concerns and fear of hazards may diminish girls' level of physical activity. The study is aimed at finding design components that cause lower activity levels for girls.

- b. Analysis of children's risk-taking patterns and determination of play spaces or equipment that provide equal risk opportunities for girls and boys or encourage them to take risks.
- c. Determine which design features and play equipment increase the tendency of parents to be wary of safety hazards and problems; which situations raise parental interference in public playgrounds.
- d. Identify which design elements and play equipment cause negative attitudes in children's interaction (bullying, social exclusion, aggression, social withdrawal).

Although behavioral mapping and observation checklists have been used for measuring children's play attitudes and play patterns.

### ***7.3.2. Phase 2: Design Process***

1. By comparing the information obtained from the analyzes and the literature review, the playground design guidelines that enable girls to engage in physical activity as much as boys were determined. Besides, the guideline should ensure that children take risks safely while minimizing the intervention of families.
2. Gender-neutral design criteria, which are suitable for international playground design standards were determined.
3. According to gender-neutral design criteria, which are found during this research, modular play equipment was developed with the contribution of Cemer City Equipment Manufacturing Company.
4. 3D modelling and visualizations were made with the support of Cemer.

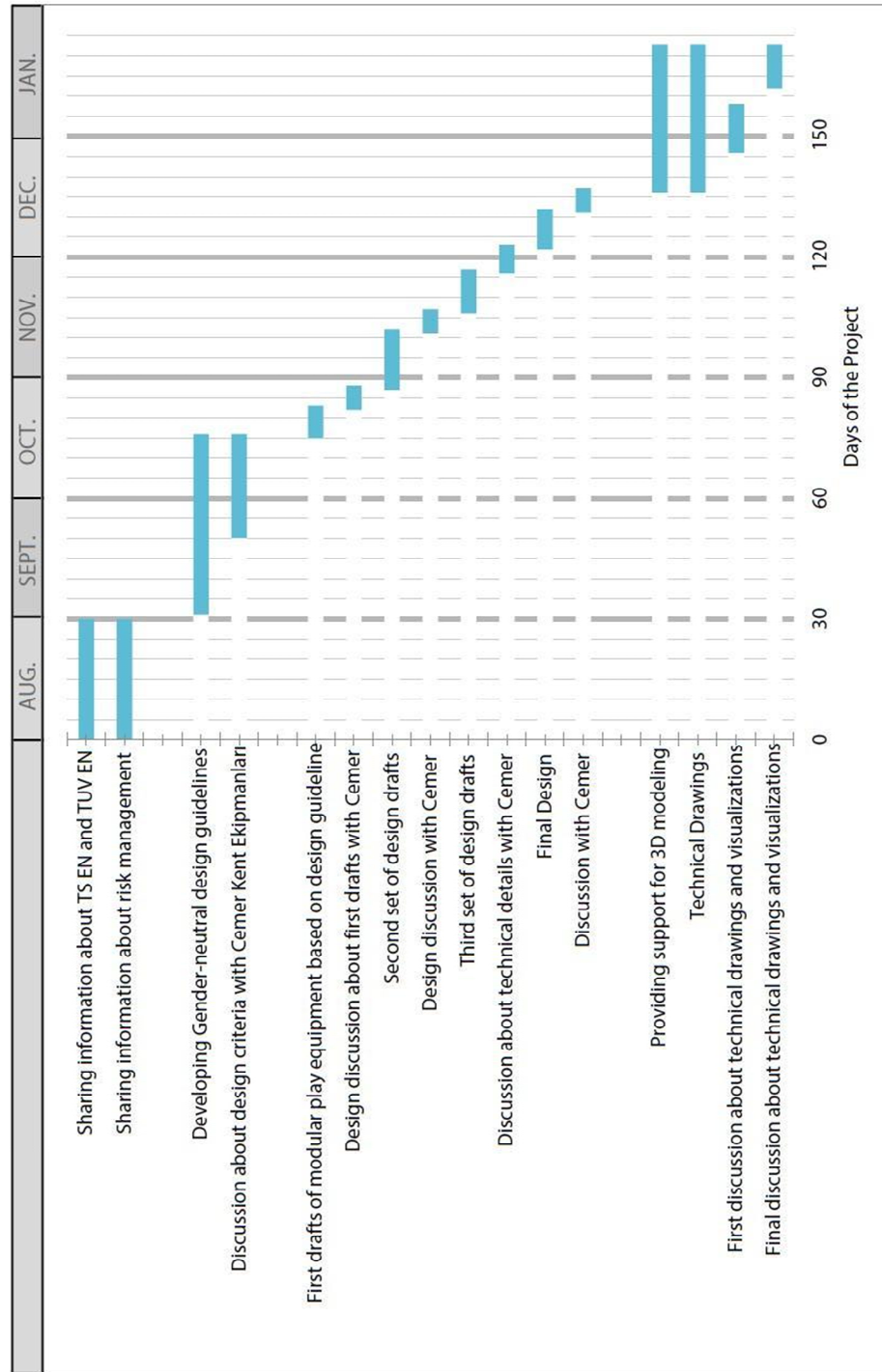
The process of Phase 2 is clarified, and the task definitions are shown in Table 8. The Gantt chart is prepared as seen in Table 9 for follow up during collaboration.



Table 9. Phase 2 Task List

<b>PHASE 2: DESIGN PROCESS</b>						
* = an automatically calculated cell						
TASK NAME	START DATE	END DATE	START ON DAY*	DURATION* (WORK DAYS)	TEAM MEMBER	PERCENT COMPLETE
<b>International Standards on Risk and Safety</b>						
Sharing information about TS EN and TUV EN	1/8	30/8	0	30	CEMER	0%
Sharing information about risk management	1/8	30/8	0	30	CEMER	0%
<b>Preparing Design Guideline</b>						
Developing Gender-neutral design guidelines	1/9	15/10	31	45	Bi+DH (IEU)	0%
Discussion about design criteria with Cemer Kent Ekipmanlari	20/9	15/10	50	26	Bi+DH & CEMER	0%
<b>Designing Gender-neutral Play Equipments</b>						
First drafts of modular play equipment based on design guideline	15/10	22/10	75	8	Bi+DH (IEU)	0%
Design discussion about first drafts with Cemer	22/10	27/10	82	6	Bi+DH & CEMER	0%
Second set of design drafts	27/10	10/11	87	15	Bi+DH (IEU)	0%
Design discussion with Cemer	10/11	15/11	101	6	Bi+DH & CEMER	0%
Third set of design drafts	15/11	25/11	106	11	Bi+DH (IEU)	0%
Discussion about technical details with Cemer	25/11	1/12	116	7	Bi+DH & CEMER	0%
Final Design	1/12	10/12	122	10	Bi+DH (IEU)	0%
Discussion with Cemer	10/12	15/12	131	6	Bi+DH & CEMER	0%
<b>3D Modeling and Visualization</b>						
Providing support for 3D modeling	15/12	20/1	136	37	CEMER	0%
Technical Drawings	15/12	20/1	136	37	Bi+DH (IEU)	0%
First discussion about technical drawings and visualizations	25/12	5/1	146	12	Bi+DH & CEMER	0%
Final discussion about technical drawings and visualizations	10/1	20/1	162	11	Bi+DH & CEMER	0%

Table 10. Phase 2 Gantt Chart



As a result, three main issues were obtained from Cemer;

1. Locations of playgrounds designed by Cemer in İzmir.
2. Feedback from municipalities and intermediaries about suggestions, complaints, sustainability, safety)

3. information about international design standards which Cemer City Equipment Manufacturing Company obey; and design features that have priority for Cemer

#### **7.4. Research Instruments**

The three different research instruments were used which were the questionnaires for interviews, observation checklists, and behavioral mapping techniques for analyzing children's negative behaviors and risk-taking patterns in public playgrounds included both traditional, natural and new generation ones. These instruments helped to understand parental concerns about safety, their expectations from playgrounds and their gender-stereotypical perspectives. For this reason, interviews were prepared for both adults and children, observation were made for children for each playground and behavioral maps were created for comparative analysis.

Table 11. Research Questions and related Research Instrument

<b>RESEARCH QUESTION</b>	<b>RESEARCH INSTRUMENT</b>
1. How do gender-neutral play environments help to bring down children's negative gender-related behaviors at early childhood ages?	Observation checklist
2. How design solutions effectively encourage children to engage in physical play activities and take advantage of the risk-taking potential of an outdoor public playground?	Observation checklist and Behavioral Mapping
3. How might gender-neutral playground design bring down parental concerns and adult controls on children in outdoor public play environments?	Interviews

#### **7.4.1. Interviews**

Interviews were prepared (Appendix B and C) and conducted to understand parental concerns regarding the design characteristics of the playground and safety issues. In addition, questions have been asked to analyze parents' attitudes based on gender stereotypes. The questions asked to the children intended to learn their expectations from the playground and to understand their risk-taking tendency. For example, questions were prepared about what are the situations that worry the children in the playground and how they behave when faced with these situations. They were asked to classify the equipment as scary or exciting.

12 questions have been prepared for both children and parents, and each question contains sample answers / approaches in itself. These approaches were expected to be classified from one to five in order of frequency, 1-never and 5-always. If the answers to the questions are different from these sub-headings, they are written as general notes.

Moreover, Cemer shared the received feedback from municipalities and intermediaries. Shared feedback has been a useful resource for understanding the expectations of families and customers and the differences, if any, between these expectations

#### **7.4.2. Observation Checklists**

Observations have been made in four different playgrounds are Bostanlı-Olof Palme Park, Bostanlı-Footbridge Park, Karşıyaka-New Generation Park and Karşıyaka-Hill Park. For each playground equipment, observation checklists were prepared as seen in Appendix D. Children's negative behaviors, risk-taking tendencies, parents' attitudes and environment use were observed in individual play, same-gender group play, and mix-gender group play.

During the examination, observed inappropriate use of equipment and behaviors were documented with video recording and photographic data within the ethical framework.

#### **7.4.3. Behavioral Mapping**

Behavioral maps were prepared as seen in Appendix E for each playground, and they were processed according to the environment use classification specified in the

observation checklists. Ten different behaviors determined are running, walking, climbing, crawling, transition, socialization, hiding, observation, negative behaviors and equipment use. Each behavior was processed separately for boys and girls with tracing and sketching applications. Each playground had 12 girls and 12 boys observed, therefore the behavioral mapping method was used for a total of 96 children.

### ***7.5. Ethical Approval***

Participants had the right to withdraw from participating or refuse to participate has been respected and their identity has been kept confidential. In case of participating children, the consent form was signed by their parent(s). Regarding consent, participants were informed about the process and their written consent was taken. The ethical approval was received from İzmir University of Economics with the number; B.30.2.İEÜ.0.05.05-020-159 (Appendix F).

### ***7.6. Procedure***

For the case study, a collaboration protocol was signed with Cemer City Equipment Manufacturing Company (Kent Ekipmanları San. Tic. AŞ.) in İzmir. The researcher shared literature and empirical study concerning gender-neutral playgrounds during the design process, and the company shared knowledge and experience.

The case study takes place four different playgrounds in İzmir; Bostanlı, Olof Palme Park, Bostanlı / Footbridge Park and Karşıyaka coastline playgrounds are new generation park and Hill Park. Each playground was visited seven days, four weekend days, and three-week days between 18.30 – 20-30 due to the summer season. The participants were selected randomly from 3-7 years old children and their parents.

Children's play attitudes were recorded and divided into four main categories: negative behaviors, risk-taking behaviors, parental interferences, and environment used as a method of understanding children's negative attitudes and risk-taking patterns in their play activity based on their gender. Parental interferences were included on the play equipment checklist. Observation sheets and behavioral mapping will be utilized to analyze these variables. Additionally, children were

subjectively classified as "individual play-girl and boy, same-gender play both boys – boys and girls – girls, mix-gender play as girls – boys".

### **7.7. Findings and Discussion**

As mentioned in settings, the analysis was made four different playground and their play equipment are Footbridge Park and Olof Palme Park in Bostanlı, New Generation Park and Hill Park in Karşıyaka. The observed equipment and playgrounds are shown in Figure 10., Figure 11, Figure .12 and Figure 13.

The Footbridge Park consist of three play equipment are;

- EQ1-sliding unit,
- EQ2-grass hill with slide and climbing unit,
- EQ3-climbing unit.

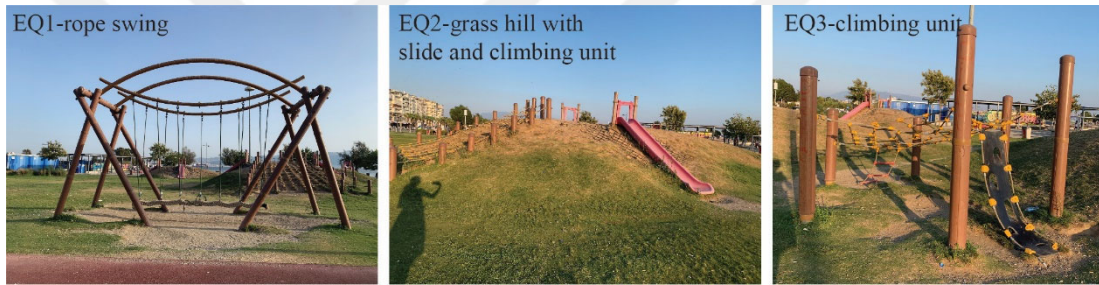


Figure 10. Footbridge Park in Bostanlı and Three Play Equipment (Source: The photographs were taken by author.)

The Olof Palme Park consist of four play equipment are;

- EQ1-Rope Swing
- EQ2-Long Swing
- EQ3.1-Slide
- EQ3.2-Climbing Unit



Figure 11. Olof Palme Park in Bostanlı and Four Play Equipment (Source: The photographs were taken by author.)

The Hill Park consist of three play equipment are;

- EQ1.1-Hill with slide
- EQ1.2-Grass hill with slide and climbing unit
- EQ2-Carousel

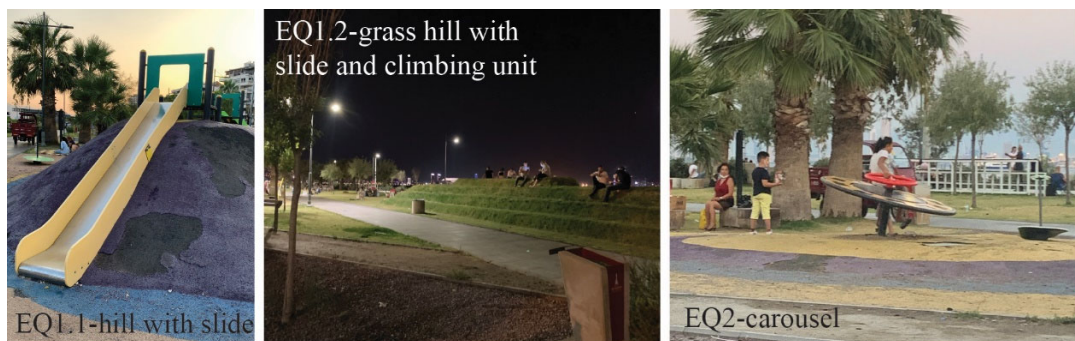


Figure 12. Hill Park in Karşıyaka and Three Play Equipment (Source: The photographs were taken by author.)

The Olof Palme Park consist of three play equipment are;

- EQ1.1-High barrel tube
- EQ1.2-Climbing unit
- EQ1.3-Ghost slide

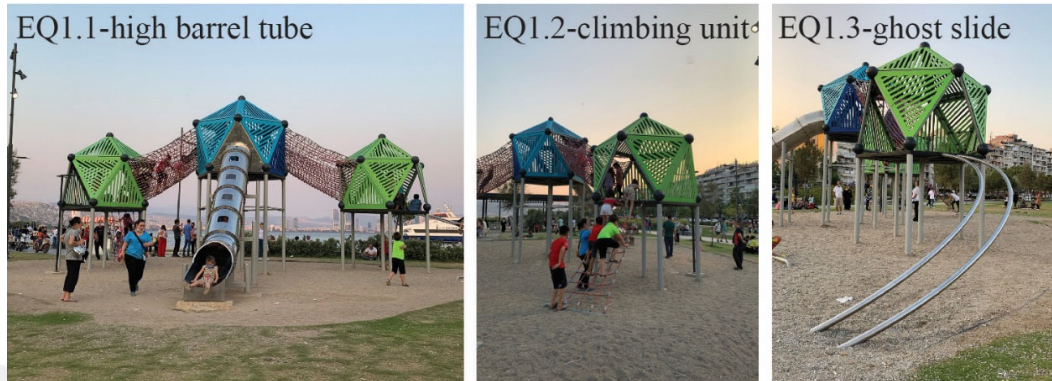


Figure 13. New Generation Park in Karşıyaka and Three Play Equipment (Source: The photographs were taken by author.)

According to observation, initial findings show that children prefer individual play and play with their parents or friends in public playgrounds. At first sight, children did not prefer to meet new play companions. However, in multi-user play equipment, they socialized unintendedly. For example, rough and fixed climbing equipment allows them to play individually, whereas rope climbing equipment forces them to interact. The reason originates from equipment design. In rope one, the equipment moves with each child's motion and affects other children's balance and use of the equipment. Accordingly, children had to wait each other, help each other and interact with each other in order to continue playing. During this interaction, if a child did not behave negatively or bully others, children play together and become play peers. Moreover, observations show that these socializations increase parental interferences and child's need of parents during play. Accordingly, it is possible to say play equipment that allows group play encourages them to socialize. The adversity here was that, the equipment usually allowed three or four children at the same time. For example, it has been observed some 3-4 years old children behave timidly while the equipment is crowded in Karşıyaka coastline new generation park's rope climbing unit. When the play equipment was overcrowded, some children, especially girls, preferred to delay taking risks, as the equipment shook much more and the risk of injury increases. As a result, children, especially girls, who do not have the



opportunity to play they want, move away from the playground or spend less time. Designing larger equipment with multi-user equipment to provide cooperation during play can be a solution for gender-neutral design and encourage all the children equally.

Another issue is about barrel tube slides, which cause apprehension for both children and their parents. According to observation and interviews, parents prefer to open play equipment that provides visibility to children. If the parent could not see or follow their children, they show a tendency to interfere with standing their side or warning them. However, children mention in the interview and describe the barrel tube slides as exciting despite they afraid. It has been observed that children go to slide with excitement but behave hesitantly. In this situation, parents prefer to encourage them with waiting for their children at the finish point of the slide. Nevertheless, some children do not want to play despite help. It has been observed that there are crowds and queues around the play equipment due to these ambivalences. Thus, it has been seen that these queues cause children to get bored and give up or show a tendency to bully each other negatively. For example, in Karşıyaka, new generation playground has one multi-play unit consisting of two slides, one climbing equipment and rope and sloped transition areas. Transition areas are very tight and allow two-way passes. Children shout in fear and disturb each other with pressure. It has been noted that children frequently reach out to their parents and cry out loudly in these situations. The fact that there are two-way crossings in this zone and no other place for children to go enhances the density, usually cause children who are overwhelmed by the density, need to leave, or are frightened of taking risks to return even more. Besides, in this unit, there is no entrance for adults who want to help their children. Children are forced to save themselves. To save children who are terrified of taking risks, their parents must use the playground equipment to climb up, hug the child, and then return. Since their only way to step down from the unit is using climbing equipment hence, this area is crowded from time to time, and some children give up playing due to the intensity. The absence of children's escape areas in the multi-play unit is reported to be the cause of this fear and teasing tendency.

On the other hand, it has been reported that children use the slides inappropriately. A great majority of children use the slides for climbing or slide while prone out. These

behaviors both set a bad example for other children; and it disturbs them. Thus, design of the slide affect parents' initial attitudes. In interviews, they mentioned that they find the wavy slides safer because they believe that its wavy design provides slow down. They think that the rigid and high ones more dangerous due to risk of injuries. Parents admit that they behave and interfere according to design of the equipment.

### ***7.7.1. Findings Regarding to Behavioral Mapping***

Behavioral mapping was used for each observation day and accomplished with 96 children. Four playgrounds, Footbridge Park and Olof Palme Park in Bostanlı, Hill Park and New Generation Park in Karşıyaka had six separate maps for six different days.

It has been observed that children behave approximately same in all playgrounds with desire to running and climbing. Differences occurred based on play equipment types and variety of activities.

In Footbridge Park, Bostanlı consist of one rope swing, one spider climbing units and three grass hills (EQ2) which are two lower ones have one slide and one higher one has climbing nets and two slides. It has been recorded that both girls and boys ran between these hills, first climbing and then running down in loop. Even if they use the slides, they also used to them as climbing unit. Even the climbing ropes did not attract much attention near the hills, mostly it was observed that they preferred to climb from the unequipped side of grass areas. Besides, the highest hill has been the most used one without any gender differences. Children used the lowest ones for just transition. Moreover, as a negative behavior, using only the slide for climbing was frequently observed and this did not lead to any unintended results.

The rope swing (EQ1) and spider-climbing module (EQ3) have attracted attention as if they were outside the playground. If the children wanted to play with swing, they spent most of their time on equipment two. If they had to wait in line or it was too crowded then they used grass hills. However, every time they are back on the swing.

On the other hand, spider-climbing unit was not used too much, even if children tried to use it, they easily got bored. It has been observed that, they preferred to climbing hills more than using climbing equipment.

The findings reveal that children did not need specific play equipment and can be creative in arranging their play environments in natural spaces. Running and observing the environment were identified as their main preferences. As a result, Footbridge Park met these needs with an artificial topography and naturality.

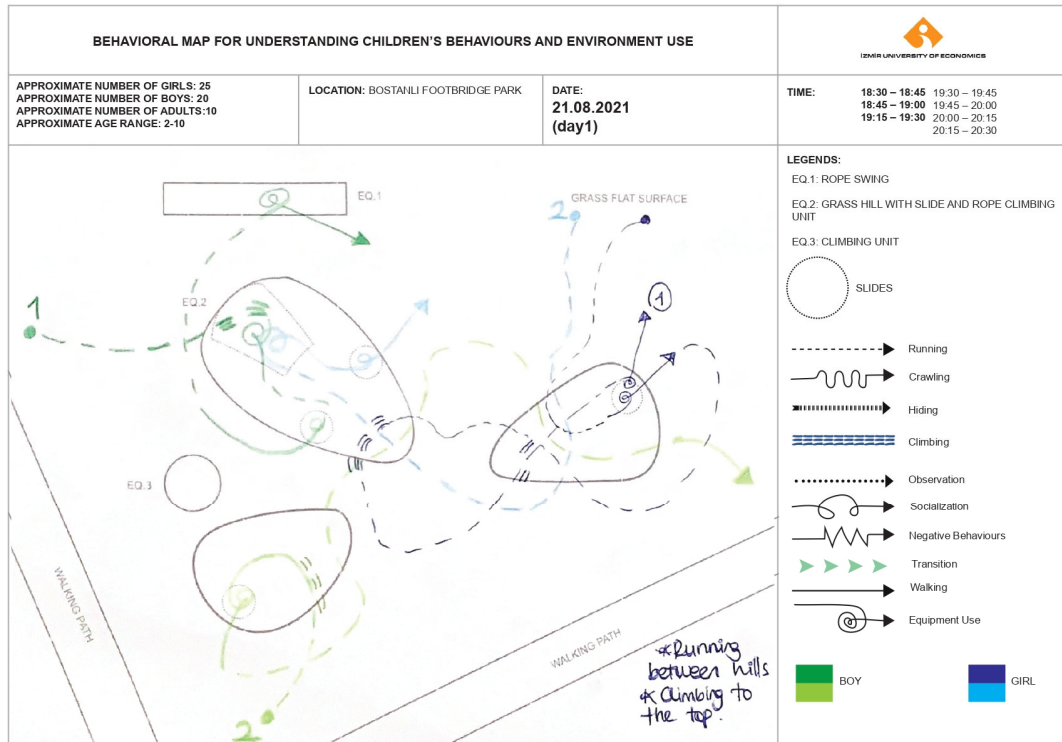


Figure 14. Behavioral map for observation day 1 in Footbridge Park, Bostanlı

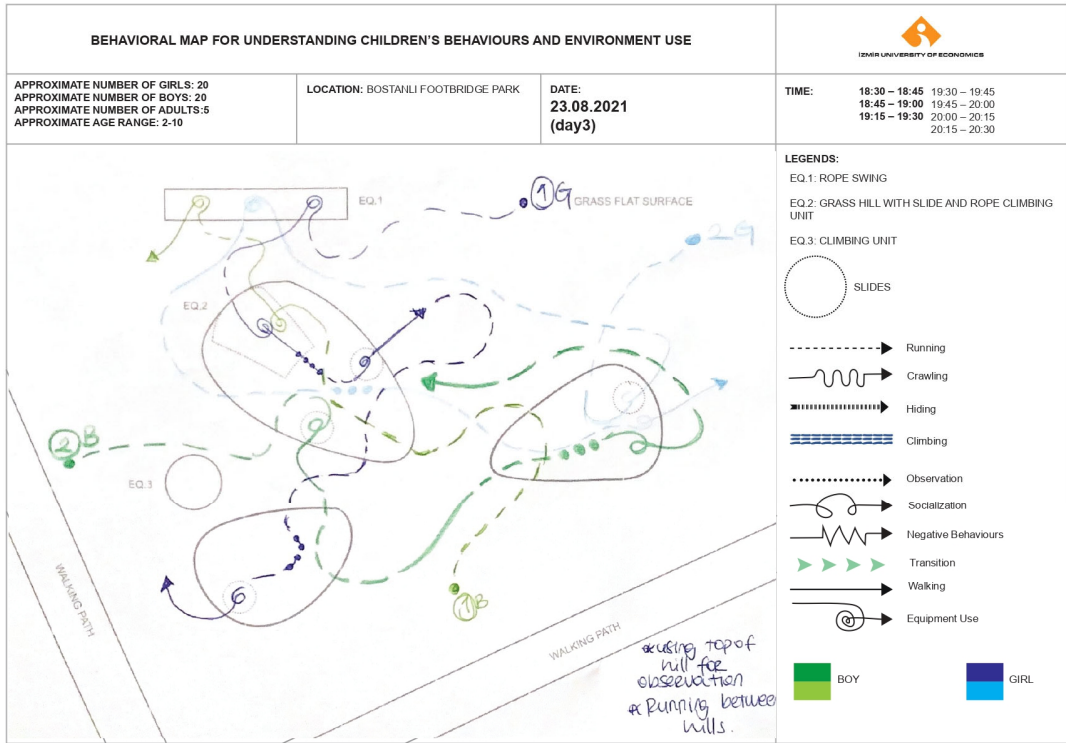


Figure 15. Behavioral map for observation day 3 in Footbridge Park, Bostanlı

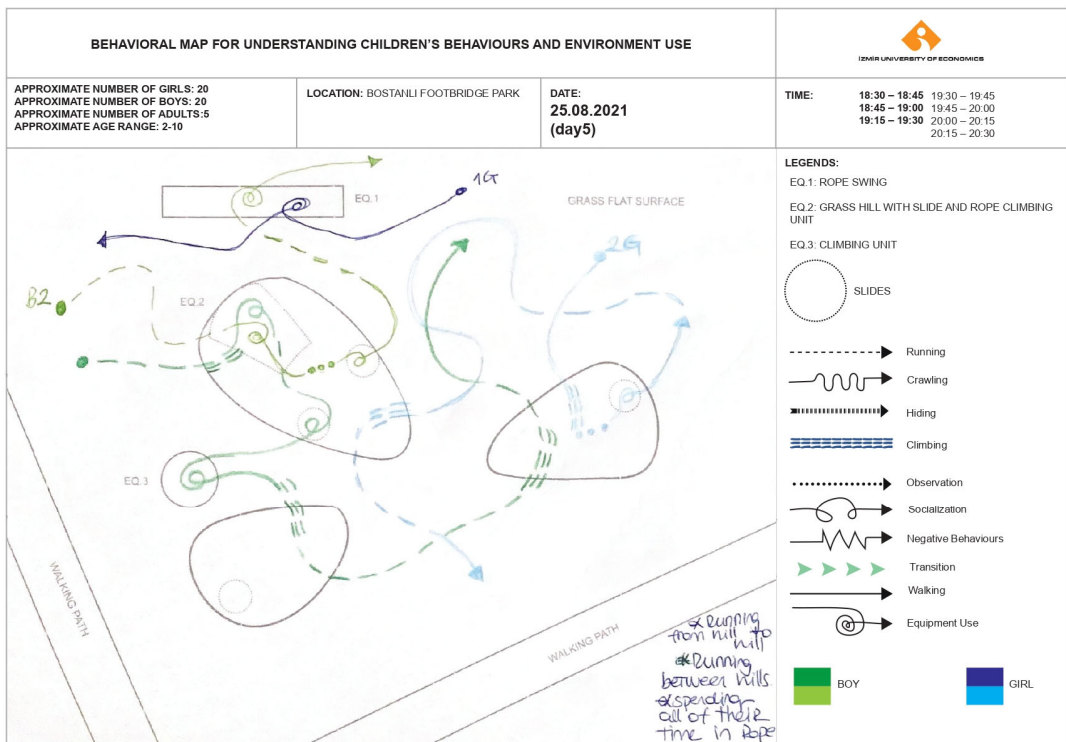


Figure 16. Behavioral map for observation day 5 in Footbridge Park, Bostanlı

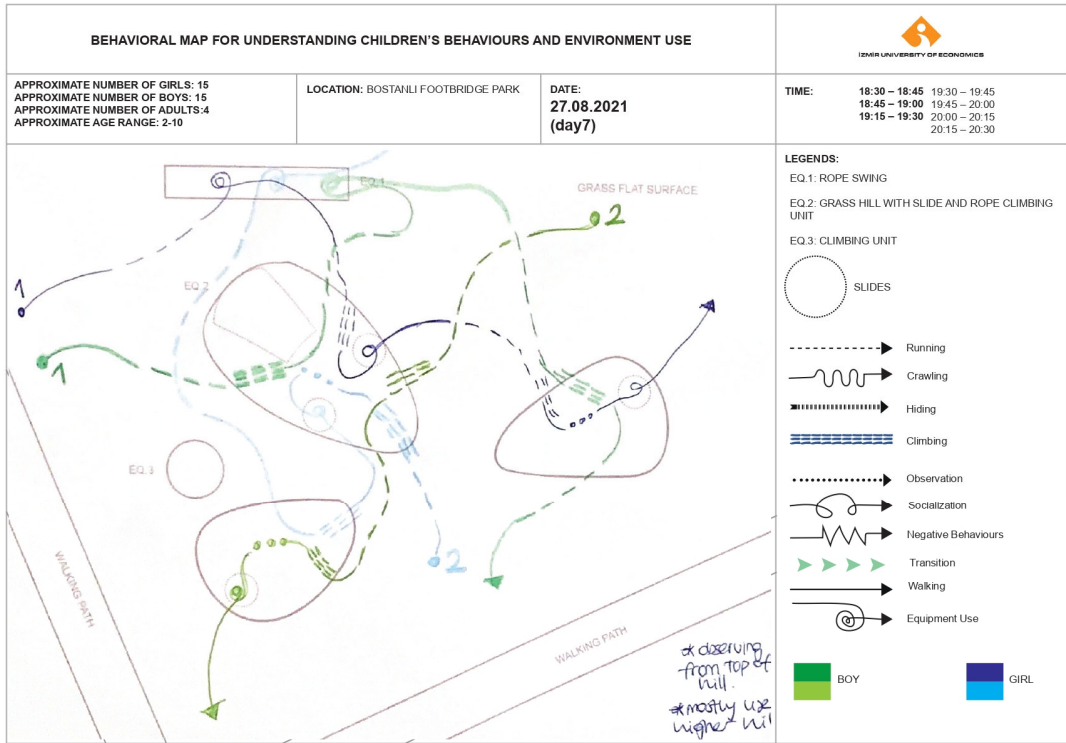


Figure 17. Behavioral map for observation day 7 in Footbridge Park, Bostanlı

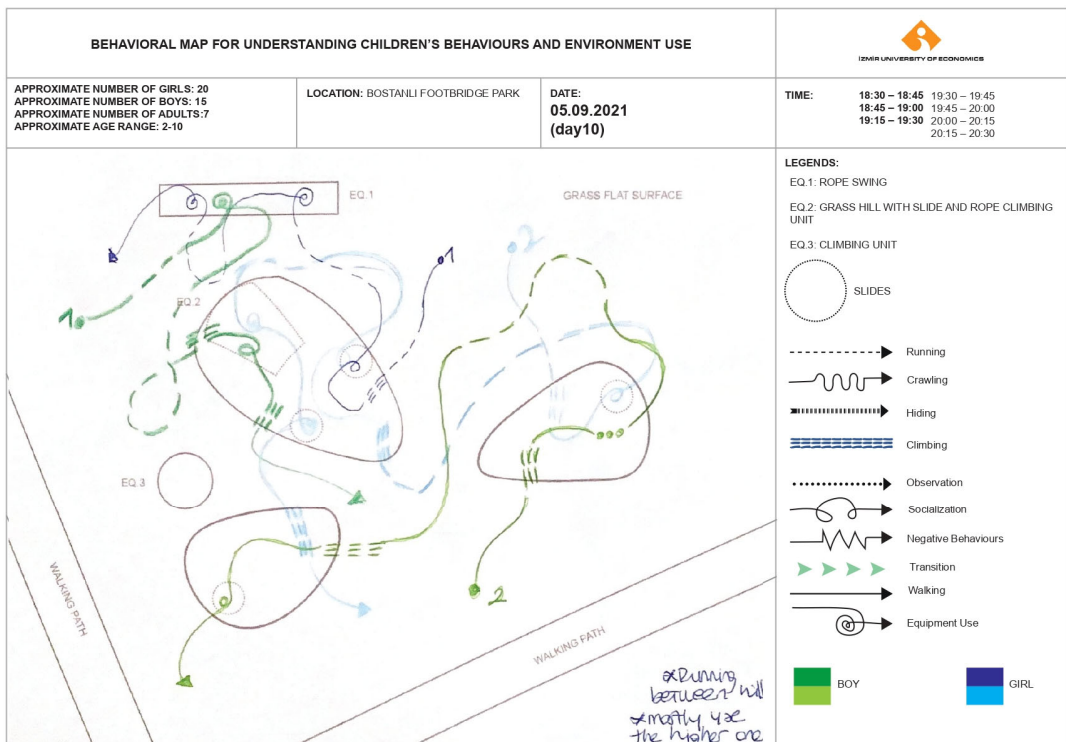


Figure 18. Behavioral map for observation day 10 in Footbridge Park, Bostanlı

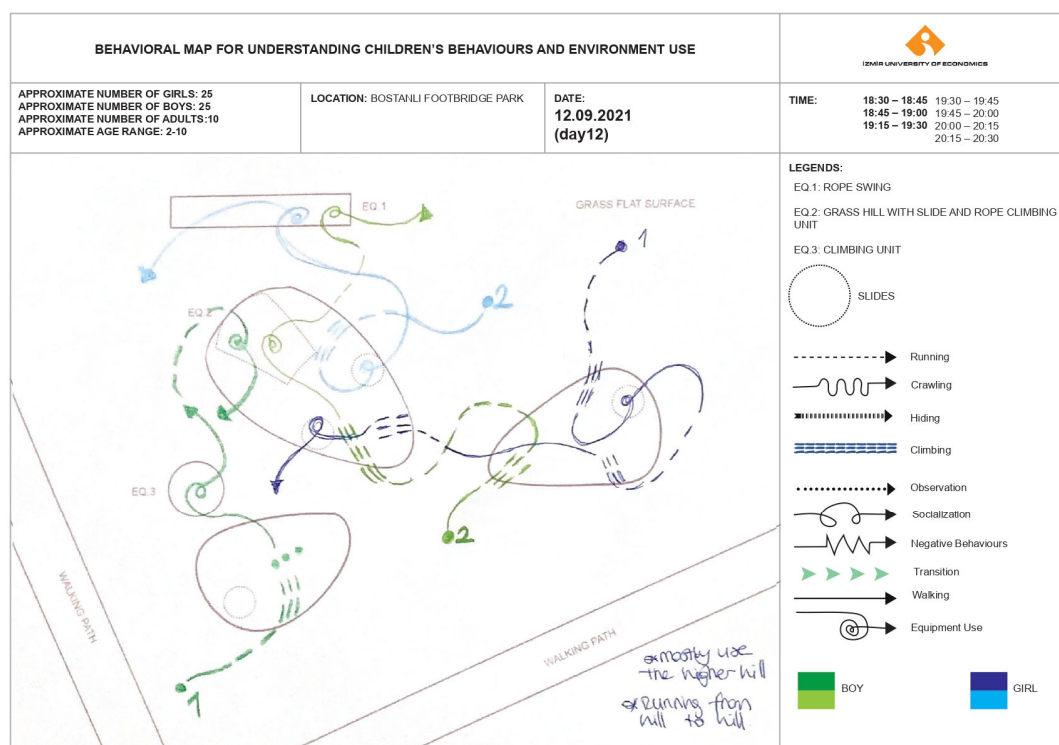


Figure 19. Behavioral map for observation day 12 in Footbridge Park, Bostanlı

Hill Park, Karşıyaka has similar playground design as Footbridge Park. It also consists of one large rubber hill with two slides, one carousel and one grass stairs for seating next to playscape. It has been observed that children use these hills to climb, run down the hill, and slide on the slippery rubber surface instead of using slides.

Differently from the footbridge, no gripping elements or climbing equipment that children can use are placed on the rubber hill. This situation forced to children to climbing on slippery surface for to reach top of hill. Also, they used the slide for climbing as seen in the Footbridge Park. On the other hand, neither families nor children were adversely affected or required intervention. Children played in loop while climbing and running. During playtime, they got socialized with helping each other and continued their play with a friend.

Due to the rubber hill attracting the most attention, the carousel in the playground was not used much. Children who use it are generally observed as 7 years and older; and it was noted that young children got bored quickly because they could not use it alone. Even if they play with the carousel, they turned back to the hill again.

In addition, grass stairs for sitting adjacent to the playground were included in the case study due to the attitudes of the children. It has been observed that children used

this area for climbing, crawling and running activities while passing through the walking path. Children have been seen going back and forth between the playground and the sitting area when their families are resting in this area.

The findings indicate that children preferred to play in places where they could climb and run in a loop without becoming bored.

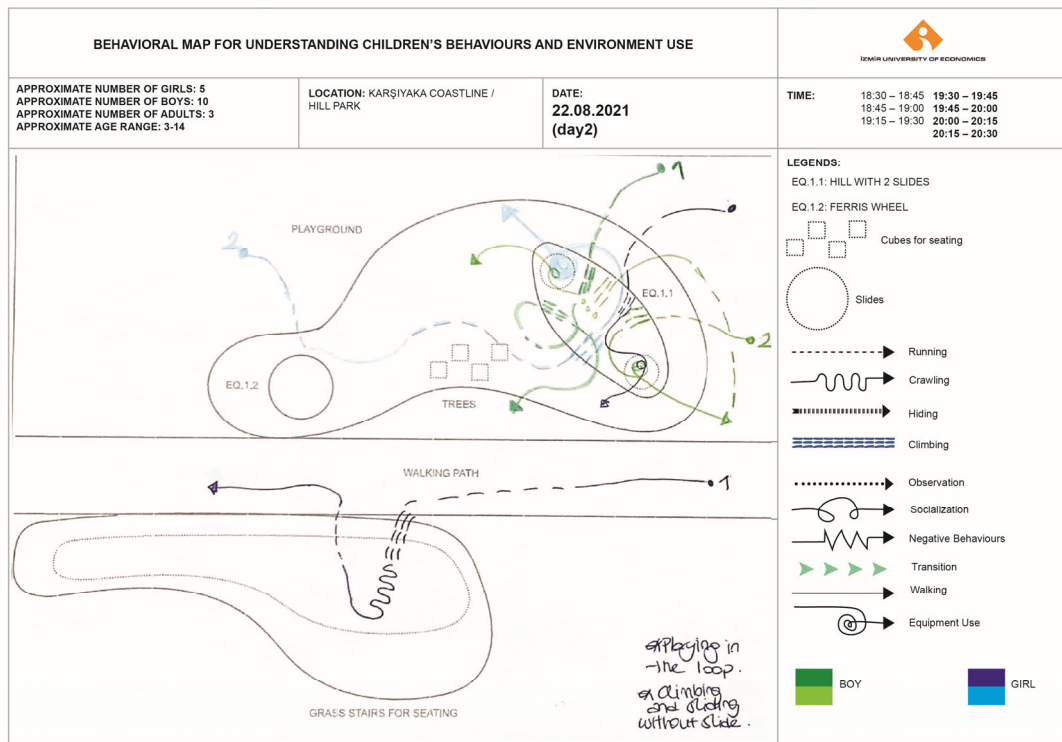


Figure 20. Behavioral map for observation day 2 in Hill Park, Karşıyaka

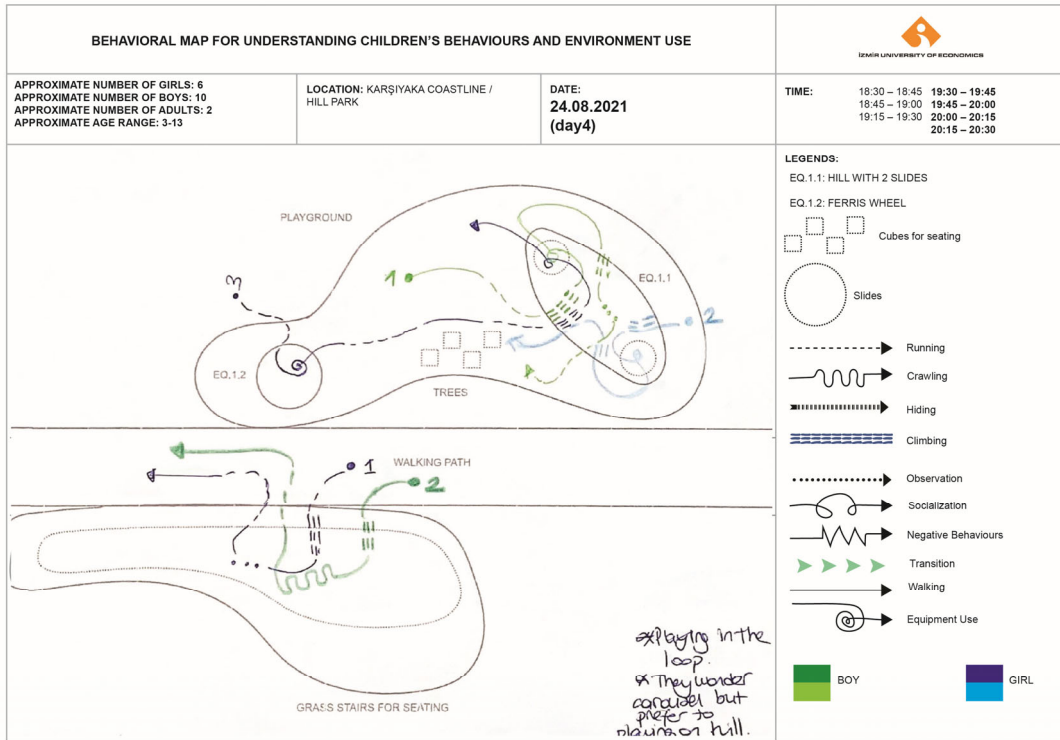


Figure 21. Behavioral map for observation day 4 in Hill Park, Karşıyaka

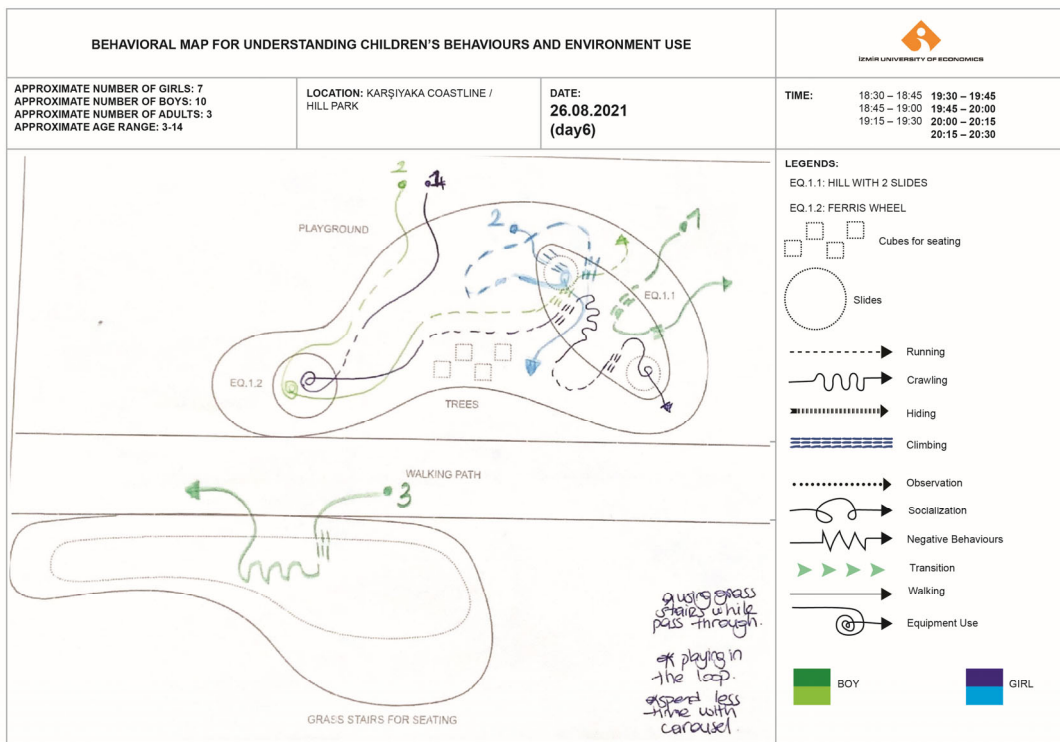


Figure 22. Behavioral map for observation day 6 in Hill Park, Karşıyaka



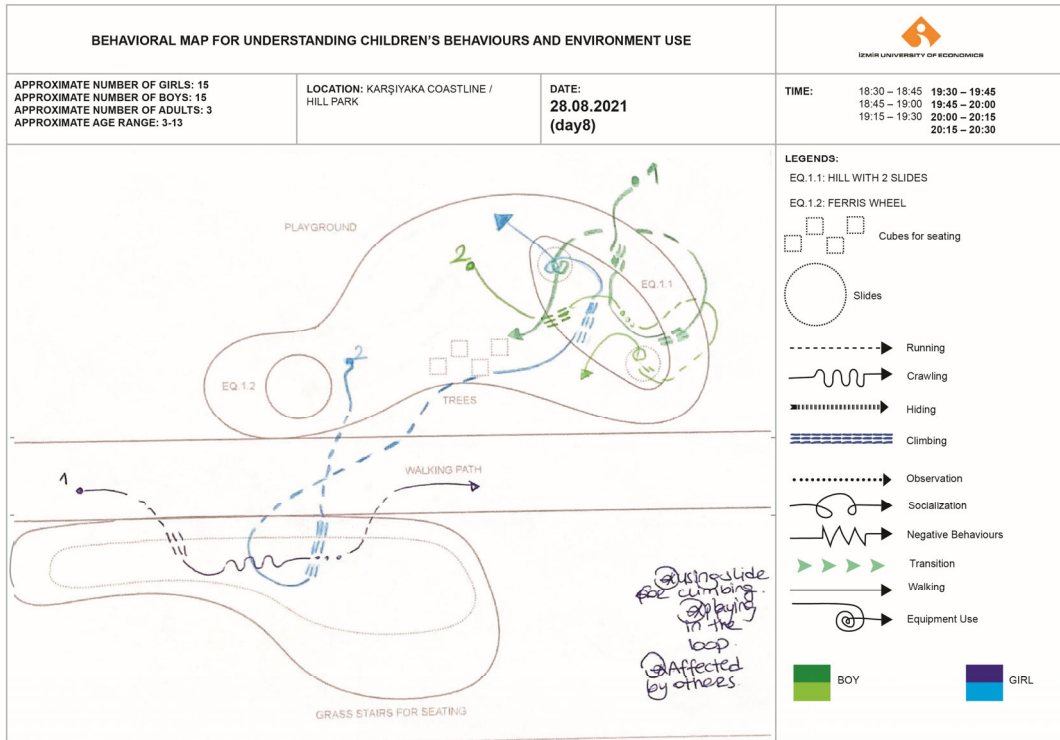


Figure 23. Behavioral map for observation day 8 in Hill Park, Karşıyaka

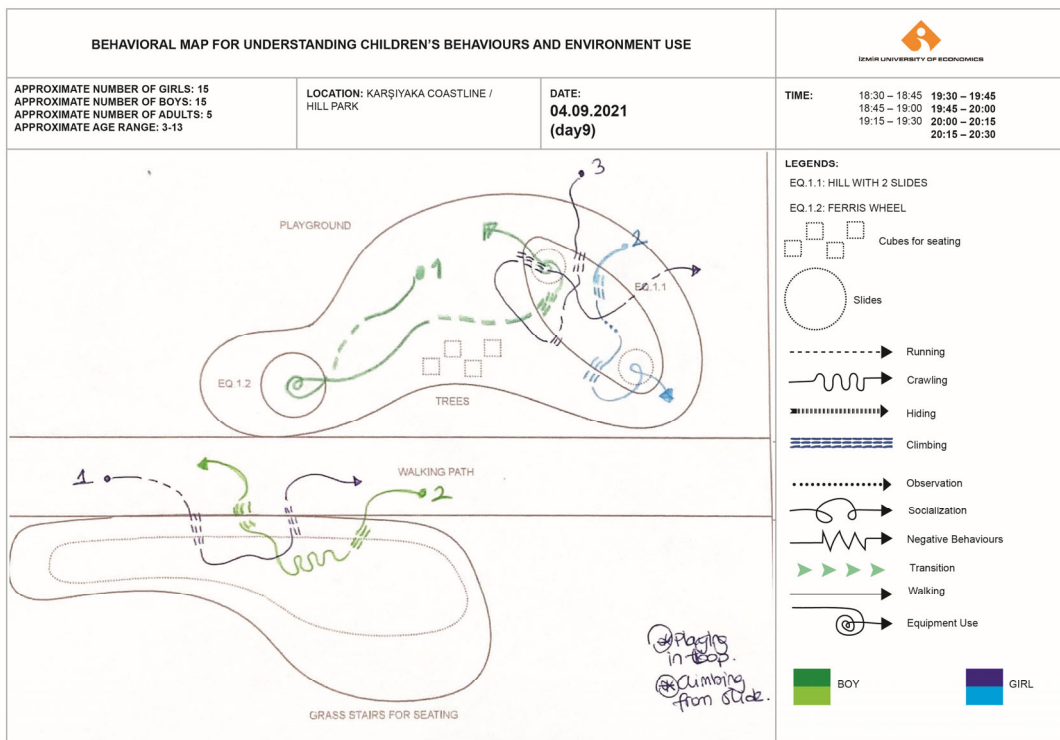


Figure 24. Behavioral map for observation day 9 in Hill Park, Karşıyaka

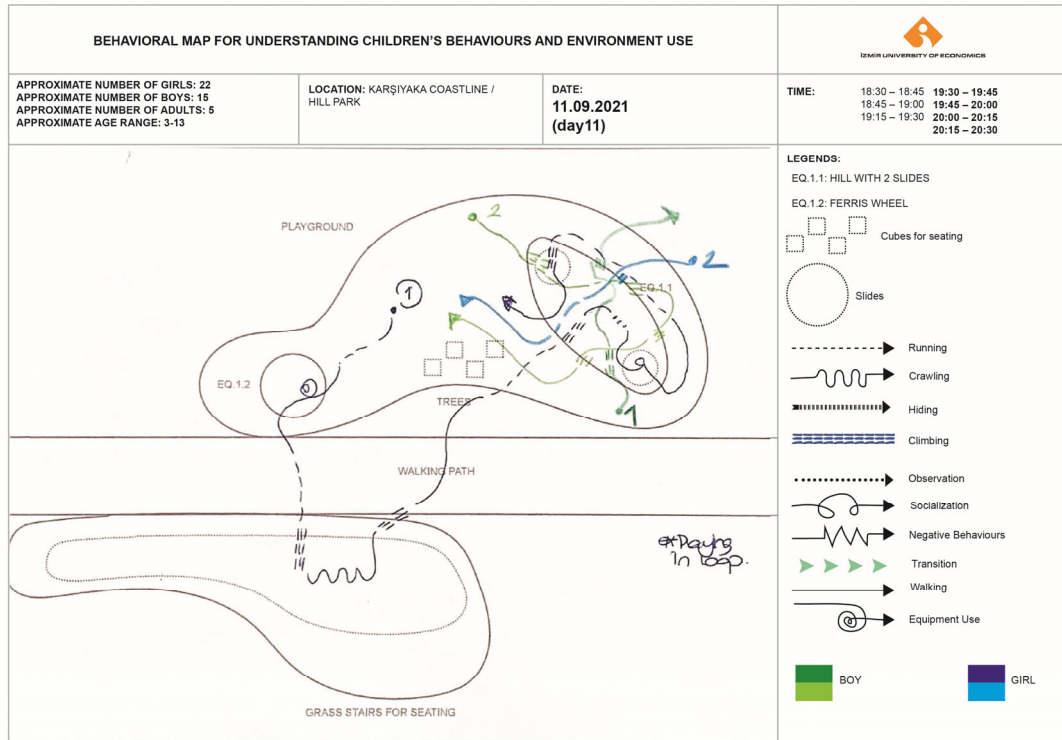


Figure 25. Behavioral map for observation day 11 in Hill Park, Karşıyaka

Olof Palme Park, Bostanlı do not have any natural or artificial topography, but it located in woodland in city region. It consists of multi-play unit more traditional play activities, which are slides, three types of swing and vertical climbing unit. The rope swing and long swing were included the case study's observations, but the single swing for toddlers were not considered in terms of lack of use.

It has been observed that, the only prospect area was platform of slides in multi-play unit. Children mainly used these narrow platforms for observing their surroundings and checking their families. Besides, those spaces used as socialization areas by girls. It acted as shelter or tree house for girls' perspective. This attitude sometimes disrupted others play activity.

On the other hand, the lack of equipment variety caused the children get bored easily. After running between the equipment, they got bored and went to other playgrounds. Although the most used equipment was the rope swing, even it was seen that the children got bored quickly. Moreover, negative behaviors such as trying to show themselves to others and shouting were observed in children who were easily bored.

As a result, it is deduced that the playground does not meet the expectations of the children because it does not attract the attention of them. Besides, any significant gender differences were not observed based on use of the area in Olof Palme Park.

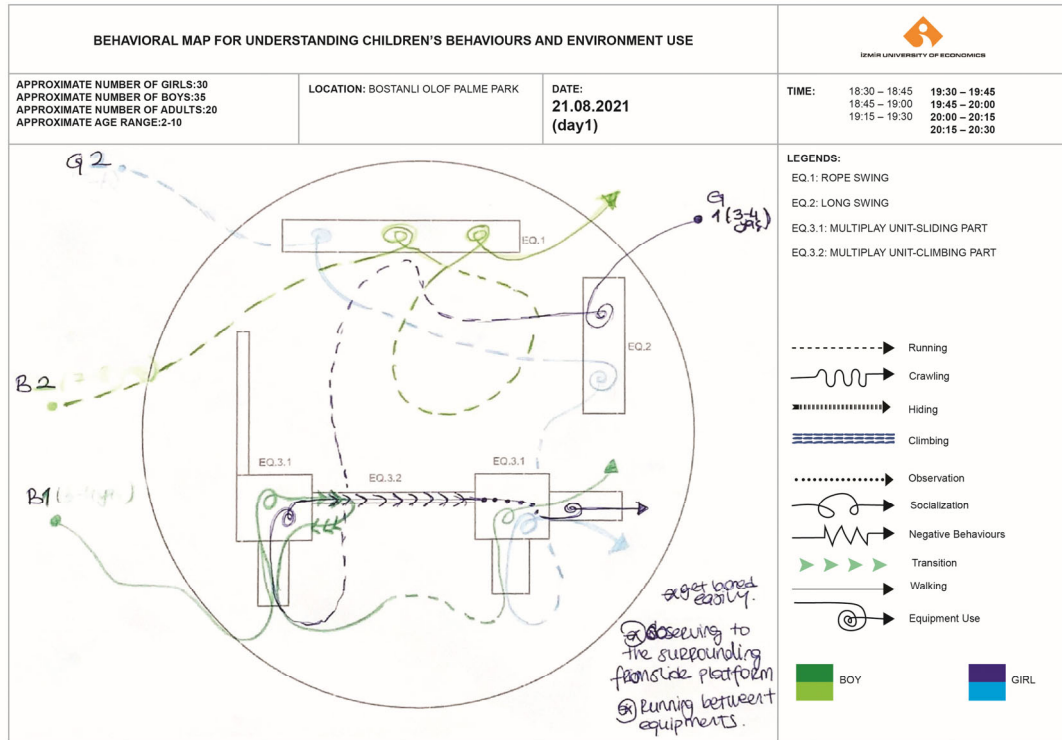


Figure 26. Behavioral map for observation day 1 in Olof Palme Park, Bostanlı

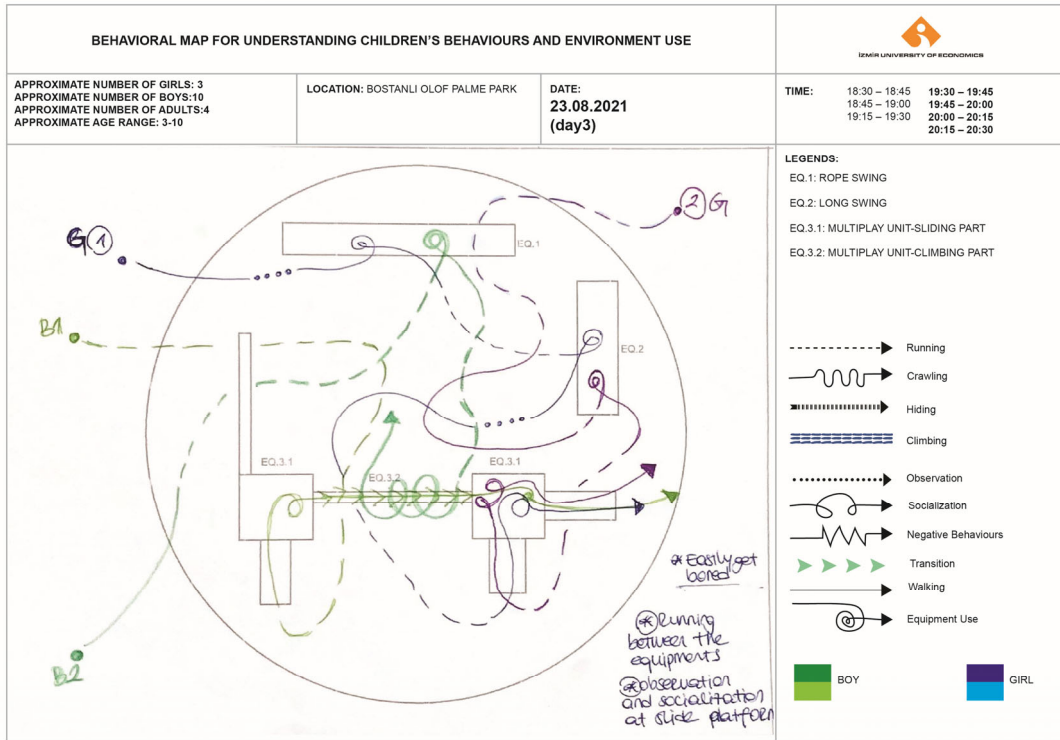


Figure 27. Behavioral map for observation day 3 in Olof Palme Park, Bostanlı

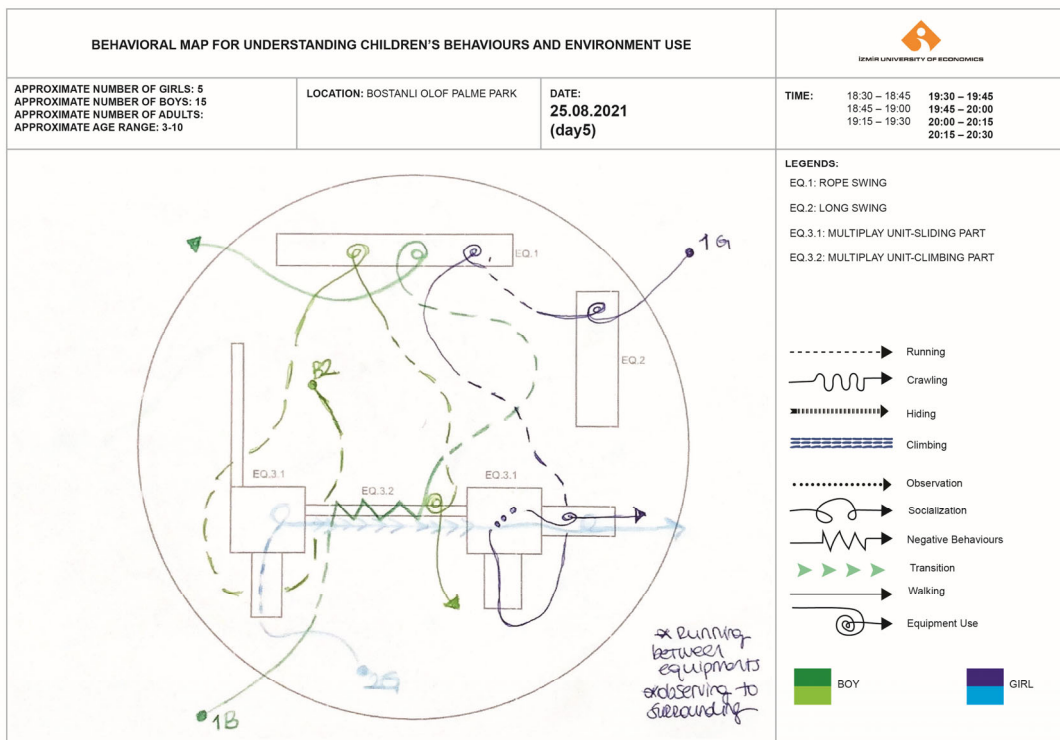


Figure 28. Behavioral map for observation day 5 in Olof Palme Park, Bostanlı

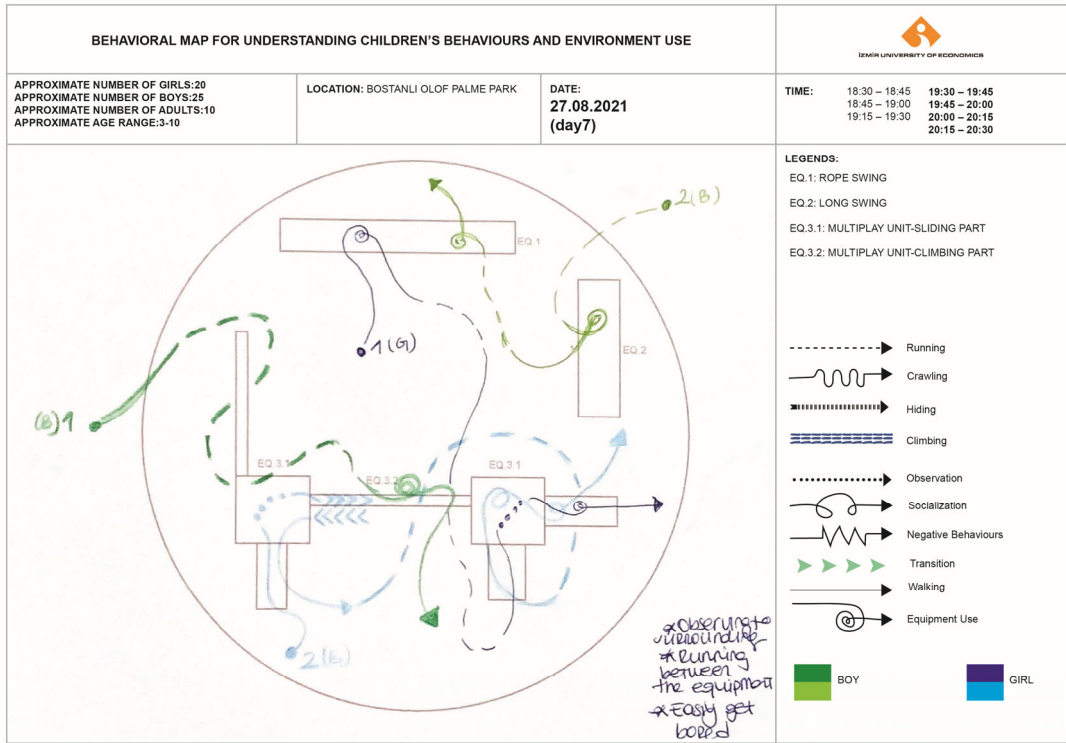


Figure 29. Behavioral map for observation day 7 in Olof Palme Park, Bostanlı

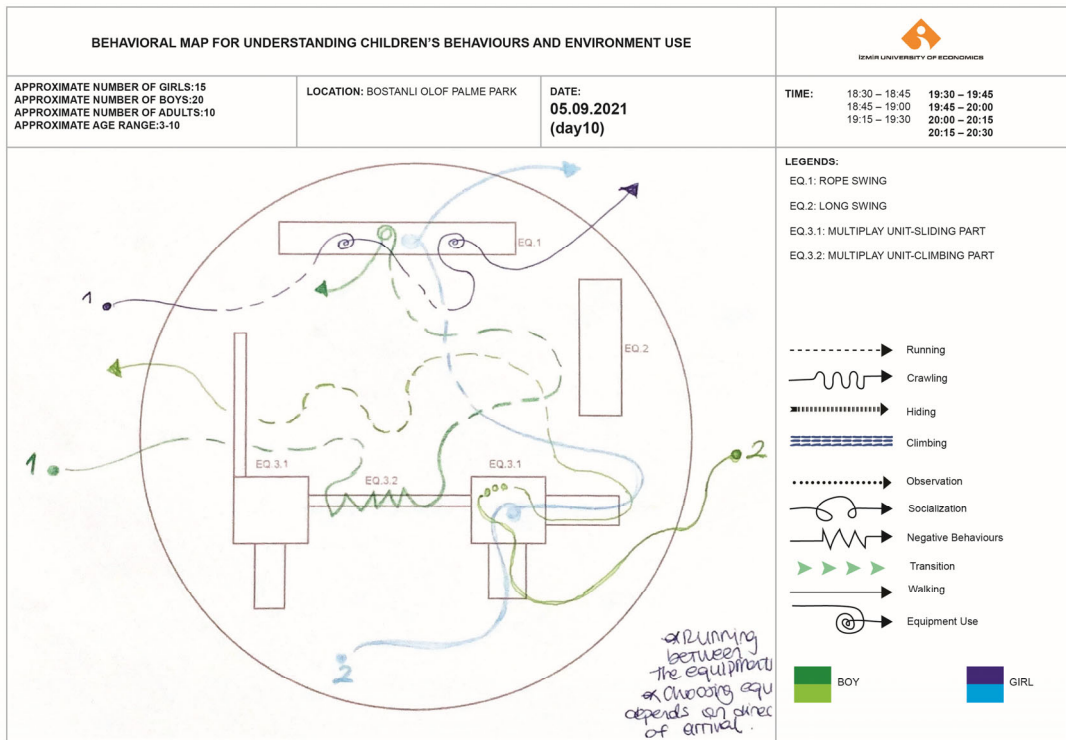


Figure 30. Behavioral map for observation day 10 in Olof Palme Park, Bostanlı

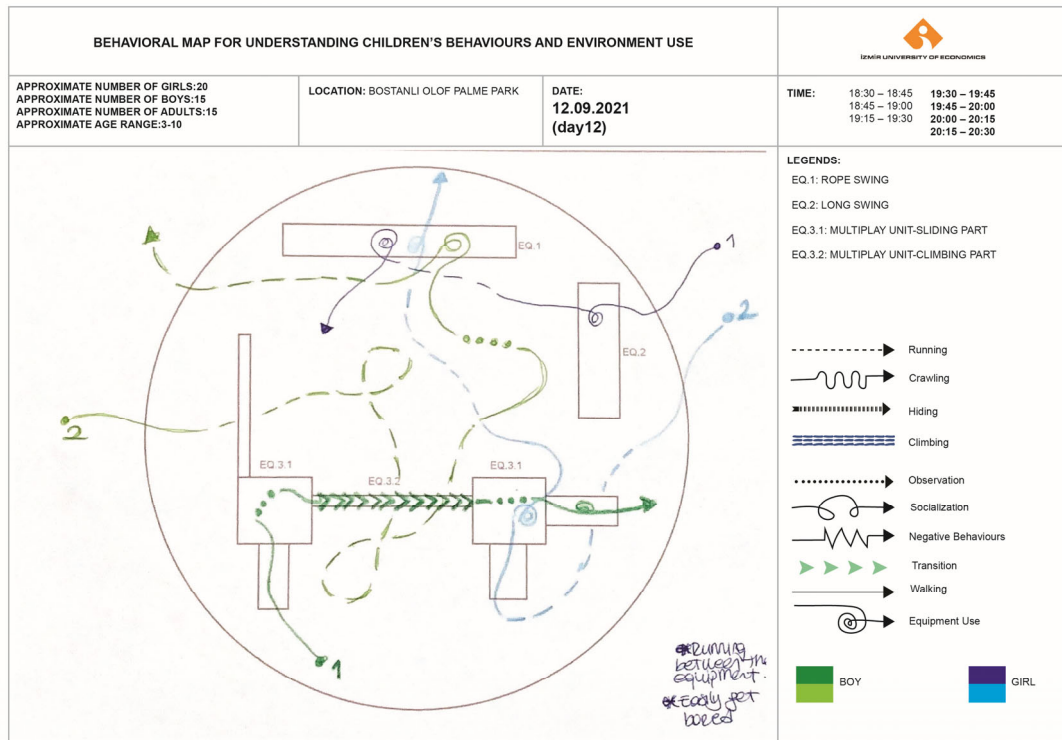


Figure 31. Behavioral map for observation day 12 in Olof Palme Park, Bostanlı

New Generation Park contains comparable design elements to Olof Palme Park, but it is suitable for children aged six and above. Both of them consist of multi-play unit. There is high barrel tube slide, ghost slide and rope climbing units in New Generation Park; and only entrance is provided by climbing part. According to that, children had to use climbing equipment without any options. They were seen attempting to reach the platform of the play unit from the ghost slide part, because they did not find any other entrance. This attempt caused disruption sometimes. In general, girls tried to obey the rules and used the climbing part for entrance. However, they affected by boys frequently. It has been observed that boys tried to new ways of playing and preferred test their limits.

On the other hand, children spend more time than Olof Palme Park. They have an opportunity to running in larger playscape. The shape of the equipment allowed them to hide & seek activity, running between the equipment without risk of injuries. Children spent their time in transition spaces. However, these spaces are narrow and caused intended results. They tried to escape but could not find any solution except using the slides. This situation caused them to fear and cry in both girls and boys.

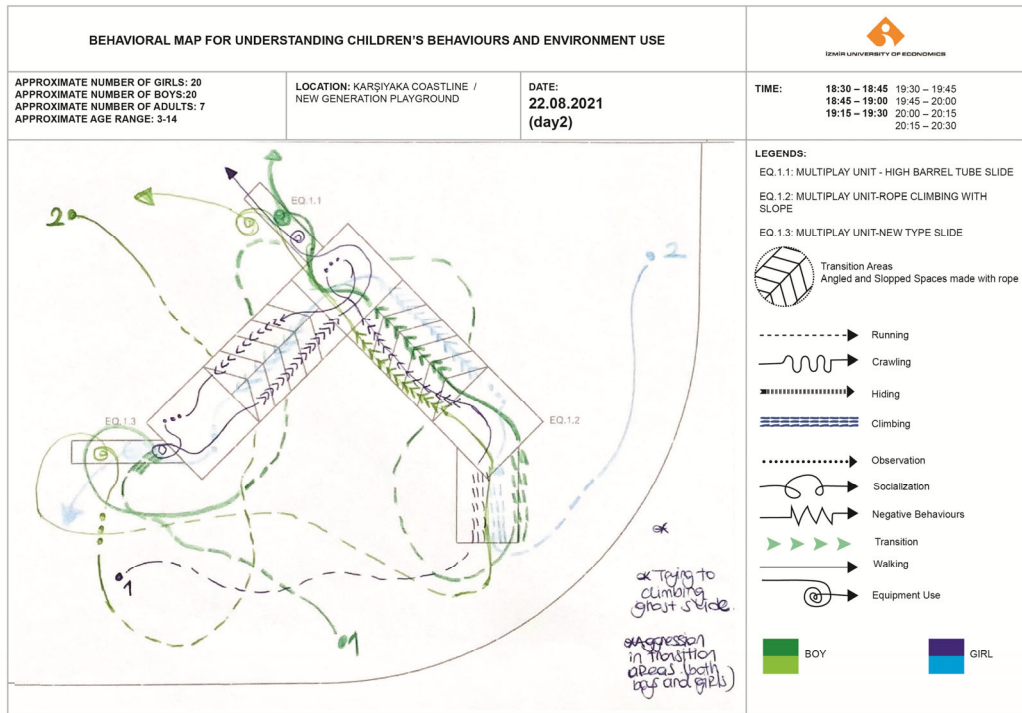


Figure 32. Behavioral map for observation day 2 in New Generation Park, Karşıyaka

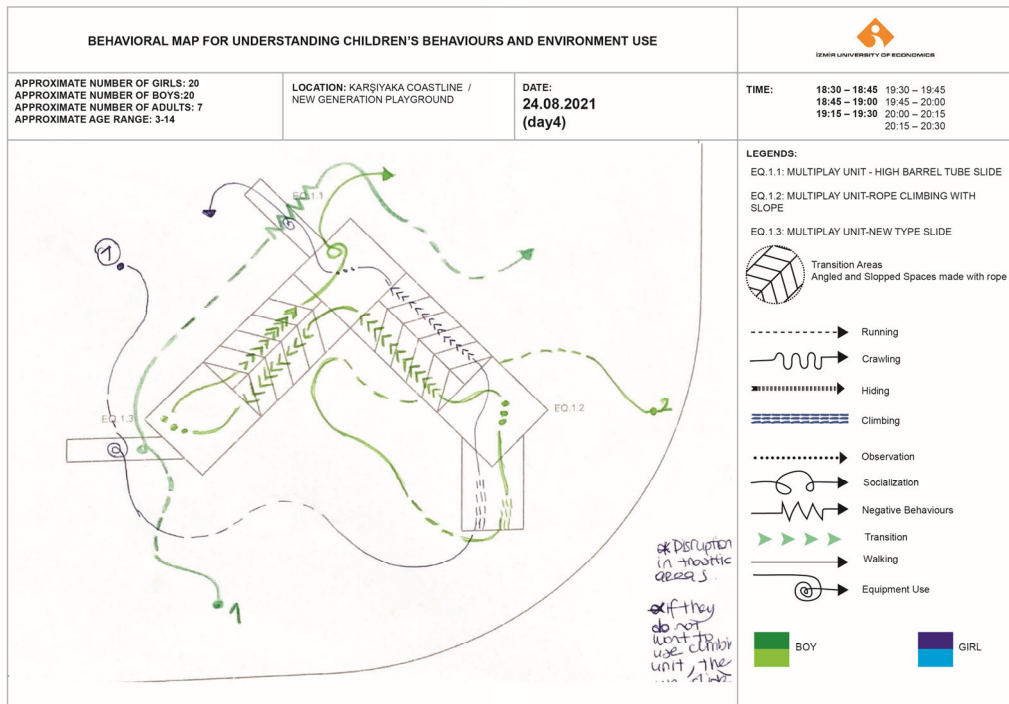


Figure 33. Behavioral map for observation day 4 in New Generation Park, Karşıyaka

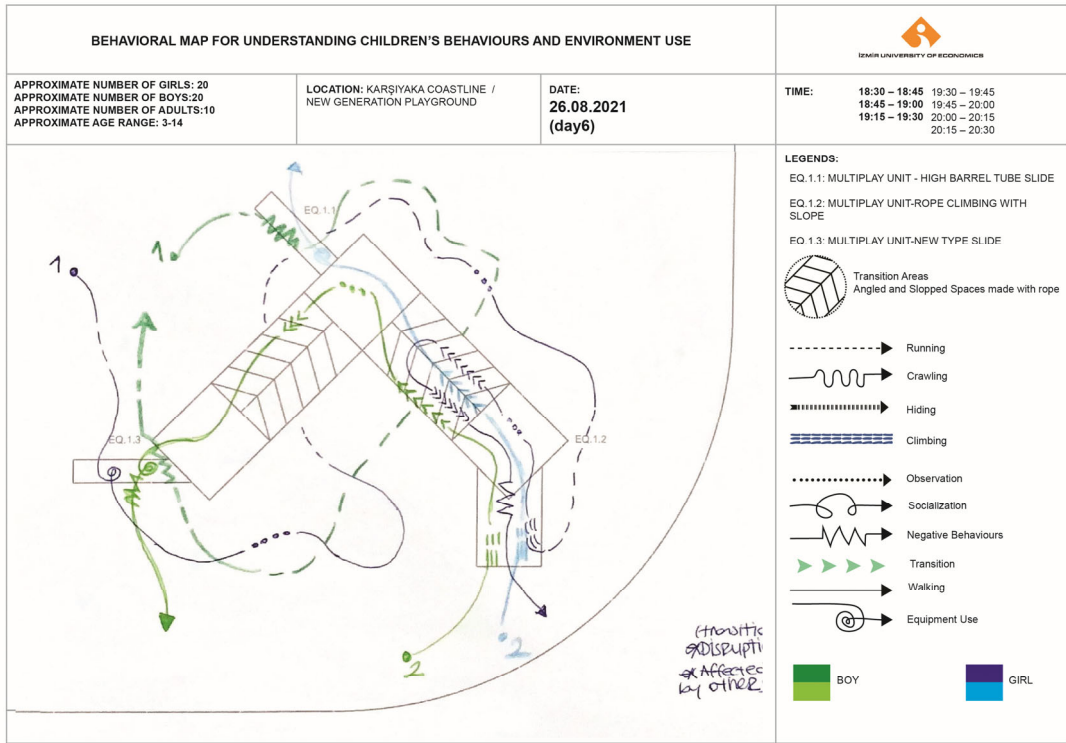


Figure 34. Behavioral map for observation day 6 in New Generation Park, Karşıyaka

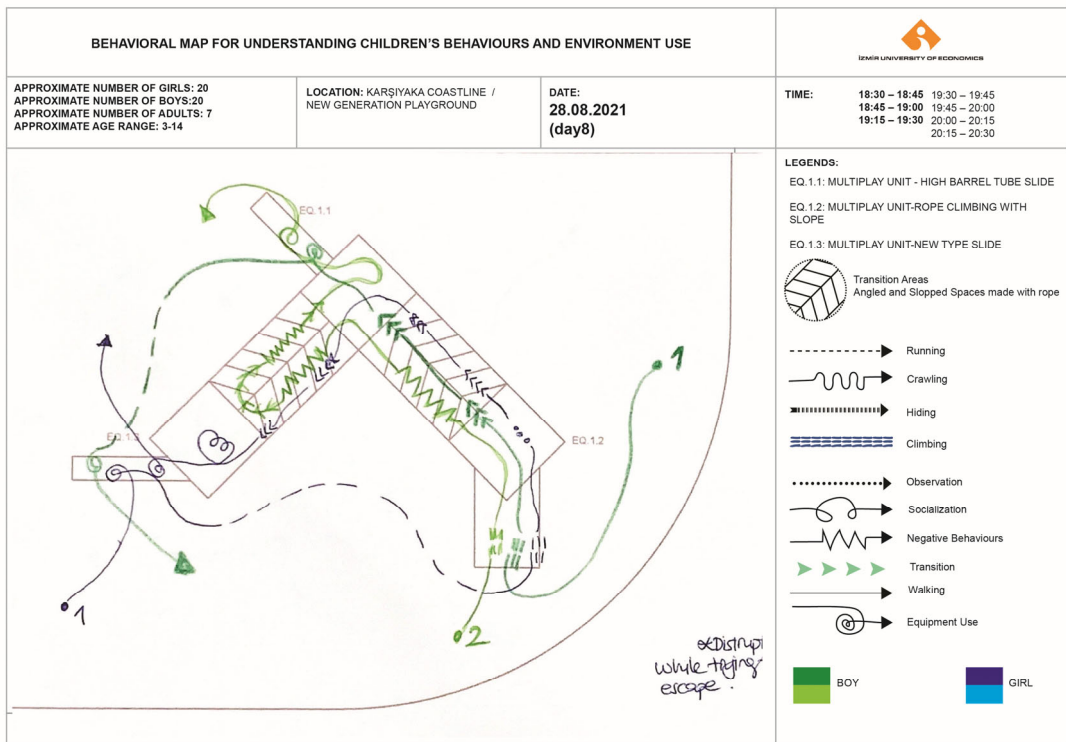


Figure 35. Behavioral map for observation day 8 in New Generation Park, Karşıyaka



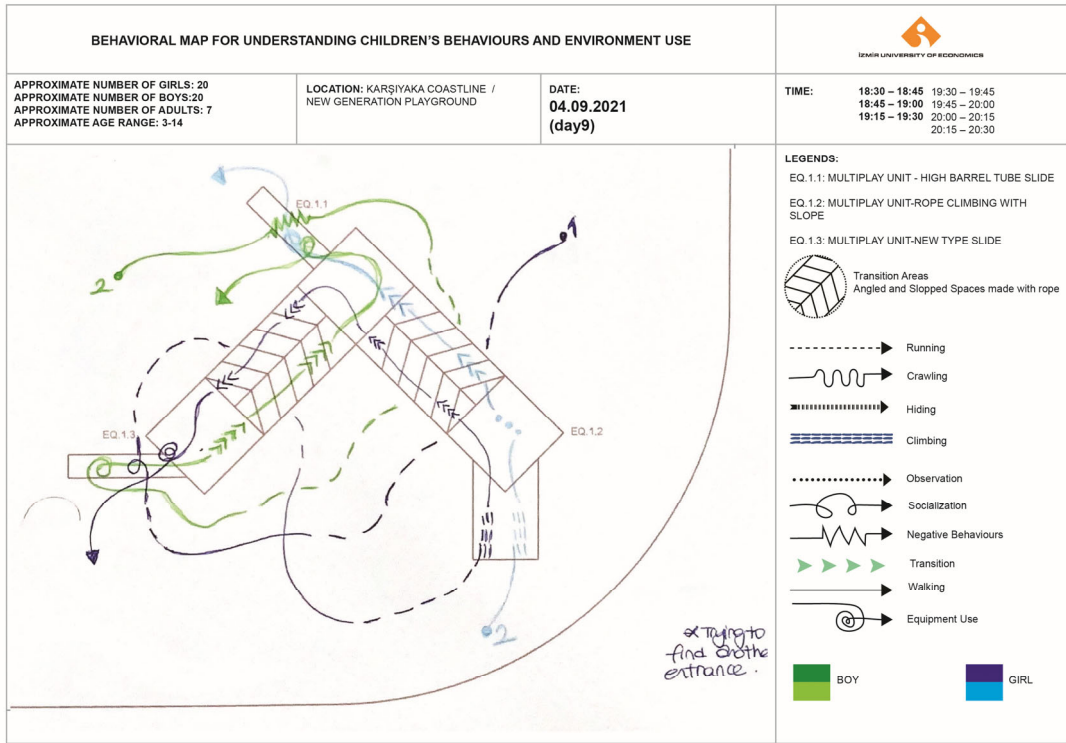


Figure 36. Behavioral map for observation day 9 in New Generation Park, Karşıyaka

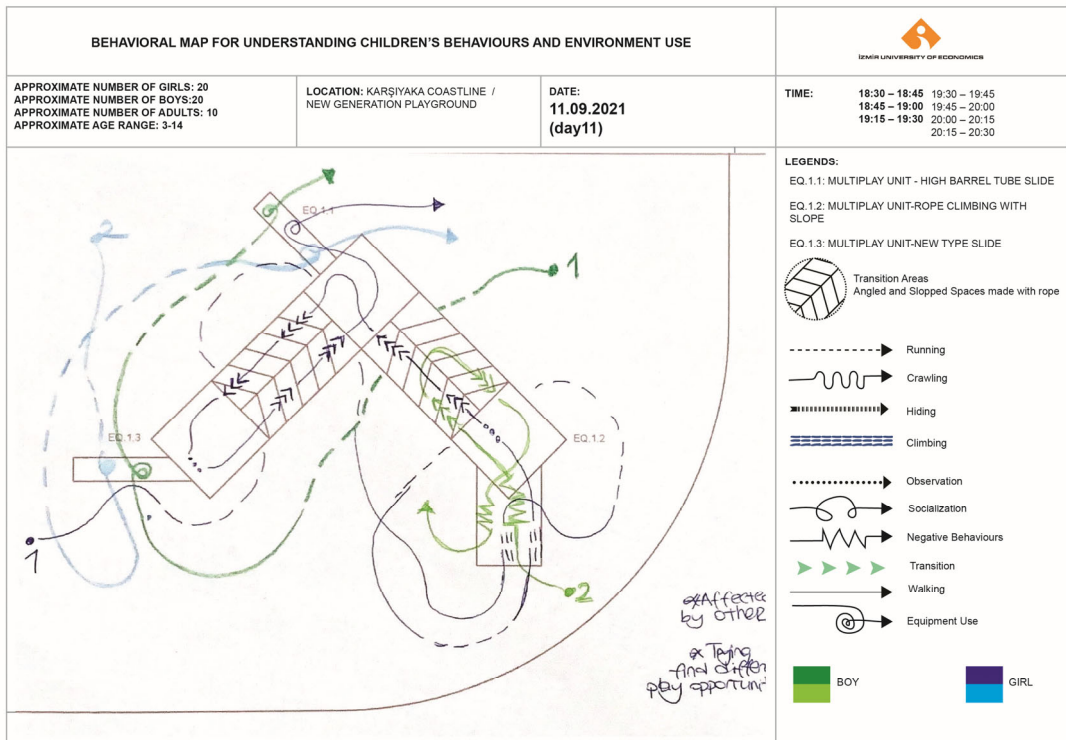


Figure 37. Behavioral map for observation day 11 in New Generation Park, Karşıyaka

In a summary, behavioral mapping method clarify that children prefer to spaces that they can run, climb and observing their surroundings. Also, they get bored easily in smaller and narrow spaces. In addition, they prefer areas where they can spend their time freely and using their creativity, rather than the amount of equipment. The use of topography received equal attention for both genders and they exhibited similar play behaviors and use of space. On the other hand, the narrower and more cramped spaces of multi-play units affected girls more than boys. Girls preferred to move from narrow areas to wide areas more. However, it has been noted that both girls and boys are happy in environments where they can pass between equipment, run and climb and pass to the other area.

### ***7.7.2. Findings Regarding to Observations***

The case study's observation data analysis was made with collected data from approximately 110 children. The number of children show variety depend on playground and play equipment. According to that knowledge, observed children number was given in Table 10.

All statistical analyzes of the research were made with the SPSS 28.0 package program. The Chi-square test was used to test the dependence between children's gender, negative behavior and friend choices in order to understand gender-related negative behavior in playgrounds. Analysis was made for each play equipment in each observed playground.

On the other hand, the descriptive statistical analysis with Chi-square test was used for understanding parental concerns in two subtitles; relationship between parental interferences, gender and negative behaviors, relationship between parental interferences, gender and children's risk-taking patterns.

Table 12. Number of Observed Children in Each Play Equipment that in Different playgrounds Different Playgrounds

	BOSTANLI										KARŞIYAKA					
	OLOF PALME PARK				FOOTBRIDGE PARK				HILL PARK			NEW GENERATION				
	EQ1	EQ2	EQ3-1	EQ3-2	EQ1	EQ2	EQ3	EQ1-1	EQ1-2	EQ2	EQ1-1	EQ1-2	EQ1-3			
	Rope Swing	Long Swing	Slide	Vertical Climbing	Rope Swing	Hill+Rope Climbing+ Slide	Spider Climbing Unit	Rubber Hill with Slide	Grass Seating Unit	Carousel	High Barrel Tube Slide	Rope Climbing	Ghost Slide			
3-4 age	15	13	22	25	18	29	3	25	3	7	21	27	23			
5-6 age	16	24	16	14	16	24	6	20	11	14	29	29	24			
7-8 age	24	10	14	12	24	19	4	16	6	20	8	15	15			
<b>Total number of girls</b>	<b>55</b>	<b>47</b>	<b>52</b>	<b>51</b>	<b>58</b>	<b>72</b>	<b>13</b>	<b>61</b>	<b>20</b>	<b>41</b>	<b>58</b>	<b>71</b>	<b>62</b>			
3-4 age	14	4	17	21	11	24	10	18	6	4	22	28	12			
5-6 age	34	14	20	21	22	22	11	26	12	15	23	27	34			
7-8 age	19	15	4	14	51	11	7	11	6	13	14	17	27			
<b>Total number of boys</b>	<b>67</b>	<b>33</b>	<b>41</b>	<b>56</b>	<b>51</b>	<b>57</b>	<b>28</b>	<b>55</b>	<b>24</b>	<b>32</b>	<b>59</b>	<b>72</b>	<b>73</b>			
<b>Total:</b>	<b>122</b>	<b>80</b>	<b>93</b>	<b>107</b>	<b>109</b>	<b>129</b>	<b>41</b>	<b>116</b>	<b>44</b>	<b>73</b>	<b>117</b>	<b>173</b>	<b>135</b>			
Approximate total number:	<b>100</b>										<b>93</b>			<b>78</b>	<b>142</b>	

### *7.7.2.1. Analysis for Negative Behaviors and Peer Preferences Relationship*

The hypothesis argues that there is a relationship between gender and negative behaviors. During play, children affect their play peer gender based on gender stereotypes. Also, for gender-neutral play opportunities, it is better to playing in mixed-gender groups instead of same gender ones.

The results shows that there is a variety in children's behaviors for each play equipment are Footbridge Park and Olof Palme Park in Bostanlı, New Generation Park and Hill Park in Karşıyaka. The equipment was categorized as slides, climbing units and swing.



Figure 38. Rope swing in Footbridge Park (Source: The photographs were taken by author.)

The first analysis was made for rope swing (EQ1) in Footbridge Park in Bostanlı. 58 girls and 51 boys were observed in six different days. The analysis shows that during individual play, both boys and girls do not act negatively. It was observed that 7% of girls bully when they play with rope swing within the mix-gender peer group and 12% of girls within the same gender peer group. On the other hand, boys showed

more negative behaviors during same-gender play. It has been observed that 17,4% of boys show aggressive behaviors, 8,7% of them disturb each other, 4,3% bullying and 4,3% of them use the equipment inappropriately. Inappropriate use of the equipment is not always considered negative. For rope swing, it refers to using the equipment for relaxing and conversation. Besides, bullying was noted for children who annoyed due to crowd; and some of them lead the group in crowded groups. The leader ones occupied the equipment for a long time and other children joined that group. They were easily bored or needed their parents' help. On the other hand, children have an interest for the rope swing but the equipment is not suitable for individual use due to its need of power. Sometimes, this needs cause adult occupation. The rope swing has capability to carry 10-15 children, this means it can carry adults. It has been observed that adults use and occupied the equipment with no doubt and disrupt children's playtime. When the results analyzed with Chi-square test to understanding relationship between gender, negative behaviors and peer preferences, the Chi-square test confirmed that hypothesis one for same gender peer play with exact significance value, 0,026,  $p < 0,05$ ; and the finding also supported that hypothesis one which meant that. there is a relationship between peer preferences and negative behaviors in rope swing, which is placed in natural environment.

Table 13. The Chi-square test results of negative behaviors\*gender\*peer preferences for Rope Swing in Footbridge Park

		Chi-Square Tests					
play peer preferences		Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)	Point Probability
individual	Pearson Chi-Square	. <sup>c</sup>					
	N of Valid Cases	13					
mix-gender	Pearson Chi-Square	1,845 <sup>d</sup>	1	,174	,491	,276	
	Continuity Correction <sup>e</sup>	,403	1	,526			
	Likelihood Ratio	2,610	1	,106	,491	,276	
	Fisher's Exact Test				,491	,276	
	Linear-by-Linear Association	1,807 <sup>f</sup>	1	,179	,491	,276	,276
	N of Valid Cases	49					
same gender	Pearson Chi-Square	8,983 <sup>g</sup>	4	,062	,026		
	Likelihood Ratio	11,734	4	,019	,026		
	Fisher-Freeman-Halton Exact Test	8,166			,026		
	Linear-by-Linear Association	1,987 <sup>h</sup>	1	,159	,191	,101	,031
	N of Valid Cases	47					
Total	Pearson Chi-Square	10,301 <sup>a</sup>	4	,036	,008		
	Likelihood Ratio	13,209	4	,010	,011		
	Fisher-Freeman-Halton Exact Test	9,365			,012		
	Linear-by-Linear Association	,817 <sup>b</sup>	1	,366	,403	,215	,048
	N of Valid Cases	109					

On the other hand, Olof Palme Park in Bostanlı also comprises same type rope swing (EQ1) in more traditional play environment. During observations, attitudes of 55 girls and 67 boys were recorded for EQ1 and general notes are some as Footbridge Park's rope swing. The descriptive statistical analysis also shows approximate results same as rope swing in Footbridge Park. It has been observed that 11,4% of boys and 8,6 % of girls disrupted others during individual play. 20% of girls bully when they play in mix-gender peer group, while 7,7% boys bully others. 3,8% boys show tendency to social exclusion, 3,8% of them use the equipment inappropriately as swing fast or running. Moreover, in mixed-gender play, 8% of girls disturbed other. However, the chi square test did not confirm the hypothesis one for mixed-gender play with exact significance value 0,38,  $p < 0,005$ . On the contrary, the exact significance value 0,001,  $p < 0,005$  confirmed the hypothesis one for same gender play. The results also supported it. During same gender play in rope swing, 17,2% of boys show aggression, 10,3% of them show social exclusion and 20,7% of boys bully others while the girls do not act negatively.

Table 14. The Chi-square test results of negative behaviors\*gender\*peer preferences for Rope Swing in Olof Palme Park

		Chi-Square Tests					
play peer preferences		Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)	Point Probability
individual	Pearson Chi-Square	,788 <sup>c</sup>	1	,375	1,000	,571	
	Continuity Correction <sup>d</sup>	,000	1	1,000			
	Likelihood Ratio	1,157	1	,282	1,000	,571	
	Fisher's Exact Test				1,000	,571	
	Linear-by-Linear Association	,750 <sup>e</sup>	1	,386	1,000	,571	,571
	N of Valid Cases	21					
mix-gender	Pearson Chi-Square	5,629 <sup>f</sup>	5	,344	,382		
	Likelihood Ratio	7,221	5	,205	,406		
	Fisher-Freeman-Halton Exact Test	5,139			,409		
	Linear-by-Linear Association	,000 <sup>g</sup>	1	,995	1,000	,523	,055
	N of Valid Cases	51					
same gender	Pearson Chi-Square	16,475 <sup>h</sup>	5	,006	<,001		
	Likelihood Ratio	21,870	5	<,001	<,001		
	Fisher-Freeman-Halton Exact Test	15,733			<,001		
	Linear-by-Linear Association	7,802 <sup>i</sup>	1	,005	,005	,002	,001
	N of Valid Cases	50					
Total	Pearson Chi-Square	12,581 <sup>a</sup>	6	,050	,030		
	Likelihood Ratio	16,571	6	,011	,020		
	Fisher-Freeman-Halton Exact Test	11,977			,032		
	Linear-by-Linear Association	3,553 <sup>b</sup>	1	,059	,060	,032	,007
	N of Valid Cases	122					

The comparison results of the rope swing in these two different playgrounds that are one is traditional and other is natural, show that the differences between playscape affect the negative behaviors tendencies of the children depending on their play peer preferences.



Figure 39. (left) Rope swing in Footbridge Park, (right) Rope swing in Olof Palme Park (Source: The photographs were taken by author.)

The type swing has variety based on number of users. Rope swing has the capacity to carry more than 5 users. For example, it has been observed that sometimes 10 children use the equipment at the same time. Olof Palme Park in Bostanlı has two different swing equipment type, one is rope swing and other one is long swing (EQ2) for two users.



Figure 40. (left) Rope swing in Olof Palme Park, (right) long swing in Olof Palme Park (Source: The photographs were taken by author.)

For comparing differences between these two types of equipment, Chi-square test analysis was made for long swing (EQ2) in Olof Palme. Attitudes of 47 girls and 63 boys were recorded. The results show that children use the equipment inappropriately in all their peer preferences.





Figure 41. Long swing in Olof Palme Park, Bostanlı (Source: The photographs were taken by author.)

In individual play and mixed-gender play, the rates are very close while the same-gender play rates are significantly increased. 46,2% of boys prefer to inappropriate use whereas only 8,7% of girls use inappropriately during same gender peer play. However, the rates are 21,4% of girls and 16,7% of boys in individual play; 20% of girls and 25%of boys in mixed-gender play. When the Chi-square test results analyzed, the exact significance value is determined as 0,016,  $p < 0,05$  for same gender play. This means that the Chi-square test confirms the hypothesis one for same gender play.

Table 15. The Chi-square test results of negative behaviors\*gender\*peer preferences for Long Swing in Olof Palme Park

		Chi-Square Tests					
play peer preferences		Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)	Point Probability
individual	Pearson Chi-Square	,106 <sup>c</sup>	2	,949	1,000		
	Likelihood Ratio	,106	2	,948	1,000		
	Fisher-Freeman-Halton Exact Test	,318			1,000		
	Linear-by-Linear Association	,073 <sup>d</sup>	1	,788	,881	,485	,151
	N of Valid Cases	26					
mix-gender	Pearson Chi-Square	,064 <sup>e</sup>	1	,800	1,000	,618	
	Continuity Correction <sup>f</sup>	,000	1	1,000			
	Likelihood Ratio	,064	1	,800	1,000	,618	
	Fisher's Exact Test				1,000	,618	
	Linear-by-Linear Association	,061 <sup>g</sup>	1	,805	1,000	,618	,412
N of Valid Cases	18						
same gender	Pearson Chi-Square	6,742 <sup>h</sup>	1	,009	,016	,016	
	Continuity Correction <sup>f</sup>	4,749	1	,029			
	Likelihood Ratio	6,604	1	,010	,032	,016	
	Fisher's Exact Test				,016	,016	
	Linear-by-Linear Association	6,555 <sup>i</sup>	1	,010	,016	,016	,014
N of Valid Cases	36						
Total	Pearson Chi-Square	3,072 <sup>a</sup>	2	,215	,227		
	Likelihood Ratio	3,038	2	,219	,251		
	Fisher-Freeman-Halton Exact Test	3,170			,204		
	Linear-by-Linear Association	2,919 <sup>b</sup>	1	,088	,097	,054	,019
	N of Valid Cases	80					

The long swing units consist of two equipment, which are placed very close to each other. Accordingly, children easily engaged, observed and copy others attitudes. This means, it is easy to copy negative attitudes, especially inappropriate use. It has been observed that children prefer to swing while standing; and if they see other while they doing it, they also show tendency to try. Besides, through the observations, the one of the swing equipment were damaged and become unusable due to inappropriate use.



Figure 42. Inappropriate use consequences, long swing in Olof Palme Park, Bostanlı  
(Source: The photographs were taken by author.)

Another type of equipment was mentioned as sliding units. Three different types of them observed during the case study that are standard slide (both standard slide with topography and slide in multi-play unit), high barrel tube slide and ghost slide. the descriptive statistical analysis show that during individual play, both boys and girls do not act negatively except inappropriate use of the equipment which is Grass hill with slide and climbing unit (EQ2) in Footbridge Park. The equipment consists of artificial topography but it's covered with natural grass. According to material use, the equipment discussed as natural ones. The number of girls was recorded as 72 girls and 57 boys. It has been observed that 8% of girls and 9,5% of boys use the equipment inappropriately, while the results are determined as 14,3% for girls, 13,3 % for boys n mixed-gender play. Besides, during same gender play the rate increase significantly to 33% for girls and 28,6% for boys.

When the results analyzed with Chi-square test to understanding relationship between gender, negative behaviors and peer preferences, the results did not confirm that hypothesis one with exact significance values were determined as  $p > 0,05$ . It means that, Chi-square test did not find significant differences between gender and negative behaviors for grass hill with slide in Footbridge Park. Nevertheless, the findings supported that gender related differences based on inappropriate use which refers to using slide to climbing for all children according to observation. This type of use may be not totally negative. This situation may show that there is a missing point about the equipment type and this tendency may be reducing with equipment design depend on children's preferences. Also, it has been observed that girls use the

top of the hill for conversations and relaxing after using slide. The hill provides a place for observation, running, seating and climbing for children.



Figure 43. (left) Slide on grass hill, Footbridge Park, (right) Slide on rubber hill, Hill Park (Source: The photographs were taken by author.)

On the other hand, the Hill Park in Karşıyaka coastline consists of hill with sliding unit, EQ1-1. The hill was built as artificial topography with rubber material. The analysis was made for 116 children (61 girls and 55 boys). The Chi-square test was determined the exact significance value as 0,24 for individual play, 1 for mix-gender play and 0,15 for same gender play which did not provide  $p < 0,05$ . Accordingly, the Chi-square test did not confirm hypothesis one. Besides, the contingency table show the common negative behavior is again inappropriate use that same with EQ 2 in Footbridge Park. The results were determined as 17,6% of boys in individual play, 6,7% of girls in mixed gender play, 37,5% of boys and 20% of girls in same gender play. The findings showed that the rate is significantly decreasing when children play with same gender peer instead of mix-gender peer. Furthermore, the comparison shows variety about aggression. Aggression is not observed in EQ2 in Footbridge Park, whereas it is observed in EQ1-1 with the 4,8% of girls in individual play and 4,2% of boys in same gender play.

Differences were observed in The Hill Park when compared to the Footbridge Park for the use of the hill. As mentioned, children use the hills as prospect areas. However, The Hill Park, children mainly use the hill for climbing and running due to its more slippery ground.

Additionally, both Footbridge and Hill Park has standard slide equipment except the hill. In this case, the comparison was made with traditional multi-play unit's slide in Olof Palme Park.



Figure 44. (left) Footbridge Park, (middle) Hill Park, (right) Olof Palme Park  
(Source: The photographs were taken by author.)

The Olof Palme Park has multi-play units that consist of two slides, one rope tunnel transition areas and one vertical climbing unit. The timber series of Cemer City Equipment Manufacturing Company (Kent Ekipmanları San. Tic. AŞ.) is used in the playgrounds. It is used by 3-5 years old children mainly because slides have low height, narrow stairs, and its appearance is not attractive for other children. It has been noted that 7 years old children get bored quickly and have tendency to negative behaviors. However, the use of slide for climbing is still current for this traditional sliding unit.



Figure 45. Timber series, Olof Palme Park. Bostanlı (Source: The photographs were taken by author.)

The descriptive statistical analysis was made for 93 children (52 girls and 41 boys) and it shows that during individual and mixed-gender play, both boys and girls do not act negatively except inappropriate use of the slide (EQ3.1) in Olof Palme Park. Only in same gender play, disturbing others was observed in 7,4% of girls. Besides, inappropriate use has been observed that 20% of girls and 45% of boys in individual play, while the results are determined as 50% for girls, 53% for boys in mixed-gender play.



Figure 46. Inappropriate use example (Source: The left photograph was taken by author, the right one was obtained from Cemer's archive.)

On the other hand, the rates decreased in same gender play as 14,8% of girls. Accordingly, the Chi-square test results does not seem significant because exact significance values did not provide  $p < 0,05$ .

Besides the standard sliding units, there is also new generation ones. In Karşıyaka coastline, there is a playscape consist of one multi-play unit with three different equipment. The New Generation Park has one high barrel tube slide (EQ1.1) and one ghost slide (EQ1.3)



Figure 47. (left) High barrel tube slide, (right) Ghost slide in New Generation Park in Karşıyaka (Source: The photographs were taken by author.)

The analysis was made with 61 girls and 55 boys for EQ1.1, high barrel tube slide. The results shows that during same gender play, most of the negative behaviors were observed are aggression, bullying, social exclusion, disruption, and disturbing and inappropriate use. While mix-gender play includes only bullying and disruption based on inappropriate use. In this case, inappropriate use is common behavior in all peer preferences and it presents as climbing above to the barrel tube and looking inside of the slide from the openings for sunlight.



Figure 48. Inappropriate use examples for high barrel tube in New Generation Park, Karşıyaka (Source: The photographs were taken by author.)

Moreover, children who can move quickly, unwittingly interfere with others. Also, if there were crowd in transition areas, 4-5 years old children screamed. On the other hand, children wait and help each other while using the equipment. Besides, it has



been observed that, sometimes they pushed other child roughly to waiting time become too long.

The Chi-square test confirmed the hypothesis one with exact significance value 0,001,  $p < 0,005$  for same gender peer which means there is relationship between gender, negative behaviors and peer preferences. Besides, same gender peer encourages children to act negatively during play.

Table 16. The Chi-square test results of negative behaviors\*gender\*peer preferences for barrel tube slide in New Generation Park.

		Chi-Square Tests					
play peer preferences		Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)	Point Probability
individual	Pearson Chi-Square	2,784 <sup>c</sup>	2	,249	,194		
	Likelihood Ratio	3,191	2	,203	,194		
	Fisher-Freeman-Halton Exact Test	2,666			,194		
	Linear-by-Linear Association	1,690 <sup>d</sup>	1	,194	,194	,119	,064
	N of Valid Cases	41					
mix-gender	Pearson Chi-Square	2,863 <sup>e</sup>	3	,413	,545		
	Likelihood Ratio	3,629	3	,304	,545		
	Fisher-Freeman-Halton Exact Test	2,706			,545		
	Linear-by-Linear Association	1,710 <sup>f</sup>	1	,191	,232	,114	,038
	N of Valid Cases	26					
same gender	Pearson Chi-Square	24,665 <sup>g</sup>	6	<,001	<,001		
	Likelihood Ratio	29,660	6	<,001	<,001		
	Fisher-Freeman-Halton Exact Test	24,162			<,001		
	Linear-by-Linear Association	20,429 <sup>h</sup>	1	<,001	<,001	<,001	,000
	N of Valid Cases	50					
Total	Pearson Chi-Square	22,493 <sup>a</sup>	6	<,001	<,001		
	Likelihood Ratio	25,408	6	<,001	<,001		
	Fisher-Freeman-Halton Exact Test	21,866			<,001		
	Linear-by-Linear Association	20,376 <sup>b</sup>	1	<,001	<,001	<,001	,000
	N of Valid Cases	117					

The contingency Table 16 support the Chi-square test results with the rates. The table present that 4,3% of girls show aggression and social exclusion while 18,5 % of boys bully others, 3,7% of them disrupt and 7,4% disturb others during same gender play. Besides, inappropriate use was observed in 48,1% of boys whereas the rate is 8,7% for girls. This gap between rates do not seem in mix-gender play which are 14,3% for girls and 16,7% for boys.

Moreover, observation notes clarified that this gap. During same gender play, children observed their play peer more than mixed-gender play. Girls and boys tried to show their abilities their same gender peer.

Another type of slide is ghost slide, which is observed with 62 girls and 73 boys in New Generation Park in Karşıyaka. Bullying, inappropriate use, and disruption are common behaviors for all peer preferences. In general, children do not understand how they should use this equipment. They tried climbing, sliding or hanging. They can use when they try sliding. Besides, they observe others first and imitating their behaviors.



Figure 49. Examples of using ghost slide (Source: The photographs were taken by author.)

The Chi-square test also confirms the hypothesis one for individual play with exact significance value 0,001,  $p < 0,05$ . According to contingency table, the rates are determined as 3,7% of girls and 36% of boys use the equipment inappropriately during individual play. Besides, bullying and disturbing others were observed in boys. The reason for these results may be due to the difference in approach between boys and girls. During the observations, it was seen that the boys were more courageous and open to experimenting in using the equipment when they did not know how to use. On the other hand, girls preferred to try to understand with observing or asking how to use.

Table 17. The Chi-square test results of negative behaviors\*gender\*peer preferences for ghost slide in New Generation Park

		Chi-Square Tests					
play peer preferences		Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)	Point Probability
individual	Pearson Chi-Square	11,941 <sup>c</sup>	3	,008	,001		
	Likelihood Ratio	13,713	3	,003	,001		
	Fisher-Freeman-Halton Exact Test	11,868			,001		
	Linear-by-Linear Association	11,490 <sup>d</sup>	1	<,001	<,001	<,001	,000
	N of Valid Cases	52					
mix-gender	Pearson Chi-Square	5,117 <sup>e</sup>	3	,163	,167		
	Likelihood Ratio	7,044	3	,071	,167		
	Fisher-Freeman-Halton Exact Test	4,304			,167		
	Linear-by-Linear Association	1,889 <sup>f</sup>	1	,169	,219	,122	,032
	N of Valid Cases	33					
same gender	Pearson Chi-Square	8,070 <sup>g</sup>	4	,089	,063		
	Likelihood Ratio	10,258	4	,036	,043		
	Fisher-Freeman-Halton Exact Test	6,978			,081		
	Linear-by-Linear Association	7,124 <sup>h</sup>	1	,008	,008	,004	,002
	N of Valid Cases	50					
Total	Pearson Chi-Square	22,389 <sup>a</sup>	4	<,001	<,001		
	Likelihood Ratio	27,611	4	<,001	<,001		
	Fisher-Freeman-Halton Exact Test	21,921			<,001		
	Linear-by-Linear Association	20,498 <sup>b</sup>	1	<,001	<,001	<,001	,000
	N of Valid Cases	135					

As a conclusion, the analysis clarified that using slide within the same gender peer play encourage children to behave negatively. The most common behavior is determined as using slides inappropriately that means they want to climbing on or slide upside down, for tube slides they are curious about inside of the tube. Also, this curiosity may cause fear sometimes. During the observations, fear cause long waiting and decision process mainly; and these process cause disruption others. Also, if some child occupied the equipment when s/he tries to make decision, others become more impatient and show aggression. Moreover, using slide as climbing unit may cause injuries or falling from height. Inappropriate use is not completely negative behavior, but the results it produces cause to negative outcomes. This problem may be resolved through design.

The climbing units in playgrounds have variety as slides and swings. In Footbridge Park and New Generation Park, rope-climbing unit is used while Olof Palme Park has rigid and vertical ones. On the other hand, Hill Park has not any climbing unit. However, this situation is not an obstacle for children to climbing. They use grass-seating area as stair near the playscape, and also the rubber hill is used as climbing unit.



Figure 50. Climbing units. 1-New Generation Park, 2-Footbridge Park, 3-Hill Park, 4-Olof Palme Park (Source: The photographs were taken by author.)

In Footbridge Park, rope-climbing unit used as a part of the hill and the slope of hill was adjusted according to equipment design necessities. It has been observed that children use all around the hill for climbing but the equipment is also used by them. Negative behaviors were not observed for rope climbing unit. Moreover, there is also another unit is spider-climbing unit as shown in Figure 24.



Figure 51. Spider climbing unit in Footbridge Park, (Source: The photographs were taken by author.)

The observations were made with 13 girls and 28 boys because children did not prefer to play with the equipment. Mainly, they prefer to use other equipment and climbing on the hills. The inappropriate use was observed in spider climbing unit 20% of boys and bullying observed 10% of girls in same-gender play. However, the Chi-square test results did not confirm the relationship between gender, negative behaviors and peer preferences exact significance value did not provide  $p < 0,05$ . Inappropriate use was observed as sitting on the ropes or hanging on the ropes.



Figure 52. Example of inappropriate use in Footbridge Park, Bostanlı (Source: The photographs were taken by author.)

Olof Palme Park has rigid and vertical climbing unit. The observations were made with 51 girls and 56 boys. The equipment was used by 3-5 years old preschoolers. Accordingly, negative behaviors were not observed during individual play. In mix-gender and same-gender play, bullying was observed without any other negative attitudes. For example, it has been observed that children trying to quickly across with yelling other children.



Figure 53. Climbing unit in Olof Palme Park, Bostanlı (Source: The photographs were taken by author.)

It has been recorded that 30% of boys in mix-gender play and 21,4% of them in same gender play bully others. Children preferred to play in same gender play (17 children prefer mix-gender while 43 children prefer to same gender peer). This situation caused Chi-square test results were not significant for mix-gender play. However, the exact significance value was found to be 0,031,  $p < 0,05$  which meant that the Chi-square test confirmed the hypothesis one for same gender peer play.

The bullying may come from difficulty level of the equipment. The playground mainly used by 3-5 years old children and their abilities are limited. However, the playground used by 7-8 years old children and there is any proper equipment for those ages in the playscape. This situation encourages them to using rigid and vertical climbing unit due to its' appearance look compelling. Thus, 7-8 years old boys use the equipment for testing their abilities and prove themselves.

Table 18. The Chi-square test results of negative behaviors\*gender\*peer preferences for climbing unit in Footbridge

		Chi-Square Tests					
play peer preferences		Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)	Point Probability
individual	Pearson Chi-Square	. <sup>d</sup>					
	N of Valid Cases	38					
mix-gender	Pearson Chi-Square	3,529 <sup>e</sup>	1	,060	,211	,105	
	Continuity Correction <sup>b</sup>	1,569	1	,210			
	Likelihood Ratio	4,691	1	,030	,211	,105	
	Fisher's Exact Test				,211	,105	
	Linear-by-Linear Association	3,353 <sup>f</sup>	1	,067	,211	,105	,105
	N of Valid Cases	20					
same gender	Pearson Chi-Square	5,128 <sup>g</sup>	1	,024	,031	,027	
	Continuity Correction <sup>b</sup>	3,328	1	,068			
	Likelihood Ratio	7,338	1	,007	,031	,027	
	Fisher's Exact Test				,031	,027	
	Linear-by-Linear Association	5,023 <sup>h</sup>	1	,025	,031	,027	,027
	N of Valid Cases	49					
Total	Pearson Chi-Square	8,949 <sup>a</sup>	1	,003	,003	,002	
	Continuity Correction <sup>b</sup>	6,985	1	,008			
	Likelihood Ratio	12,406	1	<,001	,003	,002	
	Fisher's Exact Test				,003	,002	
	Linear-by-Linear Association	8,866 <sup>c</sup>	1	,003	,003	,002	,002
	N of Valid Cases	107					

According to the descriptive statistical analysis of three type of climbing unit which are climbing unit on the hill, spider type one and vertical one; the results clarified that type of equipment affect children's negative behavior tendency due their play peer preferences. The rope climbing on the hill act as helpful for reducing negative attitudes. However, it is not sufficient to accept this argument through a single park example.

As mentioned previously, children prefer to climb on the hill instead of using equipment. For example, in The Hill Park, there is any climbing unit except a hill. Children have to climb on the rubber hill to using slides. It has been observed that, children prefer to climb on hills and come down while running. Besides, there is grass stairs for seating near to The Hill Park and it has been recorded children use these areas as playscape for climbing and running without any negative behaviors. During play, children do not care gender of their play peer. As a result, observation notes support the hypothesis one and argue of natural environments may decrease the negative attitudes with encouraging mix-gender play.

3-4 years old children play without interferences when comparing other playgrounds. Besides, they start to play individually; and then they interact each other. They are socialized, climb the hill and run down. Moreover, it has been noted that children have an opportunity to play near to their parents in grass seating stairs. Children use this space while they pass through or their parents sit in this area.



Figure 54. Climbing examples, 2-Hill Park, 1- 3 Grass seating area in Hill Park  
(Source: The photographs were taken by author.)

On the other hand, New Generation Park has also rope swing as a part of its' multi-play unit. However, the analysis results are different than Footbridge Park. The New Generation Park in Karşıyaka, has more narrow and high climbing unit. Also, children have not an opportunity to come down after climbing, they have to use transition areas and use the slide for come down. This situation and necessity cause negative attitudes. Disturbing and disruption are common in all peer preferences. Because children have to use the equipment in crowd and if someone try to climbing fast or use the equipment inappropriately, others affected by their behaviors. For example, it has been observed that a shy girl tried to climb and gave up due to lost her balance when the equipment got more crowded. She waited for the crowd to dwindle to try again, and the next few attempts were unsuccessful.





Figure 55. Rope climbing unit use in New Generation Park, Karşıyaka (Source: The photographs were taken by author.)

During individual play, the results are noted as 3,4% of boy show aggression, 10,3% of boys and 7,1% of girls use inappropriately, 3,4% of boys and 3,6% of girls disrupt and 6,96 of boys disturb others. Moreover, these rates are noted for boys as 3,1% for bullying, 9,4% for inappropriate use and 21,9% for disturbing in same-gender peer play, while girls did not act negatively. Otherwise, mix-gender play show similar rates between boys and girls; 8,3% of girls and 9,1% of boys disrupt and disturb others.

According to Chi-square test results, hypothesis one was confirmed with exact significance value of 0,001 for same gender play. The value is determined 0,58 for individual play and 1 for mix-gender play which p value is not provide value  $p < 0,05$ . It meant that there is a relation between gender, negative behavior and peer preferences. During same gender play, negative behaviors increased based on gender of children. However, the significant differences were not determined in mixed-gender play or individual play.

Table 19. The Chi-square test results of negative behaviors\*gender\*peer preferences for climbing unit in Footbridge

		Chi-Square Tests					
play peer preferences		Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)	Point Probability
individual	Pearson Chi-Square	3,375 <sup>c</sup>	4	,497	,583		
	Likelihood Ratio	4,534	4	,338	,583		
	Fisher-Freeman-Halton Exact Test	3,243			,639		
	Linear-by-Linear Association	1,521 <sup>d</sup>	1	,218	,220	,120	,031
	N of Valid Cases	57					
mix-gender	Pearson Chi-Square	,009 <sup>e</sup>	2	,995	1,000		
	Likelihood Ratio	,009	2	,995	1,000		
	Fisher-Freeman-Halton Exact Test	,500			1,000		
	Linear-by-Linear Association	,009 <sup>f</sup>	1	,926	1,000	,602	,273
	N of Valid Cases	23					
same gender	Pearson Chi-Square	12,910 <sup>g</sup>	3	,005	<,001		
	Likelihood Ratio	17,168	3	<,001	<,001		
	Fisher-Freeman-Halton Exact Test	12,735			<,001		
	Linear-by-Linear Association	12,032 <sup>h</sup>	1	<,001	<,001	<,001	,000
	N of Valid Cases	63					
Total	Pearson Chi-Square	13,018 <sup>a</sup>	5	,023	,006		
	Likelihood Ratio	15,071	5	,010	,011		
	Fisher-Freeman-Halton Exact Test	13,137			,005		
	Linear-by-Linear Association	10,027 <sup>b</sup>	1	,002	,001	<,001	,000
	N of Valid Cases	143					

The last observed equipment is carousel in The Hill Park, Karşıyaka. The equipment was observed to understanding children's interest about spinning equipment. Other playscapes have not any spinning equipment as carousel. The observations show that 5-8 years old children prefer to play with spinning ones. However, they act negatively during the play. For example, the children who take a responsibility to spinning the equipment sometimes spin it very fast to frighten others. It has been observed that, boys mainly take a role to help to spinning the equipment in mix-gender play. Girls have some difficulties about the spinning and moving. Besides, 3-4 years old children use the equipment very limited time such as 5 minutes with their parents' help due to height of the equipment. The equipment is not convenient to individual play due to need of move and spinning.



Figure 56. Carousel use in The Hill Park, Karşıyaka (Source: The photographs were taken by author.)

It has been noted that 10% of girls show aggression during individual play. However, playing with others is not a solution for girls. Aggression and social exclusion were observed 16,7% of girls in mix-gender play, whereas the rate is 5,9% for boys. Bullying and inappropriate use were observed 23,5% and 17,6% of boys in mix-gender play, while the rates are 37,5% of boys for bullying and 5,3% of girls for both bullying and inappropriate use in same gender play. Inappropriate use is noted as using the equipment for talking and spinning fast. The Chi-square test also did not confirm the hypothesis one for same gender play with the because exact significance value did not provide,  $p < 0,05$

As a result of the descriptive statistical analysis, it is determined that children's gender, negative behaviors and play peer preferences are dependent varies according to equipment type and playground design. As mentioned previously, the observed playgrounds classified according to their design features; Footbridge Park-and Hill Park were observed as natural playground and Olof Palme and New Generation Park observed as traditional playground. The findings show that traditional playgrounds increase negative behaviors during same gender peer play as shown in the exact

significance value summary Table 20. On the other hand, if the equipment design increase tendency to negative behaviors, it always shows same value regardless of playground type as traditional or natural. During play, children are affected by their gender of play peer based on gender stereotypes. Also, for gender-neutral play opportunities, it is better to playing in mixed-gender groups instead of same gender ones.





### 7.7.2.2. Analysis for Negative Behaviours, Gender and Parental Interferences Relationship

The hypothesis argues that there is a relationship between gender, negative behaviours and parental interferences. Initial analysis confirmed gender, negative behaviours and peer preferences dependence. However, negative behaviours are not solely related to gender and play peer choice. Another hypothesis of this research is parental intervention increases negative behaviors and these interventions are related to the gender of the children.

The analysis was made with descriptive statistical method, which is Chi-square test for each play equipment are Footbridge Park and Olof Palme Park in Bostanlı, New Generation Park and Hill Park in Karşıyaka. The equipment was categorized as slides, climbing units and swing as same as analysis for negative behaviours, gender and peer preferences.

Parental interferences categorized as watching from distance, playing together, helping them to socializing, helping them to use the equipment, encouraging and warning. These interventions are not considered negative, but they may cause pressure on children and lead them to negative behaviors. The intervenes show variety depends on equipment and playground.

Table 21. The list of observed parental interferences for each play equipment

	BOSTANLI							KARŞIYAKA					
	OLOF PALME PARK				FOOTBRIDGE PARK			HILL PARK			NEW GENERATION		
	EQ1	EQ2	EQ3-1	EQ3-2	EQ1	EQ2	EQ3	EQ1-1	EQ1-2	EQ2	EQ1-1	EQ1-2	EQ1-3
	Rope Swing	Long Swing	Slide	Vertical Climbing	Rope Swing	Grass Hill+Rope Climbing+Slide	Spider Climbing Unit	Rubber Hill with Slide	Grass Seating Unit	Carousel	High Barrel Tube Slide	Rope Climbing	Ghost Slide
watching from distance	x	x	x	x	x	x	x	x	x	x	x	x	x
playing together	x	x	x		x	x		x		x			x
helping them to socializing													
helping them to use the equipment	x	x	x	x	x	x	x	x		x	x	x	x
encouraging			x	x	x	x	x	x	x		x	x	x
warning	x	x	x	x						x			

First analysis was made for rope swing (EQ1) in Footbridge Park in Bostanlı. It has been observed that four types of interferences, which are watching from, distance, playing together, helping them to use the equipment and encouraging. Those interferences have been observed without any negative behaviours, however,

children show aggression and bullying, use the equipment inappropriately and disturbing others while their parent watched them from a distance. The most significance percent belong to bullying for girls with 10.2%, while the rate is 2,4%for boys. Other attitudes' rates belong to boys with 9,8% for aggression, 2,4% percent for inappropriate use and 4,9% percent for disturbing. The Chi-square result was determined as 0,008,  $p < 0,01$ . The exact significance value seems to confirm the relationship between parental interferences, negative behaviours and gender. However, watching from distance means playing without intervene. As a result, the findings did not support the hypothesis one.

Table 22. The Chi-square test results of negative behaviours\*gender\*parental interferences for rope swing in Footbridge

		Chi-Square Tests					
parental interferences		Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)	Point Probability
watching from distance	Pearson Chi-Square	10,611 <sup>c</sup>	4	,031	,008		
	Likelihood Ratio	13,480	4	,009	,008		
	Fisher-Freeman-Halton Exact Test	9,646			,011		
	Linear-by-Linear Association	,993 <sup>d</sup>	1	,319	,354	,190	,045
	N of Valid Cases	90					
playing together	Pearson Chi-Square	. <sup>e</sup>					
	N of Valid Cases		2				
helping them to use the equipment	Pearson Chi-Square	. <sup>e</sup>					
	N of Valid Cases	9					
encouraging	Pearson Chi-Square	. <sup>e</sup>					
	N of Valid Cases	8					
Total	Pearson Chi-Square	10,301 <sup>a</sup>	4	,036	,008		
	Likelihood Ratio	13,209	4	,010	,011		
	Fisher-Freeman-Halton Exact Test	9,365			,012		
	Linear-by-Linear Association	,817 <sup>b</sup>	1	,366	,403	,215	,048
	N of Valid Cases	109					

On the other hand, it has been observed that same parental interferences except encouraging in the rope swing in Olof Palme Park. Warning is observed instead of encouraging based on children's aggression, bullying and inappropriate use. Besides, those three negative attitudes rates are noted 25% of boys. Children did not act negatively when their parents help them to use equipment, but 80% of boys disrupted others during playing together with an adult. Disruption is also observed for watching from distance in 2,9% of girls and 7,8% for boys. Moreover, it accompanies aggression and social exclusion with 7,8 % of boys, bullying with 14,3 of girls and 13,7 of boys, disturbing with 5,7% of girls and 3,9% of boys. However, Chi--square test does not confirm the hypothesis one and the findings did not support

hypothesis one either. As a result, the findings are not sufficient to qualify the rope swing as gender-typed equipment because parental intervenes and negative behaviours seem independent to gender.

The comparison was made with long swing (EQ2) and rope swing (EQ1) in Olof Palme Park. The intervenes are same are watching from distance, playing together, helping them to use the equipment and warning. However, warning issues show variety. For example, in rope swing, parents just told their child “Do not swing fast”, “hold on carefully”, but in long swing they need to say “be careful your surrounding” additionally. The reason of this need is distance between the equipment, which are very close to each other. As shown in the Figure X.X, the Olof Palme Park located in a large woodland area with three different playscape; one is for toddlers, one is suitable for 5-7 years old’s and the last one is selected for the case study due to suitable for all 3-7 years old children.

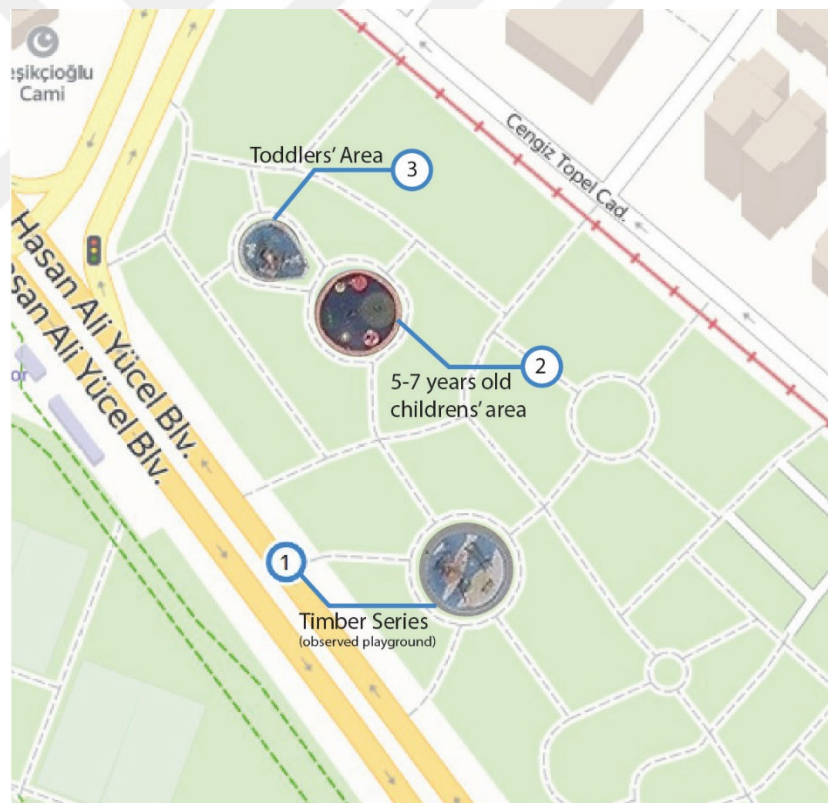


Figure 57. Plan of The Olof Palme Park

Despite such a large area, the playgrounds are very narrow and the equipment is placed close to each other as shown in the Figure 57. This situation causes parental concerns about injuries and hazards.



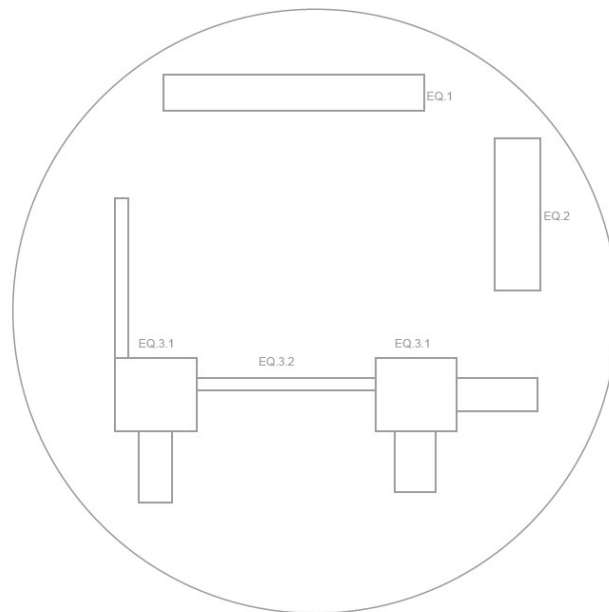


Figure 58. Sketch of the Olof Palme Park

On the other hand, the Chi-square test seems to confirm the hypothesis one that there is a relationship between parental intervention and gender for watching from a distance. The exact significance value was determined as 0,044,  $p < 0,005$ . However, watching from a distance means playing without intervention. According to crosstab results, it has been recorded that 24% of girls' parents prefer to watch from a distance to their child, while the rate is 22% for boys. Thus, parents do not behave according to the gender of their child. However, children's tendencies show variety while their parents watch them from a distance. The results show that 12,5% of girls used the equipment inappropriately while 40% of boys did it. Those rates are significantly decreased during playing together or while their parents help them to use the equipment. Boys did not use the equipment out of purpose when playing with an adult, whereas 20% of boys did it when adults try to help them.

Table 23. The Chi-square test results of negative behaviours\*gender\*parental interferences for long swing in Olof Palme Park

		Chi-Square Tests					
parental interferences		Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)	Point Probability
watching from distance	Pearson Chi-Square	5,408 <sup>o</sup>	2	,067	,044		
	Likelihood Ratio	5,935	2	,051	,044		
	Fisher-Freeman-Halton Exact Test	5,221			,044		
	Linear-by-Linear Association	4,396 <sup>d</sup>	1	,036	,044	,031	,016
	N of Valid Cases	46					
playing together	Pearson Chi-Square	2,691 <sup>e</sup>	2	,260	,410		
	Likelihood Ratio	3,128	2	,209	,329		
	Fisher-Freeman-Halton Exact Test	2,304			,410		
	Linear-by-Linear Association	,333 <sup>f</sup>	1	,564	,839	,443	,111
	N of Valid Cases	19					
helping them to use the equipment	Pearson Chi-Square	,207 <sup>g</sup>	1	,649	1,000	,604	
	Continuity Correction <sup>h</sup>	,000	1	1,000			
	Likelihood Ratio	,200	1	,655	1,000	,604	
	Fisher's Exact Test				1,000	,604	
	Linear-by-Linear Association	,193 <sup>i</sup>	1	,661	1,000	,604	,495
N of Valid Cases	14						
warning	Pearson Chi-Square	J					
	N of Valid Cases	1					
Total	Pearson Chi-Square	3,072 <sup>a</sup>	2	,215	,227		
	Likelihood Ratio	3,038	2	,219	,251		
	Fisher-Freeman-Halton Exact Test	3,170			,204		
	Linear-by-Linear Association	2,919 <sup>b</sup>	1	,088	,097	,054	,019
	N of Valid Cases	80					

Slide types were also analyzed for understanding parental concern, negative attitudes and gender relationship. First of all, slide on grass hill (EQ2) in Footbridge Park, Bostanlı were analyzed and it was compared with slide on rubber hill (EQ1-1) in Hill Park, Karşıyaka. The parents' attitudes observed in both equipment and noted as same as each other. Helping them to use the equipment, encouraging, playing together were observed without any negative behaviours while watching from distance cause different tendencies for children. While their families were watching them and the children were using the rubber hill, it has been noted that children show aggression 2,1% of girls and boys, disruption 2,1 % of girls, disturbing 2,1 % of boys. Also, 12,8% of girls and 25% of boys used the equipment inappropriately in The Hill Park, while 31,5% of girls and 22,7 % of boys did it in the Footbridge Park. The variety of rates seems significant; however, the Chi-square test results do not confirm any relationship between parental concerns, negative attitudes and gender.

On the other hand, it is clearly seen that the Footbridge Park offers a play opportunity away from negative situations. It has been observed that if 3-4 years old

children play without interferences when comparing other playgrounds. Besides, they start to play individually; and then they interact each other and socialized.

The analysis continues with more traditional slide type that in the Olof Palme Park, it has been observed that the EQ 3-1 was used by 3-4- and 5-6-years old children mainly. The numbers of them recorded as 39 children for 3-4 years old and 36 children for 5-6 years old while only 18 children for 7-8 years old ones. Accordingly, parents show tendency to help their children during play time to socializing or using the equipment due to their physical abilities. The rates were recorded 9% for helping to socializing, 7% for helping to equipment use and 11% for encouraging. Nevertheless, 60% of families prefer to watching from distance. It has been observed that girls are freer than boys. 60 children were exposed to eye control and number of girls was recorded as 36 while number of boys 24. Besides, even if families do not get involved the play, they prefer end the playtime when there is inappropriate use. For example, girls prefer to use waiting areas of slides for relaxing and conversation due to its' shelter role. However, adults say them "if you do not want to play with the equipment, we should go". Another example is about obeying the rules and warning. If the child does not listen to his / her family's warnings, parents prefer to end the play time with excuses as "we are late, we need to catch the bus, your dad is waiting to you at home". This situation may cause there is nothing for adults to make the space and time valuable. Although the playscape is near the sea, the sea is not visible from the park area, although it is in the woodland area, but you can only sit on the benches. As a result, they get bored quickly and if they thought their child spend poor quality of time, they show tendency to leave the playground. Besides, those attitudes are not show variety to gender of their children.



Figure 59. Surrounding of the Olof Palme Park (Source: The photograph was taken by the author.)

Moreover, the Chi-square results are not significant to confirm the hypothesis one, because significance value did not provide  $p < 0,05$ , means there is no relationship between parental concerns and gender. However, the findings still show the better rates for Footbridge Park and Hill Park.

In new generation park, Karşıyaka, 92% of families prefer to watch from distance even though the playground has high barrel tube slide which children need help. This situation may cause there is a relaxing and seating areas for adults. They can spend time near the sea while using the benches with tables. As seen in the cross table, families tend to release their children more, but it has been observed that these rates vary according to the gender of the children. The rates were determined as 39% for girls while it is 53% for boys. Besides, boys' tendencies about bullying and inappropriate use more than girls. 39,6% of boys uses the high barrel tube slide inappropriately while just 17,9% of girls did it. The same gap between gender occurs in bullying; 13,2% of boys bully other when 5,1% of girls did it. During the playing without intervene, children show aggression, disruption and disturbing others except

inappropriate use and bullying. The reason for all these negative behaviors is that the waiting areas are narrow and the only way out is the slide units. In transition areas, 6-7 years old cross gender children socialize by helping each other. They interfere with others when using the slide. They say where to stand and wait to other children. Besides, 4-5 years old children use refuges for call out to their parents. They want their families to wait for them at the end of the slide when they are going to slide. In these situations, boys were more impatient. For example, if there is a child who wants to use the tube slide but afraid, it has been observed that boys are generally forced them or provoked them. Moreover, the Chi-square test confirms the hypothesis one with the exact significance value 0,007,  $p < 0,005$ . Besides, 4-5 years old children need parents help about encouraging. If child play individually and cannot see parents, take the risk individually. However, if they saw, they tend to ask help. On the other hand, children who can move quickly, they unwittingly interfere with others. Also, if there were crowd in transition areas, 4-5 years old children screamed. Sometimes, children wait and help each other while using the equipment.

Table 24. The Chi-square test results of negative behaviors\*gender\*parental interferences for slide in Olof Palme Park

		Chi-Square Tests					
parental interferences		Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)	Point Probability
watching from distance	Pearson Chi-Square	13,616 <sup>c</sup>	5	,018	,007		
	Likelihood Ratio	15,336	5	,009	,010		
	Fisher-Freeman-Halton Exact Test	12,857			,007		
	Linear-by-Linear Association	12,930 <sup>d</sup>	1	<,001	<,001	<,001	,000
	N of Valid Cases	92					
helping them to use the equipment	Pearson Chi-Square	. <sup>e</sup>					
	N of Valid Cases	1					
encouraging	Pearson Chi-Square	2,794 <sup>f</sup>	1	,095	,273	,273	
	Continuity Correction <sup>g</sup>	,273	1	,601			
	Likelihood Ratio	2,729	1	,099	,273	,273	
	Fisher's Exact Test				,273	,273	
	Linear-by-Linear Association	2,667 <sup>h</sup>	1	,102	,273	,273	,273
	N of Valid Cases	22					
warning	Pearson Chi-Square	. <sup>i</sup>					
	N of Valid Cases	2					
Total	Pearson Chi-Square	22,493 <sup>a</sup>	6	<,001	<,001		
	Likelihood Ratio	25,408	6	<,001	<,001		
	Fisher-Freeman-Halton Exact Test	21,866			<,001		
	Linear-by-Linear Association	20,376 <sup>b</sup>	1	<,001	<,001	<,001	,000
	N of Valid Cases	117					

On the other hand, ghost slide (EQ1-3) in New Generation Park also has approximate results as high barrel tube slide (EQ1-1). 91% of parent prefer to watching from

distance their child and gender of children were determined as 34% for girls and 57% for boys. This gender gap reflect on negative behaviours are bullying, inappropriate use, disruption and disturbing. 24,6 % of boys prefer to use the ghost slide inappropriately, only 5,9% of girls did it. In general, children do not understand how they should use this equipment. They tried climbing, sliding or hanging. It has been observed that parents did no prefer their children to play with this equipment due to possibilities of injuries. However, 7% of families warning their children, 25% of them prefer encouraging; and they encourage 18% of girls while the rate is 7% for boys. Besides, the only observed negative attitude is inappropriate use for encouraging. As mentioned previously, the inappropriate use based on abstract appearance of the equipment and may not accepted as negative. During warning, it has been observed that 20% of boys bully others while girls prefer to help each other. As a result, the Chi-square test confirms the hypothesis one for within from distance, while the findings support the relationship for all parental intervenes.

Table 25. The Chi-square test results of negative behaviours\*gender\*parental interferences for ghost slide in New Generation Park

		Chi-Square Tests					
parental interferences		Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)	Point Probability
watching from distance	Pearson Chi-Square	15,155 <sup>o</sup>	4	,004	,002		
	Likelihood Ratio	19,497	4	<,001	<,001		
	Fisher-Freeman-Halton Exact Test	14,042			,002		
	Linear-by-Linear Association	13,952 <sup>d</sup>	1	<,001	<,001	<,001	,000
	N of Valid Cases	91					
playing together	Pearson Chi-Square	. <sup>e</sup>					
	N of Valid Cases	2					
helping them to use the equipment	Pearson Chi-Square	. <sup>f</sup>					
	N of Valid Cases	10					
encouraging	Pearson Chi-Square	,522 <sup>g</sup>	1	,470	1,000	,490	
	Continuity Correction <sup>h</sup>	,000	1	1,000			
	Likelihood Ratio	,473	1	,492	1,000	,490	
	Fisher's Exact Test				,490	,490	
	Linear-by-Linear Association	,501 <sup>i</sup>	1	,479	1,000	,490	,420
N of Valid Cases	25						
warning	Pearson Chi-Square	3,733 <sup>j</sup>	2	,155	,571		
	Likelihood Ratio	4,557	2	,102	,571		
	Fisher-Freeman-Halton Exact Test	3,143			,571		
	Linear-by-Linear Association	3,103 <sup>k</sup>	1	,078	,143	,143	,143
	N of Valid Cases	7					
Total	Pearson Chi-Square	22,389 <sup>a</sup>	4	<,001	<,001		
	Likelihood Ratio	27,611	4	<,001	<,001		
	Fisher-Freeman-Halton Exact Test	21,921			<,001		
	Linear-by-Linear Association	20,498 <sup>b</sup>	1	<,001	<,001	<,001	,000
	N of Valid Cases	135					

As mentioned in the previous chapter, climbing units show variety and this variation cause different attitudes. Parental concerns also affected by the children tendency to acting negatively. The analysis of negative behaviours, gender and peer preferences clarify that Footbridge and Hill Park has the lowest negativity while comparing with Olof Palme Park and New Generation Park. Besides, parental concerns show same results as analysis 1.

In Footbridge Park, 56% of parents prefer to watching from distance regardless of child gender while their children play with the spider climbing unit (EQ3). Others prefer to get involved to play with encouraging and helping them to use the equipment due to age of child. The use of the equipment may be difficult for children aged 3-4 years, but it has been observed that the majority of children in the park are in this age range. As a result, children need the support of their families. This support of families does not create negative results in the children's play process. On the contrary, it can make the play more efficient. In the observations, no negative behavior was observed during the intervention of the families. Besides, the Chi-square test result shows that there are no gender-related interferences. The result does not confirm the hypothesis one due to  $p < 0,05$  value was not provided as a significance value. It meant that spider-climbing unit did not use just for one gender and there was not significant differences between genders.

Additionally, Hill Park gave the approximate results as the spider-climbing unit in Footbridge Park. Due to number of observed children, the analysis does not produce any results. However, 90% of families prefer to watch from distance their children and any negative behaviours were noted. All children, regardless of their gender, play with the grass seating areas as a climbing unit without intervenes and experiencing any negative situations. According to that, grass seating areas may be described as gender-neutral playscapes.

On the other hand, parental intervenes, negative behaviours and gender have a relationship for vertical climbing unit (EQ3-2) in Olof Palme Park. Bullying was observed 5,9% of boys while their parents help them to use equipment or warning them. This means if the children need help or have difficulties about using the equipment, they show tendency to behave negatively. However, 59% of families prefer to watch from distance even if their child bully others. It has been noted that

17% of boys bully while their parents did not intervene the play. Only 3% of families warn them about their negative attitude. Besides, the Chi-square test confirms the relationship with the exact significance value 0,028,  $p < 0,005$ . As a result, it can be said that families intervene for this equipment according to the gender of their children.

Table 26. The Chi-square test results of negative behaviours\*gender\*parental interferences for vertical climbing unit in Olof Palme Park

		Chi-Square Tests					
parental interferences		Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)	Point Probability
watching from distance	Pearson Chi-Square	5,486 <sup>d</sup>	1	,019	,028	,022	
	Continuity Correction <sup>b</sup>	3,654	1	,056			
	Likelihood Ratio	7,754	1	,005	,028	,022	
	Fisher's Exact Test				,028	,022	
	Linear-by-Linear Association	5,400 <sup>e</sup>	1	,020	,028	,022	,022
	N of Valid Cases	64					
helping them to use the equipment	Pearson Chi-Square	1,090 <sup>f</sup>	1	,296	,486	,486	
	Continuity Correction <sup>b</sup>	,001	1	,977			
	Likelihood Ratio	1,475	1	,224	,486	,486	
	Fisher's Exact Test				,486	,486	
	Linear-by-Linear Association	1,059 <sup>g</sup>	1	,303	,486	,486	,486
	N of Valid Cases	35					
encouraging	Pearson Chi-Square	. <sup>h</sup>					
	N of Valid Cases	5					
warning	Pearson Chi-Square	3,000 <sup>i</sup>	1	,083	,333	,333	
	Continuity Correction <sup>b</sup>	,188	1	,665			
	Likelihood Ratio	3,819	1	,051	,333	,333	
	Fisher's Exact Test				,333	,333	
	Linear-by-Linear Association	2,000 <sup>j</sup>	1	,157	,333	,333	,333
	N of Valid Cases	3					
Total	Pearson Chi-Square	8,949 <sup>a</sup>	1	,003	,003	,002	
	Continuity Correction <sup>b</sup>	6,985	1	,008			
	Likelihood Ratio	12,406	1	<,001	,003	,002	
	Fisher's Exact Test				,003	,002	
	Linear-by-Linear Association	8,866 <sup>c</sup>	1	,003	,003	,002	,002
	N of Valid Cases	107					

The last climbing unit, rope climbing take part in New Generation Park (EQ 1-2). 71% of parents watch their children from a distance regardless that gender of their children (53 girls and 49 boys within the 143 children). However, this attitude may not be willingly due to design features of the climbing unit. Due to narrow size and height of the equipment, it is not suitable for adults. Accordingly, they have stay in outside of the equipment. They can encourage their children and help them to use the equipment verbally. However, they have not any opportunity to prevent their children from injuries or negative attitudes. Children show tendencies to bullying, disruption and disturbing and inappropriate use. Those attitudes mainly occur when



their families watched them away. 23% of boys act negatively while 7% of girls did it. besides, families warn 33,3% of girls about their negative attitudes but they did not warn boys. These findings are supported by Chi-square test. The test result confirms the relationship with the exact significance value 0.001,  $p < 0,005$ .

Table 27. The Chi-square test results of negative behaviours\*gender\*parental interferences for rope climbing unit in New Generation Park

		Chi-Square Tests					
parental interferences		Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)	Point Probability
watching from distance	Pearson Chi-Square	14,887 <sup>e</sup>	4	,005	,001		
	Likelihood Ratio	16,638	4	,002	,003		
	Fisher-Freeman-Halton Exact Test	14,862			,001		
	Linear-by-Linear Association	12,236 <sup>d</sup>	1	<,001	<,001	<,001	,000
	N of Valid Cases	102					
helping them to use the equipment	Pearson Chi-Square	,536 <sup>e</sup>	1	,464	1,000	,667	
	Continuity Correction <sup>f</sup>	,000	1	1,000			
	Likelihood Ratio	,846	1	,358	1,000	,667	
	Fisher's Exact Test				1,000	,667	
	Linear-by-Linear Association	,500 <sup>g</sup>	1	,480	1,000	,667	,667
N of Valid Cases	15						
encouraging	Pearson Chi-Square	1,173 <sup>h</sup>	1	,279	,474	,474	
	Continuity Correction <sup>f</sup>	,003	1	,957			
	Likelihood Ratio	1,556	1	,212	,474	,474	
	Fisher's Exact Test				,474	,474	
	Linear-by-Linear Association	1,111 <sup>i</sup>	1	,292	,474	,474	,474
N of Valid Cases	19						
warning	Pearson Chi-Square	1,556 <sup>j</sup>	1	,212	,429	,429	
	Continuity Correction <sup>f</sup>	,024	1	,876			
	Likelihood Ratio	1,923	1	,166	,429	,429	
	Fisher's Exact Test				,429	,429	
	Linear-by-Linear Association	1,333 <sup>k</sup>	1	,248	,429	,429	,429
N of Valid Cases	7						
Total	Pearson Chi-Square	13,018 <sup>a</sup>	5	,023	,006		
	Likelihood Ratio	15,071	5	,010	,011		
	Fisher-Freeman-Halton Exact Test	13,137			,005		
	Linear-by-Linear Association	10,027 <sup>b</sup>	1	,002	,001	<,001	,000
	N of Valid Cases	143					

In the carousel that located in Hill Park, Karşıyaka, the negative attitudes only occur when parent did not intervene the play. This is thought to be due to the fact that children playing with this equipment are generally between the ages of 5-7 and above 7 years old. There is a relationship between negative behaviours and gender as explained in the previous chapter. 82% of parents prefer to watch their children from a distance; and children consist of 43% of girls and 39% of boys. Although the difference seems insignificant but the Chi-square test confirms the hypothesis one with exact significance value 0,049,  $p < 0,005$ .

Table 28. The Chi-square test results of negative behaviours\*gender\*parental interferences for carousel in Hill Park

		Chi-Square Tests					
parental interferences		Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)	Point Probability
watching from distance	Pearson Chi-Square	8,580 <sup>c</sup>	4	,072	,058		
	Likelihood Ratio	9,220	4	,056	,102		
	Fisher-Freeman-Halton Exact Test	8,384			,049		
	Linear-by-Linear Association	5,745 <sup>d</sup>	1	,017	,017	,010	,004
	N of Valid Cases	60					
playing together	Pearson Chi-Square	. <sup>e</sup>					
	N of Valid Cases	1					
helping them to use the equipment	Pearson Chi-Square	. <sup>f</sup>					
	N of Valid Cases	11					
warning	Pearson Chi-Square	. <sup>e</sup>					
	N of Valid Cases	1					
Total	Pearson Chi-Square	9,498 <sup>a</sup>	4	,050	,032		
	Likelihood Ratio	10,054	4	,040	,084		
	Fisher-Freeman-Halton Exact Test	9,251			,029		
	Linear-by-Linear Association	6,747 <sup>b</sup>	1	,009	,009	,006	,003
	N of Valid Cases	73					

### 7.7.2.3. Analysis for Risk taking Patterns and Parental Interferences Relationship

Children have different risk-taking patterns, and those patterns are classified as individual decision and taking the risk, individual decision and avoiding risk, exploratory appraisal, avoiding despite help, taking a risk with help. Children's deciding process about risk-taking may be affected by their parents' interferences. Besides, interferences may cause avoiding risk, and the interferences may show variety based on the gender of children. According to that, the observations are made for understanding the relationship between a child's risk-taking patterns, gender and parental interferences.

Table 29. Observed risk-taking patterns in each play equipment according to the gender of children

	BOSTANLI							KARŞIYAKA					
	OLOF PALME PARK				FOOTBRIDGE PARK			HILL PARK			NEW GENERATION		
	EQ1	EQ2	EQ3-1	EQ3-2	EQ1	EQ2	EQ3	EQ1-1	EQ1-2	EQ2	EQ1-1	EQ1-2	EQ1-3
	Rope Swing	Long Swing	Slide	Vertical Climbing	Rope Swing	Grass Hill+Rope Climbing+Slide	Spider Climbing Unit	Rubber Hill with Slide	Grass Seating Unit	Carousel	High Barrel Tube Slide	Rope Climbing	Ghost Slide
individual decision and taking risk	G-B	G-B	G-B	G-B	G-B	G-B	G-B	G-B	G-B	G-B	G-B	G-B	G-B
individual decision and avoiding risk	G	G-B	B	G-B	G	G-B		G		G-B	G-B	G-B	G-B
exploratory appraisal	B	G-B		B		G-B		B					G
avoiding despite help	G-B	G-B	G-B	G-B	G-B	B	G-B				G-B	G	G
taking risk with help	G-B	G-B	G-B	G-B	G-B	G-B	G-B	G-B			G	G-B	G

G - refer to it was observed in girls / B - refers to it was observed in boys

The analysis was made for each equipment as grouped ad swing, slides, and climbing units. Carousel in Hill Park, Karşıyaka analyzed without comparison because it is just built-in Hill Park.

Firstly, the rope swing (EQ1) results were analyzed in Footbridge Park, Bostanlı. The three risk-taking behaviors were observed in common between girls and boys; individual decision and taking the risk, avoiding despite the help and taking a risk with help, as shown in Table 39.

Table 30. The findings of risk-taking patterns and parental interferences based on the gender of children for EQ1- Rope swing in Footbridge Park

Gender	risk taking patterns	individual decision and taking risk	count	parental interferences				
				watching from distance	playing together	helping them to use the	encouraging	total
GIRL	individual decision and taking risk		45	1	3	3	52	
	individual decision and avoiding risk		1				1	
	avoiding despite help				1		1	
	taking risk with help		3			1	4	
	total		49	1	4	4	58	
BOY	individual decision and taking risk		40		4	3	47	
	avoiding despite help				1		1	
	taking risk with help		1	1		1	3	
	total		41	1	5	4	51	

The individual decision and avoiding risk were observed only for 2% of girls while their parents watched them from a distance. In general, taking risks as an individual decision was observed in 52 girls and 47 boys out of 109 children. When the

comparison was made for individual decision and taking the risk, it is seen that both boys and girls have an approximate opportunity about risk-taking in relation to their parents watching them from a distance with the rate of 91,8% for girls and 97,6 % for boys. Other patterns were observed while parents played with the children, helping them to use the equipment and encouraging, but the number of observed children is not significant, because  $p < 0,05$  was not provided.

Besides, the Chi-square test does not confirm hypothesis one that the relationship between gender, risk-taking and parental interferences due to exact significance values which did not provide  $p < 0,05$ . This means children have gender-neutral play opportunities, and parents do not affect them with gender norms about risk-taking abilities.

The rope swing in Footbridge Park was compared with a rope swing in Olof Palme Park, which has the same design features but is located in different playscapes. The observed risk-taking attitudes are the same in both playgrounds except exploratory appraisal, which is seen in boys while their parents help them use the equipment. However, the number of children was recorded as one, so it is not significant to analysis.

Table 31. The findings of risk-taking patterns and parental interferences based on the gender of children for EQ1- Rope swing in Olof Palme Park

Gender	risk taking patterns	individual decision and taking risk	count	parental interferences			total
				watching from distance	playing together	helping them to use the	
GIRL		individual decision and taking risk	32	2	11	2	47
		individual decision and avoiding risk	3				3
		avoiding despite help		1	1		2
		taking risk with help			3		3
		total		35	3	15	2
BOY		individual decision and taking risk	51	3	3	4	61
		exploratory appraisal			1		1
		avoiding despite help		1	1		2
		taking risk with help		1	2		3
		total		51	5	7	4

As seen in Table 31, individual decision and taking risk is the most significant attitude with 47 girls and 61 boys out of 122 children. Generally, children decide while their parents do not intervene in them. On the other hand, parents determine

their behavior based on the gender of their child. Besides, parents decide how they behave according to the gender of their child. The numbers show that if a girl wants to take the risk, parents try to help them before asking them for help. However, the rates are low for boys, which means boys have an opportunity to play more freely than girls. Moreover, the Chi-square does not confirm hypothesis one for those interferences due to the exact significance values, which did not provide  $p < 0,05$ .

The results clarify that children's attitudes are approximately the same for rope swings, whereas their parents' concerns show variety based on the type of playground. Moreover, in footbridge park, parents prefer to encourage their children and support their risk-taking attitudes, while they prefer to warn to prevent injuries in Olof Palme Park.

On the other hand, Olof Palme Park has the long swing for two users. The warning instead of encouraging also occurs in long swing (EQ2). Besides, it has been noted that parents warn girls, not boys. However, the number of observed children is insignificant for testing dependence or independence, as shown in Table 32.

Table 32. The findings of risk-taking patterns and parental interferences based on the gender of children for EQ2- Long swing in Olof Palme Park

Gender	risk taking patterns	individual decision and taking risk	count	parental interferences			
				watching from distance	playing together	helping them to use the	warning
GIRL		individual decision and taking risk	23	4	5	1	33
		individual decision and avoiding risk	1				1
		exploratory appraisal			1		1
		avoiding despite help		1			1
		taking risk with help		8	3		11
	total		24	13	9	1	47
BOY		individual decision and taking risk	21	5	3		29
		individual decision and avoiding risk	1	1			2
		exploratory appraisal			1		1
		taking risk with help			1		1
	total		22	6	5		33

Individual decisions show similar results for both boys and girls; 33 girls and 29 boys out of 80 children. Although the number of children who decide to take risks varies according to the intervention of the families. Gender difference was not noted except for playing with the parents. The Chi-square test confirms the hypothesis one

for only one attitude is playing together with exact significance value 0,025,  $p < 0,005$ . However, warning, helping them to use the equipment or watch from a distance independent from gender and risk-taking patterns. The Chi-square test does not confirm hypothesis one for those interferences due to the exact significance values are shown in Table 33.

On the other hand, the findings showed gender-based differences for taking the risk with help. 11 girls prefer to receive support before taking the risk. This tendency was noted just for one boy, which means girls may be more deliberate than boys. However, the analysis does not show any results due to the insignificant number of observed children.

Table 33. The Chi-square test results of risk taking\*gender\*parental interferences for EQ2- Long swing in Olof Palme Park

		Chi-Square Tests					
parental interferences		Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)	Point Probability
watching from distance	Pearson Chi-Square	,004 <sup>c</sup>	1	,950	1,000	,733	
	Continuity Correction <sup>d</sup>	,000	1	1,000			
	Likelihood Ratio	,004	1	,950	1,000	,733	
	Fisher's Exact Test				1,000	,733	
	Linear-by-Linear Association	,004 <sup>e</sup>	1	,950	1,000	,733	,510
	N of Valid Cases	46					
playing together	Pearson Chi-Square	8,715 <sup>f</sup>	3	,033	,025		
	Likelihood Ratio	11,334	3	,010	,025		
	Fisher-Freeman-Halton Exact Test	8,495			,025		
	Linear-by-Linear Association	6,754 <sup>g</sup>	1	,009	,011	,008	,005
	N of Valid Cases	19					
	helping them to use the equipment	Pearson Chi-Square	,389 <sup>h</sup>	2	,823	1,000	
Likelihood Ratio		,393	2	,822	1,000		
Fisher-Freeman-Halton Exact Test		,742			1,000		
Linear-by-Linear Association		,122 <sup>i</sup>	1	,727	,776	,490	,224
N of Valid Cases		14					
warning		Pearson Chi-Square	<sup>j</sup>				
	N of Valid Cases	1					
Total	Pearson Chi-Square	7,711 <sup>a</sup>	4	,103	,058		
	Likelihood Ratio	9,273	4	,055	,067		
	Fisher-Freeman-Halton Exact Test	8,265			,032		
	Linear-by-Linear Association	6,081 <sup>b</sup>	1	,014	,015	,006	,003
	N of Valid Cases	80					

In summary, when the three equipment are compared, it is seen that children can take risks by making decisions on their own and the swing they need the least help or approval of their families are rope swing in Footbridge Park and long swing in Olof Palme Park. These findings were calculated with the percentage of children who make an individual decision without parental intervention.

Another comparison was made for slides in each playground. In Footbridge Park, slide on grass hill show equal play opportunities, as mentioned in analyzes one and two. Regarding risk-taking, it has been observed that children mostly choose to take risks by making decisions independently. The rates were noted as 64 girls and 47 boys for individual decision and taking the risk out of 129 children. However, among them, 53 girls and 38 boys took risks while their families watched them from a distance. Families preferred to play together with 4 boys and girls who decided on their own, as shown in Table 34.

Moreover, girls show individual decisions and avoid taking-risk, exploratory appraisal and taking the risk with help, while boys show avoiding despite help in addition to these. However, the numbers are not significant to analyzing their dependence or independence. The numbers support hypothesis one, which argues the relationship between parental interferences, gender and risk-taking patterns for families watching from distance tendencies.

Table 34. The findings of risk-taking patterns and parental interferences based on the gender of children for EQ2- Slide + climbing unit on the grass hill in Footbridge Park.

Gender	risk taking patterns	individual decision and taking risk	count	parental interferences			
				watching from distance	playing together	helping them to use the	encouraging
GIRL	individual decision and taking risk		53	4	1	6	64
	individual decision and avoiding risk		1				1
	exploratory appraisal			2	1		3
	taking risk with help			4			4
	total			54	10	2	6
BOY	individual decision and taking risk		38	4		5	47
	individual decision and avoiding risk		3				3
	exploratory appraisal		1				1
	avoiding despite help				1	2	3
	taking risk with help		2			1	3
total			44	4	1	8	57

Besides, the Chi-square test confirms the hypothesis one for only one attitude is watching from a distance with exact significance value 0,097,  $p < 0,005$   $p < 0,005$ . This means that parents pay attention to their children's gender and risk-taking tendencies when deciding whether or not to interfere with them. Their decision to not interfere

and watching from a distance is based on this relationship. However, playing together, encouraging or helping them to use the equipment independent from gender and risk-taking patterns. The Chi-square test also does not confirm hypothesis one for those interferences due to exact significance values are shown in Table 35.

The slide on the grass hill in Footbridge Park was compared with slide on rubber hill (EQ1-1) in Hill Park, Karşıyaka. Rubber hill is more slippery than the grass; however, this situation did not cause more parental interferences than grass hill. Also, children did not ask for help or families did not need to help them to use the equipment. 47 girls and 48 boys make individual decisions about risks and take risks out of 116 children. Nevertheless, 5 parents tried to play together or encourage their daughters while taking the risk individually, whereas 3 parents did it. However, the number of parents trying to help is not significant.

Table 35. The findings of risk-taking patterns and parental interferences based on the gender of children for EQ1-1 Slide rubber hill in Hill Park

Gender	risk taking patterns	individual decision and taking risk	count	parental interferences			total
				watching from distance	playing together	helping them to use the	
GIRL		individual decision and taking risk	47	5		5	57
		individual decision and avoiding risk		1		1	2
		taking risk with help				2	
	total		47	6		8	59
BOY		individual decision and taking risk	48	3		1	52
		exploratory appraisal		1			1
		taking risk with help			1	1	2
	total		48	4	1	1	55

The Chi-square test does not confirm hypothesis one for watching from a distance, helping them to use the equipment, playing and encouraging due to exact significance values which did not provide  $p < 0,05$ . As a result, it may say that the rubber hill provides gender-neutral play opportunities for children without any gender-based parental intervene.

Traditional slides in Olof Palme Park were also analyzed and compared with Footbridge Park and Hill Park. In Olof Palme, individual decision and risk-taking, avoiding despite the help and taking risk with help are common attitudes for both



genders. Individual decision and avoiding risk were observed in only two boys; however, the number is insignificant to test dependence.

Table 36. The findings of risk-taking patterns and parental interferences based on the gender of children for EQ3-1 Slide in Olof Palme Park

Gender	risk taking patterns		count	parental interferences					
				watching from distance	helping them to socializing	helping them to use the equipment	encouraging	warning	total
GIRL		individual decision and taking risk		36	2	2	6	3	49
		avoiding despite help				1			1
		taking risk with help				1	1		2
		total		36	4	2	7	3	52
BOY		individual decision and taking risk		21	5	3	3	3	35
		individual decision and avoiding risk		2					2
		avoiding despite help				2	1		3
		taking risk with help		1					1
total		24	5	5	4	3	41		

As shown in Table 36, individual decision and taking risk are predominant attitudes for girls and boys. 49 girls and 35 boys make decisions individually; and 36 girls and 21 boys decided to take risks while their parents watch them from a distance. Parental intervenes that are encouraging for girls and helping to socializing for boys follow the watching from a distance with 6 girls and 5 boys. Besides, the Chi-square test did not confirm the hypothesis one with exact significance value 0,059, which do not provide  $p < 0,005$ .

The findings reveal that children have the opportunity to make risk-taking decisions on their own; however, parents choose whether or not to interfere during risk-taking by their children based on their gender.

New Generation Park, Karşıyaka, features two types of slides in contrast to these three slides. High barrel tube slide (EQ1-1) and ghost slide (EQ1-3) were analyzed and compared with others. For high barrel tube slide, individual decision and taking risk, individual decision and avoiding risk, avoiding despite help were observed in both genders as shown in Table 37. Differently, taking risk with help was observed in only four girls.

Table 37. The findings of risk-taking patterns and parental interferences based on the gender of children for EQ1-1 High Barrel Tube Slide in New Generation Park

Gender	risk taking patterns	individual decision and taking risk	count	parental interferences				
				watching from distance	helping them to use the equipment	encouraging	warning	total
GIRL		individual decision and taking risk		37		9	1	47
		individual decision and avoiding risk		2		3		5
		avoiding despite help				1		1
		taking risk with help					4	4
		total			39	1	16	2
BOY		individual decision and taking risk		50		3		53
		individual decision and avoiding risk		3		1		4
		avoiding despite help				2		2
		total			53		6	59

Individual decision and taking risk were observed as principal attitudes, especially while parents watched children from a distance. The numbers are noted as 37 girls and 50 boys for watching from a distance and encouraging follow it with 9 girls and 3 boys. There is a gap between boys and girls; however, the gap is missing when the total number is compared. According to that knowledge, the Chi-square test does not confirm any relation to the gender, parental interferences and risk-taking patterns due to exact values which did not provide  $p < 0,05$

On the other hand, it has been observed that girls were more deliberate than boys. They reach the starting platform but spend more time than boys deciding to use the equipment or not. Sometimes, they prefer to give up or start crying, but they use the equipment if parents do not help them. Those approaches may be essential to understand children's needs, wants and concerns. The tube slides may look too dark or too high for them. Even if the test results do not confirm, it has been observed that girls and boys have different approaches for high barrel tube slide, but parents ignore the gender of their child for their intervenes.

Another type of slide is the ghost slide in New Generation Park. Ghost slides have an abstract appearance and consist of two sloped bars. Children could not understand how the equipment should be used or its safety level. However, girls prefer to ask their parents about the equipment whereas boys prefer to explore it themselves. Thus, individual decision and taking risk or avoiding risk was observed in boys and girls;

exploratory appraisal, avoiding risk despite the help and taking risk with help were shown in only girls.

It has been observed that 18 girls were encouraged by their families while using the equipment, and 8 of them (12,9 %) avoided risk out of 62 girls. The numbers increased while their families watched them from a distance, but the rates did not change. 33 girls decided individually about taking the risk, and 22 of them (35%) took the risk while 11 of them (17%) avoided it while their parents did not interfere them. On the other hand, 72% of boys make decisions individually and take the risks without parental intervenes while only 19% of them did it with parental interference or support.

Table 38. The findings of risk-taking patterns and parental interferences based on the gender of children for EQ1-3 Ghost Slide in New Generation Park

			parental interferences					
			watching from distance	playing together	helping them to use the equipment	encouraging	warning	total
risk taking patterns	individual decision and taking risk	count	22	1	4	10	2	39
	individual decision and avoiding risk		11		1	3		15
	exploratory appraisal			1				1
	avoiding despite help				1	5		6
	taking risk with help		1					1
total			34	2	6	18	2	62
risk taking patterns	individual decision and taking risk		53		2	7	5	67
	individual decision and avoiding risk		4		2			6
total			57		4	7	5	73

The numbers clarify the differences between girls and boys based on their risk-taking patterns. Besides, the Chi-square test confirms the hypothesis one for encouraging and watching from a distance with exact significance values 0,001 and 0,076,  $p < 0,005$ . However, warning, helping them to use the equipment and playing together independent from gender and risk-taking patterns. The Chi-square test does not confirm hypothesis one for those interferences due to the exact values are shown in Table 39. This means the risk-taking patterns and parental concerns vary depending on gender of children in the ghost slide.

Table 39. The findings of risk-taking patterns and parental interferences based on gender of children for EQ 1-3 Ghost Slide in New Generation Park

**risk taking patterns \* parental interferences \* gender Crosstabulation**

gender	risk taking patterns		parental interferences					Total
			watching from distance	playing together	helping them to use the equipment	encouraging	warning	
GIRL	individual decision and taking risk	Count	22	1	4	10	2	39
		Expected Count	21,4	1,3	3,8	11,3	1,3	39,0
		% within parental interferences	64,7%	50,0%	66,7%	55,6%	100,0%	62,9%
	individual decision and avoiding risk	Count	11	0	1	3	0	15
		Expected Count	8,2	,5	1,5	4,4	,5	15,0
		% within parental interferences	32,4%	0,0%	16,7%	16,7%	0,0%	24,2%
	exploratory appraisal	Count	0	1	0	0	0	1
		Expected Count	,5	,0	,1	,3	,0	1,0
		% within parental interferences	0,0%	50,0%	0,0%	0,0%	0,0%	1,6%
	avoiding despite help	Count	0	0	1	5	0	6
		Expected Count	3,3	,2	,6	1,7	,2	6,0
		% within parental interferences	0,0%	0,0%	16,7%	27,8%	0,0%	9,7%
	taking risk with help	Count	1	0	0	0	0	1
		Expected Count	,5	,0	,1	,3	,0	1,0
		% within parental interferences	2,9%	0,0%	0,0%	0,0%	0,0%	1,6%
Total	Count	34	2	6	18	2	62	
	Expected Count	34,0	2,0	6,0	18,0	2,0	62,0	
	% within parental interferences	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%	
BOY	individual decision and taking risk	Count	53		2	7	5	67
		Expected Count	52,3		3,7	6,4	4,6	67,0
		% within parental interferences	93,0%		50,0%	100,0%	100,0%	91,8%
	individual decision and avoiding risk	Count	4		2	0	0	6
		Expected Count	4,7		,3	,6	,4	6,0
		% within parental interferences	7,0%		50,0%	0,0%	0,0%	8,2%
	Total	Count	57		4	7	5	73
		Expected Count	57,0		4,0	7,0	5,0	73,0
		% within parental interferences	100,0%		100,0%	100,0%	100,0%	100,0%

The last equipment group is climbing units. Spider climbing unit (EQ3) in Footbridge Park, vertical climbing unit (EQ 3-2) in Olof Palme Park, grass seating units (EQ1-2) in Hill Park, rope climbing (EQ1-2) in New Generation Park were analyzed and compared for the case study.

Children did not prefer to play spider-climbing unit in Footbridge Park. Only 13 girls and 28 boys used the equipment during the observation process. Individual decision and taking risk, avoiding despite help, and taking risk with help were typical for both genders. As shown in Table 40, 69,2% of girls and 60,7% of boys make decisions individually and take the risk.

Table 40. The findings of risk-taking patterns and parental interferences based on gender of children for EQ 3 Spider climbing unit in Footbridge Park

Gender	risk taking patterns	individual decision and taking risk	count	parental interferences			total
				watching from distance	helping them to use the equipment	encouraging	
GIRL		individual decision and taking risk		6	1	2	9
		avoiding despite help			1	1	2
		taking risk with help			1	1	2
		total		6	3	4	13
BOY		individual decision and taking risk		16	1		17
		avoiding despite help		1	2	3	6
		taking risk with help			3	2	5
		total		17	6	5	28

When looking at the intervention types of families, generally watching from a distance, helping children to use the equipment and encouraging were observed. In children's individual decision-making processes, parents mainly preferred to watch them from a distance. However, any differences about gender were not noted. According to the statistics, 94% of boys and 66% of girls among children who make their own decisions and take risks can do this without parents' involvement. There appears to be a gender gap; however, the Chi-square test does not validate the gender-based difference due to the exact significance value shown in Table 41. The descriptive analysis presents it as gender-neutral; the numbers show that the equipment is not preferred by children and do not satisfy their expectations.

Table 41. The findings of risk-taking patterns and parental interferences based on gender of children for EQ3 - Spider climbing unit in Footbridge Park

gender	risk taking patterns	parental interferences		parental interferences			Total
				watching from distance	helping them to use the equipment	encouraging	
GIRL	individual decision and taking risk	Count		6	1	2	9
			Expected Count	4,2	2,1	2,8	9,0
			% within parental interferences	100,0%	33,3%	50,0%	69,2%
	avoiding despite help	Count		0	1	1	2
			Expected Count	,9	,5	,6	2,0
			% within parental interferences	0,0%	33,3%	25,0%	15,4%
	taking risk with help	Count		0	1	1	2
			Expected Count	,9	,5	,6	2,0
			% within parental interferences	0,0%	33,3%	25,0%	15,4%
	Total	Count		6	3	4	13
			Expected Count	6,0	3,0	4,0	13,0
			% within parental interferences	100,0%	100,0%	100,0%	100,0%
BOY	individual decision and taking risk	Count		16	1	0	17
			Expected Count	10,3	3,6	3,0	17,0
			% within parental interferences	94,1%	16,7%	0,0%	60,7%
	avoiding despite help	Count		1	2	3	6
			Expected Count	3,6	1,3	1,1	6,0
			% within parental interferences	5,9%	33,3%	60,0%	21,4%
	taking risk with help	Count		0	3	2	5
			Expected Count	3,0	1,1	,9	5,0
			% within parental interferences	0,0%	50,0%	40,0%	17,9%
	Total	Count		17	6	5	28
			Expected Count	17,0	6,0	5,0	28,0
			% within parental interferences	100,0%	100,0%	100,0%	100,0%

On the other hand, Olof Palme Park has more traditional and standard climbing unit is the vertical one. Individual decision and risk-taking, individual decision and avoiding risk, avoiding risk despite help and taking risk with help were observed in both genders. The exploratory appraisal is just seen in only one boy, but the number of children is insufficient for descriptive analysis. Out of 51 girls, 38 girls have an opportunity to individual decision-making, and 6 of them receive help from their families for equipment use; whereas out of 56 boys, 46 boys decided risk-taking, and 10 of them received help. The rates were noted close to each other, and gender differences were not observed between girls' and boys' risk-taking patterns.

Table 42. The findings of risk-taking patterns and parental interferences based on gender of children for EQ 3-2 Vertical Climbing in Olof Palme Park

Gender	risk taking patterns	individual decision and taking risk	count	parental interferences				total
				watching from distance	helping them to use the equipment	encouraging	warning	
GIRL		individual decision and taking risk		28	6	3	1	38
		individual decision and avoiding risk		1	3			4
		avoiding despite help			5			5
		taking risk with help			4			4
	total			29	18	3	1	51
BOY		individual decision and taking risk		34	10		2	46
		individual decision and avoiding risk		1				1
		exploratory appraisal			1			1
		avoiding despite help			2			2
		taking risk with help			4	2		6
total			35	17	2	2	56	

Moreover, the Chi-square test does not confirm hypothesis one for watching from a distance, helping them to use the equipment, playing together, warning and encouraging due to exact values are shown in Table 43. On the other hand, when we compare the parental intervenes with Footbridge Park, it is seen that families show tendencies to warn their children. However, the rates are not significant for the descriptive analysis.

Hill Park, Karşıyaka do not have a specific climbing unit in the playground. Children use the rubber hill or grass seating units for their climbing needs. It has been observed that children make decision on their own and take risk without any doubt. They did not need to ask for help or play with their families. Children started to play individually and then socialized during play. They can run, climb and sit on the grass seating area like grass stairs. 20 girls and 24 boys were observed, and only 3 girls and 1 boy were encouraged by their families due to their age. On the other hand, the Chi-square test does not calculate the results due to the insufficient number of children and parents that could be observed.

Table 43. The findings of risk-taking patterns and parental interferences based on gender of children for EQ 3-2 Vertical Climbing in Olof Palme Park

Gender	risk taking patterns	individual decision and taking risk	count	parental interferences		
				watching from distance	encouraging	total
GIRL				17	3	20
	total			17	3	20
BOY				23	1	24
	total			23	1	24

New Generation Park in Karşıyaka also has a different climbing unit than others. Rope climbing equipment is utilized as a part of the multi-play unit to allow access to the play complex. As a result, every child on the playground makes utilize of the climbing equipment. If they cannot use it, they cannot use the other components either.

Individual decision and taking risk, individual decision and avoiding risk and taking risk with help were observed as common patterns for both genders. Avoiding despite help was noted for girls, but the number is not significant to descriptive analysis. Besides, it has been observed that girls behave braver than boys about taking risk. 71 girls and 72 boys were observed; most of them take risks by making an individual decision, as shown in Table 62.



Table 44. The findings of risk-taking patterns and parental interferences based on gender of children for EQ 1-2 Rope climbing unit in New Generation Park

Gender	risk taking patterns	individual decision and taking risk	count	parental interferences				
				watching from distance	helping them to use the equipment	encouraging	warning	total
GIRL		individual decision and taking risk		49	3	5	2	59
		individual decision and avoiding risk		4			1	5
		avoiding despite help				2	2	4
		taking risk with help					3	3
	total			53	5	10	3	71
BOY		individual decision and taking risk		48	3	4	4	59
		individual decision and avoiding risk		1		1		2
		taking risk with help			7	4		11
	total			49	10	9	4	72

Children risk-taking patterns are similar while their parents watch them from a distance. However, parents of 10 boys and 5 girls help their children to use the equipment. The rates clarify that parental intervention increases when boys play with the rope-climbing unit.

Besides, the Chi-square test confirms the hypothesis one for only one attitude is helping them to use the equipment with exact significance value 0,016,  $p < 0,005$ . However, warning, encouraging, or watching from a distance is independent from gender and risk-taking patterns. The Chi-square test does not confirm hypothesis one for those interferences due to the exact values are shown in Table 45.

Table 45. The Chi-square test results of risk taking\*gender\*parental interferences for EQ 1-2 Rope Climbing in New Generation Park

		Chi-Square Tests					
parental interferences		Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)	Point Probability
watching from distance	Pearson Chi-Square	1,656 <sup>c</sup>	1	,198	,364	,207	
	Continuity Correction <sup>d</sup>	,685	1	,408			
	Likelihood Ratio	1,781	1	,182	,364	,207	
	Fisher's Exact Test				,364	,207	
	Linear-by-Linear Association	1,640 <sup>e</sup>	1	,200	,364	,207	,172
	N of Valid Cases	102					
helping them to use the equipment	Pearson Chi-Square	8,250 <sup>f</sup>	2	,016	,016		
	Likelihood Ratio	10,778	2	,005	,009		
	Fisher-Freeman-Halton Exact Test	7,633			,009		
	Linear-by-Linear Association	2,257 <sup>g</sup>	1	,133	,096	,054	,007
	N of Valid Cases	15					
encouraging	Pearson Chi-Square	3,210 <sup>h</sup>	3	,360	,593		
	Likelihood Ratio	4,361	3	,225	,516		
	Fisher-Freeman-Halton Exact Test	2,846			,593		
	Linear-by-Linear Association	,010 <sup>i</sup>	1	,920	1,000	,462	,048
	N of Valid Cases	19					
warning	Pearson Chi-Square	1,556 <sup>j</sup>	1	,212	,429	,429	
	Continuity Correction <sup>d</sup>	,024	1	,876			
	Likelihood Ratio	1,923	1	,166	,429	,429	
	Fisher's Exact Test				,429	,429	
	Linear-by-Linear Association	1,333 <sup>k</sup>	1	,248	,429	,429	,429
	N of Valid Cases	7					
Total	Pearson Chi-Square	9,851 <sup>a</sup>	3	,020	,013		
	Likelihood Ratio	11,726	3	,008	,013		
	Fisher-Freeman-Halton Exact Test	9,442			,015		
	Linear-by-Linear Association	1,184 <sup>b</sup>	1	,277	,293	,155	,030
	N of Valid Cases	143					

These results may be based on the age of the child. According to that, these age differences and parental intervenes analyzed in terms of their dependence or independence in title 7.7.2.4.

Another play equipment is the carousel (EQ2) in Hill Park. The carousel is located in only Hill Park, so it cannot be compared. Besides, the equipment included in the case study is based on children's preferences. During interviews, they mentioned that their desire to spin equipment.

Table 46. The findings of risk-taking patterns and parental interferences based on gender of children for EQ 2 Carousel in Hill Park

Gender	risk taking patterns	individual decision and taking risk	count	parental interferences			total
				watching from distance	playing together	helping them to use the equipment	
GIRL		individual decision and taking risk	30		5	1	36
		individual decision and avoiding risk	2		3		5
	total		32	8	1	41	
BOY		individual decision and taking risk	26		2		28
		individual decision and avoiding risk	2	1	1		4
	total		28	1	3	32	

The carousel is suitable for multi-user and provide better play opportunities with group play. This group play decreases the need of playing with an adult. However, the need for adults' helps to use the equipment continues for children 3-5 years old. The rates show that parents of 8 girls help them to use the equipment out of 41 girls, while only 3 boys receive this help. On the other hand, the Chi-square test does not confirm hypothesis one due to the exact values are more than 0,005.

It has been observed that, even if children play with the carousel with taking risks individually and accept group play, their motor skills are not sufficient to use the equipment. Accordingly, parents feel the need to help or intervene. This situation may be solved by making age-appropriate designs and using different equipment for each age.

### 7.7.3. Findings Regarding to Interviews

In each playground, interviews were conducted with both parents and children, comprising Footbridge Park, Olof Palme Park, Hill Park, and New Generation Park. Questionnaires were created specifically understand parents' and children's needs, expectations, and concerns regarding the play environment. 12 questions were prepared with sub-titles to provide context for the answers. Furthermore, for each answer, a frequency categorization was developed, ranging from 1-never to 5-always. Additional comments or expectations were mentioned in the questions below. Descriptive analysis was made with the SPSS 28.0 package program. The

Independent Samples T-test was used to understand relationship between playground expectation, gender of children and perspectives of parents.

The parental consent form was signed by the children's supervisors due to ethical concerns. Interviews were made with 30 children and 30 parents. 19 girls and 11 boys answered the question and their age distribution is shown in Figure 60. three- and four-years old children were not able express themselves or concentrate the questions. As a result, the number of them were very low. Five- and six-years old ones showed willingness to answer the questions, also presented their excitement about playground design.

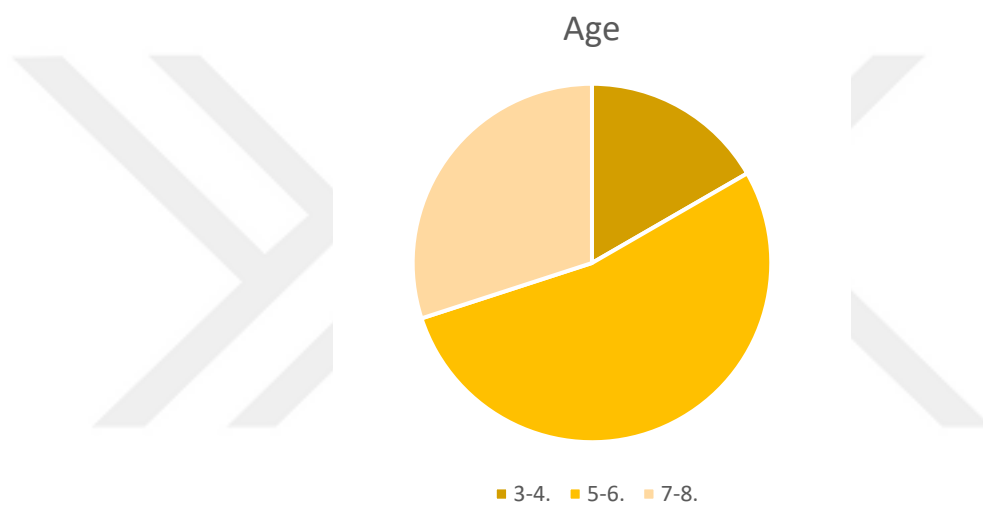


Figure 60. Age distribution of children

Furthermore, the questions to be asked of the parents and the ones to be asked of the children have been differentiated with the same objective in mind. In this approach, the responses of families and children to a certain issue were compared. While the answers varied depending on the gender of the children, they also varied depending on the perceptions of the families and children.

First of all, the question about duration of play was asked to both children and parents to understand their time perception. Significant differences occurred among the answers, as shown in Table 47.

Table 47. Answers of Participants About Duration of Play

duration	childrens' answer		parents' answer	
	frequency	percent	frequency	percent
0-15 min.	2	6,7	2	6,7
30-60 min.	15	50	8	26,7
1-2 hrs	7	23,3	9	30
3-4 hrs	1	3,3	6	20
4 and plus	5	16,7	5	16,7
<b>Total</b>	30	100	30	100

When the answers were examined, it is revealed that, while the time spent in the playground appears to be 30-60 minutes for the children, the parents considered this time to be much longer. This might be since there was nothing for families to do on the playground. It has been discovered that the children's desire to play more, despite the fact that they only play for 30 minutes, differs from the families' expectations. Seating and resting areas may be useful for adults.

The study argues that children's negative behaviors such as disturbing, bullying or social exclusion, affected by parental intervenes which are vary depends on gender of children. Four questions were asked to parents to understand the relationship between gender, negative attitudes and peer preferences.

*Question 1: According to your observation, what annoys her / him in the playgrounds?*

*Question 2: From your observations, how your child chooses his / her playmate?*

*Question 4: How do you intervene in your child's preference of play companion?*

*Question 12: 12. Under which circumstances do you end the play time in the public playgrounds?*

Moreover, three question asked to children with the same purpose, and the answers were compared.

*Question 4: Do your friends do something that makes you sad?*

*Question 5: Do you like play with other children? Who do you like play with the most?*

*Question 6: Do you decide for yourself who to play with?*

*Question 12: When you stop playing in the playground?*

According to families, children affect negatively if they disturbed by others and crowd in playground. 30% percent of them mentioned that their children were always concerned by disturbance, while 26,7% of them mentioned crowd in the playground. They did not agree with argue that the parental intervention may disturb the children. The answers did not show variation based on gender of children.

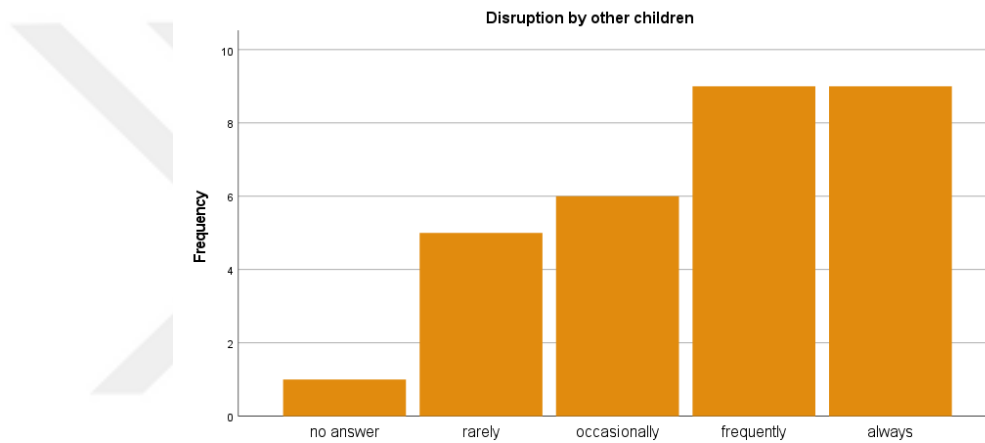


Figure 61. Frequency graphic of the parents' answer to the question 1 “disruption by other children”

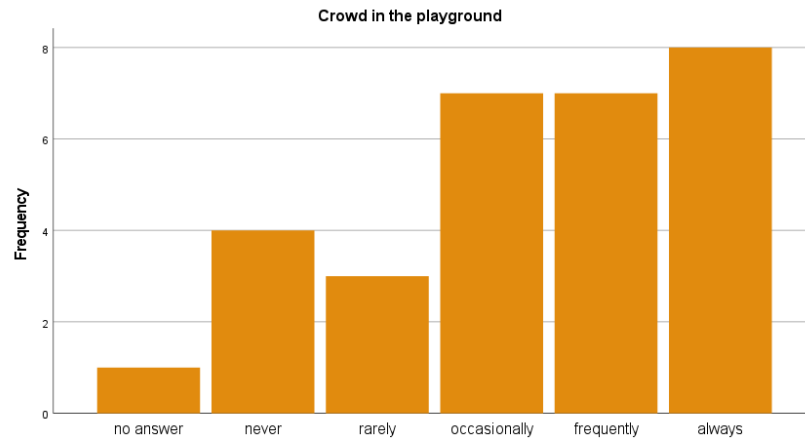


Figure 62. Frequency graphic of the parents' answer to the question 1 “crowd in the playground”

Additionally, when the same question asked to the children, they also were mentioned that disruption by others. Differently from their parents, Independent Samples T-test results determined substantial gender gap with p value was 0,024,  $p < 0,005$ . 33% of girls mentioned that they were uncomfortable with this situation. Furthermore, regarding circumstances that annoyed them, the majority of the girls noted remarks such as “you can't do it” and “I'm the priority”. They also expressed dissatisfaction with being instructed what to do and how to behave. Independent Samples T-test results showed the significance values which are 0,0049,  $p < 0,005$  for “you can't do it”, 0,016,  $p < 0,005$  for “I'm the priority” and 0,028,  $p < 0,005$  for instructed by others, as shown in Table 48.

On the other hand, without any gender gap, 43% of children mentioned they were annoyed when others screamed and made noise. This answer was valid for both girls and boys which affected their quality of play negatively. Besides, Question 12 that “when you stop playing in the playground?” for children clarify the results of disturbing. The answers had majority in “when I get tired” with 43% of children without gender differences. However, the girls' explanations showed a significant difference in answer “when other children disturbed me”. Independent Samples T-test results supported the gender difference about annoying form disturbing significance value 0,024,  $p < 0,05$ , as shown in Table 49.

Table 48. Independent Samples T-Test Results About the Situations Annoyed Children

	Independent Samples Test										
	Levene's Test for Equality of Variances					t-test for Equality of Means					
	F	Sig.	t	df	One-Sided p	Two-Sided p	Significance	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
										Lower	Upper
They say "You can't do it"	0.005	0.945	2.059	28		0.049		1,27778	0.62046	0.00681	2,54874
			2.020	22.152		0.056		1,27778	0.63263	-0,03349	2,58904
They say "I have priority"	0.985	0.329	2.562	28		0.016		1,63889	0.63982	0.32829	2,94949
			2.454	20.247		0.023		1,63889	0.66780	0.24697	3,03081
They say to me what I should do	0.008	0.928	2.312	28		0.028		1,38889	0.60083	0.15814	2,61964
			2.324	24.177		0.029		1,38889	0.59751	0.15817	2,62161
When other children disturbed me	2.416	0.131	2.389	28		0.024		1,41667	0.59310	0.20175	2,63158
			2.292	20.355		0.033		1,41667	0.61820	0.12857	2,70476



Table 49. Independent Samples T-test Results About Ending Play Time

		Levene's Test for Equality of Variances		Independent Samples Test				t-test for Equality of Means				
		F	Sig.	t	df	One-Sided p	Two-Sided p	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference		
										Lower	Upper	
<b>QUESTION 12 - When you stop playing in the playground?</b>												
When other children disturb me	Equal variances assumed	2.416	0.131	2.389	28	0.012	0.024	1.41667	0.59310	0.20175	2.63158	
	Equal variances not assumed			2.292	20,355	0.016	0.033	1.41667	0.61820	0.12857	2.70476	

Moreover, families explained their reason about ending play time in question 12, “Under which circumstances do you end the play time in the public playgrounds?”. The major reason was found as “whenever my child wants to end the play” with 46%. This demonstrates that parents respect their children's decisions. However, it has been observed that they prefer to stop the playtime if parents realize their children will be distracted and injured by other children, or if they feel they will be harmed by the inappropriate use of equipment. They tend to warn first and express their dissatisfaction when their warnings are ignored.

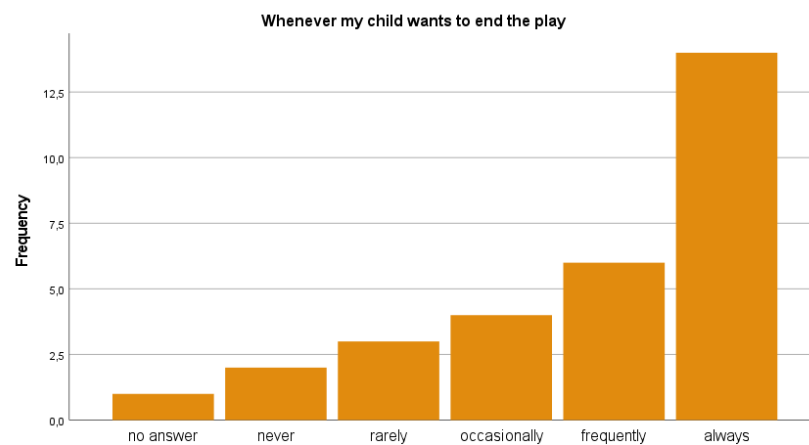


Figure 63. Frequency graphic of the parents' answer to the question 12 "whenever my child wants to end the play"

The gender comparison was made with Independent Samples T-test and significant differences was determined for answers were “when he/she use the equipment inappropriately” and “when other children have negative attitudes towards your child”, as shown in Table 50. The significance values were found 0,006,  $p < 0,005$  for inappropriate use and 0,042 for be exposed to negative behaviors. The gender gap caused by parents who have a daughter. This means, parents need to protect girls more than boys. Furthermore, they offered girls fewer opportunities to overcome the obstacles.

Table 50. Independent Samples T-test Results About Ending Play Time

**Independent Samples Test**

	t	df	t-test for Equality of Means				95% Confidence Interval of the Difference	
			Significance		Mean Difference	Std. Error Difference	Lower	Upper
			One-Sided p	Two-Sided p				
<b>QUESTION 12-Under which circumstances do you end the play time in the public playgrounds?</b>								
When he/she use the equipment inappropriately	2,975	28,000	0,003	<b>0,006</b>	1,502	0,505	0,468	2,537
	2,727	16,143	0,007	0,015	1,502	0,551	0,335	2,670
When other children have negative attitudes towards your child	2,128	28,000	0,021	<b>0,042</b>	1,072	0,504	0,040	2,103
	1,927	15,573	0,036	0,072	1,072	0,556	-0,110	2,254

For the question two which is “*From your observations, how your child chooses his / her playmate?*”, that was replied by 33% of parents, children choose their play peer according to their age or meet them while using the equipment. The answer of meeting while equipment use showed differences based on gender. Independent Samples T-test results determined the significance value 0,014,  $p < 0,005$  and confirm the gender related differences. Parents who have a daughter, mainly answered that question as frequently.

Moreover, play mate preferences was answered by the children with the question that who they liked to play with the most. There were also gender variations in the responses. The prominent answer with 70% of children was to playing with close friends. Other answers followed it which were 33% of “with girls”, 23% playing with close friends. Those answers showed gender-related differences.

Independent Samples T-test confirms the variety, as shown in the Table 51. The significance value determined as 0,048,  $p < 0,005$  for “playing with close friends”, 0,036,  $p < 0,005$  for “with girls” and 0,047,  $p < 0,005$  for “making new friends”. The rates increase in girls’ answers. Girls’ desire to play with children of their own gender or with close friends can be an obstacle to their socialization. These preferences may be shaped according to the gender stereotypes they have acquired from the social environment or their families. Playground design may be a solution to directing children to activities where they can play in large and mix-gender groups and it may be beneficial for their social skills.

Table 51. Independent Samples T-Test Results About Peer Preferences

	Levene's Test for Equality of Variances				t-test for Equality of Means							
	F	Sig.	t	df	Significance		Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference			
					One-Sided p	Two-Sided p			Lower	Upper		
With my close friends	11,661	0,002	2,068	28	0,024	0,048	1,27778	0,61779	0,01229	2,54327		
Equal variances assumed												
Equal variances not assumed			1,848	15,415	0,042	0,084	1,27778	0,69161	-0,19291	2,74847		
With girls	0,127	0,724	2,197	28	0,018	0,036	1,36111	0,61946	0,09220	2,63003		
Equal variances assumed												
Equal variances not assumed			2,191	23,492	0,019	0,039	1,36111	0,62129	0,07737	2,64485		
I like to meet new children	3,530	0,071	2,080	28	0,023	0,047	1,27778	0,61444	0,01916	2,53640		
Equal variances assumed												
Equal variances not assumed			1,933	17,986	0,035	0,069	1,27778	0,66094	-0,11088	2,66643		

On the other hand, 40% of parent described their attitudes about children's peer preferences with "helping them to meet new friends" and 26% of them said "organizing their play time with their own friends" as an answer for question four. Organizing child's play time had 0,011,  $p < 0,005$  significance value obtained from

descriptive analysis, as shown in Table 52. When the frequency of these answers according to the gender of the children is examined, it has been determined that 31% of the responding families have a daughter. This means, girls have less opportunity about meeting new friends due to they already have one. With the question 6 asked to the children, it is aimed to understand whether the children feel any pressure in the process of deciding with whom they will play. 60% of the answers stated that they made this decision, not their families. Moreover, no significant gender difference was found among the answers.

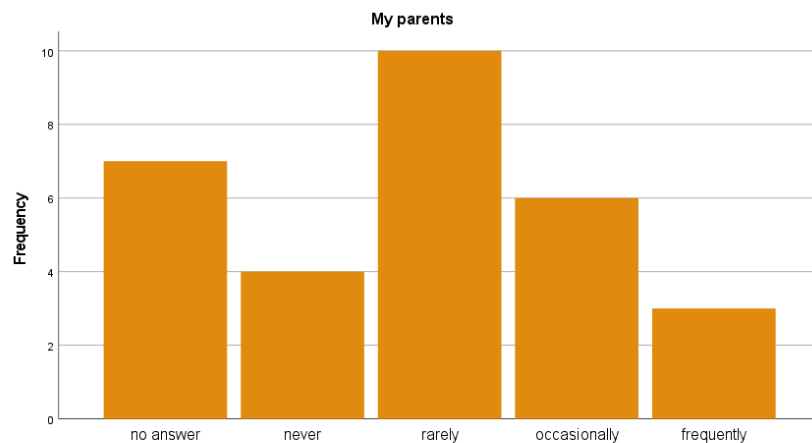


Figure 64. Frequency graphic of the children's answer to the question 6 "my parent"

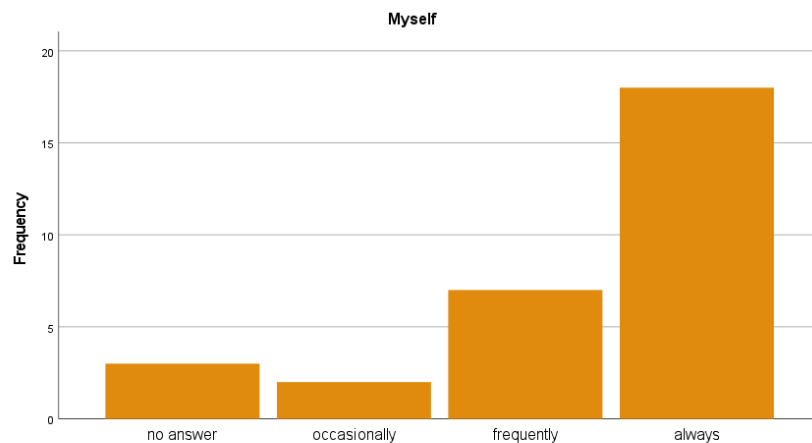


Figure 65. Frequency graphic of the children's answer to the question 6 "myself"

Table 52. Independent Samples T-Test Results About Parental Intervenes on Peer Preferences

		Independent Samples Test													
		t		df		Significance		Mean Difference		Std. Error Difference		95% Confidence Interval of the Difference			
						Two-Sided p						Lower		Upper	
<b>QUESTION 4-How do you intervene in your child's preference of play companion?</b>															
Organizing their play time with his/her friends	Equal variances assumed	2,733	28,000	0,005	<b>0,011</b>	1,478	0,541	0,370	2,586						
	Equal variances not assumed	2,324	13,156	0,018	0,037	1,478	0,636	0,106	2,851						

As a summary, the study aimed that understanding parental intervenes in several situations are children's' peer preferences, risk-takin tendencies and playground selection. In terms of peer preferences, which related with social skills, both parents and children did not aware the girls have less opportunity than boys in public playgrounds. Parental interferences differed between girls and boys; and girls affected those intervenes more than boys. It has been found that differences affected girls' social skills negatively.

At this point, design can be used as a tool to help socialization. It may be beneficial to design spaces where children can play together with crowded and different genders by minimizing the concerns of families.

This study aimed to understand whether families or children have a say in playground selection playground expectations.

The questions asked both families and children about who chose which playground to visit and why. The answers were compared to understand adults' and children's' perspectives. For parents' three questions were prepared.

*Question 3: According to your observations, what are the favorite play equipment of your child?*

*Question 5: What is your expectation of a playground, please explain briefly?*

*Question 6: Can you briefly explain the reason for choosing this playground?*

Children answered six questions about their expectations. The descriptive questions such as imaginative playground, excited or scarry definition did not include Likert scale.

*Question 1: Can you describe your imaginative playground, what kind of play equipment would you like to have in a play field?*

*Question 2: Who decides which playground to go?*

*Question 3: What makes you happy or excited in the playgrounds? Why?*

*Question 7: Which play equipment do you like most in the park?*

*Question 9: How do you describe; "excited" or "scarry"*

*Question 10: While you are doing something "excited";*



The first analysis was made for choosing playground. During interviews, their reason to choose the current playground were asked to parents, and 73% of them mentioned that the most important issue was playground safety. The following answers were “he/ she likes this playground” with 70%, “diverse play opportunities” with 60%, and “playground density” 46%. The safety issue was common answer for both girls’ and boys’ supervisors, expectation of “diverse play opportunities”, “playground density” and “she/he likes this playground” varied depends on gender of children. The parents who had a daughter attached importance to these three issues when choosing the playground.

Independent Samples T-test confirmed the variety, as shown in the Table 53. The significance values were determined as 0,001,  $p < 0,005$  for “diverse play opportunities”, 0,005,  $p < 0,005$  for “playground density” and 0,028,  $p < 0,005$  for “she/he likes this playground”. It is possible to interpret this difference as families with daughters being more careful and more protective. When asked why they think these items are important during the interview, they mostly explained that their daughters do not like the crowd, if the number of activities were not enough, they get bored quickly, and they do not want to play alone in an unfamiliar environment. These explanations have also been added as a note.

Table 53. Independent Samples T-Test Results About Important Issues for Choosing Playgrounds

		Independent Samples Test							
		t-test for Equality of Means							
		t	df	Significance		Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
				One-Sided p	Two-Sided p			Lower	Upper
<b>QUESTION 6-Can you briefly explain the reason for choosing this playground?</b>									
Diverse play opportunities	Equal variances assumed	3,563	28,000	0,001	<b>0,001</b>	1,517	0,426	0,645	2,389
	Equal variances not assumed	2,761	10,635	0,010	0,019	1,517	0,549	0,303	2,731
Playground density	Equal variances assumed	3,032	28,000	0,003	<b>0,005</b>	1,330	0,439	0,432	2,229
	Equal variances not assumed	2,533	12,590	0,013	0,025	1,330	0,525	0,192	2,468
He /She like this playground	Equal variances assumed	2,311	28,000	0,014	<b>0,028</b>	1,100	0,476	0,125	2,076
	Equal variances not assumed	1,816	10,957	0,048	0,097	1,100	0,606	-0,234	2,435

On the other hand, answers of children did not have any differences depends on their gender. They gave similar answers as shown in frequency graphics are Figure 66 and Figure 67. In general, they chose “myself” and the following answer was “my parents”.

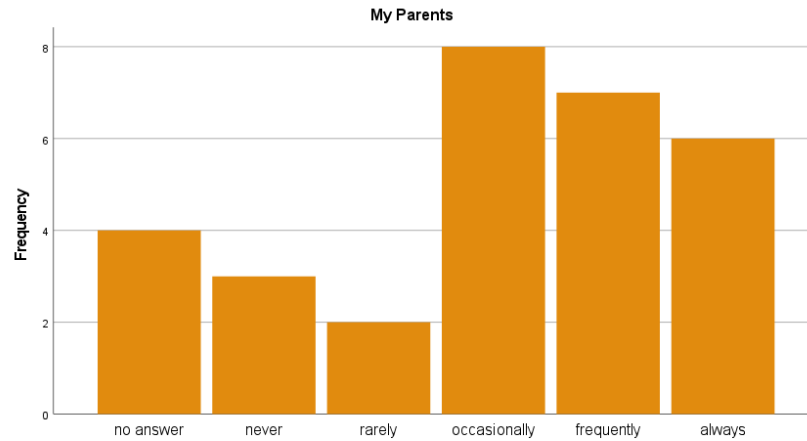


Figure 66. Frequency graphic of the children's answer to the question 2 "my parent"

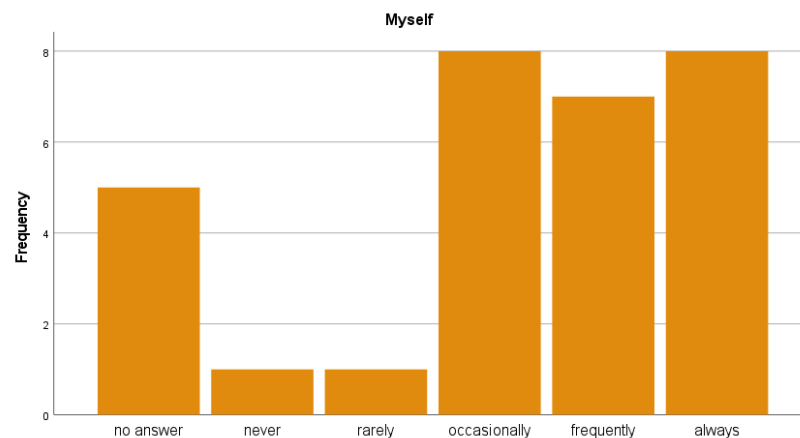


Figure 67. Frequency graphic of the children's answer to the question 2 "myself"

As a summary, it has been clarified that children's requests were at the forefront in the choice of playgrounds. A difference was noted for protective behavior of families who have a daughter. This situation may be solved with playground design that are safe for children of all ages and have a variety of activities that respond to the concerns of families.

For developing design guideline, understanding parents and children’s expectations about playground, activity and equipment had a key role. According to that, specific

questions were included in the interview questions without Likert scale. The comments provided more clear answers. Besides, some children tried to express their ideas with drawings.

Parents explained their expectations and their observations about children’s favorite play equipment. The general description was given with Likert scale, below the question 5 for parents. The rates were taken into consideration for “frequently” and “always”. In this perspective, the most common answers were determined as;

- “Diverse play opportunities” with 76%,
- “Vegetation” with 66,7%,
- “Refuges” with 70%,
- “Equipment with natural materials” with 66,7%.

Those answers show gender-based differences except the “diverse play opportunities” according to Independent Samples T-test results, as shown in Table 57. When compared the answers according to gender of children, the differences occurred by parents of girls. However, for understanding expectations, this result may not be directly negative. During interviews, parents who have a daughter they explain clearly their expectations while parents of boys did not. Although families with son have lower rates, when the answers were examined, it was determined that these families had similar preferences, but showed a more equal distribution, as seen Table 54, Table 55 and Table 56.

Table 54. The findings for “vegetation” depend on gender of children

		CH.GENDER		Total
		GIRL	BOY	
Vegetation	no answer	0	1	1
	occasionally	0	3	3
	frequently	4	2	6
	always	15	5	20
Total		19	11	30

Table 55. The findings for “refuges” depends on gender of children

		CH.GENDER		Total
		GIRL	BOY	
Refuges	no answer	0	2	2
	occasionally	0	2	2
	frequently	2	3	5
	always	17	4	21
Total		19	11	30

Table 56. The findings for “equipment with natural” depends on gender of children

		CH.GENDER		Total
		GIRL	BOY	
Equipment with natural materials	no answer	0	2	2
	never	0	1	1
	occasionally	1	1	2
	frequently	4	1	5
	always	14	6	20
Total		19	11	30

Table 57. Independent Samples T-Test Results About Expectations of Parents About Playground

		Independent Samples Test							
		t-test for Equality of Means							
	t	df	Significance		Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference		
			One-Sided p	Two-Sided p			Lower	Upper	
<b>QUESTION 5-What is your expectation of a playground, please explain briefly?</b>									
Vegetation									
	Equal variances assumed	2,621	28,000	0,007	0,014	0,971	0,371	0,212	1,730
	Equal variances not assumed	2,052	10,867	0,033	0,065	0,971	0,473	-0,072	2,015
Refuges									
	Equal variances assumed	3,329	28,000	0,001	0,002	1,440	0,433	0,554	2,326
	Equal variances not assumed	2,542	10,333	0,014	0,029	1,440	0,567	0,183	2,697
Equipment with natural materials									
	Equal variances assumed	2,409	28,000	0,011	0,023	1,230	0,510	0,184	2,275
	Equal variances not assumed	1,887	10,886	0,043	0,086	1,230	0,652	-0,206	2,665

Moreover, the question three, *according to your observations, what are the favorite play equipment of your child*, was asked to parents to understanding children's preferences from their parents' perspectives. Regarding to answers, parents thought that their children preferred;

- single swing with 60% instead of multi-use swing,
- sandpits with 56,7%,
- hide and seek areas with 50%,
- use of topography (natural hills) with 56,7%.

Also, the significant gender differences were not determined for selected equipment. This means, both girls and boys used this equipment in equal level.

When the questions were asked to the children about their imaginative playground and favorite equipment, the answers show more clear results. During the interviews, it has been noted that children first answer was "I did not think about it before" for question 1 about description of imaginative playground. They wanted a time for think; and then they listed their wished. Mainly, they explained verbally while only two children preferred to drawing, as shown in Figure 69 which was drawn by girl, age 7 and Figure 7. 59 which was drawn by boy, age 7.

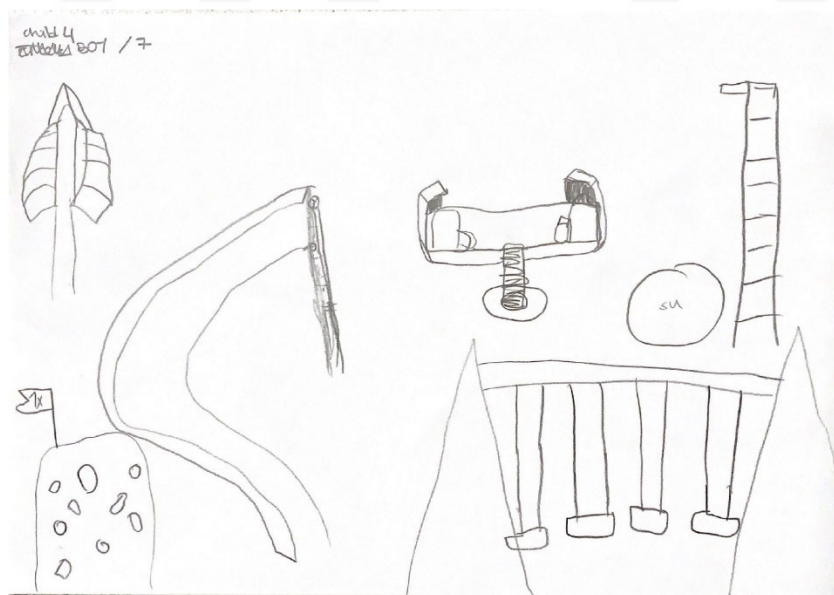


Figure 68. Imaginative playground, which was drawn by 7 years old boy

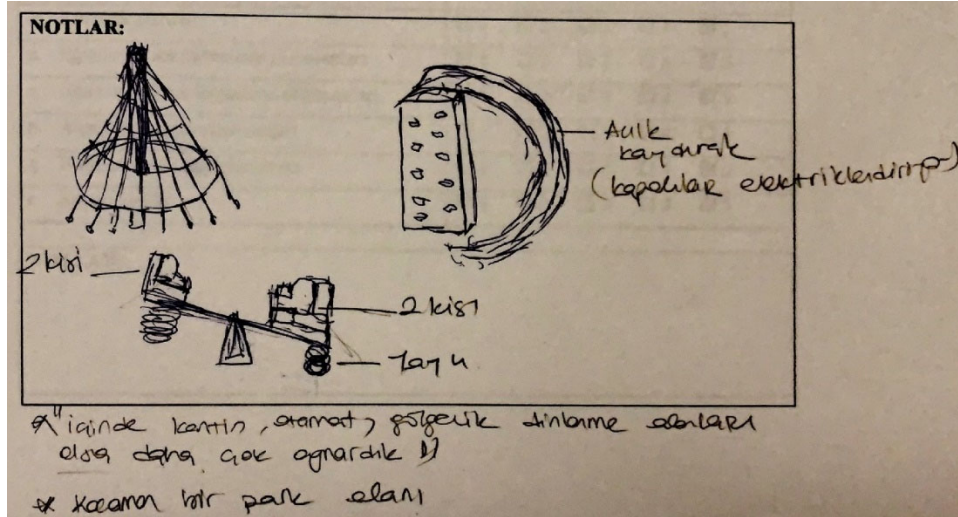


Figure 69. Imaginative playground, which was drawn by 7 years old girl

These children were friends and affected by their drawings. Both playgrounds consisted of slide, teeter-totter for multiple users and climbing unit with foot support. The girl attracted attention to type of slide and mentioned that it should not be tube slide. Because she thought that tube slide cause electrification. The boys also agreed to girl. The note that seen in the girls' drawing which was "If there were shade, food vending machines and rest areas inside the playground, we would play more". Moreover, they mentioned the scale of the playground and it should be in large area.

Furthermore, other children who explain their wishes verbally mentioned that amount of equipment. The prominent and common answers are;

- illuminated and spinning equipment
- more than one swings
- large playscape
- high slide
- more than one slide
- equipment that did not made with metal or plastic
- teeter-totter
- scooter or roller skate area
- colored places
- tunnels



- shelter or shade area

These preferences clarify that children wanted to play in large playgrounds with variety of play equipment. When the answers are analyzed through the options presented to the children, the specific equipment which suitable for majority of children were determined without any gender-related differences.

- In terms of slide, they did not mention specific model but with 46%, family slides (with 2 seats) took attraction.
- Single use swings with 60% instead of multi user swings
- Teeter-totter with 56,7%
- Sandpit with 66,7%
- Hide and Seek areas (Mystery) with 63,3 %
- Prospect area with 53,3%
- High climbing units with slope with 53,3 %
- Vegetation with 63,3%
- Presence of water with 56,7%

Besides, their answers corresponded to question 7, *which play equipment do you like most in the park*. However, gender-related differences were determined in only two option which are hide and seek areas, high climbing units with slope. Boys chose the hide and seek areas and high climbing units with slope as same as girls on previous question, they did not include them to “the most loved” ones. This difference does not mean that boys did not prefer this equipment.

Moreover, in order to understand the children’s classification about “exciting” or “scary”, three questions were prepared, which were questions 3, 9 and 10.

In question 3, *what makes you happy or excited in the playgrounds*, was prepared with the same play equipment options for comparing the answers with question 7. The only additional answers were “play with my close friends” and “play with my family”. Children chose both of them with similar rates. However, “play with my close friends” showed a pick for “always” option, as shown in Figure 70 and Figure 71.

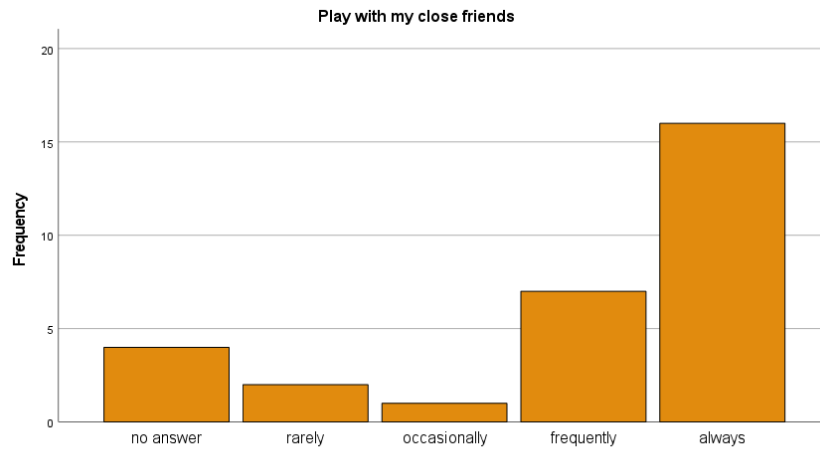


Figure 70. Frequency graphic of the children's answer to the question 3 "play with my close friends"

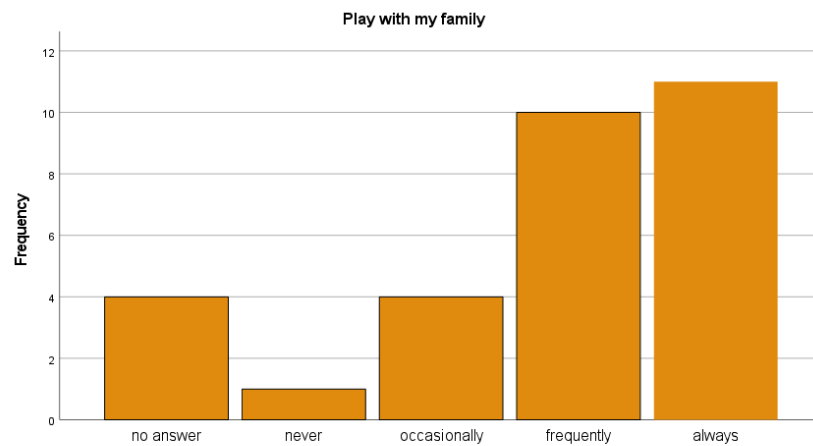


Figure 71. Frequency graphic of the children's answer to the question 3 "play with my family"

Other significant answers were;

- Teeter-totter 46,7%
- Sandpit 50%
- Hide and seek areas (Mystery) 53,3%
- Prospect Area 46,7%
- Vegetation 46,7%
- Presence of water 63,3 %

The comparison was made between question 3 and 7, the play equipment which has importance for children were determined as above. Gender differences were not

obtained. Despite the fact that the children reported that they enjoyed teeter-totters, this equipment had not been found at playgrounds. The teeter totter may not be utilized due to maintenance concerns. As a result, comparison was not made between observations and interviews.

Furthermore, play equipment are high barrel tube slide and multi-user swing did not take place in the list in spite of observations determined that children play with this equipment willingly. It was thought that the reason for this could be understood by how the children describe what is exciting or scary, and the questions were asked to children, which are how they describe “excited” or “scary” for each activity and who they wanted to be with them while they were doing something “excited”.

Table 58. Children’s answers for question 9

EXCITED	SCARY
Climb high 60%	
Swing fast 70%	
Jump high 43,3 %	Jump high 46,7%
Run down from a high place 63,3%	
Climbing Tree 66,7%	
Playing with water 86,7%	
Look around from a high place 76,7%	
Pass through tunnels 83%	

As seen in Table 58, children described all of the activities as “excited” without any gender differences. The rates were close only for “jumping high”. Even though, The Independent Samples T-test did not find significant differences, the girls described to “jumping high” as “scary” more than boys.

In general, it has been observed that children were eager to try new things and engage in different activities. Families were more worried and cautious. Even while the children were answering the questions, they had interventions such as "you are afraid that", "you don't play with equipment like that anyway". It has been noted that families perceive even what their children like or dislike in line with their own concerns. As a result of these instructions, the children expressed a desire for their

parents to accompany them as they participated in the activities they described as “scary”. Because they are aware that their families would respond to these behaviors, and that these reactions are related to the risks in the game. The children responded throughout the interviews that being with their families made them feel safer.

Additionally, the study argues that children risk-taking tendency and parental intervenes are dependent. In this direction, questions were asked both children and families. Children answered the question below;

*Question 11: What do you do when you fall or injured?*

*Question 8: While you playing in the park, what does your parents do?*

Parents responded the questions below;

*Question 7: How do you describe equipment /playground safety?*

*Question 8: During the play time, how involved are you in your child’s play?*

*Question 9: While your child is playing in the public playgrounds, what kind of things cause you to worry about your child?*

*Question 10: When you encounter a perturbational situation, how do you react? Explain with an example.*

*Question 11: How do you react about your child’s tendency to take risks during the play?*

As mentioned, previous question, children explained that they feel safer when their parents stay next to them during risky play. If they get injured, children said that they frequently call their parents, occasionally stop playing but always their parents came to next to them. The T-test found significant gender differences for option that “ my parents always come to next to me”, with the significance value 0,049,  $p < 0,05$ , as shown in Table 59. Mostly, girls felt the intervention of their families in case of any injury or fall more than boys. They mentioned in the interviews, if they got hurt, firstly they stopped playing, checking themselves and preferred to continue playing. They said they preferred to call their parent in case of being afraid or need a help. It has been noted that both girls and boys frequently prefer to continue playing non-stop. However, they say that although the child continues to play, the families come to them immediately or try to check whether they are injured or not. While this

intervention is acceptable for serious injuries, however, for other simple situations, it interrupted the child's play, depriving their chance to fight on their own. Moreover, children reported that their families constantly warned them while they were playing. 56% of children mentioned that these warnings are very frequent.

In addition to the children's comments, the family perspective was also included in the study. In the interviews with the families, a situation analysis was made from their point of view. 43,3% of them accepted their intervenes with warning them about risky situations. Also, they mentioned that they encouraged the children about they overcoming obstacles. Moreover, the question was asked to parents about how they react about perturbational situation, and the responses were noted same as children. They mentioned that they preferred warning them about risky situations at first sight. However, the number of parents who intervened immediately is significantly high. They occasionally preferred following their children's reaction for a while. As shown in Table 60, Independent Samples T-test results determined that relationship between the intervention time and interferences type of the families were related to the gender of the child. The significance values were found as 0,003,  $p < 0,05$  for both "follow their reaction for a while" and "warning them about the risks". It meant that parents who has a daughter, they showed tendency to waiting for a while instead of intervening immediately. This difference may be related to the fact that the girls act more cautiously or pay attention to the warnings.

Table 59. Independent Samples T-Test Results About Children's Respond for Question 11

		Levene's Test for Equality of Variances		t-test for Equality of Means				95% Confidence Interval of the Difference			
		F	Sig.	t	df	One-Sided p	Two-Sided p	Mean Difference	Std. Error Difference	Lower	Upper
<b>QUESTION 11-What do you do when you fall or injured?</b>											
My parents come to next to me	Equal variances assumed	18,840	0,000	2,062	28	0,024	0,049	1,27778	0,61980	0,00818	2,54738
	Equal variances not assumed			1,820	14,754	0,045	0,089	1,27778	0,70206	-0,22080	2,77636

Table 60. Independent Samples T-Test Results About Reaction of Parents In Risky Situations

		t-test for Equality of Means							
		t	df	Significance		Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
				One-Sided p	Two-Sided p			Lower	Upper
<b>QUESTION 10-When you encounter a perturbational situation, how do you react? Explain with an example.</b>									
Follow their reaction for a while	Equal variances assumed	3,313	28,000	0,001	<b>0,003</b>	1,469	0,443	0,561	2,377
	Equal variances not assumed	2,931	14,601	0,005	0,011	1,469	0,501	0,398	2,540
Warning them about the risks	Equal variances assumed	3,287	28,000	0,001	<b>0,003</b>	1,306	0,397	0,492	2,120
	Equal variances not assumed	2,671	11,791	0,010	0,021	1,306	0,489	0,238	2,374

Lastly, for increasing parental concerns and intervenes in children’s playtime, their perspectives about safety issues and apprehensions about playgrounds were asked to families. A great majority of them mentioned flooring materials, accessibility to child and visibility are the most significant issues about safety. Besides, any gender differences did not determine in responses.

For flooring materials, most of them choose grass, as shown in Table 61. Rubber was the second choice. Families mentioned that use of sand is problematic about hygienic because animals use sand for their needs. Besides, they stated that children cause a lot of dust to spread while running on the sand, and it is difficult to clean the sand.

Table 61. Frequency table for flooring material chose of parents

<b>Flooring material for injuries</b>					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	,00	7	23,3	23,3	23,3
	grass	16	53,3	53,3	76,7
	sand	2	6,7	6,7	83,3
	rubber	5	16,7	16,7	100,0
	Total	30	100,0	100,0	

Moreover, parents mentioned the issue that worried them the most was the reliability of the equipment. The fact that the toys are not maintained frequently, that there are broken swings in the playground, that the guardrails break very often and that the new one is not installed for a long time are noted as the most mentioned topics. This explanation took attraction to the importance of maintenance issue in playgrounds.

As a summary, with the help of the interviews, the expectations about playground design, activity types and safety issues were clarified. Gender-related differences in both children’s and parents’ attitudes were determined and responses used for developing gender-neutral design guideline with minimizing obstacles in equality.

#### **7.7.4. Feedbacks Collected from Cemer**

Through the collaboration of Cemer, the company shared feedback from their clients. It has been found that the collecting data from case study’s interviews corresponded to information obtained from the Cemer. These feedbacks and interview notes have significance in terms of understanding parents’ perspective and designing a



playground with minimum adult interferences, means designing children places instead of places for children.

The company mentioned that significant point about playground design is the customer and the user differences. The client is generally construction firms or municipalities while user is always children. Accordingly, feedbacks collected from customers depending on children's parents' or supervisors' point of view.

The design process starts with a scenario depending on child development. To increase their interaction and support children's physical and mental development, the design company creates multi-play units with activity variety. These activities show an alteration depending on customers' preferences related to location and users' age. Moreover, it is mentioned that customers prefer to sustainable products which have longevity due to decreasing expenses. Longevity might be provided with these issues;

- **Type of activities:** Variety of play activities should support children's willingness to explore and need of physical activity.
- **Playground Theme**
- **Number of Multi-play unit:** Playground density affects children's play time. In order to reduce this density, increasing the number of stations may be a suggestion.
- **Material use:** Instead of using synthetic materials, a natural environment should be created as much as possible. It can be said that mostly wood and natural materials are used in the play environments.
- **Age range:** The customers generally prefer to large age range in playgrounds. According to them, playground should allow different age groups (such as the elderly and young people) to come together and allow visual interaction. Also, they are inclined to build spaces where children and their families can spend play time together to increase child-parent relationship.

On the other hand, there are prominent issues in customers' need and preferences. Accessibility is one of them, which means children should be able to go to the park in the residential unit in 2-3 minutes and to the neighborhood park in 10 minutes by themselves. At the same time, parents should have the opportunity to see their child from where they stay. Customers mentioned that playground safety; they said the

surrounding of it should be closed and confined as much as possible to control user profile and strangers. However, children should have opportunity to socialization with both their peers and families without any parental interference. Playground should allow children to interact with each other and playmaking. Recently, it has been focused on location of the playground. According to feedbacks from Cemer and interviews of the case study, customers and parents prefer to playgrounds located in green areas of the city.

As a summary, customers need and preferences explained with accessibility, material use, age range, longevity, variety of the play, nature and play relationship. Another issue that is as important as physical factors such as climate and topography in the design of playgrounds is the demands of the users who are the children. Cultural differences and habits should be taken into account in the design of play environments.

Most of the feedbacks are about the equipment types and risky situations as Cemer mentioned. The company has reported the equipment that customers find risky and do not prefer as follows;

1. Risks in successive play units (Figure 72)
2. Chrome ghost sliding unit due to easy to heat material (Figure 73)
3. Rope playing equipment: They thought this equipment allow injuries and fall on (Figure 74)
4. Difficult to use stairs and climbing units such as cat ladder due to narrow tread (Figure 75)
5. High and long barrel tube slides (Figure 76)
6. Unsighted equipment
7. Plastic joint apparatus: it is preferred in transition areas as bridges



Figure 72. Successive Play Units, DGSS 109 (Source: Cemer, 2021)



Figure 73. Chrome Ghost Slide, MGCS 104 (Source: Cemer, 2021)

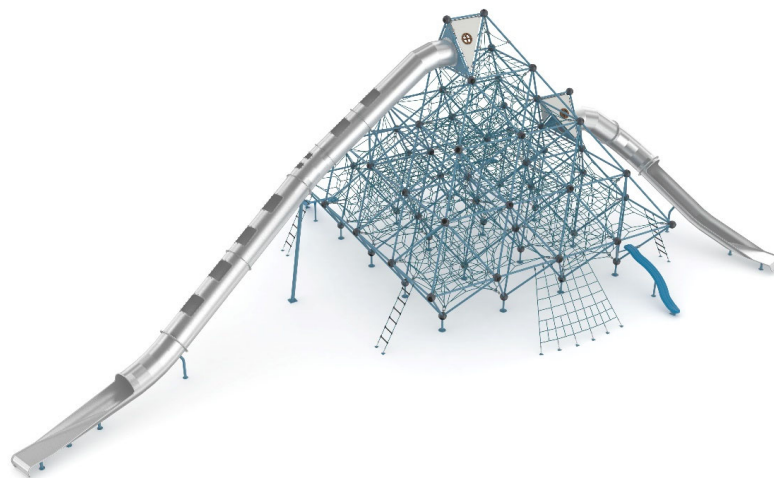


Figure 74. Rope multi-play unit, SGM 1066 (Source: Cemer, 2021)



Figure 75. Difficult to use climbing units CA 922, designed by Cemer  
(Source: Cemer, 2021)



Figure 76. High and long barrel tube slides GGWS 1009, designed by Cemer  
(Source: Cemer, 2021)

### ***7.7.5. Developing Design Guidelines***

The playground should be an area where parents can trust it and support the child's free time while meeting the wishes and needs of the children. At this point, it becomes essential for children to have equal conditions regardless of their gender and to learn to socialize by staying away from gender stereotypes. According to observations, interviews, feedback, and behavioral maps, gender-neutral design features are determined.

- Large play spaces and transition areas
- Mystery areas as transition spaces, but they should be visible and large (children prefer these areas but most of the negative behaviors shown in these spaces)
- Escape area for children or entrance area for supervisor (to reach the child in case of the need)
- Multi-user equipment is better to use while helping and communicating with others.
- Use gender-neutral colors such as orange, yellow, and red instead of gender-coded ones such as pink and purple.
- Natural materials as wood and grass
- Slides with different heights for different age groups in the same playground
- Risk/peril areas – risk management
- Visibility and accessibility by supervisors
- Prospect areas (it is used as socialization areas by children)
- Topography and vegetation use which provides natural risk/peril areas and prospects
- Floor signs for guiding different age groups
- Safety boundaries as a part of the play (it should be not disturbed children)
- Use of light for night time play
- Shelters for weather control

### ***7.7.6. Design Proposal***

The gender-neutral design guidelines were created based on the research findings. The major objective was providing equal opportunities for all children during their playtime without any internal and social boundaries. According to guideline, three design idea was developed which are; higher hill multi-play unit (1), lower hill with slide + climbing (2) and spiral tunnel play equipment (3).

The site was selected as Footbridge Park, Bostanlı based on descriptive analysis results. The area has a potential to gender-neutral playground.



Figure 77. Location of the playground

Three separate playground equipment which are higher hill multi-play unit (1), lower hill with slide + climbing (2) and spiral tunnel play equipment (3) has been included by preserving the three grass hills in the area, as shown in Figure 77.

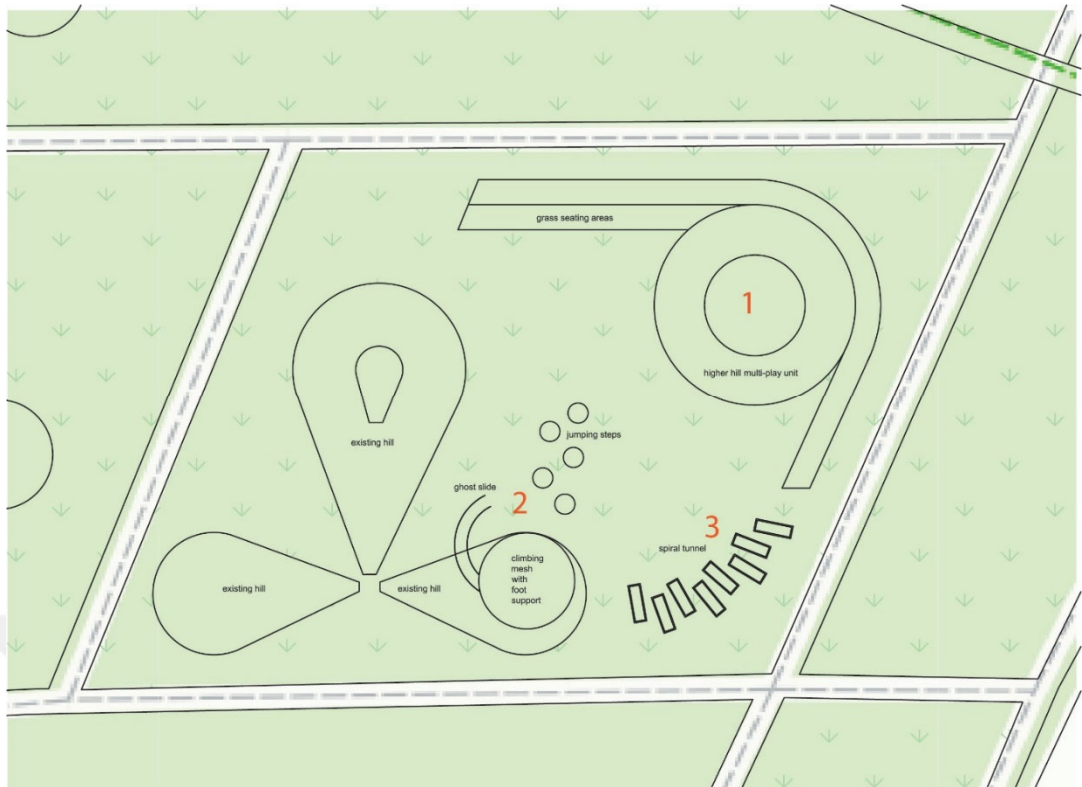


Figure 78. Plan of the playground

It has been observed that, parents did not have a seating area except grass surface. Furthermore, they chose to sit on hill for easily follow their children; however, this preference disrupted the children's play.

As a solution, seating area as grass stairs was included the design idea. Each steps provide an access to the multi-play unit (1). Accessibility also provides an exit area for children who want to get down. If they do not want to use the slides or ramp, they may feel freer and feeling less pressure.

Additionally, it has been observed that children aged 7 and above may also be interested in the multi-play unit. Footbridge Park in its current form was mainly used by children between the ages of 3-6. Other children get bored very quickly and did not prefer to play. For this reason, it is important to ensure that children aged 7 and above use the playground in order to extend the time they spend in the play.

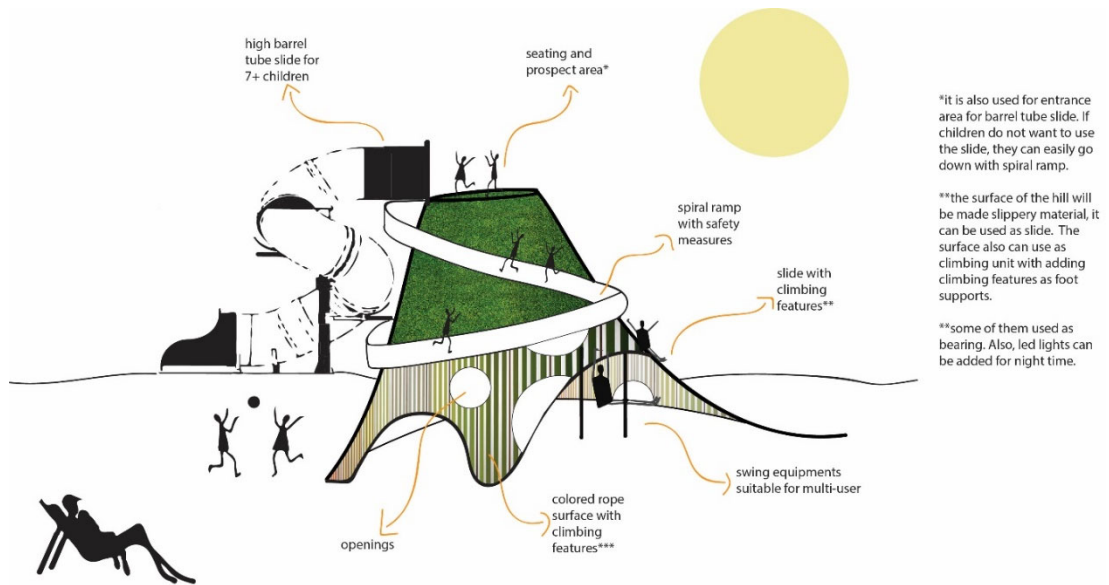


Figure 79. Higher hill for multi-play unit

The multi-play unit consist of high hill consisting of three parts, as shown in Figure 79. The bottom piece is designed to consist of colored ropes and bearings. With the openings, visibility is ensured while shaded and mystery spaces provided to children. Grass or vertical garden may be used at middle and top part of the hill. The spiral ramp goes around the hill and reached the top point consist of tube slide and prospect area. Besides, spiral ramp also provides a shelter for children; and led light inserted bearings are useful for night time.

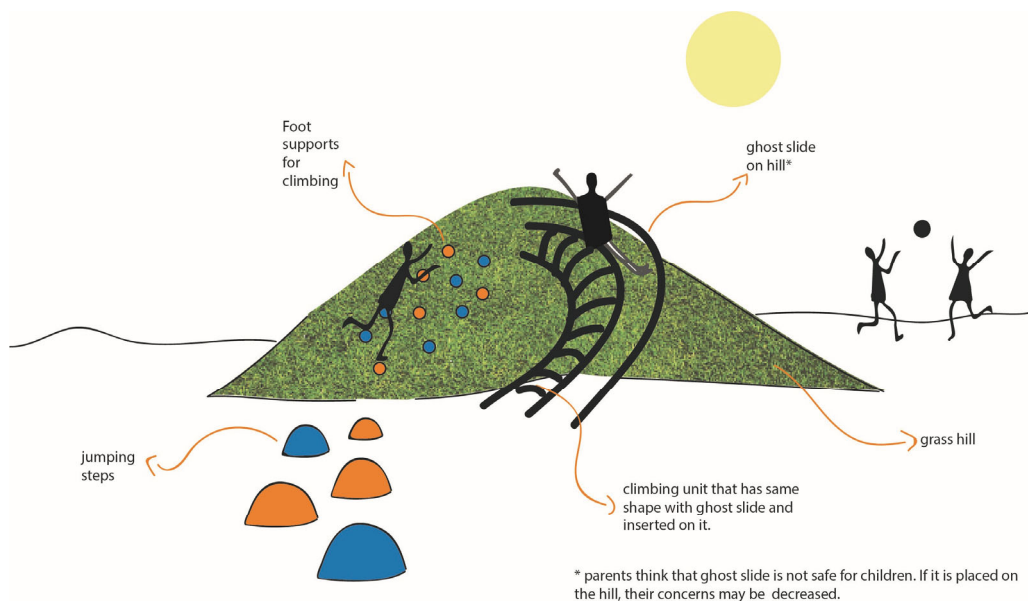


Figure 80. Lower hill with climbing unit+ghost slide



The second design is inserted on existing hill, which lower than multi-play unit, as shown in Figure 80. The hill consists of sloped climbing features and ghost slide. Ghost slide was selected in terms of its abstract appearance.

It has been observed that children really interested new type, unconventional play equipment. Also, they have an opportunity to use their creativity more than traditional ones. However, it has been observed that both they and their parents are more cautious about this equipment. To reducing this bias and providing creative play, combining ghost slide and natural topography may be beneficial. Climbing unit has same shape with ghost slide and inserted on it. It may be beneficial for reducing using slide for climbing.

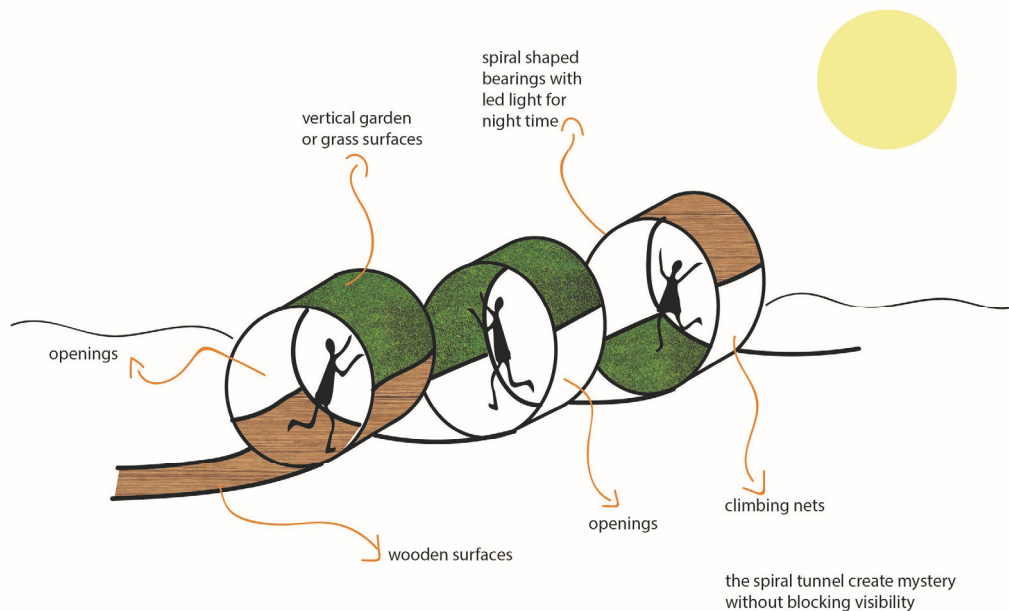


Figure 81. Spiral Tunnel

The last module is spiral tunnel, as shown in Figure 81. The tunnel consists of two different materials are, grass surface for creating feeling of natural tunnel and wood for easy maintenance. Besides, bearings of tunnel made colored profiles with led lights for nighttime.

It has been noted during the interviews, children prefer to playing tunnels, hide & seek areas. However, a few playgrounds provide that opportunity. Thus, children tried to use poles, slides, and transition areas for hiding or run through. The spiral tunnel may be satisfying their expectations and concerns about injuries based on inappropriate use.

## CHAPTER 8: CONCLUSION

Free play activities have a crucial role in children's developmental process, and they spend a considerable amount of time. Children's experiences in free time activities show variety related to their preference for the type of play, peers, and social environment (Maguire et al., 2015; Czalczyńska, 2014; Karsten, 2003; Shutts et al., 2017). Moreover, a child's development includes different skills and abilities such as physical, social, emotional, and mental skills. The International Play Association (IPA) referred that play environments help children's social development while contributing to their physical and mental development (IPA world, 2014). From the point of Stuart Brown (2019), play occurs as a natural instinct and provides learning self-esteem, empathy, calmness and reduce stress and violence. It develops the social and problem-solving skills of children (Ruth L., 2008; Fjørtoft, 2001; Maguire et al., 2015; Czalczyńska, 2014; Karsten, 2003; Shutts et al., 2017).

Sociocultural environments and social constructions also influence child development associated with their cultural and parental background. These constructions have a crucial role in learning gender identities and establishing gender boundaries. Children learn their publicly accepted gender behaviors in early childhood based on their biological sex (Cherney et al., 2010; Karsten, 2003). Gender is one of the substantives that create children's play behaviors and social abilities, according to several research (Mayeza, 2016; Rönnlund, 2015; Änggård, 2011; Fjørtoft, 2001; Barbu et al., 2011; Coe et al., 2014; Granger et al., 2016; Harten et al., 2007). At 3-4 years old, children begin to examine gender roles and what it means to be a boy or a girl based on their culture. After they learned the gender-related roles, they began to express themselves in rigid rules which related to gender stereotypes (Kuhn et al., 1978; Martin et al., 2004; Halim and Ruble, 2010; Weinraub et al., 1984; Egan et al., 2001; Miller et al., 2009).

Gendered roles and identifying themselves within the boundaries of gender norms affected children's social behaviors, peer preferences in play, and physical activity level (Czalczyńska, 2014; Karsten, 2003; Shutts et al., 2017; Edwards et al., 2001; Coe et al., 2014). Furthermore, their play attitudes are shaped by their gender identity development and society. The initial studies clarified that children's interactions with

each other and play peer preferences based on their culturally acceptable attitudes; and lead them to need of peer approval which causes negative results such as less physical activity, social exclusion, aggression and social withdrawal (Maguire et al., 2015; Mayeza, 2016; Bagner et al., 2012; Reimers et al., 2018; Buhs and Ladd 2001; Perry et al., 1988; Edwards et al., 2001).

On the other hand, the play environment also affects children's attitudes and preferences. In general, children constantly observe each other and learn others' risk-taking behaviours, negative attitudes and socialize with them during play (Maguire et al., 2015; Mayeza, 2016; Bagner et al., 2012; Reimers et al., 2018; Buhs and Ladd 2001; Perry et al., 1988; Edwards et al., 2001). Children preferred to act in gender boundaries imposed by adults with the willingness to social approval and make friends. The desire for social approval cause negative behaviours as social rejection due to the belief that there is a difference in physical strength between the genders. From a hegemonic perspective, boys are described as physically strength while girls are vulnerable and weak (Edwards et al., 2001; Thorne, 1993; Buhs and Ladd, 2001; Perry et al., 1988). As a result of those gender stereotypes, children preferred to play with same-gender peers and showed a tendency to bully the opposite gender. These adverse negative effects create difficulties in later years in social life, and they increase suicidal tendencies and weaken social skills based on gender discrimination (Buhs and Ladd 2001; Perry et al., 1988).

The negative consequences of gender stereotypes and inequality in play take The United Nations Convention on the Rights of the Child (UNCRC)'s attention. The Article 3, the play right for all children, was released and mentioned obstacles and limitations about play opportunities and quality of play, which serve to inequality for girls (UNCRC, 2013).

Especially in playgrounds, children spend their free time in adult supervision. This supervision is actualized by professionals or teachers in schools, while parents substantiate it in public spaces. The various focus on children's learning environments as kindergarten and preschool playgrounds, which provide structured playtime and activities (Änggård, 2011; Fjørtoft, 2001; Barbu et al., 2011; Coe et al., 2014; Granger et al., 2017; Rönnlund, 2015; Mayeza, 2016). However, there are a few of them focus on public playgrounds, which provide unstructured and free time

activities playgrounds (Maguire et al., 2015; Mayeza, 2016; Bagner et al., 2012; Reimers et al., 2018; Buhs and Ladd 2001; Perry et al., 1988; Edwards et al., 2001). Children can test their limits and abilities in unstructured free-time activities while taking risks occupying a critical amount of time in their daily routines. Gender boundaries are more common in public environments concerning their risk/peril areas and social interferences based on parental concerns and intervenes (Little and Eager, 2010; Boles et al., 2005; Änggård, 2011; Fjørtoft, 2001).

As a result of these adverse effects of gender impositions, the study focuses on public outdoor play environments' impacts on children's gendered behaviors. This research aims to understand how gender-neutral play environments decrease children's negative gender-related behaviors at early childhood ages with minimizing parental interferences; and how design helps increase mix-gender play and encourage them to risk-taking in public outdoor playgrounds. Besides, this research argued that gender-neutral playgrounds may be an effective option for reducing unintended attitudes, increasing children's playtime quality in equal opportunities for both genders. Children's individual and group play attitudes in both same gender and mix-gender groups were analyzed in the scope of their risk-taking patterns and negative behaviours according to their gender.

Observation checklists and behavioral mapping techniques were used and interviews were done with children and parents in four different playgrounds, which are selected from traditional and natural ones to understand gender-neutral playground design features. Observation checklist and behavioral mapping techniques were used for analyzing effects of gender-neutral play environments on children's negative gender-related attitudes (RQ1) and effective design solutions that provide beneficial risk-taking (RQ2). Besides, interviews were made for understanding parental concerns and their affects on children in playgrounds (RQ3).

As a first step, playgrounds in İzmir were classified according to their design features; and four of them were selected related to their location, use of materials, number of play equipment, manufacturing company and types. According to collaboration with Cemer City Equipment Manufacturing Company (Kent Ekipmanları San. Tic. AŞ.), one of the playground design companies in İzmir, Turkey, two playgrounds were selected from their projects, Footbridge Park and Olof

Palme Park. The other two playgrounds, New Generation Park and Hill Park, were selected from different companies with similar design features to compare children's and adults' attitudes in traditional and natural playgrounds. Olof Palme Park and New Generation Park were classified as a traditional playground, whereas Footbridge Park and Hill Park were included as natural playgrounds. Besides, these four playgrounds are designed playgrounds and have better conditions in terms of maintenance and design in comparison to other parks in Izmir. The analysis was made with behavioral mapping and observation checklist instruments by measuring children's attitudes simultaneously. Observations were made over 12 days approximately 110 children to analyze children's play attitudes and recognize patterns of play while using several play equipment requiring different motor skills levels. Each playground was visited on six different days between 18.30-20.30. A typical weekend day and one whole week were chosen in terms of number of children and the variation of gender in the playgrounds. Considering the summer season, the visiting hours have been chosen according to the hours when children play intensively in the playgrounds. A preliminary observation was made to determine the hours.

The participants were determined as between 3-7 years old children, and their parents were selected randomly depending on number of people on observation days. The photographic data was collected for examples of children's risk-taking patterns and negative behaviors. Children were subjectively divided into three groups related to peer as "individual play-girl and boy, same-gender play both boys – boys and girls – girls, mix-gender play as girls – boys". The number of children and adults were recorded with their play attitudes that grouped four main categories: negative behaviors, risk-taking behaviors, parental interferences and environment used as an approach of understanding to children's negative attitudes and risk-taking patterns in their play activity with regards to their gender. Parental intervenes included on the checklist regarding play equipment. For analyzing these variables, observation sheets were used with behavioral mapping.

Additionally, interviews were done with children's and their parent's and 12 questions were asked them with a Likert scale to understand their expectations, concerns, and risk-taking tendencies. Besides, feedbacks from municipalities and intermediaries were obtained from Cemer and compared with adults' expressions.

The Chi-square tests and Independent Samples T-test analyzes were used with SPSS 28.0 package program.

As a result of the case study, it has been observed that children's peer preferences, use of play equipment, the tendency of negative behaviors and risk-taking patterns showed variety depending on playground type, play equipment type and parental intervenes. Although some assumptions do not have a special link with gender, some attitudes that are described as negative behavior have been found to have negative consequences on other children. For example, inappropriate use of slide for climbing is not a directly negative behavior, on the contrary it might be helpful for children's motor development. However, this attitude might cause negative consequences as disturbing and limiting others. Children preferred to play in mixed-gender groups with minimum unintended behaviours and parental interferences in natural playgrounds, Footbridge Park and Hill Park. Their families watched them from distance and were involved to play if their child wants. Children used topography for various activities with using their creativity such as climbing, running down, relaxing, observation and socializing in mixed-gender playgroups. On the other hand, in traditional playgrounds, New Generation Parks and Olof Palme Park, it has been observed that children play with same-gender peers, get bored quickly, and they were limited by the activities that play equipment offers them. It has been determined that children who get bored quickly and start looking for a new activity cause discomfort either to their families or to other children in the playground.

However, it is not possible to make a clear distinction just by looking at the type of playing field. According to the type of playground equipment, it was observed that the children's behavior varied or showed similarities. It has been observed that, children could play anywhere with anything from their surroundings. However, parents tried to direct their children to low height equipment and uncrowded playgrounds. It was determined that these tendencies increased in parents who has a daughter. As a result of the interviews, parents were unaware that while they wanted to minimize the possibility of injuries, they affected children's playtime quality.

As the last step, the gender-neutral playground design criteria were determined after the analysis and interpretation of the observations, interviews, and behavioral maps with the SPSS program. These criteria aim to encourage children to increase their

mix-gender group play and learn to take risks freely while reducing their negative behaviors. Considering the risk management, it aims to minimize the families' concerns and prolong the intervention period while ensuring that children take safe and beneficial risks. As a result of all these, it has been determined that topography, vegetation, accessibility, visibility with mystery, use of natural materials, and the variation of play activities appealing to different age groups provide more equal play opportunities. According to gender-neutral design guideline, three different sketch ideas were created and shared with Cemer. These draft studies are open to improvement and helpful in reaching a more comprehensive set of design guidelines.

The results may provide guidance for the design of play equipment and gender-neutral playgrounds that provide equal playing opportunities for early childhood, respond to the reasons of negative behaviors and create awareness of stereotypical gender norms.

Future directions may involve gender-neutral design for school environments and interior and exterior playscapes for children's places. The approach of the study can be applied to residential areas and streets, which are, provide more accessible play opportunities. Besides, observation may be made in the wintertime with different time schedules for comparison. In conclusion, findings may be useful for researchers, educators, and playground designers who wish to contribute to creating a gender-neutral world for children.

## REFERENCES

- Änggård, E. (2011). *Children's Gendered and Non-gendered Play in Natural Spaces*, Children, Youth and Environments, vol. 21, no.2, pp. 5-33
- Antill, J. K., Cunningham, J. D., Cotton, S. (2003). *Gender-role Attitudes in Middle School: In what Ways Do Parents Influence Their Children?*, Australian Journal of Psychology, vol.55, pp. 148-153
- [Archdaily]. (2016, September 15). Into the Wild / Openfabric + Dmau [Web-based visual]. Available at: <https://www.archdaily.com/794732/into-the-wild-openfabric>
- [Archdaily]. (2016, July 06). Drapers Field / Kinnear Landscape Architects [Web-based visual]. Available at: <https://www.archdaily.com/790783/drapers-field-kinnear-landscape-architects>
- [Archdaily]. (2017, February 28). Five Fields Play Structure / Matter Design + FR|SCH [Web-based visual]. Available at: <https://www.archdaily.com/806182/five-fields-play-structure-matter-design-plus-fr-sch>
- [Archdaily]. (2018, January 18). Run, Jump, Hide and Slide on ELEMENTAL's Newly Designed Urban Children's Game [Web-based visual]. Available at: <https://www.archdaily.com/886744/run-jump-hide-and-slide-on-elementals-newly-designed-urban-childrens-game>
- Ärlemalm-Hagsér, E. (2010). *Gender Choreography and Microstructures: Early Childhood Professionals' Understanding of Gender Roles and Gender Patterns in Outdoor Play and Learning*, European Early Childhood Education Research Journal, vol. 18, no. 4, pp. 515-525
- Bagner, D., Rodríguez, G., Blake, C., Linares, D., and Carter, A. (2012). *Assessment of Behavioral and Emotional Problems in Infancy: A Systematic Review*, Clinical Child and Family Psychology Review, vol.15, pp. 113–128
- Baldwin, D. and Moses, L. (1996). *The Ontogeny of Social Information Gathering*, Child Development, vol. 67, no.5, pp. 354-364



- Ball, D.J., Gill, T. and Spiegel, B. (2008). *Managing risk in play provision: Implementation guide*, Play England [Online]. Available at: <https://dera.ioe.ac.uk/8625/1/00942-2008DOM-EN.pdf> (Accessed 15 May 2021).
- Barbu S., Cabanes G., Le Maner-Idrissi G. (2011). *Boys and Girls on the Playground: Sex Differences in Social Development Are Not Stable across Early Childhood*, PLoS ONE, vol. 6, no.1, pp. 16407-16415
- Boldermann, C., M. Blennow, H. Dal, F. Mårtensson, A. Raustorp, K. Yuen, and U. Wester (2006). *Impact of Preschool Environment upon Children's Physical Activity and Sun Exposure*, Preventive Medicine, vol.42, pp. 301-308.
- Boles, R. E., Roberts, M. C., Brown, K. J., and Mayes, S. (2005). *Children's risk-taking behaviors: the role of child-based perceptions of vulnerability and temperament*, Journal of pediatric psychology, vol. 30, no.7, pp. 562–570.
- Boyer, T.W. (2006). *The development of risk-taking: A multi-perspective review*, Developmental Review, vol. 26, pp. 291–345.
- Braun, S., Davidson, A. (2016). *Gender (Non)conformity in Middle Childhood, A mixed Methods Approach to Understanding Gender-typed Behavior, Friendship, and Peer Preferences*, Sex Roles, vol.77, pp. 16-29
- Brown, S. (2019). *Imaginative and Pretend Play: Observing the Natural Development of Imaginative and Pretend Play in Infancy*, Playcore [Online]. Available at: <https://www.playcore.com/news/imaginative-and-pretend-play-part-one> (Accessed: 5 June 2021).
- Brown, S. (2019). *Play and Nature*, Playcore [Online]. Available at: <https://www.playcore.com/news/play-and-nature> (Accessed: 15 May 2021).
- Brown, S. (2020). *“Play Vaccinations” a regular dose of play has immeasurable health benefits*, Playcore [Online]. Available at: <https://www.playcore.com/news/play-vaccinations-a-regular-dose-of-play-has-immeasurable-health-benefits> (Accessed: 5 June 2021).

Browning, W.D., Ryan, C.O., Clancy, J.O. (2014). *14 Patterns of Biophilic Design*. Terrapin Bright Green [Online]. Available at: <https://www.terrapinbrightgreen.com/wp-content/uploads/2014/09/14-Patterns-of-Biophilic-Design-Terrapin-2014p.pdf> (Accessed: 10 June 2021).

Buhs E. S., & Ladd, G. W. (2001). *Peer Rejection as Antecedent of Young Children's School Adjustment: An Examination of Mediating Processes*. *Developmental Psychology*, vol. 37, no. 4, pp. 550-560

Cengiz C., Boz A. O. (2019). *Biophilic Playgrounds as Playscapes in Child-Nature Interaction*, *International Journal of Scientific and Technological Research*, vol.5, no.12, pp. 216-226 [Online]. Available at: <https://www.iiste.org/Journals/index.php/JSTR/article/view/50568/52268> (Accessed: 12 July 2021).

CEN. (2017) EN 1176-1: *Playground Equipment and Surfacing*, Nobel Certification [Online]. Available at: [https://nobelcert.com/DataFiles/FreeUpload/EN%201176-1%20\(2017\).pdf](https://nobelcert.com/DataFiles/FreeUpload/EN%201176-1%20(2017).pdf) (Accessed: 12 October 2021).

Cherney I., Dempsey J. (2010). *Young Children's Classification, Stereotyping and Play Behavior for Gender Neutral and Ambiguous Toys*, *Educational Psychology*, vol.30, no.6, pp.651-669

[Child Development]. (2021, May 29). *What is Child Development?* [Blog]. Available at: <https://childdevelopment.com.au/areas-of-concern/what-is-child-development/>

Clifford, M.M. (1991). *Risk Taking: Theoretical, Empirical, and Educational Considerations*, *Educational Psychologist*, vol. 26, no. 3/4, pp. 263–97.

[Cemer] Castlewood Serisi, MGCS 104-1 [Web-based visual]. Available at: <https://www.cemer.com/tr/castlewood-serisi---mgcs-104-1-detay-7626>

[Cemer] Duvar Tirmanma, CA 922 [Web-based visual]. Available at: <https://www.cemer.com/tr/duvar-tirmanma---ca-922-detay-2149>

[Cemer] Silver Serisi, DGSS 109 [Web-based visual]. Available at: <https://www.cemer.com/tr/silver-serisi---dgss-109-detay-7606>

[Cemer] Spider Grup, SGM 1066 [Web-based visual]. Available at: <https://www.cemer.com/tr/spider-grup---sgm-1066-detay-7593>

[Cemer] Witch Serisi, GGSW 1009 [Web-based visual]. Available at: <https://www.cemer.com/tr/witch-serisi---ggws-1009-detay-2042>

Coe, D. P., Flynn, J. I., Wolff, D. L., Scott, S. N., and Dunham, S. (2014). *Children's Physical Activity Levels and Utilization of a Traditional versus Natural Playground*, *Children, Youth and Environments*, vol. 24, no.3, pp. 1-15

Connolly, P. (2003). *Gendered and gendering spaces: playgrounds in the early year's*. eds. C Skelton & B Francis. *Boys and Girls in the Primary Classroom*. Open University, pp. 113-133.

Coombes, E., Van Sluijs, E. and A. Jones, A. (2013). *Is Environmental Setting Associated with the Intensity and Duration of Children's Physical Activity? Findings from the SPEEDY GPS Study*, *Health and Place*, vol.20, pp. 62-65

Cunningham, C. and Jones, M. (2004). *Middle Childhood and The Built Environment*, NSW Parliamentary Committee on Children and Young People, pp.1-37

Czalczynska M. (2014). *The Impact of Playground Spatial Features on Children's Play and Activity Forms: An Evaluation of Contemporary Playgrounds' Play and Social Value*, *Journal of Environmental Psychology*, vol.38, pp.132-142

D'Haese, S., Van Dyck, D., De Bourdeaudhuij, I. and Cardon, G. (2013). *Effectiveness and Feasibility of Lowering Playground Density During Recess to Promote Physical Activity and Decrease Sedentary Time at Primary School*, *BMC Public Health*, vol. 13, no.1, pp. 1154-1165

Davies, B. (2003). *Frogs and Snails and Feminist Tales: Preschool Children and Gender*. 2nd edition. New Jersey: Hampton Press.

Edwards, C. P., Knoche, L., Kumru, A. (2001). *Play Patterns and Gender*, *Encyclopedia of Women and Gender: Sex Similarities and Differences and The Impact of The Society on Gender*, San Diego: Academic Press, vol. 2, pp. 809-815

- Egan, S., Perry, D., G. and Dannemiller, J.L. (2001). *Gender Identity: A Multidimensional Analysis with Implications for Psychosocial Adjustment*, *Developmental Psychology*, vol.37, no.4, pp. 451–463.
- Epstein, D., Kehily, M., Mac-an-Ghail, M. and Redman, P. (2001). *Boys and girls come out to play: Making masculinities and femininities in school playgrounds*. *Men and Masculinities*, vol.4, no. 2, pp. 158–172.
- Fagot, B. I., and Leinbach, M. D. (1989). *The Young Child's Gender Schema: Environmental Input, Internal Organization*, *Child Development*, vol.60, no.3, pp. 663–672.
- Fjørtoft, I. and Sageie, J. (2004). *The Natural Environment as a Playground for Children*, *Landscape and Urban Planning*, vol.48, pp. 83-97
- Fjørtoft, I. (2001). *The Natural Environment as a Playground for Children: The Impact of Outdoor Play Activities in Pre-Primary School Children*, *Early Childhood Education Journal*, vol. 29, no.2, pp. 111-117
- Fog Olwig, K. F. and Gullov, E. (2003). *Children's Places: Cross-cultural Perspectives*. 1st Edition. London: Routledge
- Gibson, J. (2014). *The Ecological Approach to Visual perception*. 1st Edition. Psychology Press [Online]. Available at: <https://www.taylorfrancis.com/books/mono/10.4324/9781315740218/ecological-approach-visual-perception-james-gibson> (Accessed: 4 April 2021).
- Granger, K. L., Hanish L. D., Kornienko O., and Bradley R. H. (2016). *Preschool Teachers' Facilitation of Gender-Typed and Gender-Neutral Activities During Free Play*, *Sex Roles*, vol.76, pp. 498-510
- Greenfield, C. (2004). *Can Run, Play on Bikes, Jump the Zoom Slide, and Play on The Swings: Exploring The Value of Outdoor Play*, *Australian Journal of Early Childhood*, vol. 29, no. 2, pp. 1–5.
- Halim, M. L., and Ruble, D. (2010). *Gender Identity and Stereotyping in Early and Middle Childhood*, In *Handbook of Gender Research in Psychology*, Springer: New York, pp. 495–525

Harten, N., Olds T., and Dollman J. (2007). *The Effects of Gender, Motor Skills and Play Area on The Free Play Activities of 8 – 11-Year-Old Children*, Health & Place, vol.14, pp.386-393

Heft, H. (1989). *Affordances Of Children's Environments: A Functional Approach to Environmental Description*, Children's Environments Quarterly, vol. 5, pp. 29-37

Hofstede, G. J., Dignum, F., Prada, R., Student, J. and Vanhée, L. (2015). *Gender Differences: The role of nature, Nurture, Social Identity and Self Organization*, International Workshop on Multi-Agent Systems and Agent-Based Simulation Conference Proceedings, vol. 9002, Available at: [https://www.researchgate.net/publication/271764277\\_Gender\\_Differences\\_The\\_Role\\_of\\_Nature\\_Nurture\\_Social\\_Identity\\_and\\_Self-organization](https://www.researchgate.net/publication/271764277_Gender_Differences_The_Role_of_Nature_Nurture_Social_Identity_and_Self-organization)

İşci, B. and Hasirci, D. (2020). *Children's Stereotypical Gendered Behaviours in Outdoor Educational Play Environments*, INTED2020 Proceedings, pp. 48-53

International Play Association (2014). *Declaration on The Importance of Play*, IPA [Online]. Available at: [http://ipaworld.org/wp-content/uploads/2015/05/IPA\\_Declaration-FINAL.pdf](http://ipaworld.org/wp-content/uploads/2015/05/IPA_Declaration-FINAL.pdf) (Accessed: 25 April 2021).

Karsten, L. (2003). *Children's Use of Space: The Gendered World of The Playground*, Childhood, vol.10, no.4, pp.457-473

Kellert, S. and Calabrese, E. (2015). *The Practice of Biophilic Design*, Biophilic Design [Online]. Available at: [https://www.biophilic-design.com/\\_files/ugd/21459d\\_81ccb84caf6d4bee8195f9b5af92d8f4.pdf](https://www.biophilic-design.com/_files/ugd/21459d_81ccb84caf6d4bee8195f9b5af92d8f4.pdf) (Accessed: 5 July 2021).

Kuh, L.P., I. Ponte, and C. Chau (2013). *The Impact of a Natural Playscape Installation on Young Children's Play Behaviors*, Children, Youth and Environments, vol.23, no.2, pp. 49-77

Kuhn, D., Nash, S. C., and Brucken, L. (1978). *Sex Role Concepts of Two and Three-year-olds*, Child Development, vol.49, no.2, pp. 445–451

Kung, K.F. T., Li, G., Golding, J. and Hines, M. (2018). *Preschool Gender-Typed Play Behavior at Age 3.5 Years Predicts Physical Aggression as Age 13 Years*, Arch Sex Behav, vol.47, pp. 905-914

Langlois, J. H. and Downs, A. C. (1980). *Mothers, Fathers and Peers as Socialization Agents of Sex-typed Play Behaviors in Young Children*, *Child Development*, vol.51, no.4, pp.1237 – 1247

Lester, S., and Russell, W. (2008). *Play for a change. Play, policy and practice: A review of contemporary perspectives*, Play England [Online]. Available at: [https://www.academia.edu/415471/Lester\\_S\\_and\\_Russell\\_W\\_2008\\_Play\\_for\\_a\\_Change\\_Play\\_Policy\\_and\\_Practice\\_A\\_review\\_of\\_contemporary\\_perspectives\\_London\\_National\\_Children\\_s\\_Bureau](https://www.academia.edu/415471/Lester_S_and_Russell_W_2008_Play_for_a_Change_Play_Policy_and_Practice_A_review_of_contemporary_perspectives_London_National_Children_s_Bureau) (Accessed: 23 February 2021).

Little, H. and Eager, D. (2010). *Risk, Challenge and Safety: Implications for Play Quality and Playground Design*, *European Early Childhood Education Research Journal*, vol.18, no.4, pp. 497-513

[Luckey Climbers]. Irvine Spectrum Center [Web-based visual]. Available at: <https://www.luckeyclimbers.com/irvine/>

Lumen Learning (2021). *Module 5: Early Childhood: Gender and Early childhood, Lifespan Development* [Online]. Available at: <https://courses.lumenlearning.com/wm-lifespandevelopment/chapter/gender-and-early-childhood/> (Accessed: 21 February 2021)

Lumen Learning (2021). *Introduction to Psychology: Childhood: Physical and Cognitive Development*, [Online]. Available at: <https://courses.lumenlearning.com/waymaker-psychology/chapter/reading-childhood/> (Accessed: 24 March 2021)

Maguire, K. L., Niens U., McCann, M. and Connolly, P. (2016). *Emotional Development Among Early School-age Children: Gender Differences in The Role of Problem Behaviours*, *Educational Psychology*, vol. 36, no.8, pp.1408-1428

Martin, C. L., Ruble, D. N., and Szkrybalo, J. (2004). *Recognizing The Centrality of Gender Identity and Stereotype Knowledge in Gender Development and Moving Toward Theoretical Integration: Reply to Bandura and Bussey*, *Psychological Bulletin*, vol.130, no.5, pp. 702–710

Mayeza, E. (2016). *Girls Don't Play Soccer: Children Policing Gender on The Playground In A Township Primary School In South Africa*, Gender and Education, vol. 29, no. 4, pp. 476-494

McKenzie, T.L., S.J. Marshall, J.F. Sallis, and T.L. Conway (2000). *Leisure-Time Physical Activity in School Environments: An Observational Study Using SOPLAY*, Preventive Medicine, vol. 30, no.1, pp. 70-77

Merriam-Webster. (n.d.). *Affordance*. In Merriam-Webster.com dictionary [Online]. Available at: <https://www.merriam-webster.com/dictionary/affordance> (Accessed: 24 March 2021)

Miller, C. F., Lurye, L. E., Zosuls, K. M., and Ruble, D. N. (2009). *Accessibility of Gender Stereotype Domains: Developmental and Gender Differences in Children*, Sex Roles, vol.60, no.11-12, pp. 870–881

Moore, R. C. (1993) *Plants for Play: A Plant Selection Guide for Children's Outdoor Environments*. 1st edition. California: MIG Communications.

Moore, R. C. and Wong, H. H. (1997). *Natural Learning: Creating Environments for Rediscovering Nature's Way Of Teaching*. 1st edition. California: MIG Communications.

Moore, R. C. (2014). *Nature Play & Learning Places. Creating and managing places where children engage with nature*. 1st edition. North Carolina: Natural Learning Initiative and Reston, Virginia: National Wildlife Federation

Nicholson, S. (1971). *How NOT to Cheat Children: The Theory of Loose Parts*, Landscape Architecture, vol.62, pp. 30-34

Nogueira, P. G. I. (2017). *Biophilic Playscape Design: Bringing Together Children and Nature in Urban Honolulu*. Doctoral Thesis. University of Hawai'i.

Parten M. (1932). *Social Participation Among Preschool Children*, Journal of Abnormal Psychology, vol. 27, pp. 309-314

Payton, J., Resnik, H., Weissberg, R. P., Durlak, J. A., Dymnicki, A., Taylor, R. D., Schellinger K., and Pachan, M. (2008). *The Positive Impact of Social and Emotional Learning for Kindergarten to Eighth-grade students: Findings from Three Scientific Reviews* [Online]. Illinois: Collaborative for Academic, Social, and Emotional

Learning. Available at: <https://files.eric.ed.gov/fulltext/ED505370.pdf> (Accessed: 8 February 2021)

[Playlsi]. Loop Arch Wpermalene Handholds [Web-based visual]. Available at: <https://www.playlsi.com/en/commercial-playground-equipment/playground-components/loop-arch-wpermalene-handholds/>

[Playlsi]. Sky Rail Climber [Web-based visual]. Available at: <https://www.playlsi.com/en/commercial-playground-equipment/playground-components/sky-rail-climber1/>

[Playlsi]. Vertical Ladder Wpermalene Handholds [Web-based visual]. Available at: <https://www.playlsi.com/en/commercial-playground-equipment/playground-components/vertical-ladder-wpermalene-handholds/>

[Pentagonplay] Climbing Ramp 1200mm [Web-based visual]. Available at: <https://www.pentagonplay.co.uk/products/active-play/towers/climbing-ramp-1200mm>

Perry, D. G., Kusel, S. J., and Perry, L. C. (1988). *Victims of Peer Aggression*, *Developmental Psychology*, vol. 24, no. 6, pp. 807-814

Rasmussen, K. (2004). *Places for Children – Children’s Places*, *Childhood*, vol.11, no.2, pp. 115-173

Reimers, A. K., Schoeppe, S., Demetriou, Y. and Knapp, G. (2018). *Physical Activity and Outdoor Play of Children in Public Playgrounds - Do Gender and Social Environment Matter?*, *International Journal of Environmental Research and Public Health*, vol. 15, no. 7, pp. 1356-1370

Rock, A. and Forman, J. (2021). *11 Important Types of Play as Your Child Grows*, *Very Well Family* [Online]. Available at: <https://www.verywellfamily.com/types-of-play-2764587> (Accessed: 25 January 2021).

Rönnlund, M. (2015). *Schoolyard Stories: Process of Gender Identity in a ‘Children’s Place’*, *Childhood*, vol.22, no.1, pp. 85-100.

Ruth, L. C. (2008). *Playground Design and Equipment*, *Whole Building Design Guide* [Online] Available at: <https://www.wbdg.org/resources/playground-design-and-equipment> (Accessed: 14 July 2021).



Sandseter, E.B.H. (2007). *Categorising Risky Play – How Can We Identify Risk-taking in Children’s Play?*, European Early Childhood Education Research Journal, vol. 15, no. 2, pp. 237–52.

[Schoolscapes] Rock Ramp Climber [Web-based visual]. Available at: <https://www.schoolscapesuk.com/product/rock-ramp-climber/>

Shutts K., Kenward B., Falk H., Ivegran A., Fawcett C. (2017). *Early Preschool Environments and Gender: Effects on Gender Pedagogy in Sweden*, Journal of Experimental Child Psychology, vol.162, pp.1-17

Stine, S. (1997). *Landscapes for learning*, New York: John Wiley and Sons.

Taşçı, B. G. (2010). *Sokağın Günümüz Koşullarında Çocuk Oyun Alanı Olarak Ele Alınması ve Değerlendirilmesi*, Master’s Thesis, Dokuz Eylül University

Thorne, B. (1993). *Gender Play: Girls and Boys In School*. 1st edition. New Jersey: Rutgers University Press.

Titman, W. (1994). *Special Places – Special People: The Hidden Curriculum of School Grounds*. 1st edition. Surrey: World Wide Fund for Nature, Winchester: Learning through Landscapes Trust.

Tovey, H. (2007). *Playing Outdoors: Spaces and Places, Risk and Challenge, Maidenhead*, 1st edition. Maidenhead: Open University Press.

The United Nations Committee on the Rights of the Child (2013). *General comment No. 17 on the Right of the Child to Rest, Leisure, Play, Recreational Activities, Cultural Life and The Arts (Art. 31)* 17 April 2013, CRC/C/GC/17, Available at: <https://www.refworld.org/docid/51ef9bcc4.html> (Accessed: 9 January 2021)

Walmsley, M., Bagia, R. and Eager, D. (2010). *Project Management for Engineers*, 1st edition. Sydney: McGraw-Hill Australia

Weinraub, M., Clemens, L. P., Sockloff, A., Ethridge, T., Gracely, E. and Mayers, B. (1984). *The Development of Sex Role Stereotypes in The Third Year: Relationships to Gender Labeling, Gender Identity, Sex-typed Toy Preference, and Family Characteristics*, Child Development, vol.55, no.4, pp. 1493-1503.

WHO (2010). *General Recommendations on Physical Activity for Health*. Who Press, Geneva: Switzerland [Online], Available at. <https://www.who.int/dietphysicalactivity/global-PA-recs-2010.pdf> (Accessed: 6 March 2021).

WHO (2020). *Physical Activity* [Online]. Available at: <https://www.who.int/news-room/fact-sheets/detail/physical-activity> (Accessed: 6 March 2021)

Witt, S. (1997). *Parental Influence on Children's Socialization to Gender Roles, Adolescence*, vol.32, no.126, pp.253-259

Zosuls, K. M., Ruble, D. N., Tamis-LeMonda, C. S., Shrout, P.E., Bornstein, M.H. and Greulich, F. K. (2009). *The Acquisition of Gender Labels in Infancy: Implications for Gender-typed Play*, *Developmental Psychology*, vol.45, no.3, pp. 688-701

## APPENDICES

### *Appendix A: Playground Terms and Definitions*

**Playground Equipment:** Equipment and structure, comprising components and structural features, with which or on which children can play outdoors or even inside, alone or in groups, according to their own rules or reasons for playing, which can modify at any moment.

**Climbing Equipment:** Playground equipment which only allows the user to move on or in it by using a hand and foot/leg support and requiring at least three points of contact with the equipment.

**Impact Area:** area that can be hit by a user after falling through the falling space.

**Free Space:** space in, on or around the equipment that can be occupied by a user undergoing a movement forced by the equipment.

*Sliding, swinging, rocking, jumping in bouncing facility for multiple users are examples of equipment have free space.*

**Free Height of Fall:** greatest vertical distance from the clearly intended body support to the impact area below.

*NOTE The intended body support includes those surfaces to which access is encouraged.*

**Falling Space:** space in, on or around the equipment that can be passed through by a user falling from an elevated part of the equipment.

**Crushing Point:** place where parts of the equipment can move against each other, or against a fixed area so that persons, or parts of their body, can be crushed.

**Shearing Point:** place where part of the equipment can move past a fixed or other moving part, or past a fixed area so that persons, or parts of their body, can be cut.

**Ladder:** means of access incorporating rungs or steps on which a user can ascend or descend with the aid of the hands.

**Stair:** It means of access incorporating three or more risers on which a user can ascend or descend.

**Ramp:** a means of access that includes an inclined surface on which a user can ascend or descend.

**Grip:** holding of the hand round the entire circumference of a support

**Grasp:** holding of the hand round part of the circumference of a support

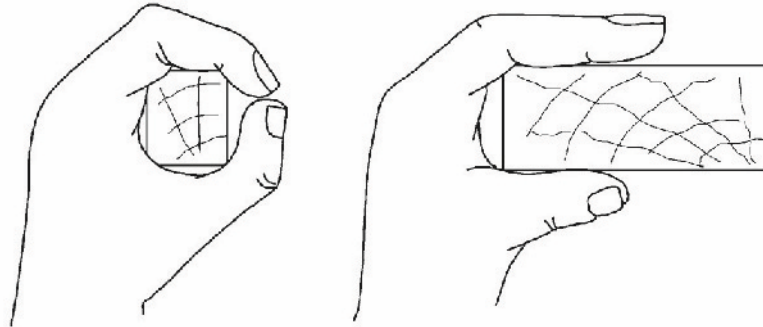


Figure 82. (left) grip vs. (right) grasp (Source: CEN. EN 1176-1, 2017)

**Entrapment:** hazard caused by a circumstance in which a body, or a part of a body, or clothes can become trapped.

*NOTE: This section of EN 1176 only examines specific forms of entrapment where the user is unable to save oneself and the entrapment causes damage.*

**Obstacle:** object or jutting item that occupied a space within the falling space or the free space of a user.

*NOTE: The risks and hazards associated with obstacles in playground equipment; and show variation according to its location in, on or around the equipment. For example;*

- in the free space, something in the path of a user undergoing a forced movement;
- in the falling space, something hard and sharp that a user can hit during a fall from an elevated position;
- for other types of movement, something unexpected with which a user might collide whilst moving in, on or around the equipment.

**Cluster:** two or more individual pieces of equipment designed to be installed in close proximity to each other to provide continuity in a succession that is needed for the play activity. Stepping-stones is one of the examples of cluster.

**Platform:** elevated surface where one or more users can stand without the necessity of hand support.

*NOTE: The categorization of a platform show variation based on the use of the playground equipment. Platforms are not surfaces on which the user may only stand with the help of hand supports*

Reducing the surface area to decreasing free movement and encourage holding on; incline the surface to encourage holding on or introducing movement to the surface to encourage holding on are one of the examples of platforms.

**Handrail:** rail created to assist the user in balancing

**Guardrail:** rail created to prevent a user from falling

**Barrier:** device designed to protect the user from falling and passing beneath.

**Easily Accessible:** needing just basic abilities to access the equipment, allowing users to move easily and rapidly onto/within the equipment, with no additional concerns for hand and foot usage without further considerations about the use of hands and feet.

*A child's capability to utilize a means of access should be controlled by basic skills. If the user has to think about where or how to use their hands and feet when managing a means of access, the access should be considered challenging since it slows down the movement and allows time for intervention.*

**Steep Play Element:** steep play element access/egress play element of a gradient greater than 45 degrees from the horizontal.

**Tiered Platforms:** sequential platforms of different heights that allow the user to ascend or descend on or in the equipment.

*NOTE: Tiered platforms are not included stairs.*

**Forced Movement:** The movement of the user produced by the equipment for example, swinging, sliding and carousel. If it one begun, the user cannot completely control the movement.

**Bouncing Facility:** Playground equipment or equipment parts which consist of flexible characteristics have the main purpose of allowing users to accomplish airborne by jumping without the help of other user(s).

*In general, bouncing facilities do not act as trampolines as they do not allow for high jumps, which are cause serious injuries or hazards.*

**Suspension Bed:** flexible part of a bouncing facility upon which the user jumps.

**One Post Equipment:** structurally fragile equipment where a single cross-section failure (either at the foundation or in the support post) would be catastrophic

**Fireman's Pole:** vertical tube which users may glide *to down*.

**Tunnel:** continuous enclosed tube-like opening with a length that requires crawling or kneeling to pass through.

## ***Appendix B: Parental Consent Form***



### **PARENTAL CONSENT FORM**

We invite you and your children to take part in a research study, “*Gender-neutral Outdoor Playground Design*”, which being conducted by MDes student Beril İsci and advised by Prof. Dr. Deniz Hasircı, Izmir University of Economics, Izmir.

#### **Researchers:**

**Student:** Beril İsci / Graduate School – Design Studies MA program, Izmir University of Economics, [beril.isci@std.ieu.edu.tr](mailto:beril.isci@std.ieu.edu.tr)

**Advisor:** Prof. Dr. Deniz Hasircı, Faculty of Fine Arts and Design, Izmir University of Economics, [deniz.hasirci@ieu.edu.tr](mailto:deniz.hasirci@ieu.edu.tr)

### **INFORMED CONSENT STATEMENT**

I give my permission for my child, to participate in the research project entitled, “*Gender-neutral Outdoor Playground Design*”. The study has been explained to me and my questions answered to my satisfaction. I understand that my child’s right to withdraw from participating or refuse to participate will be respected and his / her identity will be kept confidential. I authorize the use of the information I share within the scope of the study to be used in order to contribute to the playground design in academic outputs.

#### **Parent / Guardian Signature:**

---

*Signature*

---

*Date*

#### **Researcher Signature:**

---

*Signature*

---

*Date*



### EBEVEYNLERE AİT RIZA FORMU

Sizleri ve çocuklarımızı, İzmir Ekonomi Üniversitesi, Tasarım Çalışmaları Yüksek Lisans öğrencisi Beril İşci'nin Prof. Dr. Deniz Hasırcı danışmanlığında yürüttüğü “*Cinsiyetsiz Dış Mekan Oyun Alanı Tasarımı*” isimli araştırma projesine katılmaya davet ediyoruz.

#### Araştırmacılar:

**Öğrenci:** Beril İşci, Lisansüstü Eğitim Enstitüsü, Tasarım Çalışmaları Tezli Yüksek Lisans program, İzmir Ekonomi Üniversitesi, [beril.isci@std.ieu.edu.tr](mailto:beril.isci@std.ieu.edu.tr)

**Tez Danışmanı:** Prof. Dr. Deniz Hasırcı, İçmimarlık ve Çevre Tasarımı Bölümü, Güzel Sanatlar ve Tasarım Fakültesi, İzmir Ekonomi Üniversitesi, [deniz.hasirci@ieu.edu.tr](mailto:deniz.hasirci@ieu.edu.tr)

### AYDINLATILMIŞ ONAM FORMU

Çocuğumun “Cinsiyetsiz Dış Mekan Oyun Alanı Tasarımı” başlıklı araştırma projesine katılmasına izin veriyorum. Çalışma bana açıklandı ve sorularım beni tatmin edecek şekilde cevaplandı. Çocuğumun katılmaktan vazgeçme veya katılmayı reddetme hakkına saygı gösterileceğini ve kimliğinin gizli tutulacağını anlıyorum. Çalışma kapsamında paylaştığım bilgilerin akademik çıktılarda oyun alanı tasarımına katkıda bulunmak amacıyla kullanılmasına izin veriyorum.

#### Ebeveyn / Veli imzası:

\_\_\_\_\_

*İmza*

\_\_\_\_\_

*Tarih*

#### Araştırmacının İmzası:

\_\_\_\_\_

*İmza*

\_\_\_\_\_

*Tarih*



## Appendix C: Children's Questionnaire



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### CHILDREN'S QUESTIONNAIRE

Research Questions (RQ) To Be Answered
<b>RQ-1:</b> What are negative gender-related behaviours in outdoor play environments?
<b>RQ-3:</b> Can design solutions effectively encourage children to engage in physical play activities and take advantage of the risk-taking potential of an outdoor public playground? How?
<b>RQ-4:</b> How do parental concerns about risky play affect children's physical activity level?
<b>RQ-5:</b> How might gender-neutral playground design reduce parental concerns and adult controls on children in outdoor public play environments?

#### QUESTIONS FOR RQ-1 :

1. Do your friends do something that makes you sad?

#### QUESTIONS FOR RQ-3:

1. Can you describe your imaginative playground, what kind of play equipment would you like to have in a play field?
2. What makes you happy or excited in the playgrounds? Why?
3. Which play equipment do you like most in the park?
4. How do you describe; "excited" or "scary"
5. While you are doing something "excited";
6. Do you like play with other children? Do you like play with the most?
7. What do you do when you fall or injured?

#### QUESTIONS FOR RQ-4 AND 5:

1. Who decides which playground to go?
2. Do you decide for yourself who to play with?
3. While you playing in the park, what does your parents do?
4. When you stop playing in the playground?



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### CHILDREN'S QUESTIONNAIRE

**Gender:**

**Age:**

**Duration of Play:**

Please Cross as An Example

or  1     2     3     4     5

1-never                      2.rarely                      3. occasionally                      4.frequently                      5.always

**1. Can you describe your imaginative playground, what kind of play equipment would you like to have in a play field?**

<input type="checkbox"/>	High Barrel Tube Slides	<input type="checkbox"/>	Hide & seek areas (Mystery)
<input type="checkbox"/>	High Open Slides	<input type="checkbox"/>	Prospect area (hills etc.)
<input type="checkbox"/>	Family Slides (with 2 seats)	<input type="checkbox"/>	Refuges (shelter area)
<input type="checkbox"/>	Standard Slides	<input type="checkbox"/>	High Climbing units with slope
<input type="checkbox"/>	Single use swings	<input type="checkbox"/>	High Climbing units without slope
<input type="checkbox"/>	Multiple use swings	<input type="checkbox"/>	Lower Climbing Units
<input type="checkbox"/>	Teeter-totter	<input type="checkbox"/>	Vegetation
<input type="checkbox"/>	Sandpit	<input type="checkbox"/>	Presence of water

**NOTES:**

**2. Who decides which playground to go?**

a. My Parents	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
b. My Friends	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
c. Myself	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5

**NOTES:**

**3. What makes you happy or excited in the playgrounds? Why**

a. Play with my close friends	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
b. Play with my family	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
c. High Barrel Tube Slides	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
d. High Open Slides	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
e. Family Slides (with 2 seats)	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
f. Standard Slides	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
g. Single use swings	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
h. Multiple use swings	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
i. Teeter-totter	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
j. Sandpit	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
k. Hide & seek areas (Mystery)	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
l. Prospect area (hills etc.)	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
m. Refuges (shelter area)	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
n. High Climbing units with slope	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
o. High Climbing units without slope	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
p. Lower Climbing Units	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
q. Vegetation	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
r. Presence of water	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5

**NOTES:**

**4. Do your friends do something that makes you sad?**

a. They say "You can't do it"	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
b. They say "I have priority"	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
c. Screaming, make noise	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
d. Disrupt me to use the equipment	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
e. They say to me what I should to	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5

**NOTES:**

**5. Do you like play with other children? Do you like play with the most?**

a. With my close friends	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
b. With girls	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
c. With boys	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
d. I like meet new children	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
e. I like to play alone	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5

**NOTES:**

**6. Do you decide for yourself who to play with?**

a. My parents	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
b. Myself	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5

**NOTES:**

**7. Which play equipment do you like most in the park?**

<input type="checkbox"/> High Barrel Tube Slides	<input type="checkbox"/> Hide & seek areas (Mystery)
<input type="checkbox"/> High Open Slides	<input type="checkbox"/> Prospect area (hills etc.)
<input type="checkbox"/> Family Slides (with 2 seats)	<input type="checkbox"/> Refuges (shelter area)
<input type="checkbox"/> Standard Slides	<input type="checkbox"/> High Climbing units with slope
<input type="checkbox"/> Single use swings	<input type="checkbox"/> High Climbing units without slope
<input type="checkbox"/> Multiple use swings	<input type="checkbox"/> Lower Climbing Units
<input type="checkbox"/> Teeter-totter	<input type="checkbox"/> Vegetation
<input type="checkbox"/> Sandpit	<input type="checkbox"/> Presence of water

**NOTES:**

**8. While you playing in the park, what does your parents do?**

a. Watching from distance	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
b. Playing together	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
c. Standing by myside	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
d. Helping me to socializing	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
e. Helping me to use the equipment	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
f. Warning about negative behaviours or possible risks	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
g. When I asked for help, they say "you can do it"	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5

**NOTES:**

**9. How do you describe; "excited" or "scarry"**

	excited	scarry
a. Climb high	<input type="checkbox"/>	<input type="checkbox"/>
b. Swing fast	<input type="checkbox"/>	<input type="checkbox"/>
c. Jump high	<input type="checkbox"/>	<input type="checkbox"/>
d. Run down from a high place	<input type="checkbox"/>	<input type="checkbox"/>
e. Climbing a tree	<input type="checkbox"/>	<input type="checkbox"/>
f. Playing with water	<input type="checkbox"/>	<input type="checkbox"/>
g. Look around from a high place	<input type="checkbox"/>	<input type="checkbox"/>
h. Pass through tunnels	<input type="checkbox"/>	<input type="checkbox"/>

**NOTES:**

**10. While you are doing something “excited”;**

a. I want my parents to be with me	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
b. I want my friends to be with me	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
c. I do it myself	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5

**NOTES:**

**11. What do you do when you fall or injured?**

a. I stop playing games	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
b. I call my parents	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
c. My parents come to next to me	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
d. I continue to playing	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5

**NOTES:**

**12. When you stop playing in the playground?**

a. When my parents say "time is up"	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
b. When other children disturbed me	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
c. When I play with the whole equipment	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
d. When I get tired	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5

**NOTES:**

**Thank you for your contribution!**



EBU 1



İZMİR EKONOMİ ÜNİVERSİTESİ

ÇOCUKLAR İÇİN SORULARI

Cinsiyeti: Kiz

Yaşı: 7

Oyun Süresi: 1 saat

Lütfen gösterildiği gibi işaretleyiniz.

veya  1  2  3  4  5

1-Aslar

2-Ara sıra

3. Bazen

4.Sıklıkla

5.Her zaman

1. Hayalindeki parkı anlatır mısın? Bir parkta nasıl oyuncaklar olmasını isterdin?

<input type="checkbox"/>	Yüksek tüp kaydıraklar	<input checked="" type="checkbox"/>	Saklanma alanları
<input checked="" type="checkbox"/>	Yüksek açık kaydıraklar	<input checked="" type="checkbox"/>	Gözlem alanları (tepeler, yüksek yerler)
<input type="checkbox"/>	Aile kaydırakları (2kişilik)	<input checked="" type="checkbox"/>	Korunak alanları
<input type="checkbox"/>	Standard kaydıraklar	<input checked="" type="checkbox"/>	Eğimli yüksek tırmanma ekipmanları
<input type="checkbox"/>	Tek kişilik salıncaklar	<input type="checkbox"/>	Eğimsiz yüksek tırmanma ekipmanları
<input checked="" type="checkbox"/>	Çok kullanıcı salıncaklar	<input checked="" type="checkbox"/>	Alçak tırmanma ekipmanları
<input type="checkbox"/>	Tahterevalli	<input type="checkbox"/>	Bitkilendirme / ağaçlandırma
<input checked="" type="checkbox"/>	Kum havuzu	<input checked="" type="checkbox"/>	Suyun varlığı

NOTLAR:

Isık ve ya döner oyuncaklar, döner salıncaklar  
Ağaç ve bitkiler için 'gerek yok' dedi.

2. Hangi parka gideceğinizi kim seçiyor?

a. Annem/babam	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input checked="" type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
b. Arkadaşlarım	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input checked="" type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
c. Ben	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input checked="" type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5

NOTLAR:

3. Oyun alanlarında seni en çok mutlu eden ve heyecanlandıran şey nedir? Neden?

a. Sevdiğim arkadaşlarımla oynamak	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input checked="" type="checkbox"/> 4	<input type="checkbox"/> 5
b. Ailemle oynamak	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input checked="" type="checkbox"/> 4	<input type="checkbox"/> 5
c. Yüksek tüp kaydıraklar	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input checked="" type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
d. Yüksek açık kaydıraklar	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input checked="" type="checkbox"/> 5
e. Aile kaydırakları (2kişilik)	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input checked="" type="checkbox"/> 4	<input type="checkbox"/> 5
f. Standard kaydıraklar	<input type="checkbox"/> 1	<input checked="" type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
g. Tek kişilik salıncaklar	<input type="checkbox"/> 1	<input checked="" type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
h. Çok kullanıcılı salıncaklar	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input checked="" type="checkbox"/> 4	<input type="checkbox"/> 5
i. Tahterevalli	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input checked="" type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
j. Kum havuzu	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input checked="" type="checkbox"/> 5
k. Saklanma alanları	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input checked="" type="checkbox"/> 5
l. Gözlem alanları (tepeler, yüksek yerler)	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input checked="" type="checkbox"/> 5
m. Korunak alanları	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input checked="" type="checkbox"/> 5
n. Eğimli yüksek tırmanma ekipmanları	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input checked="" type="checkbox"/> 5
o. Eğimsiz yüksek tırmanma ekipmanları	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input checked="" type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
p. Alçak tırmanma ekipmanları	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input checked="" type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
q. Bitkilendirme / ağaçlandırma	<input type="checkbox"/> 1	<input checked="" type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
r. Suyun varlığı	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input checked="" type="checkbox"/> 5

NOTLAR:

4. Oyun arkadaşların mutsuz olmana sebep olacak şeyler yapıyorlar mı?

a. Sen yapamazsın demek	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input checked="" type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
b. Öncelik benim demek	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input checked="" type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
c. Bağırarak, gürültü yapmak	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input checked="" type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
d. Oyunu engellemek	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input checked="" type="checkbox"/> 4	<input type="checkbox"/> 5
e. Ne yapacağını söylemek	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input checked="" type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5

NOTLAR:

5. Diğer çocuklarla oyun oynamayı seviyor musun? En çok kimlerle oyun oynamayı seviyorsun?

a. Yakın arkadaşlarımla	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input checked="" type="checkbox"/> 5
b. Kızlarla	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input checked="" type="checkbox"/> 4	<input type="checkbox"/> 5
c. Erkeklerle	<input type="checkbox"/> 1	<input checked="" type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
d. Yeni arkadaşlar edinmek	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input checked="" type="checkbox"/> 4	<input type="checkbox"/> 5
e. Tek başıma oynamak	<input type="checkbox"/> 1	<input checked="" type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5

NOTLAR:

Çocuk yeni arkadaşlar edinmeyi sevdiğini söylerken, annesi, kızının ile kapalı olduğunu ve yeni arkadaş edinmekten hoşlanmadığını söyler.

6. Kiminle oynayacağına kendin mi karar veriyorsun?

a. Ailem	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
b. Ben	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input checked="" type="checkbox"/> 5

NOTLAR:

7. Parktaki hangi oyuncaklarla oynamayı daha çok seviyorsun?

<input type="checkbox"/> Yüksek tüp kaydıraklar	<input checked="" type="checkbox"/> Saklanma alanları
<input checked="" type="checkbox"/> Yüksek açık kaydıraklar	<input checked="" type="checkbox"/> Gözlem alanları (tepeler, yüksek yerler)
<input checked="" type="checkbox"/> Aile kaydırakları (2kişilik)	<input checked="" type="checkbox"/> Korunak alanları
<input type="checkbox"/> Standard kaydıraklar	<input checked="" type="checkbox"/> Eğimli yüksek tırmanma ekipmanları
<input type="checkbox"/> Tek kişilik salıncaklar	<input type="checkbox"/> Eğimsiz yüksek tırmanma ekipmanları
<input checked="" type="checkbox"/> Çok kullanıcı salıncaklar	<input type="checkbox"/> Alçak tırmanma ekipmanları
<input type="checkbox"/> Tahterevalli	<input type="checkbox"/> Bitkilendirme / ağaçlandırma
<input checked="" type="checkbox"/> Kum havuzu	<input checked="" type="checkbox"/> Suyun varlığı

NOTLAR:

"Eğimli yüksek tırmanma ekipmanları" için parktaki örnek gösterildi. Çocuk bu ekipmanı "yüksek değil" olarak tanımlamasına rağmen; annesi "senin için çok yüksek" diye uyarıda bulundu.

8. Sen parkta oynarken annen veya baban ne yapıyor?

a. Uzaktan izliyorlar	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input checked="" type="checkbox"/> 4	<input type="checkbox"/> 5
b. Benimle birlikte oynuyorlar	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input checked="" type="checkbox"/> 4	<input type="checkbox"/> 5
c. Yanımda duruyorlar	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input checked="" type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
d. Sosyalleşmeme yardımcı oluyorlar	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input checked="" type="checkbox"/> 4	<input type="checkbox"/> 5
e. Ekipmanı kullanmama yardımcı oluyorlar	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input checked="" type="checkbox"/> 4	<input type="checkbox"/> 5
f. Kötü davranışlarımı veya tehlikeler hakkında uyarıyorlar	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input checked="" type="checkbox"/> 4	<input type="checkbox"/> 5
g. Yardım istediğimde "sen yapabilirsin" diyorlar	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input checked="" type="checkbox"/> 5

NOTLAR:

9. Nasıl tanımlarsın; "heyecanlı" veya "korkutucu"

	Heyecanlı	Korkutucu
a. Yüksekçe tırmanmak	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Hızlı sallanmak	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. Yüksekten atlamak	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. Yüksek bir yerden koşarak inmek	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e. Ağaca tırmanmak	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f. Suyla oynamak	<input checked="" type="checkbox"/>	<input type="checkbox"/>
g. Yüksek bir yerden etrafı izlemek	<input checked="" type="checkbox"/>	<input type="checkbox"/>
h. Tünellerden geçmek	<input checked="" type="checkbox"/>	<input type="checkbox"/>

NOTLAR:

Ağaca tırmanmadığını ama güzel abakasını beğendi.

10. Seni heyecanlandırarak şeyler yaparken;

a. Ailemin yanımda olmasını isterim	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
b. Arkadaşlarımın yanımda olmasını isterim	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
c. Kendim yaparım	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input checked="" type="checkbox"/> 5

NOTLAR: «Tabii ki kendim»

11. Düştüğünde veya canın yandığında ne yaparsın?

a. Oyun oynamayı bırakırım	<input type="checkbox"/> 1	<input checked="" type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
b. Ailemi çağırırım	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input checked="" type="checkbox"/> 4	<input type="checkbox"/> 5
c. Annem / babam hemen yanıma gelir	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input checked="" type="checkbox"/> 5
d. Oyun oynamaya devam ederim	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input checked="" type="checkbox"/> 4	<input type="checkbox"/> 5

NOTLAR:

12. Ne zaman parkta oyun oynamayı bırakırsın?

a. Ailem zamanın dolduğunu söylediğinde	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input checked="" type="checkbox"/> 4	<input type="checkbox"/> 5
b. Diğer çocuklar beni rahatsız ettiğinde	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input checked="" type="checkbox"/> 4	<input type="checkbox"/> 5
c. Bütün oyuncularla oynadığımda	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input checked="" type="checkbox"/> 4	<input type="checkbox"/> 5
d. Yorulduğumda	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input checked="" type="checkbox"/> 4	<input type="checkbox"/> 5

NOTLAR:

Eğer genellikle ailem zamanın dolmasını söylediğinde oyun bırakırsam bu konuda sorumluluğu eş zamanlı duymuş.

Katıldığımız için teşekkürler!

## Appendix D: Parents' Questionnaire



IZMİR UNIVERSITY OF ECONOMICS

### PARENTS' QUESTIONNAIRE

**Your Gender:**

**Your Child's Age:**

**Your Child's Gender:**

**Typical Duration of Play:**

**Please Cross as An Example**

1    2    3    4    5

**1-never                      2.rarely                      3. occasionally                      4.frequently                      5.always**

**1. According to your observation, what annoys her / him in the playgrounds?**

a. Disruption by other children	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
b. Crowd in the playground	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
c. Your interferences	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
d. Others (please explain)	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5

**NOTES:**



**2. From your observations, how your child chooses his / her playmate?**

a. Gender	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
b. Age	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
c. According to her / his appearance	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
d. Meets them while using the play equipment	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
e. Does not like to play with someone he/she does not know	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5

**NOTES:**

**3. According to your observations, what are the favorite play equipment of your child?**

a. Sliding	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
b. Single swing	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
c. Multi-use swing	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
d. Teeter-totter	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
e. Sandpit	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
f. Climbing Units	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
g. Hide and seek areas	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
h. Prospect areas	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
i. Refuges	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
j. Risk/Peril areas	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
k. Natural hills (topography)	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5

**NOTES:**

**4. How do you intervene in your child's preference of play companion?**

a. Encourage them to play with same gender peer	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
b. Encourage them to play with cross-gender peer	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
c. Helping them to meet new friends	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
d. Organizing their play time with his/her friends	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5

**NOTES:**

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**5. What is your expectation of a playground, please explain briefly?**

a. Diverse play opportunities	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
b. Playground density	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
c. Vegetation	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
d. Refuges	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
e. Risk/Peril areas	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
f. Prospect	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
g. Mystery	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
h. Equipment with natural materials	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
i. Presence of water	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
j. Vivid colors	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
k. Neutral colors	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5

**NOTES:**

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**6. Can you briefly explain the reason for choosing this playground?**

a. Diverse play opportunities	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
b. Playground density	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
c. Located in neighbourhood	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
d. Playground safety	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
e. He /She like this playground	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5

**NOTES:**

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**7. How do you describe equipment /playground safety?**

a. Flooring material for injuries Please choose: Grass / Sand / Rubber	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
b. Height of the equipment	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
c. Accessibility to child	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
d. Visibility	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5

**NOTES:**

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**8. During the play time, how involved are you in your child's play?**

a. Watching from distance	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
b. Playing together	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
c. Helping them to socializing	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
d. Helping them to use the equipment	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
e. Encouraging	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
f. Warning about their negative behaviours or possible risks	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5

**NOTES:**

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**9. While your child is playing in the public playgrounds, what kind of things cause you to worry about your child?**

a. Equipment's safety	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
b. Your child's interaction with other children	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
c. Crowd in the playfield	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
d. User profile	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5

**NOTES:**

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**10. When you encounter a perturbational situation, how do you react? Give an example.**

a. Intervene immediately	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
b. Follow their reaction for a while	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
c. Warning them about the risks	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
d. Ending the play time	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5

**NOTES:**

**11. How do you react about your child's tendency to take risks during the play?**

a. Allow themselves to use the equipment without any interferences	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
b. Allow for jumping or climbing to a high place	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
c. In case of request for help, ignoring the request	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
d. He/she take risk under your control	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5

**NOTES:**

**12. Under which circumstances do you end the play time in the public playgrounds?**

a. When the number of children increases	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
b. When he/she does not obey your warnings	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
c. When he/she use the equipment inappropriately	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
d. When other children have negative attitudes towards your child	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
e. When your child has negative attitudes toward other children	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
f. Whenever my child wants to end the play	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5

**NOTES:**

**Thank you for your contribution!**

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İZMİR EKONOMİ ÜNİVERSİTESİ

## EBEVEYN SORULARI

Cinsiyetiniz: KADIN

Çocuğunuzun Yaşı: 5

Çocuğunuzun Cinsiyeti: KIZ

Ortalama Oyun Süresi: 30 dk.

Lütfen örnekte gösterildiği gibi işaretleyiniz.

 1  2  3  4  5

1-Asla

2.Nadiren

3. Bazen

4.Sıklıkla

5. Her zaman

## 1. Gözlemlerinize göre, çocuğunuzun oyun alanında neler rahatsız ediyor?

a. Diğer çocuklar tarafından oyununun engellenmesi	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input checked="" type="checkbox"/> 5
b. Oyun alanının kalabalık olması	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input checked="" type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
c. Sizin müdahale etmeniz	<input checked="" type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
d. Diğer (lütfen açıklayınız)	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5

## NOTLAR:

Diğer çocuklar eşyalarını alınca benim oyun alanımı istiyorlar

2. Gözlemlerinize göre, çocuğunuz oyun arkadaşını nasıl seçiyor?

a. Cinsiyetine göre	<input checked="" type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
b. Yaşına göre	<input checked="" type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
c. Dış görünümüne göre	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input checked="" type="checkbox"/> 5
d. Oyun ekipmanlarını kullanırken tanıştırıyor	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input checked="" type="checkbox"/> 5
e. Tanımadığı çocuklarla oynamayı sevmiyor	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input checked="" type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5

NOTLAR:

Yaklaşımına göre  
Onlar gelip tanışır sa

3. Gözlemlerinize göre, çocuğunuzun en sevdiği oyun ekipmanları nelerdir?

a. Yüksek kaydıraklar	<i>korkuyor</i>	<input type="checkbox"/> 1	<input checked="" type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
b. Üstü kapalı kaydıraklar		<input checked="" type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
c. Tek kişilik salıncaklar	<i>en çok</i>	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input checked="" type="checkbox"/> 5
d. Çok kullanıcı salıncaklar		<input checked="" type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
e. Tahterevalli		<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
f. Kum havuzlara	<i>en çok</i>	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input checked="" type="checkbox"/> 5
g. Tırmanma ekipmanı	<i>düşme korkusu</i>	<input type="checkbox"/> 1	<input checked="" type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
h. Saklanabilecekleri alanlar		<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input checked="" type="checkbox"/> 5
i. Gözlem alanları		<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input checked="" type="checkbox"/> 5
j. Korunak alanları		<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input checked="" type="checkbox"/> 5
k. Riskli/tehlikeli alanlar	<i>walk tenisi bir kışak</i>	<input checked="" type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
l. Doğal tepeler (topografya kullanımı)		<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input checked="" type="checkbox"/> 5

NOTLAR:

duvarlanmayı sevmiyor



4. Çocuğunuzun oyun arkadaşı seçimine nasıl müdahale ediyorsunuz?

a. Aynı cinsiyetten çocuklarla oynamaları için yönlendirmek	<input checked="" type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
b. Farklı cinsiyetten çocuklarla oynamaları için yönlendirmek	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input checked="" type="checkbox"/> 4	<input type="checkbox"/> 5
c. Yeni arkadaşlar edinmelerine yardımcı olmak	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input checked="" type="checkbox"/> 5
d. Oyun zamanlarını kendi arkadaşlarıyla organize etmek	<input type="checkbox"/> 1	<input checked="" type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5

NOTLAR:

Tele başına kalmayı sevdiği için sosyalleşmesi için cesaretlendiriyorum.

5. Bir oyun alanından beklentileriniz nelerdir? Lütfen açıklayınız.

a. Oyun çeşitliliği	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input checked="" type="checkbox"/> 5
b. Sakin olması	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input checked="" type="checkbox"/> 5
c. Bitkilendirme, yeşil alanların olması	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input checked="" type="checkbox"/> 5
d. Korunma alanlarının olması <i>er cide</i>	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input checked="" type="checkbox"/> 5
e. Risk almayı öğrenecekleri alanların olması	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input checked="" type="checkbox"/> 5
f. Gözlem alanları	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input checked="" type="checkbox"/> 5
g. Saklanabilecekleri alanların olması	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input checked="" type="checkbox"/> 5
h. Doğal malzemelerin kullanılması	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input checked="" type="checkbox"/> 5
i. Su alanları	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input checked="" type="checkbox"/> 5
j. Parlak renklerin kullanılması	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input checked="" type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
k. Doğal renklerin kullanılması	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input checked="" type="checkbox"/> 5

NOTLAR:

Öğrenilmesini lazım

6. Bu oyun alanını seçme sebebinizi kısaca açıklayınız?

a. Oyun çeşitliliği	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input checked="" type="checkbox"/> 5
b. Sakin olması	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input checked="" type="checkbox"/> 5
c. Eve yakın olması	<input checked="" type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5
d. Güvenli bir oyun alanı olması	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input checked="" type="checkbox"/> 5
e. Çocuğunuzun bu oyun alanını sevmesi	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input checked="" type="checkbox"/> 5

NOTLAR:

parkla ilgili kötü deneyimler olunca bir daha gitmedim. u

7. Oyun ekipmanı / oyun alanı güvenliğini nasıl tanımlarsınız?

a. Zemin malzemesi Lütfen seçiniz: Çim / Kum / Kauçuk	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input checked="" type="checkbox"/> 5
b. Ekipmanların yükseklikleri	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input checked="" type="checkbox"/> 5
c. Çocuğunuza ulaşabilme şansı	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input checked="" type="checkbox"/> 5
d. Görünürlük	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input checked="" type="checkbox"/> 5

NOTLAR:

8. Oyun sırasında, çocuğunuzun oyununa nasıl dahil oluyorsunuz?

a. Uzaktan izleyerek	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input checked="" type="checkbox"/> 4	<input type="checkbox"/> 5
b. Birlikte oynayarak	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input checked="" type="checkbox"/> 3	<input checked="" type="checkbox"/> 4	<input type="checkbox"/> 5
c. Sosyalleşmesine yardımcı olarak	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input checked="" type="checkbox"/> 5
d. Ekipmanı kullanmasına yardımcı olarak	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input checked="" type="checkbox"/> 5
e. Cesaretlendirerek	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input checked="" type="checkbox"/> 5
f. Negatif davranışlarını uyararak veya olası riskler hakkında uyararak	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input checked="" type="checkbox"/> 5

NOTLAR:

9. Çocuğunuz parklarda oyun oynarken endişelenmenize sebep olan şeyler nelerdir?

a. Ekipmanların güvenli olup olmaması	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input checked="" type="checkbox"/> 5
b. Çocuğunuzun diğer çocuklarla etkileşimi	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input checked="" type="checkbox"/> 5
c. Oyun alanının kalabalık olması	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input checked="" type="checkbox"/> 5
d. Kullanıcı profili	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input checked="" type="checkbox"/> 5

NOTLAR:

→ Yaramaz çocuklar

10. Endişelenmenize sebep olacak bir durumla karşılaştığınızda nasıl tepki verirsiniz?

Örnek veriniz.

a. Anında müdahale ederek	<input type="checkbox"/> 1	<input checked="" type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
b. Çocuğun vereceği tepkiyi gözlemleyerek	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input checked="" type="checkbox"/> 5
c. Riskler hakkında uyararak	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input checked="" type="checkbox"/> 4	<input type="checkbox"/> 5
d. Oyun zamanını sonlandırarak	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input checked="" type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5

NOTLAR:

Çocuk orada olmak istemiyorsa

11. Çocuğunuzun oyun sırasındaki risk alma eğilimine nasıl tepki verirsiniz?

a. Ekipmanı tek başına kullanmasına izin vererek	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input checked="" type="checkbox"/> 5
b. Yüksek yerlere tırmanmasına veya atlamasına izin vererek	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input checked="" type="checkbox"/> 5
c. Yardım istemesi durumunda, bu isteği bir süre görmezden gelerek	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input checked="" type="checkbox"/> 5
d. Sizin kontrolünüzde risk almasına izin vermek	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input checked="" type="checkbox"/> 5

NOTLAR:

12. Hangi durumlarda oyun zamanını sonlandırırınız?

a. Çocuk sayısı arttığında	<input checked="" type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
b. Uyanlarınızı dinlemediğinde	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input checked="" type="checkbox"/> 3	<input type="checkbox"/> 4	<input checked="" type="checkbox"/> 5
c. Ekipmanları uygun olmayan biçimde kullandığında	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input checked="" type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
d. Diğer çocuklar, çocuğunuza karşı negatif davranışlar gösterdiğinde "önce uyandı"	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input checked="" type="checkbox"/> 4	<input type="checkbox"/> 5
e. Çocuğunuz diğer çocuklara karşı negatif davranışlar gösterdiğinde "hiç olmaz"	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
f. Çocuğunuz ne zaman isterse	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input checked="" type="checkbox"/> 5

NOTLAR:

→ Başka ayına göndererek

Katılımınız için teşekkürler!

## Appendix E: Observation Checklists

OBSERVATION SHEET FOR UNDERSTANDING CHILDREN'S BEHAVIOURS AND RISK TAKING PATTERNS IN GROUP AND INDIVIDUAL PLAYS										 SEHR UNIVERSITY OF ECONOMICS		
APPROXIMATE NUMBER OF GIRLS: APPROXIMATE NUMBER OF BOYS: APPROXIMATE NUMBER OF ADULTS: APPROXIMATE AGE RANGE:			LOCATION: BOSTANLI / OLOF PALME PARK				DATE:		TIME: 18.30 – 18.45 18.45 – 19.00 19.15 – 19.30 19.30 – 19.45 19.45 – 20.00 20.00 – 20.15 20.15 – 20.30			
<b>EQ. 1 - ROPE SWING</b>												
<b>NEGATIVE BEHAVIOUR</b> A. AGRESSION B. SOCIAL EXCLUSION C. BULLYING D. USE OF EQ. INAPPROPRIATELY E. DISRUPTION F. DISTURBING			<b>RISK-TAKING BEHAVIOURS</b> 1. INDIVIDUAL DECISION MAKING ON RISK TAKING AND TAKING RISK 2. INDIVIDUAL DECISION MAKING ON RISK TAKING AND AVOIDING TAKING RISK 3. EXPLORATORY RISK APPRAISAL (ASKING ADULTS) 3.1. AVOIDING DESPITE HELP 3.2. TAKING RISK WITH HELP			<b>PARENTAL INTERFERENCES:</b> a. WATCHING FROM DISTANCE b. PLAYING TOGETHER c. HELPING THEM TO SOCIALIZING d. HELPING THEM TO USE THE EQUIPMENT e. ENCOURAGING f. WARNING		<b>EQUIPMENTS' ENVIRONMENT USE:</b> I. RUNNING II. CRAWLING III. HIDING IV. TRANSITION V. SOCIALIZING VI. CLIMBING				
<b>INDIVIDUAL PLAY</b>												
GIRL					BOY							
	NEGATIVE BEHAVIOURS	RISK-TAKING PATTERNS	PARENTAL INTERFERENCES	ENVIRONMENT USE	AGE	NEGATIVE BEHAVIOURS	RISK-TAKING PATTERNS	PARENTAL INTERFERENCES	ENVIRONMENT USE	AGE		
					3 4 5 6 7					3 4 5 6 7		
	CHILD 1											
	CHILD 2											
	CHILD 3											
	CHILD 4											
	CHILD 5											
	NOTES:					NOTES:						
<b>SAME GENDER PLAY</b>												
GIRLS-GIRLS					BOYS-BOYS							
	NEGATIVE BEHAVIOURS	RISK-TAKING PATTERNS	PARENTAL INTERFERENCES	ENVIRONMENT USE	NUMBER OF CHILDREN	AGE	NEGATIVE BEHAVIOURS	RISK-TAKING PATTERNS	PARENTAL INTERFERENCES	ENVIRONMENT USE	NUMBER OF CHILDREN	AGE
						3 4 5 6 7						3 4 5 6 7
GROUP 1	CHILD 1											
	CHILD 2											
	CHILD 3											
	CHILD 4											
	CHILD 5											
GROUP 2	CHILD 1											
	CHILD 2											
	CHILD 3											
	CHILD 4											
	CHILD 5											
	NOTES:					NOTES:						
<b>MIX-GENDER PLAY</b>												
GIRLS-BOYS												
	NEGATIVE BEHAVIOURS	RISK-TAKING PATTERNS	PARENTAL INTERFERENCES	ENVIRONMENT USE	GENDER	AGE						
						3 4 5 6 7						
GROUP 1	CHILD 1											
	CHILD 2											
	CHILD 3											
	CHILD 4											
	CHILD 5											
GROUP 2	CHILD 1											
	CHILD 2											
	CHILD 3											
	CHILD 4											
	CHILD 5											
	NOTES:											



OBSERVATION SHEET FOR UNDERSTANDING CHILDREN'S BEHAVIOURS AND RISK TAKING PATTERNS IN GROUP AND INDIVIDUAL PLAYS										 ZEMIR UNIVERSITY OF ECONOMICS								
APPROXIMATE NUMBER OF GIRLS: APPROXIMATE NUMBER OF BOYS: APPROXIMATE NUMBER OF ADULTS: APPROXIMATE AGE RANGE:	LOCATION: BOSTANLI / OLOF PALME PARK						DATE:	TIME: 18.30 – 18.45 18.45 – 19.00 19.15 – 19.30 19.30 – 19.45 19.45 – 20.00 20.00 – 20.15 20.15 – 20.30										
EQ. 2 - LONG SWING																		
<b>NEGATIVE BEHAVIOUR</b> A. AGGRESSION B. SOCIAL EXCLUSION C. BULLYING D. USE OF EQ. INAPPROPRIATELY E. DISRUPTION F. DISTURBING	<b>RISK-TAKING BEHAVIOURS</b> 1. INDIVIDUAL DECISION MAKING ON RISK TAKING AND TAKING RISK 2. INDIVIDUAL DECISION MAKING ON RISK TAKING AND AVOIDING TAKING RISK 3. EXPLORATORY RISK APPRAISAL (ASKING ADULTS) 3.1. AVOIDING DESPITE HELP 3.2. TAKING RISK WITH HELP				<b>PARENTAL INTERFERENCES:</b> a. WATCHING FROM DISTANCE b. PLAYING TOGETHER c. HELPING THEM TO SOCIALIZING d. HELPING THEM TO USE THE EQUIPMENT e. ENCOURAGING f. WARNING			<b>EQUIPMENTS' ENVIRONMENT USE:</b> I. RUNNING II. CRAWLING III. HIDING IV. TRANSITION V. SOCIALIZING VI. CLIMBING										
INDIVIDUAL PLAY																		
GIRL						BOY												
	NEGATIVE BEHAVIOURS	RISK-TAKING PATTERNS	PARENTAL INTERFERENCES	ENVIRONMENT USE	AGE			NEGATIVE BEHAVIOURS	RISK-TAKING PATTERNS	PARENTAL INTERFERENCES	ENVIRONMENT USE	AGE						
					3	4	5	6	7			3	4	5	6	7		
	CHILD 1																	
	CHILD 2																	
	CHILD 3																	
	CHILD 4																	
	CHILD 5																	
	NOTES:						NOTES:											
SAME GENDER PLAY																		
GIRLS-GIRLS						BOYS-BOYS												
	NEGATIVE BEHAVIOURS	RISK-TAKING PATTERNS	PARENTAL INTERFERENCES	ENVIRONMENT USE	NUMBER OF CHILDREN	AGE			NEGATIVE BEHAVIOURS	RISK-TAKING PATTERNS	PARENTAL INTERFERENCES	ENVIRONMENT USE	NUMBER OF CHILDREN	AGE				
						3	4	5	6	7				3	4	5	6	7
GROUP 1	CHILD 1																	
	CHILD 2																	
	CHILD 3																	
	CHILD 4																	
	CHILD 5																	
GROUP 2	CHILD 1																	
	CHILD 2																	
	CHILD 3																	
	CHILD 4																	
	CHILD 5																	
	NOTES:						NOTES:											
MIX-GENDER PLAY																		
GIRLS-BOYS																		
	NEGATIVE BEHAVIOURS	RISK-TAKING PATTERNS	PARENTAL INTERFERENCES	ENVIRONMENT USE	GENDER	AGE												
						3	4	5	6	7								
GROUP 1	CHILD 1																	
	CHILD 2																	
	CHILD 3																	
	CHILD 4																	
	CHILD 5																	
GROUP 2	CHILD 1																	
	CHILD 2																	
	CHILD 3																	
	CHILD 4																	
	CHILD 5																	
	NOTES:						NOTES:											



**OBSERVATION SHEET FOR UNDERSTANDING CHILDREN'S BEHAVIOURS  
AND RISK TAKING PATTERNS IN GROUP AND INDIVIDUAL PLAYS**



APPROXIMATE NUMBER OF GIRLS: APPROXIMATE NUMBER OF BOYS: APPROXIMATE NUMBER OF ADULTS: APPROXIMATE AGE RANGE:	LOCATION: BOSTANLI / OLOF PALME PARK	DATE:	TIME: 18.30 – 18.45 18.45 – 19.00 19.15 – 19.30 19.30 – 19.45 19.45 – 20.00 20.00 – 20.15 20.15 – 20.30
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**EQ. 3.1 - MULTIPLAY UNIT (SLIDING PART)**

<b>NEGATIVE BEHAVIOUR</b> A. AGGRESSION B. SOCIAL EXCLUSION C. BULLYING D. USE OF EQ. INAPPROPRIATELY E. DISRUPTION F. DISTURBING	<b>RISK-TAKING BEHAVIOURS</b> 1. INDIVIDUAL DECISION MAKING ON RISK TAKING AND TAKING RISK 2. INDIVIDUAL DECISION MAKING ON RISK TAKING AND AVOIDING TAKING RISK 3. EXPLORATORY RISK APPRAISAL (ASKING ADULTS) 3.1. AVOIDING DESPITE HELP 3.2. TAKING RISK WITH HELP	<b>PARENTAL INTERFERENCES:</b> a. WATCHING FROM DISTANCE b. PLAYING TOGETHER c. HELPING THEM TO SOCIALIZING d. HELPING THEM TO USE THE EQUIPMENT e. ENCOURAGING f. WARNING	<b>EQUIPMENTS' ENVIRONMENT USE:</b> I. RUNNING II. CRAWLING III. HIDING IV. TRANSITION V. SOCIALIZING VI. CLIMBING
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**INDIVIDUAL PLAY**

	INDIVIDUAL PLAY									
	GIRL					BOY				
	NEGATIVE BEHAVIOURS	RISK-TAKING PATTERNS	PARENTAL INTERFERENCES	ENVIRONMENT USE	AGE	NEGATIVE BEHAVIOURS	RISK-TAKING PATTERNS	PARENTAL INTERFERENCES	ENVIRONMENT USE	AGE
					3 4 5 6 7					3 4 5 6 7
CHILD 1										
CHILD 2										
CHILD 3										
CHILD 4										
CHILD 5										
	NOTES:					NOTES:				

**SAME GENDER PLAY**

	SAME GENDER PLAY											
	GIRLS-GIRLS					BOYS-BOYS						
	NEGATIVE BEHAVIOURS	RISK-TAKING PATTERNS	PARENTAL INTERFERENCES	ENVIRONMENT USE	NUMBER OF CHILDREN	AGE	NEGATIVE BEHAVIOURS	RISK-TAKING PATTERNS	PARENTAL INTERFERENCES	ENVIRONMENT USE	NUMBER OF CHILDREN	AGE
						3 4 5 6 7						3 4 5 6 7
GROUP 1	CHILD 1											
	CHILD 2											
	CHILD 3											
	CHILD 4											
	CHILD 5											
GROUP 2	CHILD 1											
	CHILD 2											
	CHILD 3											
	CHILD 4											
	CHILD 5											
	NOTES:					NOTES:						

**MIX-GENDER PLAY**

	MIX-GENDER PLAY						
	GIRLS-BOYS				GENDER	AGE	
	NEGATIVE BEHAVIOURS	RISK-TAKING PATTERNS	PARENTAL INTERFERENCES	ENVIRONMENT USE		3	4
						3 4 5 6 7	
GROUP 1	CHILD 1						
	CHILD 2						
	CHILD 3						
	CHILD 4						
	CHILD 5						
GROUP 2	CHILD 1						
	CHILD 2						
	CHILD 3						
	CHILD 4						
	CHILD 5						
	NOTES:						





**OBSERVATION SHEET FOR UNDERSTANDING CHILDREN'S BEHAVIOURS  
AND RISK TAKING PATTERNS IN GROUP AND INDIVIDUAL PLAYS**



APPROXIMATE NUMBER OF GIRLS:  
APPROXIMATE NUMBER OF BOYS:  
APPROXIMATE NUMBER OF ADULTS:  
APPROXIMATE AGE RANGE:

LOCATION: BOSTANLI / OLOF PALME PARK

DATE:

TIME:  
18:30 – 18:45  
18:45 – 19:00  
19:15 – 19:30  
19:30 – 19:45  
19:45 – 20:00  
20:00 – 20:15  
20:15 – 20:30

**EQ. 3.2 - MULTIPLAY UNIT (CLIMBING PART)**

**NEGATIVE BEHAVIOUR**  
A. AGRESSION  
B. SOCIAL EXCLUSION  
C. BULLYING  
D. USE OF EQ. INAPPROPRIATELY  
E. DISRUPTION  
F. DISTURBING

**RISK-TAKING BEHAVIOURS**  
1. INDIVIDUAL DECISION MAKING ON RISK-TAKING AND TAKING RISK  
2. INDIVIDUAL DECISION MAKING ON RISK-TAKING AND AVOIDING TAKING RISK  
3. EXPLORATORY RISK APPRAISAL (ASKING ADULTS)  
3.1. AVOIDING DESPITE HELP  
3.2. TAKING RISK WITH HELP

**PARENTAL INTERFERENCES:**  
a. WATCHING FROM DISTANCE  
b. PLAYING TOGETHER  
c. HELPING THEM TO SOCIALIZING  
d. HELPING THEM TO USE THE EQUIPMENT  
e. ENCOURAGING  
f. WARNING

**EQUIPMENTS' ENVIRONMENT USE:**  
I. RUNNING  
II. CRAWLING  
III. HIDING  
IV. TRANSITION  
V. SOCIALIZING  
VI. CLIMBING

INDIVIDUAL PLAY															
	GIRL					AGE				BOY					
	NEGATIVE BEHAVIOURS	RISK-TAKING PATTERNS	PARENTAL INTERFERENCES	ENVIRONMENT USE		3	4	5	6	7	NEGATIVE BEHAVIOURS	RISK-TAKING PATTERNS	PARENTAL INTERFERENCES	ENVIRONMENT USE	AGE
CHILD 1															
CHILD 2															
CHILD 3															
CHILD 4															
CHILD 5															
	NOTES:							NOTES:							

SAME-GENDER PLAY																					
	GIRLS-GIRLS						AGE				BOYS-BOYS										
	NEGATIVE BEHAVIOURS	RISK-TAKING PATTERNS	PARENTAL INTERFERENCES	ENVIRONMENT USE	NUMBER OF CHILDREN		3	4	5	6	7	NEGATIVE BEHAVIOURS	RISK-TAKING PATTERNS	PARENTAL INTERFERENCES	ENVIRONMENT USE	NUMBER OF CHILDREN	AGE				
GROUP 1	CHILD 1																				
	CHILD 2																				
	CHILD 3																				
	CHILD 4																				
	CHILD 5																				
GROUP 2	CHILD 1																				
	CHILD 2																				
	CHILD 3																				
	CHILD 4																				
	CHILD 5																				
	NOTES:								NOTES:												

MIX-GENDER PLAY										
	GIRLS-BOYS					GENDER	AGE			
	NEGATIVE BEHAVIOURS	RISK-TAKING PATTERNS	PARENTAL INTERFERENCES	ENVIRONMENT USE			3	4	5	6
GROUP 1	CHILD 1									
	CHILD 2									
	CHILD 3									
	CHILD 4									
	CHILD 5									
GROUP 2	CHILD 1									
	CHILD 2									
	CHILD 3									
	CHILD 4									
	CHILD 5									
	NOTES:									



**OBSERVATION SHEET FOR UNDERSTANDING CHILDREN'S BEHAVIOURS  
AND RISK TAKING PATTERNS IN GROUP AND INDIVIDUAL PLAYS**



APPROXIMATE NUMBER OF GIRLS: APPROXIMATE NUMBER OF BOYS: APPROXIMATE NUMBER OF ADULTS: APPROXIMATE AGE RANGE:	LOCATION: BOSTANLI / FOOTBRIDGE PARK	DATE:	TIME: 18.30 – 18.45 18.45 – 19.00 19.15 – 19.30 19.30 – 19.45 19.45 – 20.00 20.00 – 20.15 20.15 – 20.30
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**EQ. 1 - ROPE SWING**

<b>NEGATIVE BEHAVIOUR</b> A. AGGRESSION B. SOCIAL EXCLUSION C. BULLYING D. USE OF EQ. INAPPROPRIATELY E. DISRUPTION F. DISTURBING	<b>RISK-TAKING BEHAVIOURS</b> 1. INDIVIDUAL DECISION MAKING ON RISK TAKING AND TAKING RISK 2. INDIVIDUAL DECISION MAKING ON RISK TAKING AND AVOIDING TAKING RISK 3. EXPLORATORY RISK APPRAISAL (ASKING ADULTS) 3.1. AVOIDING DESPITE HELP 3.2. TAKING RISK WITH HELP	<b>PARENTAL INTERFERENCES:</b> a. WATCHING FROM DISTANCE b. PLAYING TOGETHER c. HELPING THEM TO SOCIALIZING d. HELPING THEM TO USE THE EQUIPMENT e. ENCOURAGING f. WARNING	<b>EQUIPMENTS' ENVIRONMENT USE:</b> I. RUNNING II. CRAWLING III. HIDING IV. TRANSITION V. SOCIALIZING VI. CLIMBING
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**INDIVIDUAL PLAY**

	INDIVIDUAL PLAY									
	GIRL					BOY				
	NEGATIVE BEHAVIOURS	RISK-TAKING PATTERNS	PARENTAL INTERFERENCES	ENVIRONMENT USE	AGE	NEGATIVE BEHAVIOURS	RISK-TAKING PATTERNS	PARENTAL INTERFERENCES	ENVIRONMENT USE	AGE
					3 4 5 6 7					3 4 5 6 7
CHILD 1										
CHILD 2										
CHILD 3										
CHILD 4										
CHILD 5										
	NOTES:					NOTES:				

**SAME GENDER PLAY**

	SAME GENDER PLAY											
	GIRLS-GIRLS					BOYS-BOYS						
	NEGATIVE BEHAVIOURS	RISK-TAKING PATTERNS	PARENTAL INTERFERENCES	ENVIRONMENT USE	NUMBER OF CHILDREN	AGE	NEGATIVE BEHAVIOURS	RISK-TAKING PATTERNS	PARENTAL INTERFERENCES	ENVIRONMENT USE	NUMBER OF CHILDREN	AGE
						3 4 5 6 7						3 4 5 6 7
GROUP 1	CHILD 1											
	CHILD 2											
	CHILD 3											
	CHILD 4											
	CHILD 5											
GROUP 2	CHILD 1											
	CHILD 2											
	CHILD 3											
	CHILD 4											
	CHILD 5											
	NOTES:					NOTES:						

**MIX-GENDER PLAY**

	MIX-GENDER PLAY						
	GIRLS-BOYS					GENDER	AGE
	NEGATIVE BEHAVIOURS	RISK-TAKING PATTERNS	PARENTAL INTERFERENCES	ENVIRONMENT USE	NUMBER OF CHILDREN		
							3 4 5 6 7
GROUP 1	CHILD 1						
	CHILD 2						
	CHILD 3						
	CHILD 4						
	CHILD 5						
GROUP 2	CHILD 1						
	CHILD 2						
	CHILD 3						
	CHILD 4						
	CHILD 5						
	NOTES:						



**OBSERVATION SHEET FOR UNDERSTANDING CHILDREN'S BEHAVIOURS  
AND RISK TAKING PATTERNS IN GROUP AND INDIVIDUAL PLAYS**



APPROXIMATE NUMBER OF GIRLS: APPROXIMATE NUMBER OF BOYS: APPROXIMATE NUMBER OF ADULTS: APPROXIMATE AGE RANGE:	LOCATION: BOSTANLI / FOOTBRIDGE PARK	DATE:	TIME: 18.30 – 18.45 18.45 – 19.00 19.15 – 19.30 19.30 – 19.45 19.45 – 20.00 20.00 – 20.15 20.15 – 20.30
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**EQ. 2 - GRASS HILL WITH SLIDING and CLIMBING UNIT**

<b>NEGATIVE BEHAVIOUR</b> A. AGGRESSION B. SOCIAL EXCLUSION C. BULLYING D. USE OF EQ. INAPPROPRIATELY E. DISRUPTION F. DISTURBING	<b>RISK-TAKING BEHAVIOURS</b> 1. INDIVIDUAL DECISION MAKING ON RISK TAKING AND TAKING RISK 2. INDIVIDUAL DECISION MAKING ON RISK TAKING AND AVOIDING TAKING RISK 3. EXPLORATORY RISK APPRAISAL (ASKING ADULTS) 3.1. AVOIDING DESPITE HELP 3.2. TAKING RISK WITH HELP	<b>PARENTAL INTERFERENCES:</b> a. WATCHING FROM DISTANCE b. PLAYING TOGETHER c. HELPING THEM TO SOCIALIZING d. HELPING THEM TO USE THE EQUIPMENT e. ENCOURAGING f. WARNING	<b>EQUIPMENTS' ENVIRONMENT USE:</b> I. RUNNING II. CRAWLING III. HIDING IV. TRANSITION V. SOCIALIZING VI. CLIMBING
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**INDIVIDUAL PLAY**

	INDIVIDUAL PLAY																		
	GIRL					BOY													
	NEGATIVE BEHAVIOURS	RISK-TAKING PATTERNS	PARENTAL INTERFERENCES	ENVIRONMENT USE	AGE	NEGATIVE BEHAVIOURS	RISK-TAKING PATTERNS	PARENTAL INTERFERENCES	ENVIRONMENT USE	AGE									
					3	4	5	6	7						3	4	5	6	7
CHILD 1																			
CHILD 2																			
CHILD 3																			
CHILD 4																			
CHILD 5																			
	NOTES:					NOTES:													

**SAME GENDER PLAY**

	SAME GENDER PLAY																			
	GIRLS-GIRLS					BOYS-BOYS														
	NEGATIVE BEHAVIOURS	RISK-TAKING PATTERNS	PARENTAL INTERFERENCES	ENVIRONMENT USE	NUMBER OF CHILDREN	AGE	NEGATIVE BEHAVIOURS	RISK-TAKING PATTERNS	PARENTAL INTERFERENCES	ENVIRONMENT USE	NUMBER OF CHILDREN	AGE								
						3	4	5	6	7						3	4	5	6	7
GROUP 1	CHILD 1																			
	CHILD 2																			
	CHILD 3																			
	CHILD 4																			
	CHILD 5																			
GROUP 2	CHILD 1																			
	CHILD 2																			
	CHILD 3																			
	CHILD 4																			
	CHILD 5																			
	NOTES:					NOTES:														

**MIX-GENDER PLAY**

	MIX-GENDER PLAY						
	GIRLS-BOYS				GENDER	AGE	
	NEGATIVE BEHAVIOURS	RISK-TAKING PATTERNS	PARENTAL INTERFERENCES	ENVIRONMENT USE		3	4
						3	4
GROUP 1	CHILD 1						
	CHILD 2						
	CHILD 3						
	CHILD 4						
	CHILD 5						
GROUP 2	CHILD 1						
	CHILD 2						
	CHILD 3						
	CHILD 4						
	CHILD 5						
	NOTES:						



**OBSERVATION SHEET FOR UNDERSTANDING CHILDREN'S BEHAVIOURS  
AND RISK TAKING PATTERNS IN GROUP AND INDIVIDUAL PLAYS**



APPROXIMATE NUMBER OF GIRLS:  
APPROXIMATE NUMBER OF BOYS:  
APPROXIMATE NUMBER OF ADULTS:  
APPROXIMATE AGE RANGE:

LOCATION: BOSTANLI / FOOTBRIDGE PARK

DATE:

TIME:  
18.30 – 18.45  
18.45 – 19.00  
19.15 – 19.30  
19.30 – 19.45  
19.45 – 20.00  
20.00 – 20.15  
20.15 – 20.30

**EQ. 3 - CLIMBING UNIT**

<b>NEGATIVE BEHAVIOUR</b> A. AGGRESSION B. SOCIAL EXCLUSION C. BULLYING D. USE OF EQ. INAPPROPRIATELY E. DISRUPTION F. DISTURBING	<b>RISK-TAKING BEHAVIOURS</b> 1. INDIVIDUAL DECISION MAKING ON RISK TAKING AND TAKING RISK 2. INDIVIDUAL DECISION MAKING ON RISK TAKING AND AVOIDING TAKING RISK 3. EXPLORATORY RISK APPRAISAL (ASKING ADULTS) 3.1. AVOIDING DESPITE HELP 3.2. TAKING RISK WITH HELP	<b>PARENTAL INTERFERENCES:</b> a. WATCHING FROM DISTANCE b. PLAYING TOGETHER c. HELPING THEM TO SOCIALIZING d. HELPING THEM TO USE THE EQUIPMENT e. ENCOURAGING f. WARNING	<b>EQUIPMENTS' ENVIRONMENT USE:</b> I. RUNNING II. CRAWLING III. HIDING IV. TRANSITION V. SOCIALIZING VI. CLIMBING
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**INDIVIDUAL PLAY**

	GIRL					BOY								
	NEGATIVE BEHAVIOURS	RISK-TAKING PATTERNS	PARENTAL INTERFERENCES	ENVIRONMENT USE	AGE									
					3	4	5	6	7	NEGATIVE BEHAVIOURS	RISK-TAKING PATTERNS	PARENTAL INTERFERENCES	ENVIRONMENT USE	AGE
CHILD 1														
CHILD 2														
CHILD 3														
CHILD 4														
CHILD 5														
	NOTES:					NOTES:								

**SAME GENDER PLAY**

	GIRLS-GIRLS					BOYS-BOYS									
	NEGATIVE BEHAVIOURS	RISK-TAKING PATTERNS	PARENTAL INTERFERENCES	ENVIRONMENT USE	NUMBER OF CHILDREN	AGE									
						3	4	5	6	7	NEGATIVE BEHAVIOURS	RISK-TAKING PATTERNS	PARENTAL INTERFERENCES	ENVIRONMENT USE	NUMBER OF CHILDREN
GROUP 1	CHILD 1														
	CHILD 2														
	CHILD 3														
	CHILD 4														
	CHILD 5														
GROUP 2	CHILD 1														
	CHILD 2														
	CHILD 3														
	CHILD 4														
	CHILD 5														
	NOTES:					NOTES:									

**MIX-GENDER PLAY**

	GIRLS-BOYS					GENDER	AGE								
	NEGATIVE BEHAVIOURS	RISK-TAKING PATTERNS	PARENTAL INTERFERENCES	ENVIRONMENT USE	NUMBER OF CHILDREN		AGE								
							3	4	5	6	7				
GROUP 1	CHILD 1														
	CHILD 2														
	CHILD 3														
	CHILD 4														
	CHILD 5														
GROUP 2	CHILD 1														
	CHILD 2														
	CHILD 3														
	CHILD 4														
	CHILD 5														
	NOTES:														



**OBSERVATION SHEET FOR UNDERSTANDING CHILDREN'S BEHAVIOURS  
AND RISK TAKING PATTERNS IN GROUP AND INDIVIDUAL PLAYS**



APPROXIMATE NUMBER OF GIRLS: APPROXIMATE NUMBER OF BOYS: APPROXIMATE NUMBER OF ADULTS: APPROXIMATE AGE RANGE:	LOCATION: KARŞIYAKA COASTLINE / HILL PARK	DATE:	TIME: 18.30 – 18.45 18.45 – 19.00 19.15 – 19.30 19.30 – 19.45 19.45 – 20.00 20.00 – 20.15 20.15 – 20.30
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**EQ. 1.1 - HILL WITH 2 SLIDING UNIT**

<b>NEGATIVE BEHAVIOUR</b> A. AGGRESSION B. SOCIAL EXCLUSION C. BULLYING D. USE OF EQ. INAPPROPRIATELY E. DISRUPTION F. DISTURBING	<b>RISK-TAKING BEHAVIOURS</b> 1. INDIVIDUAL DECISION MAKING ON RISK TAKING AND TAKING RISK 2. INDIVIDUAL DECISION MAKING ON RISK TAKING AND AVOIDING TAKING RISK 3. EXPLORATORY RISK APPRAISAL (ASKING ADULTS) 3.1. AVOIDING DESPITE HELP 3.2. TAKING RISK WITH HELP	<b>PARENTAL INTERFERENCES:</b> a. WATCHING FROM DISTANCE b. PLAYING TOGETHER c. HELPING THEM TO SOCIALIZING d. HELPING THEM TO USE THE EQUIPMENT e. ENCOURAGING f. WARNING	<b>EQUIPMENTS' ENVIRONMENT USE:</b> I. RUNNING II. CRAWLING III. HIDING IV. TRANSITION V. SOCIALIZING VI. CLIMBING
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**INDIVIDUAL PLAY**

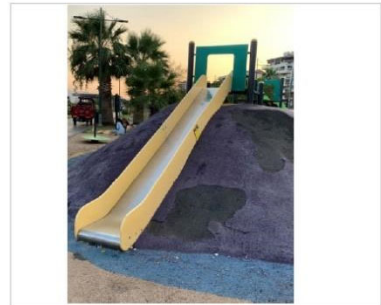
	INDIVIDUAL PLAY									
	GIRL					BOY				
	NEGATIVE BEHAVIOURS	RISK-TAKING PATTERNS	PARENTAL INTERFERENCES	ENVIRONMENT USE	AGE	NEGATIVE BEHAVIOURS	RISK-TAKING PATTERNS	PARENTAL INTERFERENCES	ENVIRONMENT USE	AGE
					3 4 5 6 7					3 4 5 6 7
CHILD 1										
CHILD 2										
CHILD 3										
CHILD 4										
CHILD 5										
	NOTES:					NOTES:				

**SAME GENDER PLAY**

	SAME GENDER PLAY											
	GIRLS-GIRLS					BOYS-BOYS						
	NEGATIVE BEHAVIOURS	RISK-TAKING PATTERNS	PARENTAL INTERFERENCES	ENVIRONMENT USE	NUMBER OF CHILDREN	AGE	NEGATIVE BEHAVIOURS	RISK-TAKING PATTERNS	PARENTAL INTERFERENCES	ENVIRONMENT USE	NUMBER OF CHILDREN	AGE
						3 4 5 6 7						3 4 5 6 7
GROUP 1	CHILD 1											
	CHILD 2											
	CHILD 3											
	CHILD 4											
	CHILD 5											
GROUP 2	CHILD 1											
	CHILD 2											
	CHILD 3											
	CHILD 4											
	CHILD 5											
	NOTES:					NOTES:						

**MIX-GENDER PLAY**

	MIX-GENDER PLAY						
	GIRLS-GIRLS				BOYS-BOYS		
	NEGATIVE BEHAVIOURS	RISK-TAKING PATTERNS	PARENTAL INTERFERENCES	ENVIRONMENT USE	GENDER	AGE	
						3 4 5 6 7	
GROUP 1	CHILD 1						
	CHILD 2						
	CHILD 3						
	CHILD 4						
	CHILD 5						
GROUP 2	CHILD 1						
	CHILD 2						
	CHILD 3						
	CHILD 4						
	CHILD 5						
	NOTES:						



**OBSERVATION SHEET FOR UNDERSTANDING CHILDREN'S BEHAVIOURS  
AND RISK TAKING PATTERNS IN GROUP AND INDIVIDUAL PLAYS**



APPROXIMATE NUMBER OF GIRLS: APPROXIMATE NUMBER OF BOYS: APPROXIMATE NUMBER OF ADULTS: APPROXIMATE AGE RANGE:	LOCATION: KARŞIYAKA COASTLINE / HILL PARK	DATE:	TIME: 18.30 – 18.45 18.45 – 19.00 19.15 – 19.30 19.30 – 19.45 19.45 – 20.00 20.00 – 20.15 20.15 – 20.30
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**ENVIRONMENT OF EQ. 1.2 - GRASS SEATING UNITS**

<b>NEGATIVE BEHAVIOUR</b> A. AGGRESSION B. SOCIAL EXCLUSION C. BULLYING D. USE OF EQ. INAPPROPRIATELY E. DISRUPTION F. DISTURBING	<b>RISK-TAKING BEHAVIOURS</b> 1. INDIVIDUAL DECISION MAKING ON RISK TAKING AND TAKING RISK 2. INDIVIDUAL DECISION MAKING ON RISK TAKING AND AVOIDING TAKING RISK 3. EXPLORATORY RISK APPRAISAL (ASKING ADULTS) 3.1. AVOIDING DESPITE HELP 3.2. TAKING RISK WITH HELP	<b>PARENTAL INTERFERENCES:</b> a. WATCHING FROM DISTANCE b. PLAYING TOGETHER c. HELPING THEM TO SOCIALIZING d. HELPING THEM TO USE THE EQUIPMENT e. ENCOURAGING f. WARNING	<b>EQUIPMENTS' ENVIRONMENT USE:</b> I. RUNNING II. CRAWLING III. HIDING IV. TRANSITION V. SOCIALIZING VI. CLIMBING
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**INDIVIDUAL PLAY**

	INDIVIDUAL PLAY									
	GIRL					BOY				
	NEGATIVE BEHAVIOURS	RISK-TAKING PATTERNS	PARENTAL INTERFERENCES	ENVIRONMENT USE	AGE	NEGATIVE BEHAVIOURS	RISK-TAKING PATTERNS	PARENTAL INTERFERENCES	ENVIRONMENT USE	AGE
					3 4 5 6 7					3 4 5 6 7
CHILD 1										
CHILD 2										
CHILD 3										
CHILD 4										
CHILD 5										
	NOTES:					NOTES:				

**SAME GENDER PLAY**

	SAME GENDER PLAY											
	GIRLS-GIRLS					BOYS-BOYS						
	NEGATIVE BEHAVIOURS	RISK-TAKING PATTERNS	PARENTAL INTERFERENCES	ENVIRONMENT USE	NUMBER OF CHILDREN	AGE	NEGATIVE BEHAVIOURS	RISK-TAKING PATTERNS	PARENTAL INTERFERENCES	ENVIRONMENT USE	NUMBER OF CHILDREN	AGE
						3 4 5 6 7						3 4 5 6 7
GROUP 1	CHILD 1											
	CHILD 2											
	CHILD 3											
	CHILD 4											
	CHILD 5											
GROUP 2	CHILD 1											
	CHILD 2											
	CHILD 3											
	CHILD 4											
	CHILD 5											
	NOTES:					NOTES:						

**MIX-GENDER PLAY**

	MIX-GENDER PLAY						
	GIRLS-GIRLS				BOYS-BOYS		
	NEGATIVE BEHAVIOURS	RISK-TAKING PATTERNS	PARENTAL INTERFERENCES	ENVIRONMENT USE	GENDER	AGE	
						3 4 5 6 7	
GROUP 1	CHILD 1						
	CHILD 2						
	CHILD 3						
	CHILD 4						
	CHILD 5						
GROUP 2	CHILD 1						
	CHILD 2						
	CHILD 3						
	CHILD 4						
	CHILD 5						
	NOTES:						



**OBSERVATION SHEET FOR UNDERSTANDING CHILDREN'S BEHAVIOURS  
AND RISK TAKING PATTERNS IN GROUP AND INDIVIDUAL PLAYS**



APPROXIMATE NUMBER OF GIRLS:  
APPROXIMATE NUMBER OF BOYS:  
APPROXIMATE NUMBER OF ADULTS:  
APPROXIMATE AGE RANGE:

LOCATION: KARŞIYAKA COASTLINE / HILL PARK

DATE:

TIME:  
18:30 – 18:45  
18:45 – 19:00  
19:15 – 19:30  
19:30 – 19:45  
19:45 – 20:00  
20:00 – 20:15  
20:15 – 20:30

**EQ. 2 - FERRIS WHEEL**

**NEGATIVE BEHAVIOUR**

- A. AGGRESSION
- B. SOCIAL EXCLUSION
- C. BULLYING
- D. USE OF EQ. INAPPROPRIATELY
- E. DISRUPTION
- F. DISTURBING

**RISK-TAKING BEHAVIOURS**

- 1. INDIVIDUAL DECISION MAKING ON RISK-TAKING AND TAKING RISK
- 2. INDIVIDUAL DECISION MAKING ON RISK-TAKING AND AVOIDING TAKING RISK
- 3. EXPLORATORY RISK APPRAISAL (ASKING ADULTS)
  - 3.1. AVOIDING DESPITE HELP
  - 3.2. TAKING RISK WITH HELP

**PARENTAL INTERFERENCES:**

- a. WATCHING FROM DISTANCE
- b. PLAYING TOGETHER
- c. HELPING THEM TO SOCIALIZING
- d. HELPING THEM TO USE THE EQUIPMENT
- e. ENCOURAGING
- f. WARNING

**EQUIPMENTS' ENVIRONMENT USE:**

- I. RUNNING
- II. CRAWLING
- III. HIDING
- IV. TRANSITION
- V. SOCIALIZING
- VI. CLIMBING

**INDIVIDUAL PLAY**

	GIRL				BOY													
	NEGATIVE BEHAVIOURS	RISK-TAKING PATTERNS	PARENTAL INTERFERENCES	ENVIRONMENT USE	AGE	NEGATIVE BEHAVIOURS	RISK-TAKING PATTERNS	PARENTAL INTERFERENCES	ENVIRONMENT USE	AGE								
CHILD 1					3	4	5	6	7					3	4	5	6	7
CHILD 2																		
CHILD 3																		
CHILD 4																		
CHILD 5																		
	NOTES:				NOTES:													

**SAME-GENDER PLAY**

	GIRLS-GIRLS					BOYS-BOYS													
	NEGATIVE BEHAVIOURS	RISK-TAKING PATTERNS	PARENTAL INTERFERENCES	ENVIRONMENT USE	NUMBER OF CHILDREN	AGE	NEGATIVE BEHAVIOURS	RISK-TAKING PATTERNS	PARENTAL INTERFERENCES	ENVIRONMENT USE	NUMBER OF CHILDREN	AGE							
GROUP 1	CHILD 1					3	4	5	6	7					3	4	5	6	7
	CHILD 2																		
	CHILD 3																		
	CHILD 4																		
	CHILD 5																		
GROUP 2	CHILD 1																		
	CHILD 2																		
	CHILD 3																		
	CHILD 4																		
	CHILD 5																		
	NOTES:					NOTES:													

**MIX-GENDER PLAY**

	GIRLS-BOYS					GENDER	AGE	
	NEGATIVE BEHAVIOURS	RISK-TAKING PATTERNS	PARENTAL INTERFERENCES	ENVIRONMENT USE	NUMBER OF CHILDREN		3	4
GROUP 1	CHILD 1						3	4
	CHILD 2							
	CHILD 3							
	CHILD 4							
	CHILD 5							
GROUP 2	CHILD 1							
	CHILD 2							
	CHILD 3							
	CHILD 4							
	CHILD 5							
	NOTES:							



**OBSERVATION SHEET FOR UNDERSTANDING CHILDREN'S BEHAVIOURS  
AND RISK TAKING PATTERNS IN GROUP AND INDIVIDUAL PLAYS**



APPROXIMATE NUMBER OF GIRLS:  
APPROXIMATE NUMBER OF BOYS:  
APPROXIMATE NUMBER OF ADULTS:  
APPROXIMATE AGE RANGE:

LOCATION: KARSIYAKA COASTLINE / NEW GENERATION PARK DATE:

TIME:  
18.30 – 18.45  
18.45 – 19.00  
19.15 – 19.30  
19.30 – 19.45  
19.45 – 20.00  
20.00 – 20.15  
20.15 – 20.30

**EQ 1.1 - MULTIPLAY UNIT (HIGHER SLIDING UNIT)**

<b>NEGATIVE BEHAVIOUR</b> A. AGGRESSION B. SOCIAL EXCLUSION C. BULLYING D. USE OF EQ. INAPPROPRIATELY E. DISRUPTION F. DISTURBING	<b>RISK-TAKING BEHAVIOURS</b> 1. INDIVIDUAL DECISION MAKING ON RISK TAKING AND TAKING RISK 2. INDIVIDUAL DECISION MAKING ON RISK TAKING AND AVOIDING TAKING RISK 3. EXPLORATORY RISK APPRAISAL (ASKING ADULTS) 3.1. AVOIDING DESPITE HELP 3.2. TAKING RISK WITH HELP	<b>PARENTAL INTERFERENCES:</b> a. WATCHING FROM DISTANCE b. PLAYING TOGETHER c. HELPING THEM TO SOCIALIZING d. HELPING THEM TO USE THE EQUIPMENT e. ENCOURAGING f. WARNING	<b>EQUIPMENTS' ENVIRONMENT USE:</b> I. RUNNING II. CRAWLING III. HIDING IV. TRANSITION V. SOCIALIZING VI. CLIMBING
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	INDIVIDUAL PLAY																		
	GIRL							BOY											
	NEGATIVE BEHAVIOURS	RISK-TAKING PATTERNS	PARENTAL INTERFERENCES	ENVIRONMENT USE	AGE			NEGATIVE BEHAVIOURS	RISK-TAKING PATTERNS	PARENTAL INTERFERENCES	ENVIRONMENT USE	AGE							
CHILD 1					3	4	5	6	7						3	4	5	6	7
CHILD 2																			
CHILD 3																			
CHILD 4																			
CHILD 5																			
	NOTES:							NOTES:											

	SAME GENDER PLAY																						
	GIRLS-GIRLS							BOYS-BOYS															
	NEGATIVE BEHAVIOURS	RISK-TAKING PATTERNS	PARENTAL INTERFERENCES	ENVIRONMENT USE	NUMBER OF CHILDREN	AGE			NEGATIVE BEHAVIOURS	RISK-TAKING PATTERNS	PARENTAL INTERFERENCES	ENVIRONMENT USE	NUMBER OF CHILDREN	AGE									
GROUP 1	CHILD 1						3	4	5	6	7								3	4	5	6	7
	CHILD 2																						
	CHILD 3																						
	CHILD 4																						
	CHILD 5																						
GROUP 2	CHILD 1																						
	CHILD 2																						
	CHILD 3																						
	CHILD 4																						
	CHILD 5																						
	NOTES:							NOTES:															

	MIX-GENDER PLAY											
	GIRLS-GIRLS					BOYS-BOYS						
	NEGATIVE BEHAVIOURS	RISK-TAKING PATTERNS	PARENTAL INTERFERENCES	ENVIRONMENT USE	NUMBER OF CHILDREN	GENDER	AGE					
GROUP 1	CHILD 1							3	4	5	6	7
	CHILD 2											
	CHILD 3											
	CHILD 4											
	CHILD 5											
GROUP 2	CHILD 1											
	CHILD 2											
	CHILD 3											
	CHILD 4											
	CHILD 5											
	NOTES:											





**OBSERVATION SHEET FOR UNDERSTANDING CHILDREN'S BEHAVIOURS  
AND RISK TAKING PATTERNS IN GROUP AND INDIVIDUAL PLAYS**



APPROXIMATE NUMBER OF GIRLS:  
APPROXIMATE NUMBER OF BOYS:  
APPROXIMATE NUMBER OF ADULTS:  
APPROXIMATE AGE RANGE:

LOCATION: KARŞIYAKA COASTLINE / NEW GENERATION  
PARK

DATE:

TIME:  
18:30 – 18:45  
18:45 – 19:00  
19:15 – 19:30  
19:30 – 19:45  
19:45 – 20:00  
20:00 – 20:15  
20:15 – 20:30

**EQ 1.2 - MULTIPLAY UNIT (CLIMBING PART)**

**NEGATIVE BEHAVIOUR**  
A. AGRESSION  
B. SOCIAL EXCLUSION  
C. BULLYING  
D. USE OF EQ. INAPPROPRIATELY  
E. DISRUPTION  
F. DISTURBING

**RISK-TAKING BEHAVIOURS**  
1. INDIVIDUAL DECISION MAKING ON RISK-TAKING AND TAKING RISK  
2. INDIVIDUAL DECISION MAKING ON RISK-TAKING AND AVOIDING TAKING RISK  
3. EXPLORATORY RISK APPRAISAL (ASKING ADULTS)  
3.1. AVOIDING DESPITE HELP  
3.2. TAKING RISK WITH HELP

**PARENTAL INTERFERENCES:**  
a. WATCHING FROM DISTANCE  
b. PLAYING TOGETHER  
c. HELPING THEM TO SOCIALIZING  
d. HELPING THEM TO USE THE EQUIPMENT  
e. ENCOURAGING  
f. WARNING

**EQUIPMENTS' ENVIRONMENT USE:**  
I. RUNNING  
II. CRAWLING  
III. HIDING  
IV. TRANSITION  
V. SOCIALIZING  
VI. CLIMBING

**INDIVIDUAL PLAY**

	GIRL					BOY				
	NEGATIVE BEHAVIOURS	RISK-TAKING PATTERNS	PARENTAL INTERFERENCES	ENVIRONMENT USE	AGE	NEGATIVE BEHAVIOURS	RISK-TAKING PATTERNS	PARENTAL INTERFERENCES	ENVIRONMENT USE	AGE
CHILD 1					3 4 5 6 7					3 4 5 6 7
CHILD 2										
CHILD 3										
CHILD 4										
CHILD 5										
	NOTES:					NOTES:				

**SAME-GENDER PLAY**

	GIRLS-GIRLS					BOYS-BOYS						
	NEGATIVE BEHAVIOURS	RISK-TAKING PATTERNS	PARENTAL INTERFERENCES	ENVIRONMENT USE	NUMBER OF CHILDREN	AGE	NEGATIVE BEHAVIOURS	RISK-TAKING PATTERNS	PARENTAL INTERFERENCES	ENVIRONMENT USE	NUMBER OF CHILDREN	AGE
GROUP 1	CHILD 1					3 4 5 6 7						3 4 5 6 7
	CHILD 2											
	CHILD 3											
	CHILD 4											
	CHILD 5											
GROUP 2	CHILD 1											
	CHILD 2											
	CHILD 3											
	CHILD 4											
	CHILD 5											
	NOTES:					NOTES:						

**MIX-GENDER PLAY**

	GIRLS-BOYS					GENDER	AGE
	NEGATIVE BEHAVIOURS	RISK-TAKING PATTERNS	PARENTAL INTERFERENCES	ENVIRONMENT USE	NUMBER OF CHILDREN		
GROUP 1	CHILD 1						3 4 5 6 7
	CHILD 2						
	CHILD 3						
	CHILD 4						
	CHILD 5						
GROUP 2	CHILD 1						
	CHILD 2						
	CHILD 3						
	CHILD 4						
	CHILD 5						
	NOTES:						



**OBSERVATION SHEET FOR UNDERSTANDING CHILDREN'S BEHAVIOURS  
AND RISK TAKING PATTERNS IN GROUP AND INDIVIDUAL PLAYS**



APPROXIMATE NUMBER OF GIRLS: APPROXIMATE NUMBER OF BOYS: APPROXIMATE NUMBER OF ADULTS: APPROXIMATE AGE RANGE:	LOCATION: KARŞIYAKA COASTLINE / NEW GENERATION PARK	DATE:	TIME: 18.30 – 18.45 18.45 – 19.00 19.15 – 19.30 19.30 – 19.45 19.45 – 20.00 20.00 – 20.15 20.15 – 20.30
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**EQ 1.3. - MULTIPLAY UNIT (NEW TYPE SLIDING)**

<b>NEGATIVE BEHAVIOUR</b> A. AGGRESSION B. SOCIAL EXCLUSION C. BULLYING D. USE OF EQ. INAPPROPRIATELY E. DISRUPTION F. DISTURBING	<b>RISK-TAKING BEHAVIOURS</b> 1. INDIVIDUAL DECISION MAKING ON RISK TAKING AND TAKING RISK 2. INDIVIDUAL DECISION MAKING ON RISK TAKING AND AVOIDING TAKING RISK 3. EXPLORATORY RISK APPRAISAL (ASKING ADULTS) 3.1. AVOIDING DESPITE HELP 3.2. TAKING RISK WITH HELP	<b>PARENTAL INTERFERENCES:</b> a. WATCHING FROM DISTANCE b. PLAYING TOGETHER c. HELPING THEM TO SOCIALIZING d. HELPING THEM TO USE THE EQUIPMENT e. ENCOURAGING f. WARNING	<b>EQUIPMENTS' ENVIRONMENT USE:</b> I. RUNNING II. CRAWLING III. HIDING IV. TRANSITION V. SOCIALIZING VI. CLIMBING
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**INDIVIDUAL PLAY**

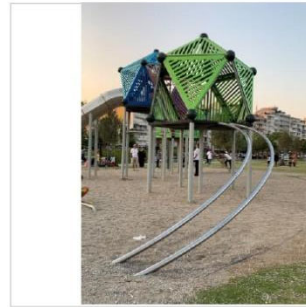
	GIRL										BOY											
	NEGATIVE BEHAVIOURS	RISK-TAKING PATTERNS	PARENTAL INTERFERENCES	ENVIRONMENT USE	AGE							NEGATIVE BEHAVIOURS	RISK-TAKING PATTERNS	PARENTAL INTERFERENCES	ENVIRONMENT USE	AGE						
					3	4	5	6	7	3	4					5	6	7				
CHILD 1																						
CHILD 2																						
CHILD 3																						
CHILD 4																						
CHILD 5																						
	NOTES:										NOTES:											

**SAME GENDER PLAY**

	GIRLS-GIRLS						BOYS-BOYS																	
	NEGATIVE BEHAVIOURS	RISK-TAKING PATTERNS	PARENTAL INTERFERENCES	ENVIRONMENT USE	NUMBER OF CHILDREN	AGE							NEGATIVE BEHAVIOURS	RISK-TAKING PATTERNS	PARENTAL INTERFERENCES	ENVIRONMENT USE	NUMBER OF CHILDREN	AGE						
						3	4	5	6	7	3	4						5	6	7				
GROUP 1	CHILD 1																							
	CHILD 2																							
	CHILD 3																							
	CHILD 4																							
	CHILD 5																							
GROUP 2	CHILD 1																							
	CHILD 2																							
	CHILD 3																							
	CHILD 4																							
	CHILD 5																							
	NOTES:										NOTES:													

**MIX-GENDER PLAY**

	GIRLS-BOYS						GENDER	AGE							
	NEGATIVE BEHAVIOURS	RISK-TAKING PATTERNS	PARENTAL INTERFERENCES	ENVIRONMENT USE	NUMBER OF CHILDREN	AGE									
						3		4	5	6	7				
GROUP 1	CHILD 1														
	CHILD 2														
	CHILD 3														
	CHILD 4														
	CHILD 5														
GROUP 2	CHILD 1														
	CHILD 2														
	CHILD 3														
	CHILD 4														
	CHILD 5														
	NOTES:														



OBSERVATION SHEET FOR UNDERSTANDING CHILDREN'S BEHAVIOURS  
AND RISK TAKING PATTERNS IN GROUP AND INDIVIDUAL PLAYS



APPROXIMATE NUMBER OF GIRLS: 25  
APPROXIMATE NUMBER OF BOYS: 20  
APPROXIMATE NUMBER OF ADULTS: 10  
APPROXIMATE AGE RANGE: 2-10

LOCATION: BOSTANLI / FOOTBRIDGE PARK

DATE: 21.08.2021

TIME:  
18:30 – 18:45  
18:45 – 19:00  
19:15 – 19:30  
19:30 – 19:45  
19:45 – 20:00  
20:00 – 20:15  
20:15 – 20:30

EQ. 1 - ROPE SWING

<b>NEGATIVE BEHAVIOUR</b> A. AGGRESSION B. SOCIAL EXCLUSION C. BULLYING D. USE OF EQ. INAPPROPRIATELY E. DISRUPTION F. DISTURBING	<b>RISK-TAKING BEHAVIOURS</b> 1. INDIVIDUAL DECISION MAKING ON RISK TAKING AND TAKING RISK 2. INDIVIDUAL DECISION MAKING ON RISK TAKING AND AVOIDING TAKING RISK 3. EXPLORATORY RISK APPRAISAL (ASKING ADULTS) 3.1. AVOIDING DESPITE HELP 3.2. TAKING RISK WITH HELP	<b>PARENTAL INTERFERENCES:</b> a. WATCHING FROM DISTANCE b. PLAYING TOGETHER c. HELPING THEM TO SOCIALIZE d. HELPING THEM TO USE THE EQUIPMENT e. ENCOURAGING f. WARNING	<b>EQUIPMENTS' ENVIRONMENT USE:</b> I. RUNNING II. CRAWLING III. HIDING IV. SEEKING V. SOCIALIZING VI. CLIMBING
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INDIVIDUAL PLAY

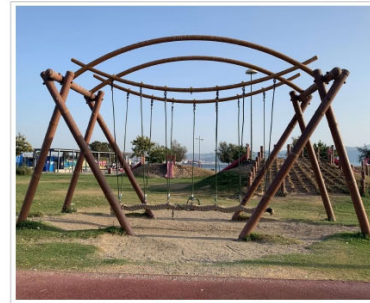
	GIRL					BOY														
	NEGATIVE BEHAVIOURS	RISK-TAKING PATTERNS	PARENTAL INTERFERENCES	ENVIRONMENT USE	AGE															
					3	4	5	6	7											
CHILD 1	none	3.2.	e,d	I	X						none	3.1.	d	I	X					
CHILD 2	none	1	a	I		X					none	1	b,d	I						X
CHILD 3	none	1	a	I			X													
NOTES:					NOTES:															

SAME-GENDER PLAY

	GIRLS-GIRLS					BOYS-BOYS																	
	NEGATIVE BEHAVIOURS	RISK-TAKING PATTERNS	PARENTAL INTERFERENCES	ENVIRONMENT USE	NUMBER OF CHILDREN	AGE																	
						3	4	5	6	7													
GROUP 1	CHILD 1	none	1	none	4						X	A	1	a,f	I,V						X		
	CHILD 2	none	2	a		X						C	1	none	I,V							X	
	CHILD 3	none	3.2.	a,e		X																	
	CHILD 4	none	1	a,e			X																
GROUP 2	CHILD 1	none	1	b, d	I,V						X	none	3.2.	a,e	I,V							X	
	CHILD 2	none	1	a	I,V						X	none	1	none	I,V								X
	CHILD 3											D	1	none	I,V								X
	CHILD 4											C, F	1	a,f	I,V								X
	CHILD 5											C, F	1	none	I,V								X
	CHILD 6											A	1	none	I,V								X
	CHILD 7											A	1	none	I,V								X
	CHILD 8											none	1	none	I,V								X
NOTES:					NOTES: Group 2 use the equipment for approximately 10 min.																		

MDX-GENDER PLAY

	GIRLS-BOYS																					
	NEGATIVE BEHAVIOURS	RISK-TAKING PATTERNS	PARENTAL INTERFERENCES	ENVIRONMENT USE	AGE																	
					GENDER	3	4	5	6	7												
GROUP 1	CHILD 1	none	3.2.	a,e	V	GIRL	X															
	CHILD 2	none	3.2.	a	V	GIRL	X															
	CHILD 3	none	1	d	I	GIRL		X														
	CHILD 4	none	1	none	I	BOY																X
	CHILD 5	none	1	none	I	BOY																
GROUP 2	CHILD 1	none	3.2.	b	I	BOY	X															
	CHILD 2	none	1	a	v	GIRL																X
	CHILD 3	none	1	none	v	GIRL																X
	CHILD 4	none	1	a	I,V	BOY																X
	CHILD 5	none	1	a	I,V	BOY																X
NOTES:					NOTES:																	



OBSERVATION SHEET FOR UNDERSTANDING CHILDREN'S BEHAVIOURS AND RISK TAKING PATTERNS IN GROUP AND INDIVIDUAL PLAYS										 IZMIR UNIVERSITY OF ECONOMICS			
APPROXIMATE NUMBER OF GIRLS: 25 APPROXIMATE NUMBER OF BOYS: 20 APPROXIMATE NUMBER OF ADULTS: 10 APPROXIMATE AGE RANGE: 2-10			LOCATION: BOSTANLI / FOOTBRIDGE PARK				DATE: 21.08.2021		TIME: 18:30 – 18:45 18:45 – 19:00 19:15 – 19:30 19:30 – 19:45 19:45 – 20:00 20:00 – 20:15 20:15 – 20:30				
EQ. 2 - GRASS HILL WITH SLIDING and CLIMBING UNIT													
<b>NEGATIVE BEHAVIOUR</b> A. AGGRESSION B. SOCIAL EXCLUSION C. BULLYING D. USE OF EQ. INAPPROPRIATELY E. DISRUPTION F. DISTURBING			<b>RISK-TAKING BEHAVIOURS</b> 1. INDIVIDUAL DECISION MAKING ON RISK TAKING AND TAKING RISK 2. INDIVIDUAL DECISION MAKING ON RISK TAKING AND AVOIDING TAKING RISK 3. EXPLORATORY RISK APPRAISAL (ASKING ADULTS) 3.1. AVOIDING DESPITE HELP 3.2. TAKING RISK WITH HELP			<b>PARENTAL INTERFERENCES:</b> a. WATCHING FROM DISTANCE b. PLAYING TOGETHER c. HELPING THEM TO SOCIALIZING d. HELPING THEM TO USE THE EQUIPMENT e. ENCOURAGING f. WARNING		<b>EQUIPMENTS' ENVIRONMENT USE:</b> I. RUNNING II. CRAWLING III. HIDING IV. SEEKING V. SOCIALIZING VI. CLIMBING					
<b>INDIVIDUAL PLAY</b>													
GIRL					BOY								
	NEGATIVE BEHAVIOURS	RISK-TAKING PATTERNS	PARENTAL INTERFERENCES	ENVIRONMENT USE	AGE	NEGATIVE BEHAVIOURS	RISK-TAKING PATTERNS	PARENTAL INTERFERENCES	ENVIRONMENT USE	AGE			
					3 4 5 6 7					3 4 5 6 7			
CHILD 1	none	1	a	I, VI	X	none	3.1	e	VI	X			
CHILD 2	none	1	a	I, V, VI	X	none	3.1	e	I	X			
CHILD 3	none	1	a	I, V, VI	X								
NOTES:					NOTES:								
<b>SAME-GENDER PLAY</b>													
GIRLS-GIRLS					BOYS-BOYS								
	NEGATIVE BEHAVIOURS	RISK-TAKING PATTERNS	PARENTAL INTERFERENCES	ENVIRONMENT USE	NUMBER OF CHILDREN	AGE	NEGATIVE BEHAVIOURS	RISK-TAKING PATTERNS	PARENTAL INTERFERENCES	ENVIRONMENT USE	NUMBER OF CHILDREN	AGE	
						3 4 5 6 7						3 4 5 6 7	
GROUP 1	CHILD 1	none	1	a	I, V, VI	4	X	D	1	none	I, V, VI	2	X
	CHILD 2	none	1	none	I, V, VI		X	none	1	none	I, V, VI		X
	CHILD 3	D	1	none	I, V, VI								
	CHILD 4	D	1	a	I, V, VI		X						
NOTES: inappropriate equipment use occur as climbing to slide.					NOTES:								
<b>MIX-GENDER PLAY</b>													
GIRLS-BOYS													
	NEGATIVE BEHAVIOURS	RISK-TAKING PATTERNS	PARENTAL INTERFERENCES	ENVIRONMENT USE	GENDER	AGE							
						3 4 5 6 7							
GROUP 1	CHILD 1	none	1	none	I, V, VI	GIRL						X	
	CHILD 2	none	1	a	I, V, VI	BOY						X	
	CHILD 3	D	1	none	I, V, VI	BOY						X	
GROUP 2	CHILD 1	none	1	none	I, VI	BOY						X	
	CHILD 2	none	1	none	I, VI	GIRL						X	
	CHILD 3	none	1	a	I	BOY	X						
	CHILD 4	none	1	a	I	GIRL	X						
NOTES: inappropriate equipment use occur as climbing to slide.													



OBSERVATION SHEET FOR UNDERSTANDING CHILDREN'S BEHAVIOURS  
AND RISK TAKING PATTERNS IN GROUP AND INDIVIDUAL PLAYS



APPROXIMATE NUMBER OF GIRLS: 25  
APPROXIMATE NUMBER OF BOYS: 20  
APPROXIMATE NUMBER OF ADULTS: 10  
APPROXIMATE AGE RANGE: 2-10

LOCATION: BOSTANLI / FOOTBRIDGE PARK

DATE: 21.08.2021

TIME:  
18:30 – 18:45  
18:45 – 19:00  
19:15 – 19:30  
19:30 – 19:45  
19:45 – 20:00  
20:00 – 20:15  
20:15 – 20:30

EQ. 3 - CLIMBING UNIT

<b>NEGATIVE BEHAVIOUR</b> A. AGGRESSION B. SOCIAL EXCLUSION C. BULLYING D. USE OF EQ. INAPPROPRIATELY E. DISRUPTION F. DISTURBING	<b>RISK-TAKING BEHAVIOURS</b> 1. INDIVIDUAL DECISION MAKING ON RISK TAKING AND TAKING RISK 2. INDIVIDUAL DECISION MAKING ON RISK TAKING AND AVOIDING TAKING RISK 3. EXPLORATORY RISK APPRAISAL (ASKING ADULTS) 3.1. AVOIDING DESPITE HELP 3.2. TAKING RISK WITH HELP	<b>PARENTAL INTERFERENCES:</b> a. WATCHING FROM DISTANCE b. PLAYING TOGETHER c. HELPING THEM TO SOCIALIZING d. HELPING THEM TO USE THE EQUIPMENT e. ENCOURAGING f. WARNING	<b>EQUIPMENTS' ENVIRONMENT USE:</b> I. RUNNING II. CRAWLING III. HIDING IV. SEEKING V. SOCIALIZING VI. CLIMBING
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INDIVIDUAL PLAY

	GIRL				AGE							BOY											
	NEGATIVE BEHAVIOURS	RISK-TAKING PATTERNS	PARENTAL INTERFERENCES	ENVIRONMENT USE	AGE							NEGATIVE BEHAVIOURS	RISK-TAKING PATTERNS	PARENTAL INTERFERENCES	ENVIRONMENT USE	AGE							
					3	4	5	6	7	3	4					5	6	7					
CHILD 1	none	1	none	I						X	none	2-3.1.	a	I,II						X			
CHILD 2	none	1	a	I,II				X				none	2-3.1.	d,e	I,II					X			
CHILD 3											none	3.1.	d,e	I,II						X			
CHILD 4																							
CHILD 5																							

NOTES: Parents guide their child as "hold here", "put your foot here".

SAME-GENDER PLAY

	GIRLS-GIRLS					AGE							BOYS-BOYS											
	NEGATIVE BEHAVIOURS	RISK-TAKING PATTERNS	PARENTAL INTERFERENCES	ENVIRONMENT USE	NUMBER OF CHILDREN	AGE							NEGATIVE BEHAVIOURS	RISK-TAKING PATTERNS	PARENTAL INTERFERENCES	ENVIRONMENT USE	NUMBER OF CHILDREN	AGE						
						3	4	5	6	7	3	4						5	6	7				
GROUP 1	CHILD 1																							
	CHILD 2																							
	CHILD 3																							
	CHILD 4																							
	CHILD 5																							

NOTES: not observed

MIX-GENDER PLAY

	GIRLS-BOYS					GENDER	AGE							
	NEGATIVE BEHAVIOURS	RISK-TAKING PATTERNS	PARENTAL INTERFERENCES	ENVIRONMENT USE	NUMBER OF CHILDREN		AGE							
							3	4	5	6	7			
GROUP 1	CHILD 1	none	1	none	I, IV, II	BOY								X
	CHILD 2	none	1	none	I, IV, II	GIRL								X
	CHILD 3	none	1	none	I, IV, II	GIRL								X
GROUP 2	CHILD 1	none	3.1.	d	I, II	GIRL							X	
	CHILD 2	none	3.1.	d	I, II	BOY	X							

NOTES:



OBSERVATION SHEET FOR UNDERSTANDING CHILDREN'S BEHAVIOURS AND RISK TAKING PATTERNS IN GROUP AND INDIVIDUAL PLAYS												IZMIR UNIVERSITY OF ECONOMICS					
APPROXIMATE NUMBER OF GIRLS: 30 APPROXIMATE NUMBER OF BOYS: 35 APPROXIMATE NUMBER OF ADULTS: 20 APPROXIMATE AGE RANGE: 2-10				LOCATION: BOSTANLI / OLOF PALME PARK				DATE: 21.08.2021		TIME: 18:30 – 18:45 18:45 – 19:00 19:15 – 19:30 19:30 – 19:45 19:45 – 20:00 20:00 – 20:15 20:15 – 20:30							
<b>EQ. 1 - ROPE SWING</b>																	
<b>NEGATIVE BEHAVIOUR</b> A. AGGRESSION B. SOCIAL EXCLUSION C. BULLYING D. USE OF EQ. INAPPROPRIATELY E. DISRUPTION F. DISTURBING			<b>RISK-TAKING BEHAVIOURS</b> 1. INDIVIDUAL DECISION MAKING ON RISK TAKING AND TAKING RISK 2. INDIVIDUAL DECISION MAKING ON RISK TAKING AND AVOIDING TAKING RISK 3. EXPLORATORY RISK APPRAISAL (ASKING ADULTS) 3.1. AVOIDING DESPITE HELP 3.2. TAKING RISK WITH HELP				<b>PARENTAL INTERFERENCES:</b> a. WATCHING FROM DISTANCE b. PLAYING TOGETHER c. HELPING THEM TO SOCIALIZING d. HELPING THEM TO USE THE EQUIPMENT e. ENCOURAGING f. WARNING			<b>EQUIPMENTS' ENVIRONMENT USE:</b> I. RUNNING II. CRAWLING III. HIDING IV. SEEKING V. SOCIALIZING VI. CLIMBING							
<b>INDIVIDUAL PLAY</b>																	
GIRL							BOY										
	NEGATIVE BEHAVIOURS	RISK-TAKING PATTERNS	PARENTAL INTERFERENCES	ENVIRONMENT USE	AGE			NEGATIVE BEHAVIOURS	RISK-TAKING PATTERNS	PARENTAL INTERFERENCES	ENVIRONMENT USE	AGE					
					3	4	5	6	7			3	4	5	6	7	
CHILD 1	none	3.2.	d	I			X			1	a,d,b	I				X	
CHILD 2	none	3.1.	d,e	I	X					1	d	I				X	
CHILD 3	none	3.2.	d,b	I		X				1	d,b	I				X	
CHILD 4										3.1.	d,b,e		X				
NOTES:							NOTES:										
<b>SAME-GENDER PLAY</b>																	
GIRLS-GIRLS							BOYS-BOYS										
	NEGATIVE BEHAVIOURS	RISK-TAKING PATTERNS	PARENTAL INTERFERENCES	ENVIRONMENT USE	NUMBER OF CHILDREN	AGE			NEGATIVE BEHAVIOURS	RISK-TAKING PATTERNS	PARENTAL INTERFERENCES	ENVIRONMENT USE	NUMBER OF CHILDREN	AGE			
						3	4	5	6	7			3	4	5	6	7
GROUP 1	CHILD 1	none	1	none	V				X	none	1	none	I, V	2			X
	CHILD 2	none	1	none	V				X	none	1	none	I, V	2			X
GROUP 2	CHILD 1	none	1	d	V		X			C,E	1	none	I, V				X
	CHILD 2	none	1	a	V			X		C,E	1	none	I, V	2			X
	CHILD 3	none	1	a	V				X	none	1	none	I, V				X
NOTES:							NOTES: Group 1 use the equipment for relaxing and conversation.										
<b>MIX-GENDER PLAY</b>																	
GIRLS-BOYS																	
	NEGATIVE BEHAVIOURS	RISK-TAKING PATTERNS	PARENTAL INTERFERENCES	ENVIRONMENT USE	GENDER	AGE											
						3	4	5	6	7							
GROUP 1	CHILD 1	none	1	d	V	GIRL	X										
	CHILD 2	none	1	a,e	V	BOY	X										
	CHILD 1	C, E	1	a	none	BOY				X							
	CHILD 2	none	1	a	V	BOY				X							
CHILD 3	none	1	d	V	GIRL		X										
NOTES:																	



OBSERVATION SHEET FOR UNDERSTANDING CHILDREN'S BEHAVIOURS AND RISK TAKING PATTERNS IN GROUP AND INDIVIDUAL PLAYS										 <small>EZMIR UNIVERSITY OF ECONOMICS</small>										
APPROXIMATE NUMBER OF GIRLS: 30 APPROXIMATE NUMBER OF BOYS: 35 APPROXIMATE NUMBER OF ADULTS: 20 APPROXIMATE AGE RANGE: 2-10				LOCATION: BOSTANLI / OLOF PALME PARK				DATE: 21.08.2021		TIME: 18:30 – 18:45 18:45 – 19:00 19:15 – 19:30 19:30 – 19:45 19:45 – 20:00 20:00 – 20:15 20:15 – 20:30										
<b>EQ. 2 - LONG SWING</b>																				
<b>NEGATIVE BEHAVIOUR</b> A. AGGRESSION B. SOCIAL EXCLUSION C. BULLYING D. USE OF EQ. INAPPROPRIATELY E. DISRUPTION F. DISTURBING			<b>RISK-TAKING BEHAVIOURS</b> 1. INDIVIDUAL DECISION MAKING ON RISK TAKING AND TAKING RISK 2. INDIVIDUAL DECISION MAKING ON RISK TAKING AND AVOIDING TAKING RISK 3. EXPLORATORY RISK APPRAISAL (ASKING ADULTS) 3.1. AVOIDING DESPITE HELP 3.2. TAKING RISK WITH HELP				<b>PARENTAL INTERFERENCES:</b> a. WATCHING FROM DISTANCE b. PLAYING TOGETHER c. HELPING THEM TO SOCIALIZING d. HELPING THEM TO USE THE EQUIPMENT e. ENCOURAGING f. WARNING			<b>EQUIPMENTS' ENVIRONMENT USE:</b> I. RUNNING II. CRAWLING III. HIDING IV. SEEKING V. SOCIALIZING VI. CLIMBING										
<b>INDIVIDUAL PLAY</b>																				
<b>GIRL</b>						<b>BOY</b>														
	NEGATIVE BEHAVIOURS	RISK-TAKING PATTERNS	PARENTAL INTERFERENCES	ENVIRONMENT USE	NUMBER OF CHILDREN	AGE			NEGATIVE BEHAVIOURS	RISK-TAKING PATTERNS	PARENTAL INTERFERENCES	ENVIRONMENT USE	NUMBER OF CHILDREN	AGE						
						3	4	5	6	7						3	4	5	6	7
	CHILD 1	none	3.1.	b,d,e	I			X				D	1	none	V					X
	CHILD 2	none	3.2.	d	I			X			none	3.2.	d	I						X
	CHILD 3	D	1	a	V					X	none	1	none	I						X
	CHILD 4	D	1	a,f	V					X										
	CHILD 5	none	3.2.	b,d,e	I			X												
NOTES:						NOTES:														
<b>SAME-GENDER PLAY</b>																				
<b>GIRLS-GIRLS</b>						<b>BOYS-BOYS</b>														
	NEGATIVE BEHAVIOURS	RISK-TAKING PATTERNS	PARENTAL INTERFERENCES	ENVIRONMENT USE	NUMBER OF CHILDREN	AGE			NEGATIVE BEHAVIOURS	RISK-TAKING PATTERNS	PARENTAL INTERFERENCES	ENVIRONMENT USE	NUMBER OF CHILDREN	AGE						
						3	4	5	6	7						3	4	5	6	7
GROUP 1	CHILD 1	none	1	d	I,V					X	none	1	none	V						X
	CHILD 2	none	1	a	I,V					X	D	1	none	V						X
GROUP 2	CHILD 1	none	1	a	V					X	none	1	a	I,V						X
	CHILD 2	none	1	d	V					X	none	1	d	I,V						X
GROUP 3	CHILD 1	D	1	a	V					X										
	CHILD 2	none	2	a	I,V					X										
	CHILD 3	D	1	a,f	I,V					X										
NOTES: In group 3, child 3 observed child 1 and copy of her attitude.						NOTES:														
<b>MIX-GENDER PLAY</b>																				
<b>GIRLS-BOYS</b>						<b>BOYS-BOYS</b>														
	NEGATIVE BEHAVIOURS	RISK-TAKING PATTERNS	PARENTAL INTERFERENCES	ENVIRONMENT USE	GENDER	AGE								AGE						
						3	4	5	6	7						3	4	5	6	7
GROUP 1	CHILD 1	none	1	a	V	BOY														X
	CHILD 2	none	1	a	V	GIRL					X									
GROUP 2	CHILD 1	D	1	none	I,V	GIRL					X									
	CHILD 2	D	1	none	I,V	BOY					X									
NOTES:						NOTES:														



OBSERVATION SHEET FOR UNDERSTANDING CHILDREN'S BEHAVIOURS AND RISK TAKING PATTERNS IN GROUP AND INDIVIDUAL PLAYS



APPROXIMATE NUMBER OF GIRLS: 30  
 APPROXIMATE NUMBER OF BOYS: 35  
 APPROXIMATE NUMBER OF ADULTS: 20  
 APPROXIMATE AGE RANGE: 2-10

LOCATION: BOSTANLI / OLOF PALME PARK

DATE: 21.08.2021

TIME:  
 18:30 – 18:45  
 18:45 – 19:00  
 19:15 – 19:30  
 19:30 – 19:45  
 19:45 – 20:00  
 20:00 – 20:15  
 20:15 – 20:30

EQ. 3.1 - MULTIPLAY UNIT (SLIDING PART)

<b>NEGATIVE BEHAVIOUR</b> A. AGGRESSION B. SOCIAL EXCLUSION C. BULLYING D. USE OF EQ. INAPPROPRIATELY E. DISRUPTION F. DISTURBING	<b>RISK-TAKING BEHAVIOURS</b> 1. INDIVIDUAL DECISION MAKING ON RISK TAKING AND TAKING RISK 2. INDIVIDUAL DECISION MAKING ON RISK TAKING AND AVOIDING TAKING RISK 3. EXPLORATORY RISK APPRAISAL (ASKING ADULTS) 3.1. AVOIDING DESPITE HELP 3.2. TAKING RISK WITH HELP	<b>PARENTAL INTERFERENCES:</b> a. WATCHING FROM DISTANCE b. PLAYING TOGETHER c. HELPING THEM TO SOCIALIZE d. HELPING THEM TO USE THE EQUIPMENT e. ENCOURAGING f. WARNING	<b>EQUIPMENTS' ENVIRONMENT USE:</b> I. RUNNING II. CRAWLING III. HIDING IV. SEEKING V. SOCIALIZING VI. CLIMBING
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INDIVIDUAL PLAY

	GIRL					BOY																
	NEGATIVE BEHAVIOURS	RISK-TAKING PATTERNS	PARENTAL INTERFERENCES	ENVIRONMENT USE	NUMBER OF CHILDREN	AGE				NEGATIVE BEHAVIOURS	RISK-TAKING PATTERNS	PARENTAL INTERFERENCES	ENVIRONMENT USE	NUMBER OF CHILDREN	AGE							
						3	4	5	6						7	3	4	5	6	7		
CHILD 1	D	1	a,f	I			X					none	1	f	I			X				
CHILD 2																						
CHILD 3																						
CHILD 4																						
CHILD 5																						

NOTES:

NOTES:

SAME-GENDER PLAY

	GIRLS-GIRLS					BOYS-BOYS													
	NEGATIVE BEHAVIOURS	RISK-TAKING PATTERNS	PARENTAL INTERFERENCES	ENVIRONMENT USE	NUMBER OF CHILDREN	AGE				NEGATIVE BEHAVIOURS	RISK-TAKING PATTERNS	PARENTAL INTERFERENCES	ENVIRONMENT USE	NUMBER OF CHILDREN	AGE				
						3	4	5	6						7	3	4	5	6
GROUP 1 CHILD 1	none	1	a	I,V	2				X	none	1	none	V	2					X
CHILD 2	none	1	a	I,V					X	none	1	none	V						X
GROUP 2 CHILD 1	none	1	a	I,V	3				X	none	1	d,e	V	2				X	
CHILD 2	none	1	a	I,V					X	none	3.1.	d,e	V					X	
CHILD 3	none	1	d,f	I,V			X												

NOTES: Group 1 use the slide's waiting area for finger play and conversations. Group 2 consist of same girls with group 1 and one additional girl. Child 3 tend to play with them.

NOTES:

MIX-GENDER PLAY

	GIRLS-BOYS					GENDER	AGE			
	NEGATIVE BEHAVIOURS	RISK-TAKING PATTERNS	PARENTAL INTERFERENCES	ENVIRONMENT USE	NUMBER OF CHILDREN		AGE			
							3	4	5	6
GROUP 1 CHILD 1	D	1	a	I		BOY			X	
CHILD 2	D	1	a	I		GIRL			X	
CHILD 3	D	1	a	none		GIRL	X			
CHILD 4	D	1	a	none		BOY		X		

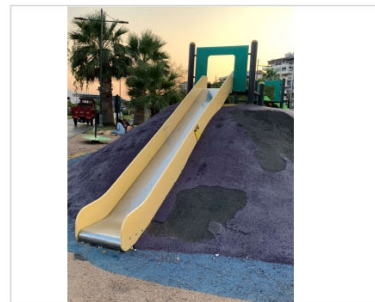
NOTES: inappropriate equipment use occur as climbing to slide. Group 2 saw climbing to slide from group 1.







OBSERVATION SHEET FOR UNDERSTANDING CHILDREN'S BEHAVIOURS AND RISK TAKING PATTERNS IN GROUP AND INDIVIDUAL PLAYS										 <small>IZMIR UNIVERSITY OF ECONOMICS</small>			
APPROXIMATE NUMBER OF GIRLS: APPROXIMATE NUMBER OF BOYS: APPROXIMATE NUMBER OF ADULTS: APPROXIMATE AGE RANGE:				LOCATION: KARŞIYAKA COASTLINE / HILL PARK				DATE: 22.08.2021		TIME: 18:30 – 18:45 18:45 – 19:00 19:15 – 19:30 19:30 – 19:45 19:45 – 20:00 20:00 – 20:15 20:15 – 20:30			
EQ. 1.1 - HILL WITH 2 SLIDING UNIT													
<b>NEGATIVE BEHAVIOUR</b> A. AGGRESSION B. SOCIAL EXCLUSION C. BULLYING D. USE OF EQ. INAPPROPRIATELY E. DISRUPTION F. DISTURBING			<b>RISK-TAKING BEHAVIOURS</b> 1. INDIVIDUAL DECISION MAKING ON RISK TAKING AND TAKING RISK 2. INDIVIDUAL DECISION MAKING ON RISK TAKING AND AVOIDING TAKING RISK 3. EXPLORATORY RISK APPRAISAL (ASKING ADULTS) 3.1. AVOIDING DESPITE HELP 3.2. TAKING RISK WITH HELP			<b>PARENTAL INTERFERENCES:</b> a. WATCHING FROM DISTANCE b. PLAYING TOGETHER c. HELPING THEM TO SOCIALIZING d. HELPING THEM TO USE THE EQUIPMENT e. ENCOURAGING f. WARNING			<b>EQUIPMENTS' ENVIRONMENT USE:</b> I. RUNNING II. CRAWLING III. HIDING IV. SEEKING V. SOCIALIZING VI. CLIMBING				
<b>INDIVIDUAL PLAY</b>													
GIRL						BOY							
	NEGATIVE BEHAVIOURS	RISK-TAKING PATTERNS	PARENTAL INTERFERENCES	ENVIRONMENT USE	AGE	NEGATIVE BEHAVIOURS	RISK-TAKING PATTERNS	PARENTAL INTERFERENCES	ENVIRONMENT USE	AGE			
					3 4 5 6 7					3 4 5 6 7			
CHILD 1	none	1	none	I,VI,II		X	none	3-2	a,d	I,VI,II	X		
CHILD 2	none	3,2	a,e	I,VI,II	X		none	3-2	a,e	I,VI,II	X		
CHILD 3	none	3,2	d,e	I,VI,II	X		none	1	a	I,VI,II	X		
CHILD 4	none	1	b,d,e	I,VI,II	X		none	1	a	I,VI,II	X		
CHILD 5	none	1	a,e	I,VI,II		X	none	1	a	I,VI,II	X		
NOTES:						NOTES:							
<b>SAME-GENDER PLAY</b>													
GIRLS-GIRLS						BOYS-BOYS							
	NEGATIVE BEHAVIOURS	RISK-TAKING PATTERNS	PARENTAL INTERFERENCES	ENVIRONMENT USE	NUMBER OF CHILDREN	AGE	NEGATIVE BEHAVIOURS	RISK-TAKING PATTERNS	PARENTAL INTERFERENCES	ENVIRONMENT USE	NUMBER OF CHILDREN	AGE	
						3 4 5 6 7						3 4 5 6 7	
GROUP 1	CHILD 1	D	1	a	I,VI,II	2		X	D,E	1	a	I,VI,V,II	X
	CHILD 2	none	1	a,e	I,VI,II		X		D,E	1	a	I,VI,V,II	X
	CHILD 3								D,E	1	a	I,VI,V,II	X
GROUP 2	CHILD 1	none	1	d,e	I,VI,II	2		X	D,E	1	none	I,VI,V,II	X
	CHILD 2	none	1	d,e	I,VI,II		X		none	1	none	I,VI,V,II	X
NOTES: In group 1, child 1 use the slide for climbing.						NOTES: Group 1 occupied the equipment. In group 2, child 1 use the slide for climbing.							
<b>MIX-GENDER PLAY</b>													
GIRLS-BOYS													
	NEGATIVE BEHAVIOURS	RISK-TAKING PATTERNS	PARENTAL INTERFERENCES	ENVIRONMENT USE	GENDER	AGE							
						3 4 5 6 7							
GROUP 1	CHILD 1	none	1	a	I,VI,V,II	GIRL						X	
	CHILD 2	none	1	a	I,VI,V,II	BOY						X	
GROUP 2	CHILD 1	E	1	a	I,VI,V,II	GIRL						X	
	CHILD 2	none	1	a,e	I,VI,II	BOY	X						
GROUP 3	CHILD 1	none	1	a	I,VI,V,II	GIRL						X	
	CHILD 2	none	1	a	I,VI,V,II	GIRL						X	
	CHILD 3	none	1	a	I,VI,V,II	BOY						X	
NOTES:													



OBSERVATION SHEET FOR UNDERSTANDING CHILDREN'S BEHAVIOURS AND RISK TAKING PATTERNS IN GROUP AND INDIVIDUAL PLAYS



APPROXIMATE NUMBER OF GIRLS:  
APPROXIMATE NUMBER OF BOYS:  
APPROXIMATE NUMBER OF ADULTS:  
APPROXIMATE AGE RANGE:

LOCATION: KARŞIYAKA COASTLINE / HILL PARK

DATE: 22.08.2021

TIME:  
18:30 – 18:45  
18:45 – 19:00  
19:15 – 19:30  
19:30 – 19:45  
19:45 – 20:00  
20:00 – 20:15  
20:15 – 20:30

ENVIRONMENT OF EQ. 1.2 - GRASS SEATING UNITS

NEGATIVE BEHAVIOUR

- A. AGGRESSION
- B. SOCIAL EXCLUSION
- C. BULLYING
- D. USE OF EQ. INAPPROPRIATELY
- E. DISRUPTION
- F. DISTURBING

RISK-TAKING BEHAVIOURS

- 1. INDIVIDUAL DECISION MAKING ON RISK TAKING AND TAKING RISK
- 2. INDIVIDUAL DECISION MAKING ON RISK TAKING AND AVOIDING TAKING RISK
- 3. EXPLORATORY RISK APPRAISAL (ASKING ADULTS)
- 3.1. AVOIDING DESPITE HELP
- 3.2. TAKING RISK WITH HELP

PARENTAL INTERFERENCES:

- a. WATCHING FROM DISTANCE
- b. PLAYING TOGETHER
- c. HELPING THEM TO SOCIALIZING
- d. HELPING THEM TO USE THE EQUIPMENT
- e. ENCOURAGING
- f. WARNING

EQUIPMENTS' ENVIRONMENT USE:

- I. RUNNING
- II. CRAWLING
- III. HIDING
- IV. SEEKING
- V. SOCIALIZING
- VI. CLIMBING

INDIVIDUAL PLAY

	GIRL					BOY															
	NEGATIVE BEHAVIOURS	RISK-TAKING PATTERNS	PARENTAL INTERFERENCES	ENVIRONMENT USE	AGE					NEGATIVE BEHAVIOURS	RISK-TAKING PATTERNS	PARENTAL INTERFERENCES	ENVIRONMENT USE	AGE							
					3	4	5	6	7					3	4	5	6	7			
CHILD 1											none	1	a	I,II,VI							X
CHILD 2											none	1	a	I,II,VI							X
CHILD 3																					
CHILD 4																					
CHILD 5																					

NOTES: not observed

NOTES:

SAME-GENDER PLAY

	GIRLS-GIRLS					BOYS-BOYS															
	NEGATIVE BEHAVIOURS	RISK-TAKING PATTERNS	PARENTAL INTERFERENCES	ENVIRONMENT USE	NUMBER OF CHILDREN	AGE					NEGATIVE BEHAVIOURS	RISK-TAKING PATTERNS	PARENTAL INTERFERENCES	ENVIRONMENT USE	NUMBER OF CHILDREN	AGE					
						3	4	5	6	7						3	4	5	6	7	
GROUP 1 CHILD 1																					
GROUP 1 CHILD 2																					
GROUP 1 CHILD 3																					
GROUP 1 CHILD 4																					
GROUP 1 CHILD 5																					

NOTES: not observed

NOTES: not observed

MIX-GENDER PLAY

	GIRLS-BOYS					GENDER	AGE							
	NEGATIVE BEHAVIOURS	RISK-TAKING PATTERNS	PARENTAL INTERFERENCES	ENVIRONMENT USE	NUMBER OF CHILDREN		AGE							
							3	4	5	6	7			
GROUP 1 CHILD 1	none	1	a	I,II,VI,V		GIRL			X					
GROUP 1 CHILD 2	none	1	a	I,II,VI,V		BOY				X				
GROUP 2 CHILD 1														
GROUP 2 CHILD 2														
GROUP 2 CHILD 3														
GROUP 2 CHILD 4														
GROUP 2 CHILD 5														

NOTES:





**OBSERVATION SHEET FOR UNDERSTANDING CHILDREN'S BEHAVIOURS  
AND RISK TAKING PATTERNS IN GROUP AND INDIVIDUAL PLAYS**



APPROXIMATE NUMBER OF GIRLS:  
APPROXIMATE NUMBER OF BOYS:  
APPROXIMATE NUMBER OF ADULTS:  
APPROXIMATE AGE RANGE:

LOCATION: KARŞIYAKA COASTLINE / NEW GENERATION PARK DATE: 22.08.2021

TIME:  
18:30 – 18:45  
18:45 – 19:00  
19:15 – 19:30  
19:30 – 19:45  
19:45 – 20:00  
20:00 – 20:15  
20:15 – 20:30

**EQ 1.1 - MULTIPLAY UNIT (HIGHER SLIDING UNIT)**

<b>NEGATIVE BEHAVIOUR</b> A. AGGRESSION B. SOCIAL EXCLUSION C. BULLYING D. USE OF EQ. INAPPROPRIATELY E. DISRUPTION F. DISTURBING	<b>RISK-TAKING BEHAVIOURS</b> 1. INDIVIDUAL DECISION MAKING ON RISK TAKING AND TAKING RISK 2. INDIVIDUAL DECISION MAKING ON RISK TAKING AND AVOIDING TAKING RISK 3. EXPLORATORY RISK APPRAISAL (ASKING ADULTS) 3.1. AVOIDING DESPITE HELP 3.2. TAKING RISK WITH HELP	<b>PARENTAL INTERFERENCES:</b> a. WATCHING FROM DISTANCE b. PLAYING TOGETHER c. HELPING THEM TO SOCIALIZE d. HELPING THEM TO USE THE EQUIPMENT e. ENCOURAGING f. WARNING	<b>EQUIPMENTS' ENVIRONMENT USE:</b> I. RUNNING II. CRAWLING III. HIDING IV. SEEKING V. SOCIALIZING VI. CLIMBING
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	INDIVIDUAL PLAY																	
	GIRL							BOY										
	NEGATIVE BEHAVIOURS	RISK-TAKING PATTERNS	PARENTAL INTERFERENCES	ENVIRONMENT USE	AGE			NEGATIVE BEHAVIOURS	RISK-TAKING PATTERNS	PARENTAL INTERFERENCES	ENVIRONMENT USE	AGE						
					3	4	5	6	7					3	4	5	6	7
CHILD 1	none	2	a	I,III,V,VI			X			none	2-3.2.	e	I,V,VI				X	
CHILD 2	none	1	e	I,III,V,VI	X					none	3.1.	d,e	I,III,V,VI				X	
CHILD 3	none	1	e	I,V,VI		X				A	2	a	I,V,VI				X	
CHILD 4										none	1	d,e	I,VI				X	
CHILD 5										none	2-3.2.	a	I,III,VI				X	
<b>NOTES:</b>										<b>NOTES:</b> Child 3 want his parent with him, his family ignore his request. Child 5 observed child3 and behave as him.								

	SAME-GENDER PLAY																		
	GIRLS-GIRLS							BOYS-BOYS											
	NEGATIVE BEHAVIOURS	RISK-TAKING PATTERNS	PARENTAL INTERFERENCES	ENVIRONMENT USE	NUMBER OF CHILDREN	AGE			NEGATIVE BEHAVIOURS	RISK-TAKING PATTERNS	PARENTAL INTERFERENCES	ENVIRONMENT USE	NUMBER OF CHILDREN	AGE					
						3	4	5	6	7					3	4	5	6	7
GROUP 1	CHILD 1	none	2-3.2.	e	I		X				D-C	1	none	I,V					X
	CHILD 2	B-D	1	f	I,V	2				X	D	1	none	I,V	3				X
	CHILD 3										D	1	none	I,V					X
GROUP 2	CHILD 1	none	1	a	I,V,III	2				X									
	CHILD 2	none	1	a	I,V,III					X									
<b>NOTES:</b>										<b>NOTES:</b>									

	MIX-GENDER PLAY										
	GIRLS-BOYS					GENDER	AGE				
	NEGATIVE BEHAVIOURS	RISK-TAKING PATTERNS	PARENTAL INTERFERENCES	ENVIRONMENT USE	NUMBER OF CHILDREN		3	4	5	6	7
GROUP 1	CHILD 1	none	1	a	I,V,III	GIRL		X			
	CHILD 2	none	1	a	I,V,III	BOY		X			
	CHILD 3	none	1	a	I,V	GIRL		X			
GROUP 2	CHILD 1	none	1	a	I,V	GIRL					X
	CHILD 2	none	1	a	I,V	BOY					X
<b>NOTES:</b> 12+ children use the module for photo shooting, and they distrust other children's play. Another issue is crying, when child play individually, there is no problem. But if child saw his/her parents, they tend to ask help.											



OBSERVATION SHEET FOR UNDERSTANDING CHILDREN'S BEHAVIOURS  
AND RISK TAKING PATTERNS IN GROUP AND INDIVIDUAL PLAYS



APPROXIMATE NUMBER OF GIRLS:  
APPROXIMATE NUMBER OF BOYS:  
APPROXIMATE NUMBER OF ADULTS:  
APPROXIMATE AGE RANGE:

LOCATION: KARŞIYAKA COASTLINE / NEW GENERATION PARK DATE: 22.08.2021

TIME:  
18:30 – 18:45  
18:45 – 19:00  
19:15 – 19:30  
19:30 – 19:45  
19:45 – 20:00  
20:00 – 20:15  
20:15 – 20:30

EQ 1.2 - MULTIPLAY UNIT (CLIMBING PART)

<b>NEGATIVE BEHAVIOUR</b> A. AGGRESSION B. SOCIAL EXCLUSION C. BULLYING D. USE OF EQ. INAPPROPRIATELY E. DISRUPTION F. DISTURBING	<b>RISK-TAKING BEHAVIOURS</b> 1. INDIVIDUAL DECISION MAKING ON RISK TAKING AND TAKING RISK 2. INDIVIDUAL DECISION MAKING ON RISK TAKING AND AVOIDING TAKING RISK 3. EXPLORATORY RISK APPRAISAL (ASKING ADULTS) 3.1. AVOIDING DESPITE HELP 3.2. TAKING RISK WITH HELP	<b>PARENTAL INTERFERENCES:</b> a. WATCHING FROM DISTANCE b. PLAYING TOGETHER c. HELPING THEM TO SOCIALIZING d. HELPING THEM TO USE THE EQUIPMENT e. ENCOURAGING f. WARNING	<b>EQUIPMENTS' ENVIRONMENT USE:</b> I. RUNNING II. CRAWLING III. HIDING IV. SEEKING V. SOCIALIZING VI. CLIMBING
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INDIVIDUAL PLAY

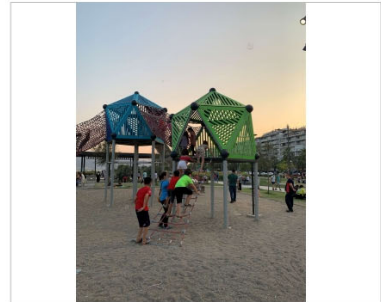
	GIRL										BOY											
	NEGATIVE BEHAVIOURS	RISK-TAKING PATTERNS	PARENTAL INTERFERENCES	ENVIRONMENT USE	AGE							NEGATIVE BEHAVIOURS	RISK-TAKING PATTERNS	PARENTAL INTERFERENCES	ENVIRONMENT USE	AGE						
					3	4	5	6	7	3	4					5	6	7				
CHILD 1	none	3.1.	d,e	VI			X					none	3.2.	d,e	I,VI			X				
CHILD 2	none	1	d,e	VI			X					A	1	d	I,VI			X				
CHILD 3	none	1	a	I,VI			X					none	1	a	I,VI					X		
CHILD 4	none	2	a	I,VI			X					D	1	a	I,VI					X		
CHILD 5	E	1	a	I,VI				X				none	3.2.	d,e	I,VI					X		
NOTES:											NOTES:											

SAME-GENDER PLAY

	GIRLS-GIRLS										BOYS-BOYS													
	NEGATIVE BEHAVIOURS	RISK-TAKING PATTERNS	PARENTAL INTERFERENCES	ENVIRONMENT USE	NUMBER OF CHILDREN	AGE							NEGATIVE BEHAVIOURS	RISK-TAKING PATTERNS	PARENTAL INTERFERENCES	ENVIRONMENT USE	NUMBER OF CHILDREN	AGE						
						3	4	5	6	7	3	4						5	6	7				
GROUP 1 CHILD 1	none	1	a	I,VI	2			X					none	3.2.	e	I,VI	2			X				
CHILD 2	none	1	d	I,VI		X							none	1	e	I,VI				X				
NOTES:											NOTES:													

MIX-GENDER PLAY

	GIRLS-BOYS											
	NEGATIVE BEHAVIOURS	RISK-TAKING PATTERNS	PARENTAL INTERFERENCES	ENVIRONMENT USE	GENDER	AGE						
						3	4	5	6	7		
GROUP 1 CHILD 1	none	1	a	I,V	GIRL			X				
CHILD 2	none	1	a	I,V	BOY		X					
GROUP 2 CHILD 1	none	1	a	I,V	BOY						X	
CHILD 2	none	1	a	I,V	GIRL					X		
NOTES:												



OBSERVATION SHEET FOR UNDERSTANDING CHILDREN'S BEHAVIOURS  
AND RISK TAKING PATTERNS IN GROUP AND INDIVIDUAL PLAYS



APPROXIMATE NUMBER OF GIRLS:  
APPROXIMATE NUMBER OF BOYS:  
APPROXIMATE NUMBER OF ADULTS:  
APPROXIMATE AGE RANGE:

LOCATION: KARŞIYAKA COASTLINE / NEW GENERATION PARK DATE: 22.08.2021

TIME:  
18:30 – 18:45  
18:45 – 19:00  
19:15 – 19:30  
19:30 – 19:45  
19:45 – 20:00  
20:00 – 20:15  
20:15 – 20:30

EQ 1.3. - MULTIPLAY UNIT (NEW TYPE SLIDING)

<b>NEGATIVE BEHAVIOUR</b> A. AGGRESSION B. SOCIAL EXCLUSION C. BULLYING D. USE OF EQ. INAPPROPRIATELY E. DISRUPTION F. DISTURBING	<b>RISK-TAKING BEHAVIOURS</b> 1. INDIVIDUAL DECISION MAKING ON RISK TAKING AND TAKING RISK 2. INDIVIDUAL DECISION MAKING ON RISK TAKING AND AVOIDING TAKING RISK 3. EXPLORATORY RISK APPRAISAL (ASKING ADULTS) 3.1. AVOIDING DESPITE HELP 3.2. TAKING RISK WITH HELP	<b>PARENTAL INTERFERENCES:</b> a. WATCHING FROM DISTANCE b. PLAYING TOGETHER c. HELPING THEM TO SOCIALIZING d. HELPING THEM TO USE THE EQUIPMENT e. ENCOURAGING f. WARNING	<b>EQUIPMENTS' ENVIRONMENT USE:</b> I. RUNNING II. CRAWLING III. HIDING IV. SEEKING V. SOCIALIZING VI. CLIMBING
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INDIVIDUAL PLAY

	GIRL				AGE							BOY							
	NEGATIVE BEHAVIOURS	RISK-TAKING PATTERNS	PARENTAL INTERFERENCES	ENVIRONMENT USE								NEGATIVE BEHAVIOURS	RISK-TAKING PATTERNS	PARENTAL INTERFERENCES	ENVIRONMENT USE	AGE			
					3	4	5	6	7	3	4					5	6	7	
CHILD 1	none	1	d	I,VI				X				D	1	a	I,VI				X
CHILD 2	none	1	d,e	I,VI				X				D	1	a	I,VI				X
CHILD 3	none	2	d,e	I,VI				X				none	1	d	I,VI			X	
CHILD 4	none	2	a	I,VI				X				none	2	d	I			X	
CHILD 5	none	1	d,e	I,VI				X				C	1	a	I,VI				X

NOTES:

NOTES:

SAME-GENDER PLAY

	GIRLS-GIRLS					AGE							BOYS-BOYS							
	NEGATIVE BEHAVIOURS	RISK-TAKING PATTERNS	PARENTAL INTERFERENCES	ENVIRONMENT USE	NUMBER OF CHILDREN								NEGATIVE BEHAVIOURS	RISK-TAKING PATTERNS	PARENTAL INTERFERENCES	ENVIRONMENT USE	NUMBER OF CHILDREN	AGE		
						3	4	5	6	7	3	4						5	6	7
GROUP 1 CHILD 1	none	2	a	V,VI	2				X				C,E	1	a	V,VI	3			X
CHILD 2	none	1	a	V,VI					X				C,E	1	a	I,VI				X
CHILD 3													none	1	a	V,VI				X
GROUP 2 CHILD 1	none	3.1.	d,e		3				X				E	1	a	I,VI	3			X
CHILD 2	none	1	e	V					X				none	1	a	I,VI				X
CHILD 3	none	1	a	V					X				none	1	a	I,VI				X

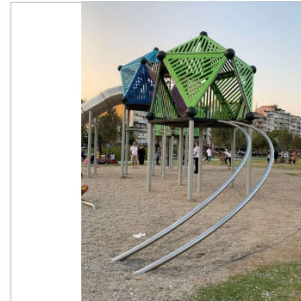
NOTES:

NOTES:

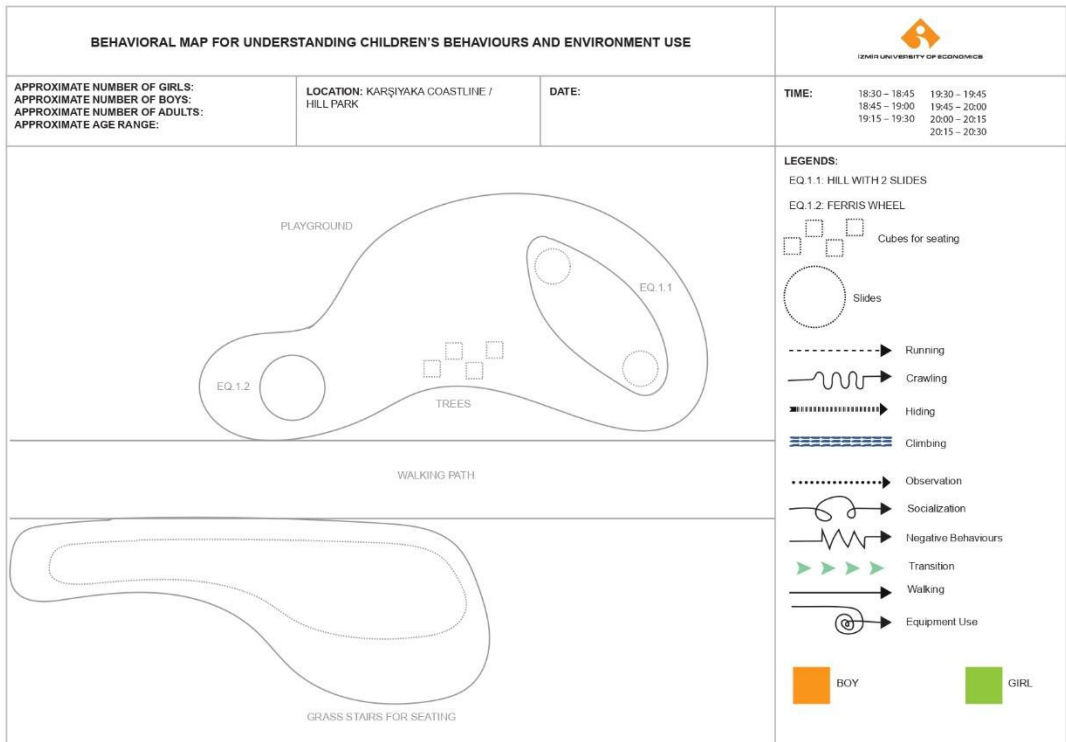
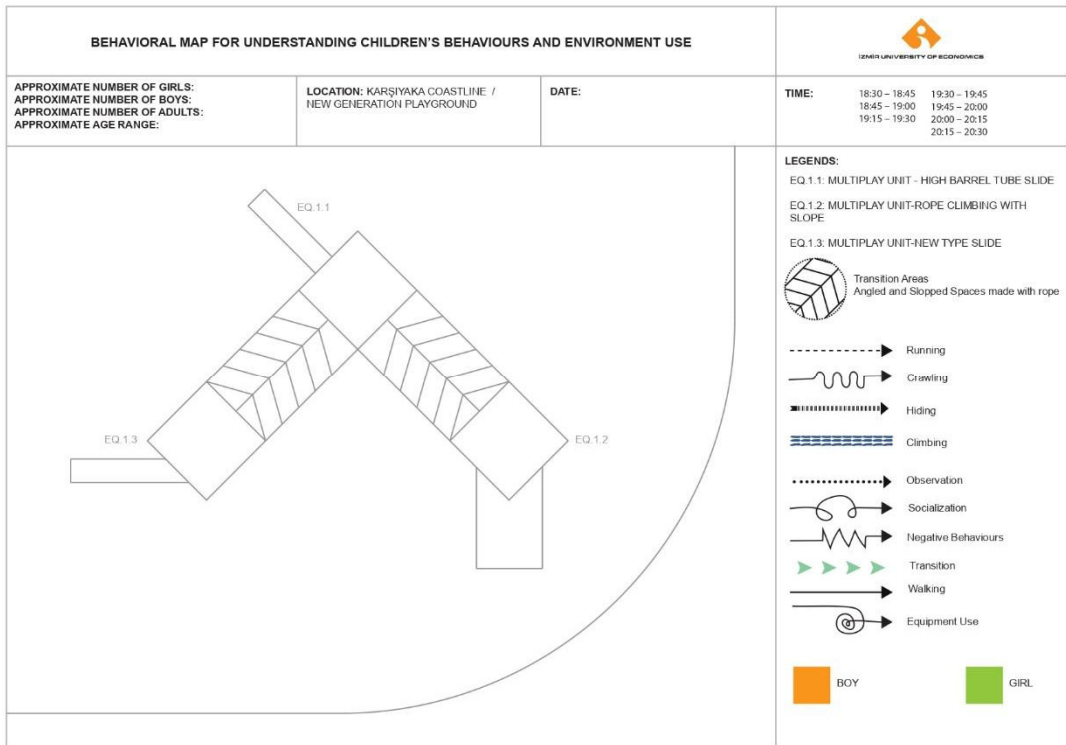
MIX-GENDER PLAY

	GIRLS-BOYS					GENDER	AGE			
	NEGATIVE BEHAVIOURS	RISK-TAKING PATTERNS	PARENTAL INTERFERENCES	ENVIRONMENT USE						
					3		4	5	6	7
GROUP 1 CHILD 1	none	1	a	I,V,VI	GIRL			X		
CHILD 2	none	1	d,e	I,V,VI	GIRL			X		
CHILD 3	C	1	a	I,V,VI	BOY					X
CHILD 4	none	1	a	I,V,VI	BOY					X

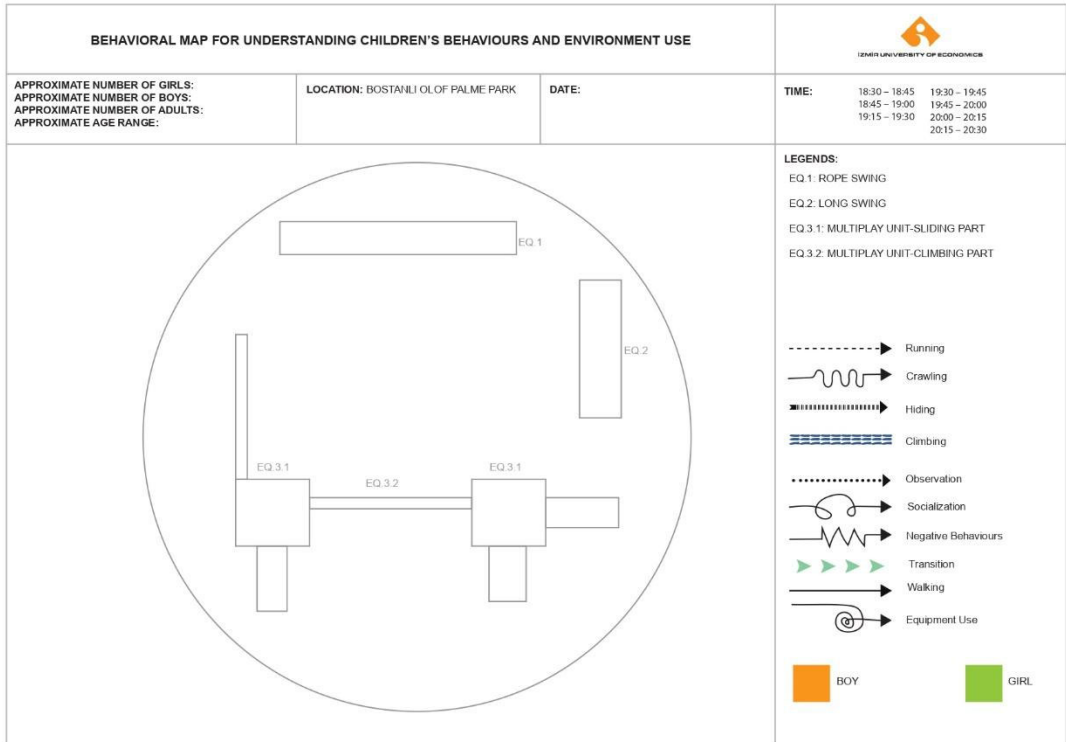
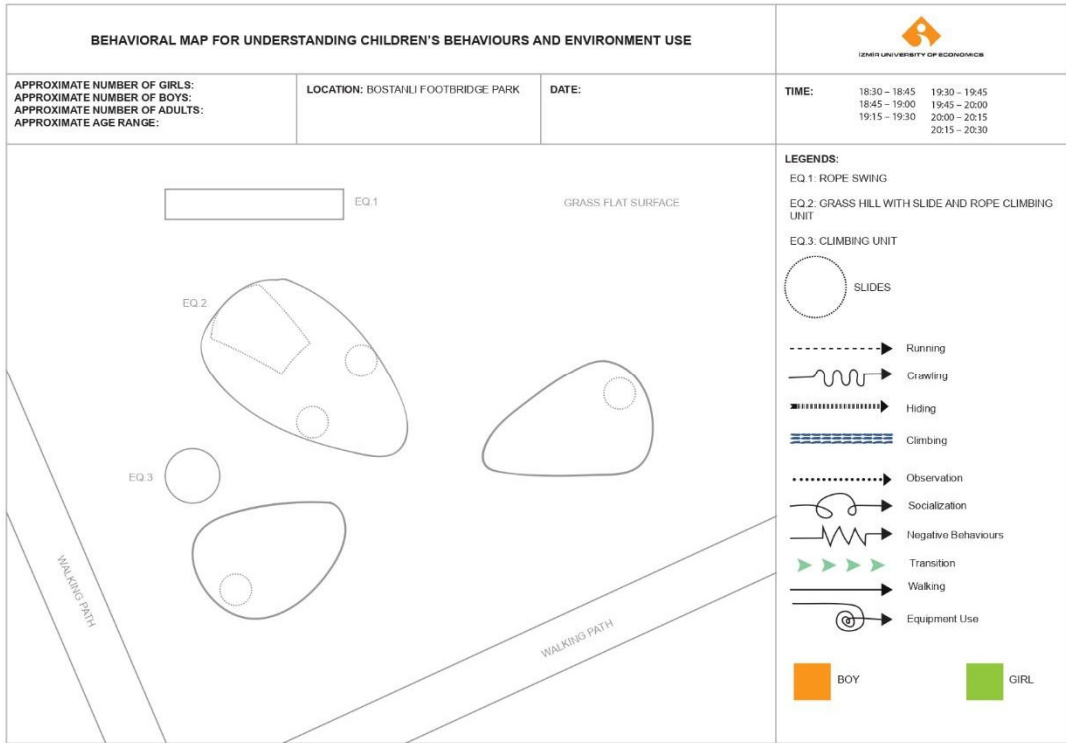
NOTES: In general, children do not understand how they should use this equipment. They tried climbing, sliding or hanging. They can use when they try sliding.



## Appendix F: Behavioral Mapping







## *Appendix G: Ethical Approval*

**SAYI** : B.30.2.İEÜ.0.05.05-020-159

22.09.2021

**KONU** : Etik Kurul Kararı hk.

**Sayın Prof. Dr. Deniz Hasırcı,**

“**Gender-Neutral Outdoor Playground Design**” başlıklı projenizin etik uygunluğu konusundaki başvurunuz sonuçlanmıştır.

Etik Kurulumuz 22.09.2021 tarihinde sizin başvurunuzun da içinde bulunduğu bir gündemle toplanmış ve Etik Kurul üyeleri projeleri incelemiştir.

Sonuçta 22.09.2021 tarihinde “**Gender-Neutral Outdoor Playground Design**” konulu projenizin etik açıdan uygun olduğuna oy birliğiyle karar verilmiştir.

Gereği için bilgilerinize sunarım.

Saygılarımla,



**Prof. Dr. Murat Bengisu**

**Etik Kurul Başkanı**