

INVESTIGATING THE SOCIAL INTERACTIONS BETWEEN PARENTS AND  
YOUNG CHILDREN DURING DIGITAL ACTIVITIES AT HOME

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Approval of the Graduate School of Social Sciences

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## **ABSTRACT**

### **INVESTIGATING THE SOCIAL INTERACTIONS BETWEEN PARENTS AND YOUNG CHILDREN DURING DIGITAL ACTIVITIES AT HOME**

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The aim of this study is to investigate how children interact with parents during digital activities. Interaction of children with other individuals is essential for communication, negotiation, and for sharing. Digital technologies have become widespread throughout all areas of a child's life. Therefore, this study aimed to focus on the digital activities of children and the interactions that emerged during these activities. Participant observation, pre and post interviews were used to collect data in the study. The participants included four children and their parents. The children's interaction with parents during digital activities were observed in order to explore the aims of interaction, form of interactions, and interaction strategies that were used by parents and children. The results of the study showed that children and parents interacted through directing, sharing, and informal conversation during the digital activities. While passive exposure to digital technologies, multitasking of children, inappropriate digital activity content, and irrelevant messages of interaction during the digital activities were related to conflicts, appropriate features of the digital activities and interaction related to the digital activities were linked with synchronies. Besides, it was revealed that the children and parents used several tactics during the conflicts. While the children tended to use antisocial tactics, the parents preferred to employ negotiation and social tactics during the conflicts. It was also found that three

resolution strategies were identifiable at the end of the conflicts, from the most common to the least were parents' submission, children's submission, and compromise. Furthermore, accompanying, cooperation, and following instructions were the strategies that emerged in the cases of synchronies.

**Keywords:** young children, digital activities, social interaction, conflict, synchrony

## ÖZ

### EV ORTAMINDAKİ DİJİTAL AKTİVİTELERDE EBEVEYN VE KÜÇÜK ÇOCUKLAR ARASINDAKİ ETKİLEŞİMLERİN İNCELENMESİ

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Bu çalışma, çocukların dijital aktiviteler sırasında ebeveynlerle kurduğu etkileşimi araştırmıştır. Çocukların diğer bireylerle etkileşimi iletişim, müzakere ve paylaşım için gereklidir. Dijital teknolojiler ise çocukların günlük yaşantılarının her bölümünde oldukça yaygındır. Bu nedenle, bu çalışmada çocukların dijital etkinlikleri esnasında oluşan etkileşimler yakından incelenmiştir. Araştırmada veri toplamak için katılımcı gözlem, görüşme öncesi ve sonrası mülakatlar kullanılmıştır. Çalışma 4 çocuk ve aileleri ile gerçekleştirilmiştir. Çocukların dijital aktiviteler sırasında ebeveynleriyle girdiği etkileşimin amacı, etkileşim türleri ve etkileşim sırasında çocuk ve ebeveynlerin kullandığı etkileşim stratejilerinin neler olduğu sorularına cevap aranmıştır. Araştırmanın sonuçlarına göre etkileşimler yönlendirme, paylaşma ve sohbet amaçlarını içermiştir. Çocukların pasif teknoloji kullanımı, teknoloji kullanırken aynı anda farklı şeyler yapması, dijital etkinliklerin uygun olmayan içeriklere sahip olması ve dijital etkinliklerle ilgili olmayan iletişim çatışma ile ilişkilendirilmiştir. Diğer yandan, dijital etkinliklerin uygunluğu ve dijital etkinliklerle ilgili iletişim kurulmasının çocuklarla ebeveynler arasında uyumla ilişkilendirilmiştir. Ayrıca, çocukların ve ebeveynlerin çatışma esnasında çeşitli taktikler kullandığı belirlenmiştir. Çocuklar antisosyal taktikler kullanırken ebeveynler müzakere ve sosyal taktikleri tercih etmişlerdir. Bunun yanı sıra, çatışma sonunda en çok

ebeveynlerin çocuklara göre kendilerini düzenlemeleri görülmüştür. Daha sonra sırasıyla, çocukların ebeveynlere göre kendilerini düzenlemeleri ve son olarak karşılıklı düzenleme belirlenmiştir. Uyum durumlarında ise, eşlik etme, iş birliği ve talimatlara uyma en çoktan en aza göre sıralanmıştır.

**Anahtar Kelimeler:** erken çocukluk dönemi, dijital aktiviteler, etkileşim, çatışma, uyum

to all orphaned, abandoned, at-risk and vulnerable children

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## **LIST OF ABBREVIATIONS**

AAP	American Academy of Pediatrics
ICT	Information and Communication Technologies
JME	Joint media engagement
NAEYC	National Association for the Education of Young Children



## **CHAPTER 1**

### **INTRODUCTION**

There is ongoing debate about the role and effect of information and communication technologies in early childhood education. This debate is not new, as, since the 1980's, digital technologies have rapidly changed our world. The 21st century has been labeled as the digital era, with new challenges facing contemporary society (Li & Ranieri, 2010). Digital technologies are now being used while accessing information, making connections, or affecting the environment (Siraj-Blatchford & Siraj-Blatchford, 2003), and have therefore become an integral and necessary part of day-to-day life.

Today, young children inevitably interact with digital technologies, either in the classroom or in the home setting. It has been reported that children frequently use digital technologies such as televisions, smartphones, and tablets at home (Konca, 2014). According to Merdin (2017), televisions (98.3%), smartphones (93.2%), and tablets (63.3%) are the most commonly used digital devices in households with children of up to six years of age. Children's use of these digital technologies present potential benefits for young children during their early years (NAEYC & The Fred Rogers Center, 2012). Mishra and Joseph (2012) underlined the importance of digital technologies for young children in two points. First, digital technologies affect children's surroundings; therefore, such technologies are a part of the physical and social world of children, and these environmental experiences play a key role in their cognitive, social, and emotional development (Johnson, 2010). Second, digital technologies present new opportunities to support varied aspects of early childhood education. These opportunities include supporting and enriching the discovery and play activities of children. Contrarily, as presented here, some researchers and foundations have implied certain some negative outcomes of digital technologies on the development of young children. Especially, opponents of young children's digital technology usage warn against such activities during children's formative early years.

Much of the research that has investigated children's usage of digital technologies in the home setting has focused on children's screen time, offering positive or negative outcomes of the contents and intended functions (e.g., teaching concepts) (Aarsand & Aronsson, 2009; Buckingham, 2007), or relying solely upon parental interviews rather than direct observation of young children's digital activities (Munasib & Bhattacharya, 2010; Rose, Vittrup, & Leveridge, 2013). On the contrary, the current study's focus is on researcher observation of children's digital activities in the real-world setting, rather than reliance upon parental reports or just studying the parental perspective. The researcher believes that the current study's approach can provide deeper meaning in order to add additional insight and value to the current literature on children's digital activities.

The current study examines how young children and parents interact with each other during digital activities at home. Children's interactions during digital activities cannot be separated from those of their parents, who have general authority over their children and their digital activities. Parents and children engage in a complex interaction during these activities, and inevitably there can be conflict and synchrony between parents and children with regards to the time, place, and duration of the children's digital activities. Therefore, a clear picture of the social aspect of digital activities in the home setting can be captured by examining the interaction between parents and children during such activities.

The current study focusses on digital activities in which either children or their parents engage with televisions, smartphones, and tablet computers. These three devices are included in the study as they are the most frequently found forms of digital technology in the location in which the study was conducted (Konca, 2014). In addition, in situations where parents use these digital technologies with their children nearby, these are also included in the study as children inevitably become either directly or indirectly engaged in the activity. Therefore, the aim of the current study is to investigate all interactions between parents and their children during such digital activities in the home setting.

## 1.1. The Ongoing Debate

The roots of the debate about young children's usage of digital technologies dates back to the 1980's. At the beginning of the debate, the idea was emphasized that using digital technologies negatively affects the physical, cognitive, and social developmental of children (Armstrong & Casement, 2000; Cuffaro, 1984). Haugland (2000) focused on the physical aspect, pointing out that computers may decrease movement, or they may act as a barrier to learning through the five senses. Also, computers only involve the use of a mouse for early childhood learners and thereby do not support motor development (Hohmann, 1998). Healy (2000) emphasized that computers harm development and learning as they do not include human support, verbal interaction, or provide intersensory experiences. Furthermore, computers may take the place of natural activities of children like reading and non-screen-based play (Cordes & Miller, 2000; Van Evra, 2004). On the other hand, others advocate the uniqueness of technology for early childhood education (Clements & Sarama, 2003; Downes, 2002; Hutinger & Johanson, 2000; Lankshear & Knobel, 2003; Plowman & Stephen, 2003; Plowman & Stephen, 2005; Yelland, 2011).

Besides, as newer devices with a touchscreen interface have become more widespread, the nature of the debate has also changed. Especially, the disadvantages of technology usage on young children's social development come into prominence. Fomichova & Fomichov (2000) annexed social aspect to the debate by stressing that families spend many hours in front of computer screens and that this situation could isolate children from natural social interaction. Excessive screen hours could decrease the time for other kinds of activities such as traditional playing inside or outside (Armstrong & Casement, 2000; Cordes & Miller, 2000). In addition, some foundations have joined in the debate. Cordes and Miller (2000) revealed a report for the Alliance for Childhood that included the risks and costs of using technology in early childhood education. In the developmental risks section, the report pointed out that "computers can isolate children, emotionally and physically, from direct experience of the natural world" (p. 10)

The debate has not only attracted researchers' attention, but some foundations have also investigated the issue and revealed their own recommendations for educators

and families. First, the American Academy of Pediatrics (AAP) (2001) advised the prevention of children under two years of age from screen usage, and after two years, children's total media usage should be limited to less than two hours a day. Furthermore, the foundation reported that "unstructured playtime is more valuable for the developing brain than any electronic media exposure" (AAP, 2011, p. 10). However, the foundation later published a statement and recommendations about the issue (AAP, 2016), advising the prevention of children younger than 18 months from screen media usage. According to the AAP, high-quality content may be used from 18 months onwards, and that screen usage should be limited to one hour per day. It was also recommended that technology and media should not take the place of other activities such as sleeping, physical activities, and social behaviors.

## **1.2. Considering Social Interactions During Digital Activities**

Social interaction can be defined as a form of exchange between two or more individuals. Children's early learning experiences are shaped by their interactions (Siraj-Blatchford & Siraj-Blatchford, 2003). They exchange information, emotions, and knowledge by socially interacting with their parents, siblings, and peers, etc. However, there is limited literature available on the social interactions of children during digital activities.

Social interaction may occur as child-child interaction, or as child-adult interaction. During digital activities, participants position themselves according to their wishes and intentions. Ljung-Dj arf (2008) identified three positions as owner, participant, and spectator. Children engage in social interactions with others corresponding to their position during digital activities. These social interactions provide opportunities for social, emotional development and learning experiences (Wood et al., 2016). Different forms of interactions such as affective scaffolding emerge during digital activities (Yelland & Masters, 2007).

Although some researchers underline the threat of digital technologies to the social development of young children in the aforementioned debate, some studies have aimed to conceptualize the social aspect of children's engagement with digital technologies. Johnson (2010) reconceptualized Bronfenbrenner's model to the role of digital technologies through the various systems in which children socially interact

with others. Accordingly, a techno-subsystem provides opportunities for children to both engage in a digital activity and interact with other systems during the digital activity.

To summarize, social interactions during digital activities play a key role on providing rich opportunities and for supporting the development of children (Driscoll & Carter, 2004). Therefore, focusing on the interaction can provide a viewpoint for understanding how social interaction influences children's learning and development during digital activities, and how social interaction connects children to the elements of the context in which the digital activity occurs.

### **1.3. Motivation of the Study**

While attending the 24th Educational Sciences Conference in 2015, I recalled a speaker talking about sustainability in early childhood. The speaker showed a photo which included a girl using an iPad, then she said, "A girl sitting in a stroller. There is no lettuce in her hands, but an iPad. This is inappropriate for the first eight years, a time in which children should be kept away from screens" (Haktanır, 2015). I noted that many in the audience approved and applauded her. Then I started to think about the ongoing debate and criticism aimed towards digital technology usage of young children, and my own unintentional observations. For example, parents working in Silicon Valley were reportedly sending their children to a school with no computers (Jenkin, 2015), and that posts, news, and blog entries found on the Internet talked of the negative effects of digital technologies on the development of young children, especially for the social aspect. I began to question why people thought that way? What did they see? Opponents of children's use of digital technologies frequently caution against a negative influence on children's social development and behaviors such as isolating them from or limiting their social behaviors. Therefore, I wanted to focus my studies on the social aspect of children's digital technology use. In this dissertation, I aim to explain what is seen in the home setting and how digital activities shape interaction between parents and young children.

#### **1.4. Problem Statement**

Children's interactions with their surroundings are the links between the minds of young children and the world. Therefore, if the interactions of children are supported, they may reach to their own potential. In order to achieve this, catalyzers and barriers to the interaction of children need to be scientifically determined. In addition, there is no published evidence that digital technology is a catalyzer or a barrier to children's interactions with others. Hence, the focus of the current study is on young children's interactions with parents during digital activities in the home setting.

Parents are an important element to the equation in order to understand young children's digital lives. Parents are the owners of digital technology devices within the home environment, and therefore they hold the control over such digital devices and make decisions as to their young children's usage. Parents decide when, where, how, with whom, and for how long their children may use digital technologies. However, according to the results of previous studies (Ebbeck, Yim, Chan, & Goh, 2016; Preradović, Lešin, & Šagud, 2016; Nikken & Schols, 2015), some parents reported that digital technology usage negatively affected their young children's development.

Thus, engaging both parents and their children is considered critical to establishing a full understanding of young children's digital activities and how they shape the interaction of children with others. This dissertation study examines how interactions between children and their parents occur during digital activities, with the researcher aiming to draw a clear picture of children's digital culture in the home.

#### **1.5. Significance of the Problem**

File and Ryan (2014) reported that 76.7% of households have access to the Internet, having risen from 41.5% in 2000. In addition, according to the Turkish Statistical Institute (2015), 69.5% of households in Turkey have access to the Internet. It was also reported that nearly all households (96.8%) have a mobile or smartphone and that 74.4% of them access the Internet via a mobile or smartphone. Technology has inevitably become a part of almost every aspect of daily life. Digital technologies are here to stay. As Bruner (2011) pointed out, "our minds appropriate ways of

representing the world from using and relating to the codes or rules of available technology” (p. X). Besides, the ecological perspective emphasizes that “development is defined as the person’s evolving conception of the ecological environment, and his [her] relation to it, as well as the person’s growing capacity to discover, sustain, or alter its properties” (Bronfenbrenner, 1986, p. 13). Children must experience all aspects of a culture in order to fully participate in that culture. However, digital technologies and media should not cause harm to children (NAEYC & The Fred Rogers Center, 2012).

To succeed, deep information about digital technologies and young children’s interaction with others during digital activities is needed. Every piece of information about the issue may be beneficial for parents, teachers, educators, and policymakers. Children’s interactions with other individuals socially connect children to the real world during digital activities. Detailed information can help parents, caregivers, and teachers to initiate and maintain the interaction which establishes the base for exchange information, emotions, thoughts, and desires during digital activities. Interaction is a key component of digital activities. Therefore, determining the characteristics of children’s interactions with others during digital activities can help to understand the issue and to find the best way for children.

## **1.6. The Purpose**

When the literature about digital technologies and their usage by young children is reviewed, it can be seen that much of the research, conducted by both supporters and opponents of young children’s digital technology usage, has focused upon the devices themselves, offering positive or negative depictions of the device contents (e.g., storylines) and intended functions (e.g., teaching math concepts) (Aarsand & Aronsson, 2009; Buckingham, 2007), or has relied upon parental interviews rather than observation of young children’s digital activities.

These studies have been valuable as different locations or different backgrounds of family affect children’s digital activities, revealing that not all young children are at the same point. However, these studies rely solely on interviews with parents or the application of surveys. Direct observation of children’s digital activities is therefore necessary. Besides, many of the results published about young children’s

digital activities are from school settings. Children's learning and development cannot be divided as school setting and in-home setting. It is therefore aimed that this dissertation will address this gap by providing insight into young children's digital culture. Accordingly, this study aims to investigate children's interactions with their parents during digital activities. For this purpose, the following research questions are presented:

RQ1: What is the aim of interaction between parents and children during digital activities?

RQ2: What is the form of interaction between parents and children during digital activities?

RQ3: What are the interaction strategies used by parents and their children during digital activities?

## 1.7. Definitions of Terms

**Digital Technologies:** There is a broad definition of digital technologies in the literature. However, in Kırşehir, Turkey, young children mostly have interaction with televisions, tablet personal computers (hereafter known as "tablets"), and smartphones (Konca, 2014). Therefore, only these four devices will be investigated within the current study.

**Young Children:** In early childhood, the term of young children usually refers to children aged from birth until their eight years of age. Children aged 48 to 60 months are included in this study.

**Social Interaction:** Interaction refers to the ways in which children communicate (verbally or non-verbally) and act with others, in relation to place and things, including the broader social structures of which they are part (Hruska & Gunn, 2017). Therefore, children and adults engaging with each other and exhibiting norms, language, non-verbal behaviors or roles are considered as social interaction in the current study.

**Synchrony:** Harrist, Pettit, Dodge, and Bates (1994) defined synchrony as "parent child interaction that is nonnegative, and connected (mutually focused, reciprocal, balanced, equal participation, action and effect of one partner flows from that of other, with a sense of closure present)" (p. xx). Synchrony is a type of

interaction between child and adult, an observable pattern of dyadic interaction that is mutually regulated, reciprocal, and harmonious.

**Conflict:** Johnson and Johnson (2004) defined conflict as one's actions that block, interfere, or prevent another's ability to reach and accomplish his/her own goals or wants. As conflict has two sides, conflict is an interpersonal event involving the mutual opposition of two people brought upon by incompatible goals, expectations, or desires (Shantz, 1987). In the current study, conflict includes the mutual opposition of children and adults.

## **CHAPTER 2**

### **CONCEPTUAL FRAMEWORK**

Digital technologies and digital media form one of the most significant aspects of the lives of today's children. Digital devices have quickly become the tools of the culture at home, at school, and in the community (Rideout, 2013). Because early childhood education is a critical period of development which influences the entire life of an individual, it is important to investigate the positive and negative outcomes of digital technology usage in order to benefit whilst preparing children with the necessary skills for the future (Duncan, Magnuson, & Murnane, 2016). This literature review focuses on the ongoing debate and recent literature in order to present a wide range of viewpoints about this issue. To this aim, concerns about technology and early childhood education, digital play, social interaction, and digital technology and the social development of young children will be discussed throughout the chapter.

#### **2.1. Introduction**

Investigation of digital technology usage in early childhood education has become a necessity as a result of dramatic increases in children's interaction with technology (Blackwell, Lauricella, & Wartella, 2014). Mishra and Joseph (2012) classified the research on early childhood education and digital technologies in five categories. First, some educators conducted effect-based research, considering the positive and negative effects of digital technologies. They tried to identify the benefits of digital technologies to children and their education. Second, some investigations concerned children's behavior surrounding digital technologies, examining children's interaction with digital technologies from a social perspective. Third, some researchers focused on early childhood teachers and other practitioners in order to determine the key characteristics of effective digital technologies in professional development. Fourth was research concerning a model for the use of digital technologies in early childhood education settings and case studies. Fifth was research related to children's

interaction with digital technologies, identifying children’s access to, and usage of digital technologies in the home or in early childhood education settings.

Young children’s access and interaction with digital technologies has been documented in recent years in the US (Lauricella, Wartella, & Rideout, 2015; Rideout, Foehr, & Roberts, 2010; Rideout, Vandewater, & Wartella, 2003; Rideout & Hamel, 2006; Rideout, 2013; Rideout, 2017), the UK (Livingstone, Marsh, Plowman, Ottovordemgentschenfelde, & Fletcher-Watson, 2014; J Marsh et al., 2005; Ofcom, 2013, 2016), Australia (Kervin, Verenikina, & Rivera, 2015), Europe (Chaudron, 2015), and also in Turkey (Konca, 2014). Research has shown that a significantly high percentage of children have access to digital technologies in the home (Plowman & McPake, 2013). Besides, studies found that children use digital technologies to entertain and play, although parents have some concerns about the possible negative effect of digital technologies on their children (Livingstone et al., 2014).

Table 1 and Table 2 present the results of studies from the US (Rideout, 2013), the UK (Ofcom, 2013), and Turkey (Konca, 2014). There were differences in the questionnaires applied in each country, the reports did not provide availability of cable/satellite television in the UK or the availability of digital cameras and radio in the US. Besides, data collection was performed during the fall in Turkey, while it was applied during May-June in the US and UK. These factors may therefore have some effect on the comparability of the results.

Table 1: Children’s Access to Digital Technologies at Home

	US	UK	Turkey
Television	96%	96%	99%
Cable/satellite television	70%	n/a	86%
Computer	76%	62%	68%
Digital camera	n/a	65%	57%
Smartphone/ tablet device	75%	69%	57%
DVD player	78%	71%	53%
Internet connection	69%	59%	53%
Radio	n/a	30%	49%
Video game console	63%	64%	10%

As can be seen in Table 1, television was the most widespread form of digital technologies for each country. However, there were variations across countries on

categories related to television such as cable/satellite access and DVD player. The availability of computers, smartphones, and Internet connection were also seen as high for each country. However, there was a significant variation between Turkey and the other countries for video game consoles such as PlayStation or Xbox. Whilst only 10% of Turkish families owned a video game console, more than half of families in the UK and the US had one (or more).

Table 2 presents the duration of digital technologies usage. From the results, it can be said that television viewing is universal. On average, children watched one and a half hours per day in the US, and nearly two hours in the UK and Turkey. However, the UK lead in time spent using computers and playing console games. Though more than half of children have access to video game consoles in the US, they played video console games for approximately 10 minutes a day. In Turkey, playing console games duration was at a low level, as was the low availability of such devices.

Table 2: Children’s Daily Use of Digital Technologies in the Home (h:min)

	US	UK	Turkey
Watching television	1:27	2:02	1:55
Using computers	0:11	1:42	0:27
Listening to music	0:20	n/a	0:14
Playing video console games	0:10	0:47	0:05

Results from the aforementioned studies may be considered outdated, as they do not provide broad information about the usage of smartphones or tablets. Though television and computers were the most common technologies during the 2000’s, tablets and smartphones have replaced them to become an important part of the daily lives of young children since 2010 (Dunn, Gray, Moffett, & Mitchell, 2016). Studies have shown that children have more access to tablets at home than was previously reported (Dunn et al., 2016; Lauricella et al., 2015). Tablets can be thought of as uniquely appropriate for young children due to their comfortable use by touch and for their ease in downloading a variety of educational applications (Henderson & Yeow, 2012). Today, some researchers refer to digital era children as “mobile kids” (Shuler, 2009). According to recent results (Rideout, 2017) from the US, nearly all homes (95%) have a smartphone. In addition, 78% of families have tablets, with 42% of

young children having their own tablet devices. Duration of mobile device usage has tripled from 15 minutes a day in 2013 to 48 minutes in 2017. Furthermore, it was revealed that children have started to spend more time with mobile technologies than with television (Ofcom, 2016).

While children's access to digital technologies has increased, parental concerns have also risen relating to the negative effects of digital technologies on their children (Livingstone et al., 2014). The concerns of families can stem from the media, as there is an ongoing trend on the Internet with articles, blogs, and other posts commenting on the negative outcomes of digital technologies on young children. Parents may also question why they provide technology access to their children when some managers in Silicon Valley reportedly do not (Jenkin, 2015). Dissemination of such concerns may cause fear in parents and educators who are unsure about the role of technology on the development of young children (Folorunsho, 2016), and such fears may result in the under or inappropriate usage of digital technologies.

Although digital technologies are widespread in the lives of young children, the integration of digital technologies in early childhood education is limited (Blackwell, Lauricella, & Wartella, 2016). Digital technologies can support and facilitate learning innovatively. However, some research and position statements underline both benefits and potential risks of digital technologies to the development of young children (AAP, 2016; Mcpake, Plowman, & Stephen, 2013; NAEYC & The Fred Rogers Center, 2012; Plowman & McPake, 2013). Therefore, in order to provide useful guidance for parents and early childhood educators, NAEYC and the Fred Rogers Center (2012) portrayed the effective use of digital technologies:

Effective uses of technology and media are active, hands-on, engaging and empowering, give the child control; provide adaptive scaffolds to ease the accomplishment of tasks, and are used as one of many options to support children's learning. To align and integrate technology and media with other core experiences and opportunities, young children need tools that help them explore, create, problem solve, consider, think, listen and view critically, make decisions, observe, document, research, investigate ideas, demonstrate learning, take turns and learn with and from one another (pp. 6-7).

Effective usage of digital technologies includes components such as children's access, interaction, engagement, and usage. In addition, digital technologies' content, software, scaffolding, and design of digital activities can

influence the effectiveness of digital technologies usage. These issues are detailed in the following sections.

## **2.2. Digital Technologies in the Early Years**

There are two main reasons for the integration of media into children's surroundings. First, children want to use them, which is active exposure, and they have positive attitudes towards technology usage in and out of the classroom (McKenney & Voogt, 2010). The second reason is passive exposure, in that children accidentally use or experience media (Huston, Wright, Rice, & Kerkman, 1990). Active exposure is more likely to be appropriate than passive exposure. However, passive exposure also affects the development of young children. Passive exposure may disrupt children's play, which is important for early development (Schmidt, Pempek, Kirkorian, Lund, & Anderson, 2008). Therefore, children's screen time and total screen time should be taken into consideration. While total screen time consists of both active and passive exposure, screen time includes only the active exposure of children to screens. Sweetser, Johnson, Ozdowska, and Wyeth (2012) implied that screen time should be separated as active and passive. In active screen time, children engage cognitively or physically in screen-based activities. However, children perform passive screen time activities whilst just sitting and watching a screen such as watching television.

The existence of, or turning on of digital devices is not referred to as active exposure. To differentiate active exposure from passive exposure, the eyes of children focusing on a screen may be a valid measure (Calvert, 2015). However, looking at a screen does not necessarily mean paying real attention to the digital devices. Children can look at a screen whilst doing other activities. They may look up at a screen only when they hear a loud onscreen noise or when they think something interesting is happening on screen (Calvert, 2015). Multitasking can occur whilst interacting with digital technologies (Common Sense Media, 2013; Rideout et al., 2010). It was reported that 23% of 5-8 year old children engaged in multitasking while using technology (Lauricella et al., 2015). DeShetler (2014) investigated the multitasking of children while using technology, and revealed that children do not multitask except for eating and watching television.

Children undertake two different tasks simultaneously in a multitasking situation. For example, they can watch television while listening to music. They may have a primary and a secondary activity, but it is different from active or passive exposure (Calvert, 2015). Besides, multitasking may not necessarily include two technological activities. It may occur when two tasks are driven by the child at the same time. Children can draw pictures while watching television. However, multitasking may affect their imagination and concentration. Switching between tasks can interrupt children's concentration on tasks. As young children cannot analyze and differentiate the content of media (Ernest et al., 2014), media programs should not include advertisements, so as to prevent young children from seeing potentially unsuitable content (AAP, 2011).

The content of media is a big factor that determines the effectiveness and appropriateness of digital technology usage. For example, Sesame Street is a most enduring educational television program for children, and has reached millions of children worldwide (Calvert, 2015). There are many studies in the literature that have investigated the longitudinal effects of the program. Mares and Pan (2013) combined the results of 24 studies in a meta-analysis that included children from three to six years of age, and tens of thousands of children in 15 countries. The results revealed positive effects of the program (overall  $d = .292$ ) on children's cognitive outcomes ( $d = .339$ ), learning about the world ( $d = .284$ ), and social reasoning/attitudes towards differences ( $d = .189$ ). The positive outcome was observed not only in low-middle income countries ( $d = .293$ ), but also in high-income countries ( $d = .285$ ). The meta-analysis showed the global educational benefits of Sesame Street. Sesame Street offers consistent quality to all children with the access to watch, and within many countries (Mares & Pan, 2013). It can be seen that when the content is appropriate for young children, it may support early childhood education. However, answers to "What is appropriate?", "Are digital technologies friend, or foe?" and "What is the best way to support early childhood education with digital technologies?" are complex. Therefore, there are numerous effect-based research studies that have discussed the influence and usage of digital technologies for the learning and development of young children. Although a review of all effect-based research is beyond the scope of the current study, a general outline is presented in the following section.

### **2.3. Family and Digital Technologies – Digital Technologies at Home**

Young children regularly experience digital technologies both in the home setting and at school. They live in a world that consists of ubiquitous digital technologies presence. During a typical day, children are surrounded by technologies whilst they engage in activities at home or in the classroom, and interact with others in the world around them (Saracho, 2015). They also use digital technologies in public spaces such as in cars, the hair salon, grocery market, or restaurant (Huh, 2017). On the other hand, family members use different forms of digital technologies for different purposes daily. Therefore, digital technologies have become a part of children's school, family, and culture. Digital technologies seem to have the potential to enhance learning. Parents also see children's technology usage as a preparation for their future and that they benefit from digital technologies for different purposes (Plowman & McPake, 2013). However, it is important to understand the best way of using digital technologies in children's learning and development (Parette et al., 2013).

Each family has its own characteristics and context. Therefore, children's interaction with digital technologies varies from family to family. Children's usage of digital tools has been widely investigated in many studies which have reported similarities and differences across contexts. Takeuchi and Stevens (2011) focused on family usage of digital technology in daily life. They found that families prefer to use more traditional media types with their children such as watching television. Families valued each digital tool differently in terms of learning. Computer-based activities were considered to be the most valuable, and mobile phones the least valuable. Besides, families voiced their concerns about the negative effects of digital technologies on the physical development of children. More than half of families set limits for children's use of technology (Takeuchi & Stevens , 2011).

Children's use of digital technologies in the home setting has been widely investigated. Vourloumi (2014) focused on technology usage of children at home. She observed two children from one family for a total of 62 hours. It was revealed that the children were active users of technology. Though both child and adult initiated digital activities, the decision-makers were the children during the activities. The nature of the activities were social and emotional context, and the children used technology for

both play and learning purposes. Plowman, Stevenson, Stephen, and McPake (2012) conducted multiple case studies with 14 families in order to investigate children's learning and playing with technology in the home setting. Their study revealed that children accessed a variety of technologies including mobile phones, television, computers, and game consoles. Most of the children had the skills to use the devices. While half of the parents' attitudes towards technology were cautious, the attitude of the others was well disposed. Parents made the effort to balance digital and traditional activities, and supported play and learning. Additionally, Plowman et al. (2012) revealed a framework to clarify the outcomes of children's interaction with digital technologies at home with regards to their learning. By using digital technologies, children acquire operational skills to use digital technologies such as using a mouse, controlling devices, or becoming skilled on specific software. They extend their knowledge of the world with educational software and applications that are designed for learning in areas such as math, language, and living things. Besides, children can develop the tendency to learn and increase the self-esteem and confidence while using digital technologies at home. Furthermore, children understand the different roles of digital technologies in daily life including communication, entertainment, study, and reaching information.

The social aspect of family context may influence children's digital technology usage in the home setting. Therefore, social interaction between children and family members have been the subject of research studies. Stephen, Stevenson, and Adey (2013) focused on family contexts in which young children experienced digital technologies at home. It was seen that the parents and older siblings supported the young children's usage of digital technologies by giving instruction, encouraging, broadening information, and modeling. Additional motivation was also provided in order to cope with the children's frustration when they failed to succeed. However, scaffolding, supportive actions, and children's experiences varied in each family context. Parents had different perspectives about digital play, scaffolding, and communication with their children. The difference on perspectives yielded differences in the children's digital experiences. Furthermore, individual interests and the differences of children contributed to a variation seen in their digital technology usage. MacKay (2015) aimed to compare mother-child interactions during interactive iPad

story and traditional book reading activities. Six mother-child pairs were included in a multiple case study. The study showed that the children had greater engagement tendency with digital storybooks than with traditional books. Besides, the mother-child interactions in the traditional book reading and digital book reading activities differed. While children had vocabulary-related interactions during the digital storybook activity, their interactions related to text and print decreased. Digital storybook reading activities can be seen as a new experience for many parents. Therefore, they may not be sure how to support their children's development during digital reading activities.

Young children's interaction with digital technologies can be affected by the characteristics of families such as parents' usage of digital technologies, parental attitudes, and the ages of children (Nevski & Siibak, 2016). Ihmeideh and Shawareb (2014) revealed that there were different parenting styles on children's technology use, with authoritarian parenting style determined as a predictor of children's Internet use. In addition, family context plays a key role in the productivity of digital activities. The quality of children's digital technology usage is affected by two subjects: (i) access, and (ii) patterns of co-use (i.e., monitoring, supervision) (Johnson, 2015). Plowman, McPake, and Stephen (2010) stressed that SES and family circumstance influence the availability of digital technology resources and the interaction of children with digital technologies at home. NAEYC and the Fred Rogers Center (2012) underlined the issue of access and equity to digital technologies among young children. Livingstone and Helsper (2007) noted that there are differences in children's home access to digital technologies. Family SES such as parental education and family income play a key role in children's access to digital technologies (Krebeck, 2010). Lee, Bartolic, and Vandewater (2009) investigated the digital technology usage of children between five and eight years of age in a comprehensive cross-sectional study. They revealed family income to be a predictor of children's digital technology usage. Besides, parental education and television viewing of children is inversely related (Baxter & Hayes, 2007). In addition, pattern of co-use is another factor affecting young children's access to and usage of digital technologies. Co-use refers to cooperative use and socially sharing of digital technologies (Johnson, 2015). Co-use is a form of scaffolding and it both facilitates learning and protects children from risks such as inappropriate content. It was reported that shared digital activities reduced the risk of negative content being

encountered (Cho & Cheon, 2005). Children's interaction with digital technologies are always enriched when co-used with partners as they explain, extend, question, monitor, and broaden information provided by the content.

Mobile phones and tablets have the potential to provide new learning opportunities, facilitate conversations with other people, and engage motor skills (Buckleitner, 2010). Shuler (2009) defined five types of mobile learning that can support the development of children. Mobile devices provide *seamless learning* (connected learning across different contexts) and *ubiquitous learning* (easy access), whilst mobile devices can help to achieve *digital equity*, encourage new forms of *social interaction and communication*, and *personalized learning experiences* (individualized learning opportunities). Though mobile devices represent new learning opportunities for young children, there are three categories of barriers: (i) social, (ii) theoretical, and (iii) technological (Judge, Floyd, & Jeffs, 2015). Social challenges prevent children from using mobile devices for learning such as concerns about screen time, content, health, and the socialization of children. As there is no established theory for the use of mobile devices for learning, researchers either use existing learning theories or suggest the necessity of new theories (Rogers & Price, 2009).

While engaging elsewhere, adults can pass their mobile devices to children for the purposes of play or for acting as a sort of techno-babysitter. This situation can also occur whilst an adult is driving a car (Chiong & Shuler, 2010). However, it may result in smartphone addiction for the child as device user. Cho and Lee (2017) reported that children younger than two years old and users of smartphones for one or two hours a day were more prone to smartphone addiction. Besides, the children of parents in their 20's and with lower educational degrees had a higher tendency towards smartphone addiction. Furthermore, lack of parents' consistent external control was linked to aggression seen in children.

Parents have an important role in providing high quality experiences as one of the key determinants of children's interaction with digital technologies. In their joint position statement, the NAEYC and Fred Rogers Center (2012) emphasized the responsibilities of adults:

Adults have a responsibility to protect and empower children—to protect them in a way that helps them develop the skills they need to ultimately

protect themselves as they grow—and to help children learn to ask questions and think critically about the technologies and media they use. Adults have a responsibility to expose children to, and to model, developmentally appropriate and active uses of digital tools, media, and methods of communication and learning in safe, healthy, acceptable, responsible, and socially positive ways. (p. 10)

Judge et al. (2015) defined three roles for parents, as facilitator, teacher, and gatekeeper. First, parents can help their children to use digital devices at first encounter. Second, they can detail the content and extend the learning. Third, parents can establish rules and regulations for their children's interaction with digital technologies. Children's interaction with digital technologies become more beneficial when supported by adults (McPake, Plowman, & Stephen, 2013). The guidance of adults and scaffolding can improve the benefit of children's digital technology usage (Fisch, 2014). Two types of scaffolding relating to digital technology has emerged, which are co-viewing and joint media engagement (JME). Co-viewing is when children watch television along with adults, but without talking about the content (Valkenburg, Krmar, Peeters, & Marseille, 1999). On the other hand, JME contains both the shared experience and interaction between a child and others. JME includes playing, contributing, reading, viewing, and discussing together (Takeuchi & Stevens, 2011). Thus, parents have the role of JME partner for favorable and harmless usage of digital technologies. They are responsible of ensure developmentally appropriate usage of digital technologies outside of school.

### ***2.3.1. Digital Technologies and Home Environment of Turkish Children***

In the literature, there have been studies focused on children and digital activities in both the home and classroom settings. Studies conducted in the classroom focused on children learning concepts through digital activities such as the learning of colors (Küçükoğlu, 2013), time and place (Kol, 2012), mathematics and geometry (Ayvacı & Devocioğlu, 2010; Çankaya, 2012; Kacar & Doğan, 2007; Kesicioğlu, 2011) and digital stories (Yüksel, 2011). However, in this section, literature related to children and digital technologies in the home setting are reviewed.

Children's interaction with digital technologies has only occasionally been reported in the literature. Aktaş-Arnas (2005) conducted a study to investigate the usage patterns of children aged three to 18 years of age for television, computers, and

Internet connection. Aktaş-Arnas reported families' ownership of devices as 35.7% for computers, and 21.7% for Internet connection. Besides, while 99% families owned a television, half had more than one television. Öztürk and Karayağız (2007) reported on the duration of television watching for children aged three to six years of age as 155 minutes per day. Erdoğan and Baran (2008) examined children's television watching habits for the four to six year-old group at home, and reported that they watched television for more than two hours per day. Kenanoğlu and Kahyaoğlu (2011) reported that 36.1% of preschool children used the Internet every day, and that 27.8% used the Internet once a week. Akçay and Özcebe (2012a, 2012b) conducted a series of studies focused on children and parents playing on computers and their television viewing. They reported that the children played on computers for 31.8 minutes per day on weekdays, and 97 minutes per day at the weekend, and that there was a link between the children's and parent's playing on computers. Besides, 78.1% of parents expressed that they limited their children's playing on computers. With regards to the television viewing of children and their parents, Akçay and Özcebe reported that children watched television for 96 minutes a day on weekdays, and 204 minutes at weekends. A positive correlation was found between children's and parents' screen time in their study (Akçay & Özcebe, 2012b).

As a result of different forms of digital technologies having become available in the home environment of children, new forms of technology such as tablets, smartphones, and media have also been investigated. Konca (2014) focused on children's interaction with digital technologies in the home setting. It was revealed that 99.0% of families owned a television, 68.4% owned a computer, 57.0% owned smartphones/tablets, and 52.6% had a home Internet connection. He found that the daily duration for television watching was 115 minutes, whilst playing on the computer was 28 minutes, and five minutes for playing on a smartphone or tablet. It was also reported that children engaged in digital activities in common areas of the home such as the living room. Furthermore, children's skills in using digital devices positively correlated with parents' educational levels and the family monthly income level. Merdin (2017) also investigated digital media environment of children up to six years old in the home context. She reported availability of digital devices as being 98.3% for televisions, 93.2% for smartphones, 63.3% for tablets, and 62.9% for computers. The

study also revealed that children watched television for a mean of 100 minutes per day, and used smartphones/tablets for 57 minutes. However, it should be noted that these durations would probably be greater if the data for children under three years of age were excluded.

Studies that focused on children's digital technology usage in the home setting have been summarized here. It could be seen that the content of the studies broadened as new forms of digital technology entered the daily life of children. In addition, it can be concluded that children live in a technologically rich home environment. Therefore, further studies on this issue may yield more detailed information for both parents and educators.

#### **2.4. Developmentally Appropriate Use of Digital Technologies**

Digital technology integration in early childhood education is a complex phenomenon (Keengwe & Onchwari, 2009). Developmental readiness and developmentally appropriate integration of technology is another issue in need of discussion. As there is no specific theory for technology integration in early childhood education, the Developmentally Appropriate Practices (DAP) framework can be useful in assessing what is the best and most harmless benefit from digital technologies (More & Travers, 2013).

DAP is approved by the NAEYC and has three versions (Bredekamp, 1987; Bredekamp & Copple, 1997; Copple & Bredekamp, 2009). First, in the 1987 DAP guide, there was no mention of the use of technology in early childhood education. The first such entries were added to DAP after NAEYC (1996) released a position statement for technology usage (Bredekamp & Copple, 1997). It was emphasized that technology had the potential to aid young children's learning and development. In addition, the selection of developmentally appropriate software was tasked to the teacher. The statement underlined that "computers supplement and do not replace highly valued early childhood activities and materials, such as art, blocks, sand, water, books, exploration with writing materials and dramatic play" (p. 11). The statement also regarded technology as an add-on to existing practices, stating that "computers should be used in ways that support these existing classroom educational directions rather than distort or replace them" (p. 12). Open-ended activities were also considered

in DAP. The latest version of DAP (Copple & Bredekamp, 2009) reiterated notions which were underlined by the NAEYC, which were developmentally appropriate software selection, the use of technology as an add-on, and integration of technology in pedagogies and curricula. Though DAP and digital technologies are two separate concepts, digital technology integration can be achieved via the principles of DAP. DAP itself has three fundamental principles: (i) practices based on child development research, (ii) consideration of individual interest and abilities, and (iii) reflective of the learner's social and cultural background.

Following the latest version of DAP, the NAEYC revealed a special joint position statement for technology and digital media usage in early childhood education with the Fred Rogers Center (NAEYC & the Fred Rogers Center, 2012). This joint position statement is on the same lines with the DAP statements and offers advice for both parents and educators. The statement expresses the fast-changing technology age, emphasizes the importance of DAP for technology usage, and provides a well-documented guideline for educators and parents for the provision of opportunities to support young children's cognitive, social, emotional, physical, and linguistic development. The joint position of the NAEYC and the Fred Rogers Center is defined as:

Technology and interactive media are tools that can promote effective learning and development when they are used intentionally by early childhood educators, within the framework of *developmentally appropriate practice* (NAEYC, 2009), to support learning goals established for individual children. The framework of *developmentally appropriate practice* begins with knowledge about what children of the age and developmental status represented in a particular group are typically like...Each child in the particular group is then considered both as an individual and within the context of that child's specific family, community, culture, linguistic norms, social group, past experience (including learning and behavior), and current circumstances. (p. 5)

The position statement also offers principles to support the appropriate use of digital technologies within the framework of DAP. It is emphasized that usage of digital technologies should not cause harm to children. To ensure this, DAP must be used to decide whether and when to use digital technologies in early childhood. Appropriate technology integration depends on the characteristics of children such as age, development, interest, and ability. Therefore, professional assessment is

necessary in order to decide whether or not a specific digital tool is individually, culturally, linguistically, and age appropriate. Besides, effective uses of digital technologies include active, engaging, decision-maker children who are supported by adaptive scaffolding. In this way, effective and appropriate use of technology can improve children's cognitive and social abilities. When digital technology is integrated with play, it can support learning and development. Therefore, digital play should have the characteristics of play such as supporting creativity and exploration.

The DAP principles also cover educators. Digital technology can provide an easy connection for educators between home and school. However, meeting the expectations of these principles is not an easy issue. Therefore, professional development of early childhood educators plays a key role as they bear significant responsibility, with the DAP principles stating that "It is the role and responsibility of the educator to make informed, intentional and appropriate choices about if, how, and when technology and media are used in early childhood classrooms for children from birth through age 8" (p. 11). Early childhood educators require training, opportunities to enhance their professional development, and examples of good developmentally appropriate practices.

Research shows that technology has significant potential to enhance play-based instruction (McManis & Gunnewig, 2012). Plowman, Stephen, and McPake (2010) claim that digital technologies enable opportunities to learn through play. However, clarification of the term of "digital play" is necessary in order to combine the DAP framework with the play behaviors of young children.

## **2.5. Digital Play**

Definition and classification of play is beyond the scope of the current study. However, it is essential to understand and define play before considering the term "digital play." There are many definitions of play to be found in the literature. According to Reed and Brown (2000), there is no universal definition of play. Moyles (2013) determined that there have been 17 different play theories, with seven produced in the last 50 years. Fisher (2008) composed a general definition of play as:

Play is the natural way in which children go about the business of learning. It enables them to integrate and consolidate a wealth of experiences that enhance their

cognitive, physical, social and emotional development. It naturally encourages cooperation and collaboration, requires the use of fine and gross motor skills and demands cognitive application. It is pleasurable, but also helps children face pain and sorrow. It is consuming and challenging and motivating. (p. 140)

Play is a fundamental and important element of childhood experience in which they begin to familiarize with their surroundings, culture, and themselves. It means that play is interrelated with culture which differs in each society. Different definitions and thoughts about play necessitates determining the different types and characteristics of play. Parten identified six sequential social participation types of play (Rubin, Maioni, & Hornung, 1976):

1. Unoccupied behavior – 0-24 months
2. Solitary play – 24-30 months
3. Onlooker behavior
4. Parallel play – 30-42 months
5. Associative play – 42-54 months
6. Cooperative play

Smilansky also categorized cognitive play by using Piaget's categories to construct her categories of play (Mawson, 2010). She labeled them as (Rubin et al., 1976):

1. Functional Play – Simple repetitive muscle movements with or without objects
2. Constructive Play – Using and manipulating objects to create something
3. Dramatic Play – The substitution of an imaginary situation to satisfy the child's personal wishes and needs
4. Games with Rules – Accepting and adjusting prearranged rules

Nearly all development theories afford a unique place for play. Therefore, numerous research studies have underlined the vital functions of play for the development and learning of children. Play provides learning opportunities for cognitive, social, emotional, physical, and moral development (Elkind, 2007). The NAEYC (2009) based one of the DAP principles on play, stating that "Play is an important vehicle for developing self-regulation as well as for promoting language, cognition, and social competence" (p. 14).

As digital technologies became widespread in both the classroom and the home, it started to take place in children's play simultaneously. Slutsky and DeShetler (2017) investigated the play of three to five-year old children as technology, non-technology, and outdoor play during weekdays and the weekend at home. It was revealed that on a typical weekday, children's digital play duration was 1.71 hours, non-digital play was 1.91 hours, and outdoor play was 1.25 hours. At the weekend it was 2.62 hours for digital play, 3.58 hours for non-digital play, and 2.18 hours for outdoor play. The study emphasized that digital play took place in children's play time. Besides, research has shown that technology has great potential to enhance play-based instruction (McManis & Gunnewig, 2012). Therefore, as the debate has previously discussed, different views and concerns about digital technologies have emerged. When it comes to play, there is a concern that digital technologies may disrupt children's play because of the extent to which they are drawn to digital technology (Frost, Wortham, & Reifel, 2008). Palmer (2016) argued that play with digital technologies is not real. Additionally, there is a concern that digital technologies can be a barrier to spontaneous forms of play (Frost et al., 2008). On the other hand, some researchers revealed that play with digital technologies can also be viewed as play (Bird & Edwards, 2015; Marsh, Plowman, Yamada-Rice, Bishop, & Scott, 2016; Yelland, 2011). Therefore, the term "digital play" refers to children's play with digital technologies (Arnott, 2016; Bird & Edwards, 2015; Stephen & Plowman, 2014). Studies related to digital play can provide information for both early childhood educators and parents to understand children's play with digital technologies (Edwards & Bird, 2017).

Researchers use, revise, and combine different established theories so as to provide a framework for clarifying digital play. Marsh et al. (2016) focused on young children's use of iPad applications (hereafter termed as "apps") and the effect of apps on children's play and creativity. They tried to explain children's play with the taxonomy of Hughes (2002), which was developed with the aim to identify the various characteristics of play. Hughes's (2002) taxonomy of play provides a broad sense as it outlines 16 different play types. The researchers revised the framework and adapted it for their research in order to explain children's play behaviors with iPads. They used original definitions for each type of play; however, they changed the context of the

definition. Marsh et al. (2016) adapted the typology of play to a digital context. The researchers argued that the changed thing is not play, the thing is the context of play. The framework with revised definitions can enable a broad viewpoint to understand children’s play with tablets. Through this framework, Marsh et al. (2016) proposed counterstatements that digital play is not “real play” as Palmer (2016) had argued.

There is an evolving body of literature explaining and framing digital play. Arnott (2016) presented a techno-ecological framework to investigate children’s social behaviors during digital play. She investigated ecological factors which contribute to children’s social experiences during digital play, combining Contextualist Perspective (Packer & Scott, 1992) with Bronfenbrenner's (1989) Ecological Systems Theory. Contextualist perspective supposes a phenomena that is inherently situated within context (Packer & Scott, 1992). Ecological systems theory (Bronfenbrenner, 1989) was used to determine components of the ecology as; person (children and practitioners), process (children’s digital play interactions), and context (physical, social and cultural). In her study, Arnott (2016) proposed two distinct, but interrelated systems (see Figure 1). First, the Digital Play System describes children’s observable behaviors, interactions, and negotiations during digital play. The Digital Play System consists of the context in which children’s digital play occurs, like a microsystem of ecological system theory.

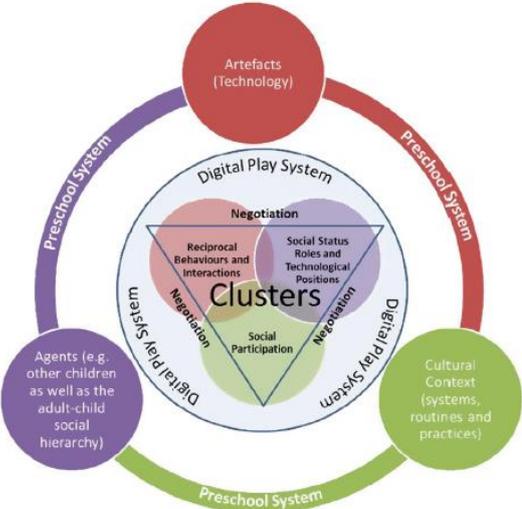


Figure 1: Ecological Framework of Children’s Social Experiences during Digital Play (Arnott, 2016)

According to Arnott (2016), clusters occur during digital play. She describes clusters as “multiple children standing in close proximity to the resource and attempting to take part in some way, even if not physically controlling the technology” (Arnott, 2013, p. 101). In clusters which consist of two or more children, the children are close to the digital technology; engaged with other members of the cluster dynamically; and, sometimes involved in subclusters. The clusters provide an opportunity for interaction and social engagement during digital play. The ongoing process of negotiation between child and context results in children’s social experiences as three components; (i) the reciprocal behaviors and interactions that children exhibited, (ii) children’s social participation, and (iii) social status roles and technological positions (Arnott, 2016). The second system offered is The Preschool System. As previously mentioned, the framework is based on the Contextualist theoretical frame. Therefore, it is proposed that negotiations between child and context are influenced by elements of the Preschool System, which are technological artefacts; cultural systems, routines and practices; and children and practitioners as social agents (Arnott, 2016).

There are studies that have focused on digital play to both provide a framework and to show the positive impact of digital technologies in children’s play (Arnott, 2013, 2016; Edwards & Bird, 2017; Marsh et al., 2016; Yelland, 2015). Furthermore, the influence of family context on children’s digital play has been documented (Stephen et al., 2013). Parents’ thoughts and attitudes towards digital technology and play, their views about the ways children learn, their role in children’s learning, and the patterns of interactions within the family context play a key role in explaining children’s digital play behaviors.

Digital technologies offer a variety of platforms in order to promote free play (Plowman & Stephen, 2005). Free play activities with digital technologies provide opportunities for children to explore digital tools; use prior knowledge to play imaginatively; learn social skills such as problem solving, making negotiations, and turn-taking; and using the tools in pretend play (Plowman et al., 2011). However, it should be noted that some entertainment activities are marketed as educational activities. Those activities only provide learning opportunity for a limited time as “digital activity alone does not guarantee either educational or playful encounter”

(Stephen & Plowman, 2014, p. 3). As previously discussed in the section on Developmentally Appropriate Use of Digital Technologies, digital technology should be flexible and open-ended so as to react to children's changing interests. Digital activities should include instructional strategies to educationally enhance play (Lieberman, Fisk, & Biely, 2009). Clear verbal descriptions and visual presentations of the content, a story embedded in the activity to initiate thinking and problem solving, interesting characters to attract attention of children, creative activities such as building and painting are among the most important characteristics of developmentally appropriate digital activities (Folorunsho, 2016). Digital play is more than just pressing buttons, touching or sweeping the screen. It should be mentally stimulating and necessitate thinking creatively (Stephen & Plowman, 2014). Digital technology can offer play-based experiences in which children are decision-makers and are actively engaged. An experience including using digital cameras for observation, recording events, and documenting is a unique digital play activity for young children, it requires more than just the act of clicking. It should also be noted that digital activities should not be separate from traditional activities, instead it should be embedded in children's play (Arnott, 2016).

This section aimed to present the current views about digital play in the literature. Though there are different emphases by authors in describing digital play, the general synchrony is that both digital and traditional play has a key role in the development of children. Defining and explaining play is challenging, but defining play in a digital context is even more so. Therefore, as discussed in the Digital Play section, research authors have focused on different aspects of play in order to clarify digital play. However, further research is necessary in order to provide deeper information about digital play, and to verify the frameworks that have been discussed here. A comprehension of digital play-based pedagogies is also critical to frame a pedagogical model that practitioners can adopt and use.

## **2.6. Theoretical Background**

Investigating digital technologies and media in the early childhood education field is both multidisciplinary and interdisciplinary as it includes child psychology, child development, medicine, health, communications, and public policy (Calvert,

2015). Therefore, a range of different approaches are brought to understand the effect of digital technologies on the development of young children. One or more theories of each field are used in a dimension of young children's digital technologies usage and outcomes. Not all those theories, but a few that address the core issues are mentioned briefly in this section in order to emphasize the complexity and multidimensionality of the issue.

Social cognitive theory is used to explain the role of digital technologies on the behaviors of young children (Bandura, 1997). Children learn behaviors through observation. Then, if enough motivational incentive is provided, they begin to display the behaviors that they previously observed. Another theory is from the communication field. Parasocial interactions were used to investigate adults' interaction with newscasters. A newscaster has to look directly into a camera and speak as if having a real conversation with the audience (Schiappa, Gregg, & Hewes, 2005). Though parasocial interactions are mainly used for adults, interaction techniques are also used in children's media. In a content designed for young children, a character directly looks at the camera, talks to the child, and pauses for a reply. Then, the character acts as if it heard what the child said (Calvert, 2015). Children's personal relationships with their favorite characters may imply a parasocial relationship, and it may predict their learning (Calvert, Richards, & Kent, 2014).

Digital technologies have inundated the environment of children. Child development and the environment has a reciprocal and spiraling interaction. The interaction starts at birth and continues through the maturation of infants. During maturation, children's capacity to interact with the environment increases. The interactions yield an effect on the development of children. Bronfenbrenner (1989) defined the development as,

The progressive, mutual accommodation, throughout the life course, between an active, growing human being, and the changing properties of the immediate settings in which the developing person lives, as this process is affected by the relations between these settings, and by the larger contexts in which the settings are embedded. (p. 188)

Bronfenbrenner's Ecological Theory offers a detailed view of the effect of environment on learning and development by placing the child into a multileveled surrounding environment (Johnson & Pupilampu, 2008). The theory divides

environment into a five-leveled nested system from the outside to inside; chronosystem, macrosystem, exosystem, mesosystem, and microsystem (Bronfenbrenner, 1989). As technology has become widespread in the surroundings of children, it has become conceptually positioned in the microsystem. To provide a framework for the interaction of children with technology, Johnson and Pupilampu (2008) proposed the ecological techno-subsystem as a dimension of the microsystem. The techno-subsystem includes the interaction of children with a variety of digital technologies. The researchers claimed that the effect of digital technologies on the development of children occurs in a techno-subsystem which is a part of the microsystem (see Figure 2).

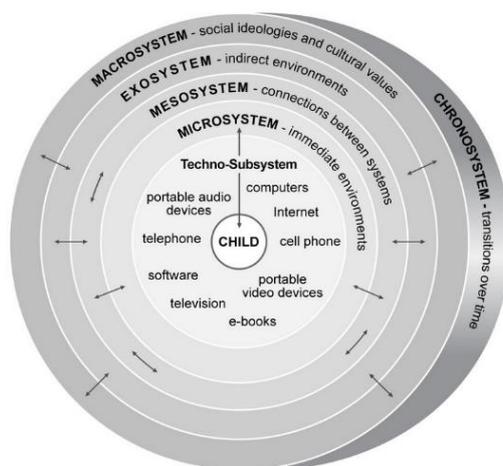


Figure 2: Ecological Techno Subsystem (Johnson & Pupilampu, 2008)

The techno-subsystem conducts bilateral interaction between the child and the microsystem. The Ecological techno-subsystem provides a holistic view for the effect of digital technologies use on the development of young children (Johnson & Pupilampu, 2008). Johnson (2010) conducted a further study for empirical validation of the techno-subsystem. She measured child cognitive development (bioecology), child use of the Internet at home (techno-subsystem), and family SES (microsystem). She compared the differences between home Internet usage and family SES on the cognitive development of children. While family SES accounted for 5% to 7% difference in the cognitive development scores of children, home Internet usage accounted for 3% to 29%.

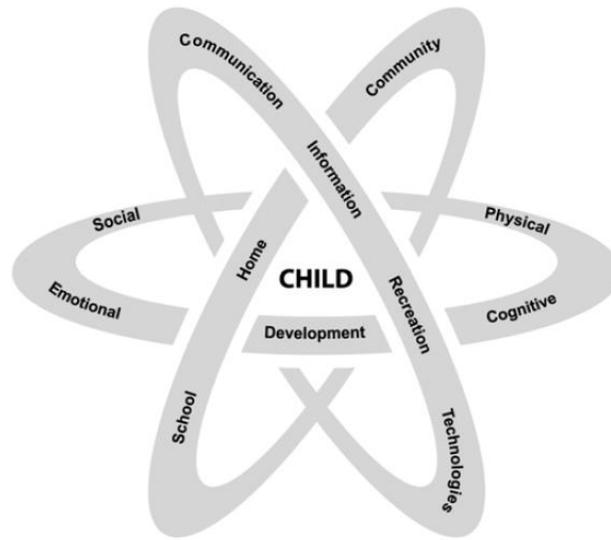


Figure 3: Ecological Techno Microsystem (Johnson, 2010)

The results showed that home Internet usage (an element of the ecological techno-subsystem) provided more information than family SES (an element of the microsystem) for the cognitive development of children. The techno-subsystem emphasizes the significance of digital technologies in children’s development. However, it lacks a precise and detailed explanation of the effect of interactions (Johnson, 2015). As different aims and uses of technology in different contexts occur, the model should include various elements of the environment. Therefore, Johnson (2010) proposed the techno-microsystem (see Figure 3).

The techno-microsystem underlines three concepts; the bio-ecology of the child, digital technologies, and context. The bio-ecology of the child, such as a variety of developmental areas, unfolds because of the use of digital technologies for different purposes in different contexts (Johnson, 2015). It should be noted that the descriptors in the rings in Figure 3 are purely for illustrative purposes. Neither the development of children nor the forms and usage of digital technologies can be limited. The ecological techno-microsystem presents a framework for systematizing areas of development and learning of children related to digital technology usage in different contexts for different purposes. Johnson (2010) underlined the potential of the framework as

Theoretically, the techno-microsystem has the capacity to, for example, coordinate children’s learning experiences across home, school, and childcare environments, protect children from harmful at-home online experiences by

community-based web-awareness initiatives, and prioritize school-based hardware for children without home connectivity (p. 35).

## **2.7. Social Interactions of Young Children**

A key developmental task for young children is the acquisition of skills necessary to maintain social play. One of these skills is social interaction. Social interaction between children and other people is seen as critical for child development (Fabes, Martin, & Hanish, 2009). Social interactions do not solely include exchanging emotions and information, but they also enhance children's learning. They allow children to declare their thoughts and motivate them to negotiate. Children's cognitive structure can be enhanced by engaging them in problem-solving tasks by interacting with those who are more advanced who can scaffold (Elkind, 2007). When they investigate, explore, and express their thoughts, children practice negotiating and declaring their opinions clearly.

Defining social interaction is a challenging issue as the term is sometimes used interchangeably with social competence (Raver & Zigler, 1997). Although these two terms share common features, social interactions are a path to social competence. "Social competence includes initiating and maintaining fulfilling interpersonal relationships with peers. However, social interaction is the foundation for social competence" (Driscoll & Carter, 2004, p. 7). Miell and Dallos (1996) defined social interaction as "two or more people engaging in some activity together for a period of time" (p. 17). Therefore, social interaction is defined as "two or more people engaging with each other and exhibiting non-verbal and verbal behaviors" for this current study.

Although the definition of social interaction can be squeezed into one sentence, three different aspects of the interaction should be taken into consideration in order to understand its dynamics. The first aspect is describing actions and behaviors that occur during the interaction. Describing interactions may be possible by observing the behaviors of children during the interaction (Miell & Dallos, 1996). As observable behaviors and actions are concrete aspects of interactions, they are generally used to investigate interactions. For example, Broadhead (2001) utilized behaviors in observing the interactions of children. The second aspect is analyzing sociability and participation. As previously presented in the Digital Play section, Parten focused on

social participation levels in play (Rubin et al., 1976). Lastly, social relationships and group dynamics of the interaction is the third aspect of the interaction. Observing only one individual during interaction is insufficient to acquire deep information about the interaction. Therefore, the relation between children and others should be understood in order to fully explore every detail of the interaction. In parallel with these aspects of interaction, at least one of the aspects is used in the studies which aim to investigate the interaction of children (Heft & Swaminathan, 2002). However, examining more than one aspect can provide more intense information about the interaction.

Many researchers have focused on interactions in the natural setting in which it occurs. Self-reporting questionnaires, and peer or teacher ratings of interaction are other methods used to assess interaction (Tassi & Schneider, 1997). Although self-reports and ratings may be useful in providing insight into the daily interaction behaviors of children, they do not offer accurate information. Therefore, direct observation is the best method to provide deep and reliable information (Schneider, Benenson, Fülöp, Berkics, & Sándor, 2011). However, collecting data through direct observation is only possible in a few research settings.

Children communicate with their environment during interactions. As discussed in previously, Bronfenbrenner (1989) emphasized the impact of environment on the development of children. Then, she divided the environment into layers of microsystem, mesosystem, exosystem, and macrosystem. Her theory can be useful in order to explain the differences between children's interactions. There are studies that emphasize the influence of variations in microsystems that lead to differences. Interactions in early childhood are labelled as adult-child interactions and peer interactions (Rudasill & Rimm-Kaufman, 2009). While some studies investigate both types of interaction, some compare adult-child and child-child interactions as these two are considered to be different (Harper & McCluskey, 2003). Research has shown that child-child interactions may decrease when adults are present (Innocenti et al., 1986). In addition, preschool-age children tend to interact more with those familiar to themselves than non-familiar people (Dunn, Cutting, & Fisher, 2002).

Density of the classroom in which the child socially interacts is another factor influencing the interaction of children. It was reported that dense classrooms lead to shorter interactions and less social cooperation (Evans, 2006). Stanne, Johnson, and

Johnson (1999) conducted a meta-analysis to investigate the influence of circumstances and activities to cooperative and competitive behaviors. It was revealed that activities requiring interdependence lie behind cooperation. While pencil-based tasks, toy animals, and pull toys were associated with non-cooperative play, playdough, dressing-up, and books were more linked with cooperative play (Hendrickson, Tremblay, Strain, & Shores, 1981).

As mentioned, children's interaction and social competence are interrelated. Therefore, the influencing factors of social competence are important to interaction. Parenting is a factor that affects the prosocial development of children. While parental responsiveness and positive expressivity supports prosocial development, strict parenting is linked to lower levels of prosocial behaviors (Janssens & Deković, 1997). Besides, some parental factors have a relationship to children's social development such as stress and social support (Eisenberg, Spinrad, & Knafo-Noam, 2015). Yagmurlu and Sanson (2009) investigated the relationship between parenting and prosocial behaviors of five-year-old children and compared the prosocial behaviors of Turkish and Australian-Turkish children. The research revealed no difference in the prosocial behaviors between groups. However, there were some factors that bore a relationship with prosocial behavior. While maternal warmth and child persistence influenced the prosocial behaviors of Australian-Turkish children, obedience and demanding behavior affected the prosocial behaviors of Turkish children.

In addition to microsystem, macrosystem, which is dominated by cultural influences, impress upon children's interactions. It is widely known that culture greatly influences children's social development and social behaviors (Vygotsky, 1978). The culture of a society clarify which prosocial and cooperative behaviors are normative (Eisenberg et al., 2015). For example, acceptance of people occurs through a variety of characteristics in a cooperative society, while one needs a particular skill to reach individual prestige (Schneider et al., 2011). If a society has a strong sense of common purpose, its members are probably more cooperative. There have been numerous studies investigating the cross-cultural and subcultural variation in prosocial behaviors, especially in cooperation and competition. The differences between cultures are probably associated with the extent to which the culture underscores social obligation, group harmony, and family interdependence. When children share

responsibility for families or live in extended families, they tend to display more cooperative behaviors than others (Edwards, 2000). For example, Kagan and Knight (1981) reported that Mexican American children were more cooperative than children from western cultures. Orlick, Zhou, and Partington (1990) researched the differences between Chinese and Canadian children with regards to their cooperative behaviors. It was revealed that 85% of Chinese and 22% of Canadian kindergarten children displayed cooperative skills. Besides, researchers have generally reported that children from less developed countries are more cooperative, sharing and helpful than those from developed countries (Knight & Carlo, 2012). Though there are differences between cultures, nowadays some universal horizons have been seen. Research has shown that socially competent children do not always cooperate. Instead, socially competent children have a balance and know how and when to compete (Bukowski, 2003).

### ***2.7.1. Conflict***

Conflict is a form of social interaction that provides opportunities for developing social relationships (Thornberg, 2006). Children experience how to interact with others when they are engaged in conflicts which may occur during child-peer or child-adult interaction. Conflicts generally emerge when children encounter incompatible goals of other individuals (Longaretti & Wilson, 2006).

Definitionally, conflict is an essential force for development and developmental change within individuals (Jensen-Campbell, Gleason, Adams, & Malcolm, 2003). According to Dunn and Herrera (1997), conflict begins with the first statement given in opposition to another's remark or behavior. Some researchers defined conflict as one's actions that block, interfere, or prevent another's ability to reach and accomplish his/her own goals or wants (Johnson & Johnson, 2004). As conflict has two sides, Shantz (1987) proposed conflict as an interpersonal event involving the mutual opposition of two people brought about by incompatible goals, expectations, or desires. The last definition underlines the mutual influence and assumes that conflict can emerge and result from the actions of the parents or the children.

Egocentrism is important for children's understanding of conflict. The nature of children's decisions and actions makes it difficult for children to experience two points of views during interactions (Piaget, 1997). Children frequently believe that they are understood by others; however, in reality they rarely are. Hence, when children solely focus on their point of view and do not understand that of other individuals, it is difficult for children to resolve conflict mutually. When they focus only upon their own needs and points of view, they generally use more conflict tactics in order to meet only their own needs. Conflict improves children's understanding of the perspectives of others, and thus provides them with opportunities for development (Johansson, 2002). Children's interactions with others plays a key role in helping children arrange intentions, to negotiate, and understand shared standards and values (Doise, 1989). Thus, children's negotiations with others during conflict supports their autonomy (Sandy & Boardman, 2000).

Boulter, Von Bergen, Miller, and Wells (2001) proposed that conflict includes both competitive and cooperative interests. Besides, it includes integrative and mediative tactics for dealing with the conflict (Johnson & Johnson, 1996). Thornberg (2006) divided the tactics of individuals into two categories, as "prosocial tactics" and "antisocial tactics." While prosocial tactics include prosocial behaviors, negotiation, and understanding the emotions of the opponent, antisocial tactics consist of aggressive behaviors, resisting, insisting, and threatening.

Children's tactics vary by situation and context. Dunn and Herrera (1997) examined the individual differences seen in children's conflict management in disputes with their peers, siblings, and mothers. They included 50 second-born children aged 33 to 72 months old in their study, and revealed that children's conflict management behaviors were related to the relationships. Children behaved differently according to the opponent and the context. When children engaged in a conflict with their mother, they tended to negotiate and compromise. However, when they faced siblings or peers, they mostly used antisocial tactics. Children's conflict management was found to be related to their own ability to understand others' minds and emotions, as well as their moral sensibility.

Thornberg (2006) investigated whether or not preschool children's tactics varied across different conflict cases. The study showed that children's conflict tactics

were influenced by the opponent's strategies. Children showed non-aggressive behaviors when the opponent's tactics were non-aggressive, but when the opponent used physical aggression, the children responded with the same aggression. These findings reinforced that children's conflict behaviors were interrelated with that of their opponents. However, there were no systematic explanations to predict the tactics of both sides, as variation was seen across children, opponents, and contexts.

As conflict emerges, it ends with an aftermath in accordance with a resolution strategy. Children and adults use resolution strategies to terminate conflicts. Vuchinich (1987) divided the resolution strategies into four categories, from the most common to the least. The first strategy is "standoff" and that refers to the end of a conflict without resolution. It means that both sides agreed to disagree and to move on to another activity. The second most frequent strategy is "compromise," where each side moves closer in order to reach a compromise. The third is "submission," in which one side of the conflict agrees with that of their opponent's position or demands. Lastly, "withdrawal" occurs when one side gives up the interaction by refusing to talk or leaving the room in a display of temper.

There are programs that focus on parent-child conflicts. These conflict resolution programs aim to promote children and adults' conflict tactics and resolution strategies. For example, The Peaceful Kids Conflict Resolution Program (Sandy & Boardman, 2000) aimed to improve the conflict skills of daycare staff, parents, and children who were mostly Latino or African American and aged between two and six years of age. The program was examined across 18 classrooms. There were three conditions which included randomly assigned classrooms: (1) training staff, parents, and children; (2) training staff and children (no parents); and (3) control group without training. The results revealed that the children who were in Condition 1 showed significant increases in prosocial actions such as assertiveness, cooperation, and self-control; and significant decreases in antisocial actions such as aggressiveness, and socially withdrawn behaviors. The study also reported on trained-parents' improvement in authoritative parenting, reductions in authoritarian, and permissive parenting styles.

### **2.7.2. Synchrony**

Synchrony can be defined as opposition to conflict. When the demands and desires of the two sides match in the interaction, synchrony emerges. In the literature, different terms are used for synchronies within interactions; dyadic mutuality (Deater-Deckard & O'Connor, 2001), mutuality and reciprocity (Tsuk, 1998), and synchrony (Harrist et al., 1994; Mize & Pettit, 1997). Harrist et al. (1994) defined synchrony as “parentchild interaction that is nonnegative, and connected (mutually focused, reciprocal, balanced, equal participation, action and effect of one partner flows from that of other, with a sense of closure present)” (p. 8). Kochanska (1997) expresses mutually responsive orientation process in which parent and child shared cooperation with each other’s needs or bids (including parental responsiveness, child compliance, and shared positive affect). Harrist and Waugh (2002) viewed synchrony as a dyadic characteristic. Accordingly, synchrony is a type of interaction between child and adult, an observable pattern of dyadic interaction that is mutually regulated, reciprocal, and harmonious. Though synchrony can be seen in infancy and toddlerhood, older children have greater tendency for synchrony with their improved communication competence and cognitive development (Harrist & Waugh, 2002).

Synchrony may include adaptation of the individuals. Fogel (1993) claims that synchrony contains either reciprocal benefits, or unilateral anticipation and adjustment of one partner to the other. While a negative effect for children may not be acceptable during childhood, adults may accept a negative effect in synchrony. However, children do not need a positive effect on every occasion. It is possible for a child to be affectively neutral and an adult affectively positive, and the interaction still be balanced and mutually focused (Gottman & DeClaire, 1997).

As with conflicts, synchronies provide opportunities to enhance child development. When children engage in synchrony, they experience synchrony, improve competence in their interactions, learn to comply with social demands, and grow in autonomy from their parents (Pianta, Sroufe, & Egeland, 1989; Tsuk, 1998). Synchrony is seemed as an indicator of the quality of the interaction. The quality of interaction has increasingly been recognized as a training area of child adjustment in play, teaching, and conflict (Harrist & Waugh, 2002).

Synchrony is also linked with child compliance. Rescorla and Fechnay (1996) reported that high synchrony in interaction was predictive of high child compliance, and vice versa. Feldman, Greenbaum, and Yirmiya (1999) found child self-control to be a lasting impact of synchrony. Synchrony has also been related to attachment status of children. It was found that when children feel securely attached to their parents, they spend more time in synchronous interactions with them (Lindsey & Caldera, 2015). Lindsey, Cremeens, Colwell, and Caldera (2009) reported that children who engage in high levels of synchrony with their parents displayed more communicative competence and more self-controlled behaviors. Kim, Boldt, and Kochanska (2015) revealed that synchrony in parent-child interactions predicted both mother-child and father-child attachment. On the other hand, Im-Bolter, Anam, and Cohen (2015) observed clinic-referred and non-clinic-referred dyads, and reported an association between synchrony and child problem behaviors. Pasiak and Menna (2015) examined the link between mother-child synchrony and young children's aggressive behaviors and social skills. It was revealed that level of interactional synchrony predicted child aggression and social skills. The study also revealed that the quality of the interactions differed by task type and context. This means that although a mother engages in a high level of interactional synchrony with the child, she may engage in a low level of interactional synchrony in a different context. Besides, de Mendonça, Cossette, Strayer, and Gravel (2011) investigated how context influences interactional synchrony. They observed mother-child and father-child interactions. Then, they focused on mother-child and father-child interactions when interacting in a triad. Although mother-child and father-child synchrony were similar in dyadic interactions, father-child synchrony differed in triadic context. Therefore, they inferred that there is an influence of context in father-child synchrony.

As synchronous interactions have been linked with positive influences on child development, improving the quality and quantity of synchronous interactions has also been investigated. Crotwell, Hernandez-Reif, and Curtner-Smith (2013) examined a play intervention to enhance low-income mother-child dyads. They performed 10-minute Parent-Child Interaction Therapy to one experimental group and a control group in a pretest-posttest design. Mothers in the experimental group were taught how to praise, reflect, imitate, and describe during interactions with their children. The

study revealed that brief interventions could improve the synchronous interactions of low-income mothers and their children.

## **2.8. Social Development of Young Children and Digital Technologies**

Young children's behaviors and social interactions around technology have been widely investigated by researchers. While some research directly aimed to investigate children's social interactions with their peers and with adults, some have focused on the social interactions of children during technologically-enriched activities which aim to support cognitive or literacy development. Technology forwards children into three positions: (i) owner (controller of technology); (ii) participant (advice proposer); and (iii) spectator (observer without advise) (Ljung-Djärf, 2008). Researchers regard children's acts around technology as unique opportunities to observe their behaviors. As Ljung-Djärf (2008) stated:

When children gather around the computer and verbally interact about what is happening on the screen, it is regarded as a valuable activity. Participation in the learning situation around the computer offers individuals with limited experiences with computers a good opportunity to express and share experiences in the group. (p. 38)

Although there is a rising concern about the negative influence of digital technologies on children's social development, in a well-designed environment, digital technologies can support collaborative learning rather than isolate them (McCarrick & Li, 2007; Shahrinin & Butterworth, 2002). Well-designed digital technologies environments can result in three kinds of interactions: children-digital technologies; children-children; and children-adults (Higgins, Beauchamp, & Miller, 2007). Play with digital technology is labelled as playful exploration (Yelland, 2015). Playful explorations provide opportunities not previously possible. The opportunities are multimodal experiences that promote engagement and encourage children to explore their environment using a variety of approaches. Recent studies have shown that children performed taking turns, sharing, integrating ideas, and helping in constructive ways while they were using digital technologies (Charissi & Rinta, 2014; Hyun & Davis, 2005; Kucirkova, Messer, Sheehy, & Fernández Panadero, 2014; Lim, 2012).

Hsin, Li, and Tsai (2014) reviewed effect-based research that aimed to investigate the influence of technology usage on children's social domain. They found that most studies resulted in digital technologies supporting children's social development. There are three key points in supporting social development through technology (Hsin et al., 2014). First, technology can enhance children's interaction and collaboration with peers (Infante et al., 2010; Lim, 2015). Second, digital technology usage at home can facilitate and maintain adult-child interaction (Kenner, Ruby, Jessel, Gregory, & Arju, 2008). Third, technology can support children's development of multiculturalism (Perry & Moses, 2011; Persson & Musher-Eizenman, 2003).

In order to support social development through digital technologies, the term "prosocial content" emerged during the 1970's (Calvert, 2015). Its aim was to decrease the amount of violent content. Prosocial content depends on Bandura's social cognitive theory. The theory assumes that behaviors are acquired through observation. A study revealed that 66% of parents reported observations in which their children imitated prosocial behaviors after viewing educational content on television. On the other hand, 23% of parents reported children's imitation of aggressive behaviors (Rideout & Hamel, 2006; Rideout et al., 2003). However, there were differences seen in these behaviors. While boys imitated more aggressive behaviors than girls, older children imitated behaviors more than younger children. In summary, prosocial behaviors can be observed via prosocial content, and children can imitate the behaviors. Friedrich and Stein (1975) compared three to five year old children's behaviors before and after exposure to prosocial, aggressive, and neutral content. They reported that the prosocial content group's positive interpersonal behaviors increased. In addition, parental support during content viewing also increased positive behaviors. Mares and Woodard (2005) conducted a meta-analysis of 34 studies to investigate the effect of prosocial content on interpersonal interactions. They found an overall effect size indicating a positive effect for prosocial content ( $d = .27$ ). It has also been found that not only prosocial content on television, but also computer game content promoted prosocial behaviors (Gentile et al., 2009).

Research that has investigated the effect of technology usage on social interaction have generally been designed as case studies. The choosing of a qualitative design may stem from an unavailability of valid and reliable scales to measure

children's social interactions. Instead, data has been collected by way of observing social interaction and conducting interviews with children and adults.

Children's competencies of using digital technologies affects their social behaviors while interacting with digital technologies. They feel comfortable when they are mastered in a skill, and then they freely collaborate with peers and offer advice to others (Luckin, Connolly, Plowman, & Airey, 2003). Mastered children's feedback and help are important as there is difference between other children's response to the feedback from technology and from their peers (Arnott, 2013). Although children have different technology proficiencies, if they share similar interests, they can collaborate in a way that resembles Vygotsky's dialectical constructivist perspective for learning and peer teaching (Hyun, 2005).

Arnott (2016) conducted a study with 90 children in order to investigate their social experiences during digital play in technologically-rich classrooms. The focus of the research was child-child experiences. Therefore, parents and practitioners were excluded from the study. The researcher's role was nonparticipant observation. It was revealed that children were active participants and established generally prosocial interactions. Helping and scaffolding peers' learning with digital technologies were frequently observed. However, antisocial behaviors were seldom seen that stemmed from the desire of children to access digital technologies. Additionally, Arnott classified children's digital play based on Parten's categorization of social participation (Rubin et al., 1976). The study's results showed that 51% were very short Solitary play episodes that were ended by peers. Parallel and associative play were longer lasting. Although there were some cooperative play cases, they were sensitively influenced by the play context. It was also reported that limited availability of technology and the children's prior information about a specific game or tool influenced their social interactions.

Digital activities are good at supporting problem-solving behaviors of young children (Maynard, 2010; NAEYC & Fred Rogers Center, 2012). Thus, technology-assisted problem-solving activities can provide a collaborative and social atmosphere for young children. Fessakis, Gouli, and Mavroudi (2013) investigated children's development of social skills in computer-based problem-solving activities. Ten kindergarten children aged five and six years old participated in the case study. The

activities designed by the researchers were teacher-guided and conducted within a whole-class social mode. The results revealed that the children were motivated and engaged in the learning activities. They had opportunities to develop their social skills: competition by criticizing the choices of classmates; intervening to solve problem cases; collaboration amongst peers when a child experienced difficulties; moral support to encourage peers in problem-solving situations; and dialogue development during problem-solving activities. The results signified that providing problem-solving activities in which children plan and easily attempt trial and error produced a variety of social interactions.

Hyun and Davis (2005) examined young children's conversations and emerging questions while using computers. A total of 18 children aged five and six years old were included in their study. Pairs of children shared computers or sometimes used them individually for a period of seven weeks. The researchers were participant-observers and collected the children's drawings and sketches. In addition, small group conversations were conducted as an additional form of data collection. A digital camera was also used to capture detailed information. The study revealed that children's cumulative talk transformed into exploratory talk. In addition, it was noted that the children's questions and conversations were purposeful and autonomous. Furthermore, collaboration and scaffolding of the teacher supported the children's learning.

Digital play environments can influence children's social interactions. To investigate this effect, Lim (2012) explored children's social interactions around computers within a kindergarten classroom environment. The researchers observed and interviewed two teachers and a total of 28 children. There were two desktop computers and the children each had to wait their turn. The children used painting software and engaged in activities on a website designed for children. The results revealed the children's social interactions as: parallel play that is similar to regular play and monologue; verbal conflicts that are simply exchanging dyssynchronous words; sociable interaction that is exchanging synchrony words; knowledge construction by exchanging information; and non-verbal communication by observing, imitating, and prompting new interests. In addition to the exploration of children's social interactions, Lim (2015) investigated the influencing factors of children's social

interaction in technologically-rich contexts. She focused on determining supporting and hindering factors by observing an early childhood classroom's computer activities and free play activities for a total period of 20 weeks. While the supporting factors were the connection of digital activities with a class-based theme, user-friendly software designs, collaboration among children, and open-ended software; the barriers were interruption by teachers, environmental limitations, and closed-software. The study provided a guide for preservice and in-service teachers in how to design developmentally appropriate scaffolding of young children during digital activities.

Free-play activities are unique times for young children to independently choose the type and materials of their play activity. During play activities, children can observe, imitate, criticize, or join others' activities. They learn to share materials and wait their turn. Hence, these times are opportunities to support their social development. Heft and Swaminathan (2002) purposed to explore the effect of computers on the social behavior of young children and observed both peer-child and teacher-child interactions. In their study, 14 children and their preschool teacher were observed and interviewed. The study determined and classified peer interactions in three categories. The first category consisted of children's observations and recognition. The category included four sublevels. Children observed others but had no reaction at the first level. The second level was composed of observation and performing the same behaviors of children without comment. The third level included children's observation and comments without performing the same. Children executed observation, commenting, and performed the same behaviors at the fourth level of the first category. As for the second category, children commented, ignored others, and were ignored themselves. The third category consisted of sharing and helping interactions of children. The study showed that children exhibited "a rich versatility of social interactions" (Heft & Swaminathan, 2002, p. 12).

In another study, Shahrinin and Butterworth (2002) observed peer interactions of 12 children aged five years old during free-play time in a case study research. They determined 243 interactions divided into 16 patterns. The most frequent interactions were children's directions to peers' actions (23%), providing information (19.8%), demanding additional information (10.3%), explaining plans (7%), and dyssynchrony and conflict (6.2%). The researchers also identified factors influencing

collaborative interaction as: (i) developmental appropriateness of the software, (ii) competency and attitudes of children, (iii) prior mutual friendship of children, (iv) social purposes during activities, (v) design of learning environment, and (vi) accepting turn-taking. The study presented the collaborative interactions from the research, and pointed to the mutual friendship between collaborators, sociable interaction, knowledge construction, and non-verbal communication.

Not only free-play activities, but also planned activities can support the social development of young children. Charissi and Rinta (2014) investigated children's social behaviors in the context of music-making activities supported by digital tools. To this aim, children aged 72 to 78 months were observed within a qualitative study. Two software packages were used as materials that provided opportunities to edit musical patterns by changing the rhythm and timbre. Children also had the opportunity to make their own music by selecting the tempo and volume. The results indicated that the usage of the digital tools provided a collaborative environment for music-making. The children developed negotiation skills during the activities. Additionally, they developed empathy and improved verbalizing their thoughts in negotiating their musical ideas. Furthermore, the high frequency of bodily movements as nonverbal ways of interaction was derived from the study. The study underlines that developmentally appropriate digital tools can be beneficial to young children's development of musical and social skills (Burton & Pearsall, 2016).

All the research summarized so far has been of a qualitative nature. There is an exceptional study in which experimental design was used. Gómez et al. (2013) investigated the effect of collaborative learning on a single display computer on the social skills of young children in a quasi-experimental research. Included in the study were 10 classrooms and 268 children aged five and six years old. The control group followed the collaborative planned activities based on the national kindergarten curriculum. Meanwhile, in the experimental group, children engaged in collaborative activities in a computer classroom twice each week for a period of four months. The activities included exchange, sort, and roleplay applications. Content of activities in the control and experimental groups was maintained consistent between the two. The children's social skills were observed using a rubric. Pretest and posttest scores were compared so as to investigate the effectiveness of the experimentation. As a result of

the study, the experimental group realized significantly greater scores on social skills than the control group. Effect size of the intervention was calculated as .51, which equates to a medium effect. The study revealed the positive effect of collaborative activities around computers on children's social development skills.

Ogelman, Güngör, Körükçü, and Sarkaya (2018) analyzed whether or not young children's screen time predicted their social skills and social status. To this aim, the researchers included 162 children aged five and six years in their study. Data were obtained using scales appropriate to each user group; with data from children (Picture Sociometric Scale), parents (Children's Use of Technology), and teachers (Social Skills Evaluation Scale). The results of the study revealed that children's digital technology usage duration had no relationship with either their social skills or social status.

Technology can also support social interaction between parents and their children. Eagle (2012) focused on the nature of parent-child interactions around digital picture books, and puzzles. She investigated a father-child and a mother-child interaction during shared use of digital laptops designed for young children. The modes of interaction between the parents and children were instructional. Parents contributed to children's goal achievement activities by encouraging, showing, and helping. The study may be considered a good case for enriching the shared times of parents and their children.

Kucirkova, Messer, Sheehy, and Flewitt (2013) investigated the effect of iPad apps on sharing interactions between parents and children in a case study consisting of a 33 month-old girl and her mother. The application was a self-created iPad story with audio-visual features. The mother and child used the app together to create a story by combining their pictures, sounds, and texts. While the mother used audio to share the story, her child used the touchscreen to explore pictures and sounds. During the app-mediated story-sharing activities, both the mother and child actively engaged through touching, talking, and sharing their stories. The study showed that such apps have the potential to create a beatific context for parents and children.

Lauricella, Barr, and Calvert (2014) examined parent-child interaction during traditional and computer storybook reading. A total of 39 parents and children were included in the study. While the parents' interactions were similar during both

traditional and computer storybooks, they were more engaged in the computer storybook activity. However, passive exposure to technology can limit parent-child interactions (Kirkorian, Pempek, Murphy, Schmidt, & Anderson, 2009). Kirkorian et al. (2009) investigated the effect of background television on parent-child interactions. They observed 51 toddlers aged 12 to 36 months and their interactions with their parents in a laboratory space designed as family room for one hour. There was passive television exposure for 30 minutes and no television for the remaining 30 minutes. It was revealed that the quantity and quality of parent-child interactions were negatively affected by the background television.

Passive exposure of young children can also occur outside both the classroom and the home. Today, digital technologies have infiltrated almost everywhere, including shopping malls, cars and restaurants. Therefore, the ratio of quiet and non-quiet environments seems to be decreasing. Quiet environments are essential for imagination. They provide silence to stop and think (Blumenthal, 2009). Noise can interrupt both play and imagination (Schmidt et al., 2008), and also concentration (Christakis, Ebel, Rivara, & Zimmerman, 2004).

Another factor that negatively influences parent-child interactions is parental heavy usage of digital technologies. McDaniel and Radesky (2018) investigated the influence of parental problematic digital technology usage on parent-child interactions. A total of 170 parents of three-year-old children participated in their study. It was revealed that both maternal and paternal heavy usage of digital technologies disrupted mother-child and father-child interactions, and that this resulted in child behavioral problems. Results of the study emphasized that parents' digital technology usage patterns are significant to the development of young children.

Technology can enrich not only parent-child interactions, but also grandparent-grandchild interactions. Researchers focused on grandparent-grandchild interactions during digital play in a multiple case study (Kenner et al., 2008). The study revealed a mutual grandparent-grandchild interaction. While children helped their grandparents with technology usage, the grandparents scaffolded children in order for them to accomplish tasks, utilizing their linguistic and cultural knowledge. The study is deemed significant for children who are cared for by their grandparents. Technology has the potential of providing a rich time for both grandparents and their grandchildren.

Stories are useful tools for supporting the social and emotional development of children. They can be used as an aid for special needs children and for young children with problematic behaviors (Bratitsis & Ziannas, 2015). Digital storytelling combines traditional oral narration with multimedia and communication tools (Lathem, 2005). This combination can improve the social development of young children with special needs. Bratitsis and Ziannas (2015) investigated the effect of digital storytelling on the development of empathic behaviors of young children with social deficiencies. A total of 25 children aged 36 to 66 months participated in the case study. Observation, video recordings, and photographs were used to collect data. The results indicated that interactive digital stories improved the social empathy of the children. They were able to remember the emotions of characters within the stories they had seen, were interested in the emotions of the main character, and they displayed empathy. Furthermore, when they tried to describe the emotions of the main character, they were successful, and gave examples of times that they had felt the emotion described.

Digital stories are also effective in improving the social development of young children with more density of disability than social deficiency. Ozdemir (2008) focused on the influence of digital stories on three young children with autism in a multiple-baseline-across-participants design. The story activities consisted of 10 minute play sessions, implemented three times per week. During the implementation, video recording and observations were collected as the study's data. The results showed that the interventions were effective in improving the duration of appropriate social engagement of young children with autism. Compared to their baseline performance, the duration of social engagement with their peers was longer. The results of the study point to the potential benefits of digital storytelling on improved social development of young children with special needs.

Today, children have numerous experiences with media characters, both online and offline through digital technologies (Calvert, Richards, & Kent, 2014). Some characters become children's favorites and they can create parasocial relationships with these characters. A study by Richards and Calvert (2017) revealed that 85% of children aged two to six years could name a character when asked to do so. The characters enter children's home through the mediums of television, computer

software, and concrete toys (Bond & Calvert, 2014). Where children create parasocial relationships with their favorite characters, the characters can meet the children's social needs (Hoffner, 1996). Bond and Calvert (2014) investigated parents' perceptions of their children's parasocial relationships with their favorite characters. A total of 146 parents of children aged between six months and eight years were included in the study. Three major components of children's parasocial relationships were reported by the parents: characters personification; attachment; and, social realism. Positive social relationships with characters can support the development and learning of young children (Wartella, Richert, & Robb, 2010).

## CHAPTER 3

### METHODOLOGY

This study's primary focus was on understanding young children's social interactions during their digital activities. A qualitative approach based on phenomenological research design was employed in order to develop a composite description of "what" individuals experience and "how" their experiences are influenced by context or situation (Moustakas, 1994). Hence, phenomenological research seeks ways to describe and understand the "essence" of "lived experiences" of individuals who have experienced a "particular" phenomenon (Lichtman, 2013). The researcher aimed to bracket, analyze, and to compare children's experiences in order to focus on young children's social interactions.

In a phenomenological research, the participants are asked two general questions: (i) What have you experienced in terms of the phenomenon? and (ii) What contexts or situations have typically influenced or affected your experiences of the phenomenon? (Creswell, 2007, p. 81). To investigate young children's social interaction behaviors in a family context, this dissertation aimed to describe young children's social interactions with their surroundings during digital activities, and characteristics of the cases influencing the interactions:

RQ1: What is the aim of interaction between parents and children during digital activities?

RQ2: What is the form of interaction between parents and children during digital activities?

RQ3: What are the interaction strategies used by parents and their children during digital activities?

Presenting children's interactions with family members and other people during digital activities may allow us to understand and conceptualize the role of digital technologies on children's social behaviors. Besides, this study focused on children's interactions in four different family contexts. Therefore, it is aimed that the

study will show how young children's family culture within the four groups "reflect and pass on values while at the same time responding to changing social pressures and expectations for what young children should learn, do, and be" (Tobin, Hsueh, & Karasawa, 2009, p. 1).

Johnson's (2015) proposition of the techno-microsystem was founded as the theoretical base of the current study. As previously explained, the techno-microsystem emphasizes three concepts; the bio-ecology of the child, digital technologies, and context. The context of each family is important for defining and explaining the factors which influence young children's social cooperation behaviors during digital activities. Therefore, contextualist perspective, which considers "phenomena as being inherently situated within context," is taken into consideration (Packer & Scott, 1992, p. 108).

### **3.1. Participants**

Participant selection is a crucial process for a qualitative study as the researcher aims to reach unique, open, and voluntary participants. This study included children aged 48 to 60 months old and their families. That age group of children was chosen as their interactions with digital technologies begin to increase in that age (Rideout, 2017). Therefore, the children were considered to be beyond their first digital experience and having acquired the fundamental skills to operate digital technologies.

Finding four technology-using young children with parents who volunteered to invite a male researcher into their home for on ten occasions was challenging, and this exposed certain barriers to participant selection. First of all, parents tended to overlook their children's technology usage. When asked about their children's usage, they would say that their children were not regular users. However, when I questioned them about screen time and interaction with digital technologies, the parents began to realize the extent of their children's usage of digital technologies. Second, parents are reticent about having someone come into their home to observe their family life, especially when it is a male researcher. This factor was also seen as an obstacle to finding families willing to participate in such a research. Similarly, people may not want someone to come and observe their family life within their own home on ten separate occasions. Therefore, finding participants was a significant issue for me.

Initially, I visited preschools and asked some of the teachers about parents who they thought may volunteer to take part in the research. I also talked to my friends about the study in order to find volunteer participants. Three sets of parents participated in the research as they thought that the research was both interesting and that it may prove useful for their children. The fourth set of parents stated that they themselves had a research background and that they understood the situation.

Each of the participating families were located in the same city. However, they each had different socioeconomic levels, household demographics, values, and educational backgrounds. The study did not aim to compare children’s interactions during digital activities from different backgrounds by including those families. Instead, the purpose was to show how different sociocultural backgrounds must be taken into consideration in order to understand the influence of digital technologies on the interactions of young children. In addition, no family was considered representative of certain groups. Rather than generalize for a specific background, it was aimed to explore the role of family context on children’s digital activities and its outcomes. Table 3 presents demographic information about the participant families. Pseudonyms have been substituted for the actual names of the children and family members in order to assure their anonymity.

Table 3: Information of Participants

Participant (age in months)	Gender	Monthly Income	Family Members (age in years)
Hakan (55)	Male	Low	Father, Sedat (37) Mother, Dilek (31) Sister, Didem (10)
Ela (59)	Female	Middle	Father, Ismail (32) Mother, Ozlem (30)
Turan (50)	Male	Middle	Father, Salim (37) Mother, Zeynep (35) Brother, Murat (10)
Meral (57)	Female	High	Father, Mete (43) Mother, Meryem (33)

### ***3.1.1. Hakan's Family***

Hakan was the first participant experience examined in this study. Hakan, a boy, was aged 55 months at the start of the study. His middle-income family lived in an apartment in midtown Kırşehir, Turkey. He had one sister, Didem, who was 10 years old and an occasional playmate of Hakan. Hakan's father, Sedat, was a 37 year-old laborer who had graduated from a vocational high school. Hakan's mother was Dilek, a 31 year-old homemaker.

Hakan attended a public preschool until 13:00 each weekday. After school, if the weather was sunny, he loved going outside to play in a park which was very near to the family's apartment. Didem would arrive home at 15:00 and join Hakan. The family evening mealtime was 18:00. After their meal, Hakan would play with his toys or his tablet in front of a constantly open television until approximately 23:00. When he felt sleepy, he would go to bed.

At the time of the study, the family had two smartphones, two tablets, two televisions, and one non-working personal computer. There was no Internet connection as the parents had decided to close the account due to the children's heavy usage.

Each child had their own tablet and they loved playing games and watching cartoon films. Hakan loved to watch cartoon films both on television and on his tablet. Thus, while playing in the living room, there was generally a cartoon film on the television. He watched television for about three hours and used the tablet for approximately 90 minutes each day. In addition, Hakan used his parents' smartphones to watch videos on YouTube. He used voice search on YouTube and Google in order to search for what he wanted. Sometimes, when he was bored with his old games, he would visit their neighbors in order to download new games to his tablet.

Hakan generally circulated between activities. He would watch television first, and then start playing with his blocks or other toys. After some time with his toys, he would begin to play with his tablet. He liked playing traditional games with his sister and father. However, according to the parental reports, Hakan did not like to share his tablet with anyone and wanted the tablet before his turn. When his eyes become watery and he started to scratch them, his parents prevented him from looking at any kind of screen.

### ***3.1.2. Ela's Family***

Ela, a girl, was aged 59 months at the start of the study. Her parents were both elementary teachers. Her father, Ismail, was aged 32 years old at the start of the study, and her mother, Ozlem, was 30. They lived in an apartment and Ela had her own room which included her bed, books, magazines, baby dolls, and other toys. The family has one personal computer and one television situated in the living room. Ela's parents both had smartphones.

Ela had a stable daily routine as her parents had regular work hours. Ela would get up at around 7:00 and have breakfast with her father as her mother would leave home before she woke up. Ela attended a preschool until 12:00. After preschool, Ismail would take Ela to her maternal aunt's home, where she would play with her peer cousin during the afternoon, and stay there until 17:00. The family would meet at home around 17:30 and eat an evening meal together. Ela generally watched television with her father after the evening meal. They watched cartoons, documentaries, and music channels. Ela's favorite channels were Disney Kids and TRT Çocuk (a children's channel of Turkish State Television). In addition, Ela loved to play games on her father's smartphone. She usually played games which included characters from her favorite cartoons.

Ela watched television for a mean of 90 minutes and played on a smartphone for 30 minutes each weekday. However, when she went to her grandparents, the duration of usage increased. Additionally, the duration increased up to two hours on weekend days. Ela's parents controlled the content of the media Ela viewed, and generally they preferred to watch together, watching whatever she watched.

### ***3.1.3. Turan's Family***

Turan is a boy who was aged 50 months at the start of the study. His father, Salim, was 37 years old and had graduated from a high school. Salim was a former owner of an Internet café, but was not working at the time of the study. Turan's mother, Zeynep, was a 35 year old teacher. Turan had one brother, Murat, who was aged ten. They lived in a duplex apartment. The family had one television, one tablet, and the apartment had an Internet connection. Each of the parents had their own smartphone.

Turan attended a preschool each weekday morning. Salim described their family as “homebodies.” Each of the family members left the family home for their respective daily routines, but preferred staying at home when they were free. The mother, Zeynep, would leave home early and arrive back around 20:30. Therefore, the children generally stayed with Salim.

Turan loved playing mobile games on his father’s smartphone or tablet. Turan spent most of his time with Murat playing mobile games and blocks, and played cooking games and Minecraft with Murat. Turan liked to show his mobile games to his father and brother. Turan demanded help from his brother when he was unsuccessful or needed help with a game. When it came to screen time, on average, Turan watched television for 30 minutes and played mobile games for two hours each day. Turan would stop playing mobile games when his parents demand that he stopped, or when the tablet or smartphone’s charge was exhausted.

#### ***3.1.4. Meral’s Family***

Meral is a girl who was aged 57 months at the start of the study. Her parents, Mete and Meryem, were both university lecturers and they were aged 43 and 33 years old, respectively. The family lived in a large duplex apartment. Each of the parents had their own smartphones, and Meral had her own tablet. Additionally, the family had one television and the home had an Internet connection.

Meral attended a preschool until 12:00 each weekday. For the remainder of the day, one of her parents would care for her. Meral had her own room, but it was generally only used for sleeping. Although her toys were in her room, she usually played with them in the family living room, where the television was also situated. Meral would play with her toys and watch the television. The living room was connected to the kitchen. Therefore, it was easy for her parents to observe what Meral was doing. According to the parental reports, this arrangement yielded Meral’s interest in the kitchen as she would help her parents prepare healthy meals.

Meral would spend time with her parents, drawing, pretending, reading, playing with dolls, and watching television. She watched cartoons and music channels, and had a relatively high screen time. While she actively watched television for two hours each day, her passive watching was around three hours. She liked to play with

her toys in front of the television and demanded that it was kept switched on. Additionally, Meral liked to play games on her tablet, which included characters of her favorite cartoons.

### 3.2. Data Collection

Prior to the collection of actual data, four pilot home visits were conducted. A pilot study can be used as a small-scale version or trial run in preparation for a major study (Polit, Beck, & Hungler, 2001). The trial home visits aimed to check the duration of the intended visits, assessment of observations, and to assess the video recording equipment. At first, the duration of the visits was planned to be up to four hours. However, the pilot study showed that four hours would be too long; therefore, the duration of visits was reduced to a maximum of three hours. The pilot visits also revealed the necessity for an observation form in order not to miss capturing the interactions. Furthermore, video recording apparatus were tested, and subsequently optimized following the pilot home visits.

Multiple methods for data collection were employed in the study. Interviews with the parents, researcher observations, and short interviews with the children were employed. Though each method had its own data collection characteristics, each were purposeful in the collection of useful and rich data in order to answer the study’s research questions. Descriptive information about each data collection method is provided in Table 4.

Table 4: Descriptive Information about Data Collection

	Application	Duration	Time of day
Home Visits	10 home visits for each family	110h 53min total duration	10 mornings
	40 home visits in total	60h 35min video recording	15 afternoons
			15 evenings
Interviews	2 interviews for each family	5h 30 min total duration (all audio recorded)	1 morning
	8 interviews in total		5 afternoons
			2 evenings

#### 3.2.1. Parental Interviews

Interviews with the parents of the subject children were conducted both before and after the home visits. All of the interviews were conducted within the

respective family home. The homes were used as the interview place in order to provide familiarity for the parents so as to achieve a relaxing and comfortable environment for them. As the interviews were semi-structured, the order of questions could be changed, and additional questions asked where deemed necessary in order to extend and continue the conversation.

Pre-interviews formed the start of the data collection process for each participant family. As part of the participant selection process, the parents were informed with an overview of the study. When the parents decided to participate in the study, an interview meeting was arranged for each of the parents. The pre-interviews had two aims. First, it was aimed to create a collaborative and trustworthy atmosphere between the researcher and the interviewees. As observations would be conducted within the child's home, it was aimed to establish a sense of trust and to decrease any parental concerns such as with regards to their privacy. During the pre-interviews, a general outline about the study and data collection procedures was provided to the parents. In addition, they were questioned about any possible concerns just to be sure.

Then, I proceeded into the main interview, asking questions within a semi-structured interview format. The interviews included questions about each child, family, and both their digital and non-digital activities (see Appendix A).

Post-interviews were conducted after the end of the home visits. The post-interviews aimed to collect wider information about the data which had been observed during the home visits. The post-interviews consisted of questions relating to the parents' explanations of their child's digital activities (see Appendix B). Parental notions were explored in order to clarify the social aspects of the digital activities.

### ***3.2.2. Observations - Home Visits***

Researcher notes about observations during the home visits were used as the main data of the study. Home visits provided a type of data that was deemed natural to the environment and captured from the original source of events. Observations enabled me to focus upon the children's verbal and nonverbal behaviors within their social context, which is linked to their behaviors. They also procured a rich source of data as each home visit included different activities.

Activities and occurrences during the home visits depended upon different variables such as the mood of the child, as well their parents' mood and energy. The right to select activities was afforded to the parents and the child during each home visit. I explained that, "You can do anything, just like you would do every day." Upon hearing this statement, the parents appeared to feel free and relaxed. However, the study's aim was to document the children's behaviors from different activities and cases. During the parental interviews of the first home visit, parents were asked about their children's activities in a normal day. Then, during the subsequent home visits, it was attempted to see all of the activities that had been told by the parents. For example, where a mother said that she and her child loved reading books together, and the father said that he and the child liked watching television together, I tried to ensure that the mother conducted the joint reading activity, and the father watched television with the child at least once.

I aimed to sustain the atmosphere of the family, and behaved in accordance with the family. I talked to the parents, asked them about their day, work, and other topics. I also asked the children about their day. Also, I collected data in addition to talking with the family members, utilizing an observation form for notetaking.

At first, I included skills from the Preschool and Kindergarten Behavior Scales (PKBS) (Merrell, 1996). However, I had to construct sub-items for each of the skills. A sub-item pool was subsequently prepared by myself and shared with three experts in the field. In line with these experts' views, an observation form was composed. It should be noted, however, that the form was not fixed, and new sub-items were added to the form during the observations.

In addition to the observation form, when possible –which means when the researcher felt that family members were sufficiently relaxed and in a good mood– video recordings were captured. Generally, the first three home visits did not include video recordings. From that point, it was considered that the family had become sufficiently familiar with the researcher for video recordings to be discussed. Subsequently, videos were made during at least five other home visits. The video recordings enabled the researcher to capture detailed data such as gazes and tacit movements of the subjects.

Immediately following each home visit, additional notes and observational memories were written-up by me. I completed my notes in writing from audio recordings, having used an audio-recording device to ensure that I had explained everything prior to forgetting anything of importance.

I maintained these notes and other data sources –photographs, audio records, any of the child’s works– following each home visit. If there was a video recording captured during the visit, I watched the video and recorded the data on an observation form as soon as was practicable.

#### *3.2.2.1. First Visit*

The first visits were also the first steps by me into each of the family’s homes. These first visits were aimed to conduct the parental interviews and to become familiar with the family members.

In addition to interviewing the parents, I observed each child’s bedroom, play space, and available digital tools. When the child met with me, they were asked to show him their room, explain about what toys they had and other furniture in their room. Additionally, if the child had a play area in other rooms of the home, such as the kitchen, the researcher asked the child to also explain them as well. This enabled me to understand each child’s views as to what was important within the context of the home.

#### *3.2.2.2. Second to Tenth Home Visits*

Nine subsequent home visits were made to each child’s home. The length of visits was determined based on family members’ daily routine so as to not unnecessarily disturb them. Each visit lasted between two and three hours, with scheduling based on family members’ daily routine, as agreed during the parental interviews.

The aim of the study was to observe children’s overall daily behaviors during home visits. Therefore, observations included both digital and non-digital activities of the children. Digital activities included children viewing television, watching videos on YouTube, playing games on tablets and/or smartphones, taking digital photographs, and talking with someone via video-chat. Non-digital activities consisted of eating, pretending to read, cooking with parents, drawing, playing non-digital games, and their other everyday routines.

An MP3 player audio recorder was used, locating it close to the child in order for all speech of those within the context of observation to be recorded. As researcher, I also took field notes. In addition, during some of the visits, I videotaped the children's behaviors. When it was not possible to record video, the researcher would sometimes take photographs in order to better remember the cases and to complement the field notes.

I aimed to observe each child within their family context. The study included families consisting of a mother, a father, and any siblings. However, there were some unusual occasions during some of the home visits that may have disrupted the observation. Unexpected guests arrived during six of the home visits. Also, sometimes the parents requested not to participate in the children's activities as they had other tasks to attend to.

Though it was aimed to observe the children's daily routine, I attempted to obtain a balance between their digital and non-digital activities. During some of the home visits, parents asked me which activities he preferred to observe. Where the family had mostly digital activities, I implied a non-digital activity, based on what the parents had reported in their initial interview, and vice versa. As can be seen in the interview questions (see Appendix A), I asked the parents about both their child's digital and non-digital routine activities. Based on the parents' responses, the activities were offered as and when needed.

### ***3.2.3. Fieldwork Strategy***

This study included four different children and their families, which means that there were four different home contexts. Therefore, a predetermined fieldwork strategy was used so as to guarantee the same strategy was applied by the researcher in each family context. The researcher's strategy was as presented in Table 5.

#### ***3.2.3.1. Dimension 1: Role of the observer***

During the observations, the researcher was able to keep field notes and record behaviors as a non-participant observer. However, this activity could have been seen as disruptive to the atmosphere of the home visits. Therefore, the participation level of the researcher was generally between that of "full participant" and "part participant" in order to find the optimum atmosphere for data collection. As a part

participant and part observer, the researcher observed the child, took field notes, talked with the child and family members, and behaved appropriately to the situation.

Table 5: Fieldwork Strategy

Fieldwork Dimension	Fieldwork Variations		
Dimension 1: <i>Role of the Observer</i>	Full participant in the setting	↓ ————— Part participant/part observer	Onlooker observer (spectator)
Dimension 2: <i>Insider versus outsider perspective</i>	Insider (emic) perspective dominant	↓ ————— Balance	Outsider (etic) perspective dominant
Dimension 3: <i>Who conducts the inquiry</i>	Solo researchers, Teams of professionals	↓ ————— Variations in collaboration and participatory research	People in the setting being studied
Dimension 4: <i>Disclosure of observer's role to others</i>	Overt: Full disclosure	↓ ————— Selective disclosure	Covert: No disclosure
Dimension 5: <i>Duration of observation and fieldwork</i>	Short, single observation	↓ ————— Ongoing over time	Long-term, multiple observations
Dimension 6: <i>Focus of observations</i>	Narrow focus: Single element	↓ ————— Evolving, emergent	Broad focus: Holistic view

### 3.2.3.2. Dimension 2: Insider versus outsider perspective

The researcher was a part participant observer during his observations, and therefore collected data from an insider's viewpoint. As an insider, the researcher was placed within the case and tried to learn what the child and the family members thought, saw, and felt. However, at the same time, the researcher was aware of also being an outsider to the family unit which enabled him to describe what he himself saw and learnt.

### 3.2.3.3. Dimension 3: Who conducts the inquiry

The researcher interviewed the parents so as to include the family in the research. He delivered brief outline information about the dissertation to the parents at the outset. Then, during the home visits, the researcher asked the parents questions about specific cases. In addition, the parents would sometimes act as informant by providing the researcher with information. Furthermore, the parents decided which activities would take place during the home visits. Sometimes the parents asked the researcher about the activities, and whether or not they were suited to the visit. To summarize, the researcher maintained strong collaborative links with the parents.

#### *3.2.3.4. Dimension 4: Disclosure of observer's role to others*

Before including each family in the study, the researcher talked to them about his research aims, what he would do, and why he was doing it. The researcher talked to the parents about the confidentiality of the data he would capture. When the researcher explained the focus of the study to the parents, such as their child's social behaviors, the parents appeared more comfortable and at ease as they knew the purpose behind why the researcher was visiting their home.

During the home visits, the researcher aimed to establish a natural environment in order to observe the natural behaviors of the family members. As the researcher provided information to the parents about the research, they seemingly felt safe and were more confident. As time progressed, the parents appeared to forget that they were being observed. Telling the truth to the family members at the outset yielded natural and accurate information for the research.

Although it may have benefitted the researcher, there was a risk that disclosure might disrupt the nature of the family members' behaviors. Multiple home visits and observations made certain that the study captured the natural behaviors of both the child and family members.

#### *3.2.3.5. Dimension 5: Duration of observation and fieldwork*

During the fieldwork, for each of the children, the researcher conducted one interview home visit, followed by nine home visits for the purposes of observation. The researcher tried not to disturb the family members, and therefore tried to arrange a maximum of two home visits per week. Completion of the home visits for each family lasted from four to six weeks.

#### *3.2.3.6. Dimension 6: Focus of observations*

The researcher aimed to determine the participant children's social interactions in this study. Whilst the researcher required data from only a small part of what was happening during each home visit, he also aimed to find out what affected the children's social interactions while they were using digital technologies. Therefore, the researcher had to consider not only the children's behaviors, but also those of the family members too. Finally, the researcher had to eliminate the unnecessary details.

### **3.3. Data Analysis**

Data were collected through interviewing, observation, and field notes. All of the documentary evidence, which included field notes as well as audio and video recordings, were entered as input to MAXQDA 2018 analytical software. Video and audio recordings were transcribed verbatim prior to the analysis. As it was possible that new codes could emerge and that some predetermined codes could become obsolete, Lincoln & Guba's (1985) coding procedure was employed in order to revise the codebook throughout the data analysis.

The first method in the procedure was “filling in.” New codes were added to coding schemes that pointed to emerging concepts. The second method was “extension,” which was used to reconsider already determined codes with emerging concepts. The third method was “bridging,” which referred to the identification of new relationships between predetermined codes. The final method was “surfacing,” in which the construction of new code categories were taken into consideration in order to address emerging concepts. The coding sheets and their brief descriptions are presented in the appendices (see Appendix C, D, E, F, G).

### **3.4. Trustworthiness**

As the nature of qualitative research is not objective, trustworthiness should be taken into consideration to support the argument that findings of the research are “worth paying attention to” (Lincoln & Guba, 1985, p. 114). Therefore, the issues of validity, reliability, and objectivity were taken into consideration (Merriam, 2009).

Several procedures were employed to assure the internal validity of the study. First, “prolonged engagement and persistent observation” was achieved through ten home visits for each child participant and their family, with each visit lasting up to three hours. Relatively long observation periods for each family yielded the trust of the participants in the research; and as a result, true information was attained about the home culture and habits of each family. Second, the researcher benefited from “triangulation” in order to provide validity of the findings. During the study, the researcher used multiple and different sources of data such as direct observation of children in their home context, pre- and post-interviews with parents, and talking with

the children. Third, one colleague of the researcher was engaged in “peer review” in order to provide an external check of the processes involved. Additionally, there was an “informant” in each family whose role help raise and resolve any issues. Furthermore, the researcher aimed to present “rich and thick descriptions” of the findings, and to share the detailed characteristics of the participants and settings of the study.

As to the study’s reliability, as people were used in the measurement process of a phenomena, the reliability and consistency of the results were also considered (Creswell, 2007). Therefore, a second coder was employed to ensure reliability of the results. The second coder was a PhD candidate and Research Assistant in the department of Early Childhood Education. The researcher provided information about the subject, research design, and the preliminary code sheets. A total of 20% of the video recordings, which equated to almost 12 hours, was analyzed both by the researcher and the second coder. Then, interrater reliability was calculated according to Miles and Huberman's (1994) formula. The interrater reliability was calculated as .89, which was considered as applicable reliability (Creswell, 2007). After negotiating with the second coder, the final structure of the code sheets (Appendices C, D, E, F, and G) were constructed and employed in the analysis.

## CHAPTER 4

### FINDINGS

The findings of the study are presented in this chapter. The chapter starts by presenting the aims of the children and parents in initiating the interactions. Table 6 presents a general outline of the findings.

Table 6: General Outline of the Findings

<i>Aims of Interactions</i>			
• Directing:	40.75%		
• Sharing:	53.55%		
• Daily Life:	5.7%		
<hr/>			
<i>Types of Interactions</i>			
• Conflicts:	54.9%		
• Synchronies:	45.1%		
<hr/>			
<i>Leading Characteristics</i>			
<i>Conflicts</i>		<i>Synchrony</i>	
• Multitasking		• Nature of digital activity	
• Passive exposure		• Relevant communication	
• Inappropriate content			
• Irrelevant communication			
<hr/>			
<i>Tactics in Conflicts</i>			
<i>Child tactics</i>		<i>Parental tactics</i>	
• Ignoring	• Offering once more	• Repeating	• Ownership of device
• Shouting	• Insisting	• Explaining	• Time and space restriction
• Crying	• Fudging	• Providing alternative activity	• Physical contact
• Moving away	• Disagreement		• No action
• Offering finishing	• Explaining		
<hr/>			
<i>Interaction Strategies</i>			
<i>Conflict Resolution Strategies</i>		<i>Synchrony Strategies</i>	
• Child submission	34.80%	• Following instructions	27.40%
• Parental submission	53.92%	• Accompanying	47.95%
• Compromise	11.28%	• Cooperation	24.65%

## **4.1. Aims of Interactions**

This part aims to detail the initiation and aims of interaction between each child participant and their parents during digital activities. This section answers RQ1; “What is the aim of interaction between parents and children during digital activities?”

Both the children and parents were open to beginning communication, and both initiated interaction during the digital activities. The parents initiated communication with their children in a variety of ways during the children’s digital activities. However, their initiations were grouped in two main purposes. The first aim was parents giving instruction to their children as they attempted to direct them. The second aim was parents sharing both their own and their children’s digital activities. When it came to the children, their initiations included sharing and directing. In addition, both the parents and the children aimed at interaction for their usual daily purposes.

### ***4.1.1. Directing***

Directions given by the parents and children were a frequently observed phenomenon throughout the home visits of the study. The parents’ goals in their directing were for their child’s operating/proper usage of digital technologies and relating to daily life. The children also aimed to direct the operating of digital devices. In addition, it was observed that the children directed the parents in providing solutions in cases of technical problems having arisen.

#### ***4.1.1.1. Parents’ initiations for directing***

Situations including “initiations of parents to direct children” were often observed during the field study. It was observed that the parents directed many instructions to the children, both regarding the activities and for daily life. Although there were a great number of instructions given, they had common goals that could be divided into three types; (i) directions to operate digital technology, (ii) directions for the proper use of digital technology, and (iii) directions related to daily life.

The first type of instruction was about operational directions such as opening/closing a digital tool, turning the volume up or down, and changing the channel/application. These directions were frequently observed whilst the children had control of the digital technology.

*Ela and her father were watching cartoons together. The father looked at the time and stood up:*

Father: "Isn't it enough Ela?"

Ela: "No, I'm watching Masha and Bear."

Father: "Turn it off and show me your drawings from kindergarten."

Ela: "Alright, but we will draw a picture together, ok?"

Father: "Okay, come on."

Directions of parents to children for turning off a digital tool were frequently observed. The excerpt is a classic example of parental attempts to end a child's digital activity. While Ela was watching television, her father asked her to turn it off. When he noticed the time, he attempted to limit Ela's screen time. However, Ela was watching one of her favorite cartoons. Therefore, she clearly claimed "no," her dyssynchrony. On the other hand, when the parents faced a dyssynchrony, they employed several strategies in order to cope with the issue. Distracting the children's attention towards other things was one of the strategies the parents employed. When they directed children to "stop" a digital activity, the parents aimed to motivate their children to do something else such as eating, taking a rest, playing non-digital games, etc. Ela's father suggested drawing and was successful in his direction as Ela embraced the alternative.

Although the parents often successfully encouraged their children to undertake an alternative activity, they sometimes experienced dispute from the child. Sometimes the children did not want to be distracted from their digital activity. Therefore, they resisted, refused, or simply ignored the parent's directions, as in the following excerpt.

*The family were sitting around the kitchen table. Turan and his brother were playing Minecraft on a smartphone and a tablet. The parents prepared a puzzle for them to solve together.*

Mother: "It is ready. Turan, Murat (the brother), time to stop now and look at this. Let's start."

Father: “After doing the puzzle, we will go and play football. Turan, Murat, come on.”

Turan: “I want to finish this, then I will stop.”

Brother: “Wait. I will stop, but waiiit.”

Mother: “Turan, come here, let’s solve a puzzle.”

Turan: (*stops playing*) “I don’t want to solve a puzzle. I dooon’t.”

There were some cases that included the children eating meals, or having cookies and a drink in addition to the digital activities. Especially when watching television, the children tended to eat something while the parents demanded that they stopped watching their screen and ate properly. The children attempted to continue watching television whilst they ate. Rather than eating a meal in the kitchen, the children preferred eating a snack in front of the television, such as in the following excerpt.

*The family and the researcher were watching cartoons on television. The mother and the researcher were chatting, whilst the father was busy with his phone.*

Mother: “Hakan, are you hungry, do you want to eat pasta? I’ve cooked it for you.”

Hakan: “I want some water.”

Mother: “Come to the kitchen with me then.”

Hakan: “No, you bring it here to me. I want bread with chocolate spread and some chocolate milk.”

Mother: “Let’s go. Come and eat pasta in the kitchen.”

Hakan: (*starts shouting*) “Nooo, chocolate bread and milk! Bring them here.”

*The mother silently went to the kitchen and prepared some chocolate spread and bread. Hakan then ate whilst watching television.*

Hakan refused his mother’s offer as he wanted to continue with his digital activity. However, he was also hungry and needed to eat something. He found a solution by eating snacks in front of the television. He resisted his mother’s pressure

by shouting and insisting. His message was “either I eat snacks here or I don’t eat at all, as I won’t go and eat in the kitchen.” The mother gave in and prepared the requested snack food for Hakan.

Apart from attempting to stop the children’s digital activity, the parents intended to modify the children’s digital activity according to their desires by directing the children to change the channel or volume. When the parents felt disturbed or bored of the children’s digital activity, they interacted with the children in order to express themselves and to modify the activity.

*The family was relaxing in the living room. Ela was lying down and watching one of her favorite cartoons on television with her parents. He father seemed bored.*

Father: “Ela, let’s put on *The Fat People* (a television series about overweight people losing weight that the mother reported they sometimes watched together), and then we can watch it.”

Ela did not respond. The father asked again.

Father: “Can you put it on? Let’s check whether it has begun.”

Ela: “Which channel?”

Father: “Channel 15.”

*Ela slowly directs the remote control and changes the channel.*

Ela: “No, it hasn’t begun yet.”

Father: “So, try 16. We can check the documentary channel.”

Mother: “There was a documentary about cats on last week.”

Not only the content, but also the noise of a digital activity triggered the parents’ acting. In the following excerpt, the volume of the music disturbed Hakan’s father. When the father directed Hakan to turn the volume down, Hakan just ignored him and waited. The father insisted and expressed his discomfort. Then, Hakan turned the volume down.

*Hakan was listening to music on his tablet, whilst the other family members watched television. The volume of the music was a bit high, and the father screwed up his face.*

Father: "Hakan what is that? Turn the volume down."

*Hakan ignored his father and continued listening.*

Father: "Hakan, turn the volume down. I can't hear the television."

*Hakan turned the volume down a bit and continued listening.*

The second type of direction included directions for the proper usage of digital technologies. This included backing away when looking at a screen from too close a distance, not inhibiting someone else's view of the screen, and making moves properly when using digital technology. Although it did not directly disturb them, the parents sometimes felt uncomfortable and directed their children.

*Meral was watching a cartoon on television. Then she started to crawl closer towards the television while her father and the researcher talked about some issue. Meral's father continued talking, but warned Meral.*

Father: "Hey, Meral, you are too close. It will hurt your eyes. Don't look at it that close. Can you move back?"

Meral: "Well, nooo."

Father: "Pack up your toys and sit here. Move back, come on. Yes, okay. You can sit there then."

*Meral waits for a while, then goes back and sits on the sofa.*

Father: "Yes, well done honey."

The excerpt is an example of the second type of instruction. Generally, the children looking at screens from an inappropriate distance was a matter pertinent to their digital activities, which included their watching television. On the other hand, when the digital activity was on a tablet or smartphone, as these devices had small screens, blocking someone else's view of the screen was sometimes an issue during co-view and JME.

*Ela was playing a game on a mobile phone with her father. While her father played the game, she explained to him what he should do.*

Ela: “Whoaaa, press this, it becomes bigger. Don’t touch the red one or it eats you.”

Father: “I can’t shoot enough...”

Ela: “Give me the phone. I’ll show you.”

*Ela starts playing the game, but she is excited and stands up. She continues playing for a while and then begins walking.*

Father: “Good, touch the pink. Ela, shoot faster... I can’t see, get closer with the phone...*(holds Ela’s hand)*. Sit down here. Don’t walk about.”

*Ela sits slowly down without looking at her father.*

The father enjoyed engaging in Ela’s digital play and wanted to continue the activity. However, Ela was unaware of him. She was also fascinated by the game, like her father. She began to walk away, moving away from her father’s control. Then, the father gave Ela direction as he could not see the screen.

When it comes to the third type of direction, the parents aimed to also direct the children in daily life activities. Taking medicine, clearing up mess, gathering up their toys, and going to the bathroom were among such activities. The following excerpt is an example of daily life direction given by the parents to their children when engaged in a digital activity.

*Meral was watching cartoons on the television, whilst her father and the researcher chatted.*

Father: “Meral, can you gather up your toys?”

*Meral did not respond, and continued watching.*

Father: “Meral, gather your toys next to you.”

*Meral gathered her toys whilst still watching the television.*

The difference between this type of direction and the first type of direction was that the parents did not direct to “stop” the digital activity in order to do an alternative activity while directing their children in daily life activities. Rather than the children

having to totally stop a digital activity, the parents referred them to simultaneously perform daily life tasks along with their digital activity. Sometimes they offered a pause in the digital activity. However, when they directed their children to operate digital technology, they implied “totally giving up” the digital activity.

#### *4.1.1.2. Children’s initiations for directing*

The children’s directions shared similarities with that of the parents. They directed the parents in the operating of digital devices. In addition, they provided solutions for technical issues during digital activities and directed the parents in fixing the problem.

The children’s directions for operating digital devices were related to opening the devices, changing channels on a television, and turning the volume up or down.

*Hakan was laid on his father’s arm. They had been watching a movie together for a while.*

Hakan: “Change the channel, open TRT Çocuk” (*a children’s channel of Turkish State Television*)

*The father used the television’s remote control and finally found the TRT Çocuk channel. But Hakan did not like the content.*

Hakan: “Change the channel, go up.”

*The father started changing the channels again. Hakan recognized a cartoon on the Cartoon Network.*

Hakan: “Okay, stop. I’ll watch this.”

The children also directed the parents to fix certain technical issues such as recharging digital devices, downloading games, and connecting devices to the Internet. They directed the parents to fix the issue and continued their digital activity. However, it should be noted that the children provided the solution for the issues, which they had previously encountered, according to the parental reports. This was similar to the children scaffolding to the parents in digital activities in which the children had prior experience.

*Meral and her mother were looking at photographs on a tablet. Then, the screen of the tablet froze. The mother touched the screen several times, but it did not respond.*

Meral: “Mom, why don’t you change the photo?”

Mother: “It is not working” (*touches the screen*)

Meral: “Close it and open it again. I fixed it like that last week. Press that button.”

Mother: “Okay, I’m trying.”

Meral: “Wait, it will open again.”

Meral had prior experience with the issue of a frozen tablet screen. She was sure what to do and directed her mother until it was fixed. Children’s directions with technical problems were like their helping parents in a digital game. Where the children had prior experience, more so than the parents, the children engaged and freely expressed their opinions and solutions in digital activities.

#### ***4.1.2. Sharing Digital Activities***

Sharing was the other phenomenon observed during the digital activities. The parents engaged in the sharing of their children’s digital activities in three ways. First, they would watch the children’s digital activities. Second, they not only watched, but also talked about the activities. Third, they became involved in their children’s digital activities and tried to direct the children.

The children were good at commencing communication and interacting with others during the digital activities. They frequently and keenly aimed to share their digital activities, and demonstrate their digital play. They also demanded the help of the parents in order to achieve the goals of their digital games. They asked their parents how to accomplish certain tasks and to improve their play. Therefore, the children engaged with the parents in decision making during the digital activities. Furthermore, the children not only welcomed others to their digital playing, they also attended others’ digital activities and initiated interaction in order to join in.

#### *4.1.2.1. Adults' initiations for sharing digital activities*

The parents shared the children's television watching activity; as the very nature of the activity is suited to sharing. However, when it came to the children's digital activities on tablets or smartphones, the parents had to put in effort in order to share in the activity, having to intentionally make themselves watch the children's digital play on tablets and smartphones.

*Turan watched playdough videos on YouTube whilst the parents chatted. The father moved next to Turan and started watching the videos with him.*

While Turan was watching videos on YouTube, his father heard the sound of the video. He looked at Turan for a while, then went over to him, sat down and started watching with him. The father later reported that he paid attention when Turan was online, and saw Turan as vulnerable when connected to the Internet. Therefore, he shared Turan's YouTube activity intentionally.

Second, in addition to watching, the parents talked about the content of the digital activities. Watching the children's digital activities formed a basis of taking one step forward, talking about the activity. The parents began to consider the content whilst they were watching. Therefore, they commented and asked questions about the content of the digital activities.

*Hakan was playing Viki on his tablet, whilst his mother watched him play.*

Mother: "What did you draw?"

Hakan: "A treasure. I will find it."

Mother: "Who is running behind Viki?"

Hakan: "Halvar, his father. He is strong."

Mother: "He is slow. Look, he's walking."

*Then Hakan's mother left the room. Afterwards, his sister came in and started watching him play.*

Sister: "What are you playing Hakan?"

Hakan: “Viki, now you can see how I play. This is Viki and he is searching for treasure. And this is Swan; he is smuggling the map and Halvar is helping him. Look, I run this way. No, stop.”

Sister: “Swan is running away.”

Hakan’s mother sometimes watched Viki on television. Therefore, she had prior knowledge about the concept. She watched Hakan play Viki for a while and then talked about it. Hakan was open to share his activity with his mother. Aside from the parents, a sibling can be a spectator or a commenter to children’s digital activities. Turan and Hakan both had older siblings who shared in their younger brothers’ digital activities. The siblings watched and talked about their brothers’ activities. Sometimes, they scaffolded and sometimes they interrupted. Even so, they were active participants of the child’s digital activities.

As a next step to commenting, the parents became actively involved in the children’s digital activity and scaffolded the children during these activities. Although the parents’ scaffolding occurred in a similar way, the scaffolding had different roles such as helping the children to reach certain goals in the activity, technically guiding them, and preventing the children from accessing inappropriate content. The following excerpt is an example most frequently seen, that of the parents helping the children in a digital game.

*Ela was playing a game on a smartphone. The researcher was watching television whilst the father talked on the phone. Afterwards, the father approached Ela and looked at her smartphone screen.*

Father: “What is she saying? What is that?”

Ela: “She is speaking English.”

Researcher: “Move slowly Ela. Then turn right.”

*Ela follows the researcher’s and her father’s instructions. They play together and the father begins touching the screen and also directing Ela.*

Father: “You must clean there Ela. The window is dirty.”

Researcher: “Take the duster and wipe it.”

*The father and the researcher start discussing the game. The situation was that they decided, and then Ela did as they directed.*

Father: "Now go to the kitchen, Ela. You will find success when you open the door."

Ela: "Yees. Now, which prize will I select?"

Father: "You choose. Touch one of the boxes."

Ela: "It is a wand. Wonderful."

In the excerpt, the spectating acts of the father and the researcher evolved into scaffolding, in order to help make Ela successful in her digital game. They were the decisions makers and directed Ela during the game. Ela's play was based on the parents' directions.

Experienced siblings also had the tendency to become involved in the children's digital activities. When a brother or sister was successful in a digital game, they would help the younger child during their digital activity.

*Turan and Murat (his brother) were playing Minecraft in multiplayer mode.*

Brother: "Turan, don't go anywhere, don't break there."

Turan: "Stop, I need a blanket for my horse. Now. I have blue horse."

Brother: "Wait, I'm lost."

Turan: *(shows to his brother)* "Look, I put those. I have a knife, I will go with my horse."

Brother: "Come, come to the starting point. Turan, come, don't move."

Turan: "Aha, look Murat, I have passed him."

Brother: "Where are you riding your horse? You have not gone past. Stop."

Turan: *(shows to the researcher)* "Look, we are racing. We are riding a horse. This is my horse Storm..."

Turan's brother usually interfered with his play during the home visits. They played similar games in parallel. In addition, they sometimes played Minecraft together in multiplayer mode. However, Murat (the brother) almost always engaged in

Turan's digital activity, whether in multiplayer mode or not, and Turan accepted this in some cases.

Different to the parents' sharing of the children's digital activities, some of the parents surprisingly invited the children to join in with their own digital activities. This kind of sharing was different from the aforementioned examples as the parents were the hosts of these digital activities. The parents invited the children to watch television with them, or to begin or share a digital game.

*Hakan was playing a game on his tablet. The others were watching television. His father was flicking through the television channels. He stopped at TRT Çocuk (a children's channel of Turkish State Television), and spotted one of Hakan's favorite cartoons.*

Father: "Hakan, stop playing with the tablet. Look, it's Dinosaur Trucks."

Hakan: "Turn the volume up, I can't hear it."

Father: "Give up the tablet first. Stop playing, then you can hear."

Hakan: "Okay, I'm pausing it, I will play later. (*then Hakan starts watching television with his father*)

In the excerpt, Hakan's father invited him to watch Dinosaur Trucks, which was one of Hakan's favorite cartoons. It was an example of a parent inviting a child to join in a digital activity for several purposes. While some of the parents invited their children to join them so as to provide an activity for them, some invited the children as it was known to be their favorite activity, or where the content was deemed enjoyable for the child.

#### *4.1.2.2. Children's initiations for sharing digital activities*

Sharing was determined as children's voluntary distribution of resources, and was one of the most frequently observed during the digital activities. Rather than the sharing of a toy or other belongings, the children shared their digital activities. However, they performed different sharing behaviors based on the characteristics of the digital tools. For example, for a television watching activity, the children unintentionally shared the screen with others.

Children's sharing of their digital activities was frequently observed in many cases. Especially, co-viewing and JME were the main phenomena of the children's digital activity sharing. Co-viewing cases generally included the children watching television with someone else, or the children's desire for someone to watch their digital play on a smartphone or tablet. The following excerpt presents a co-viewing case in which Meral's shows a desire to share her playing.

*Meral, her family and the researcher were at the balcony. The parents and the researcher were chatting. Meral was playing a cooking game on her tablet, and she showed her play to her father.*

Meral: "Oof, I'm so tired... Aha, it is ready, looooook. Didn't we do well?"

Father: *(looks at the screen)* "Well done! What did you make? Sandwich, avocado, chicken burger...?"

Meral: "Hey, all of them. Look."

Mother: "Can I see? Turn the tablet."

Meral: "See, sandwich, avocado..."

Father: "It's amazing!"

Mother: "Wow, it seems beautiful."

When people around the child were interested in something else and were inattentive to the child, the child tried to highlight what they were doing. They wanted to shine and to show their play to other people, and be praised for it. The children would do something different in order to attract the others' attention.

*Ela's family and the researcher were at the balcony. Ela was playing a drawing game on her tablet, whilst the others chatted.*

Ela: *(loudly)* "Ooooyyyhh, I'm tired."

*The others ignored her and continued chatting.*

Ela: *(shouts)* "It is yellow rose time! Oof."

Father: "Look Ela. It's lightning."

Ela: *(shouts and shows the screen)* "It's ready mom, look!"

Ela wanted to draw attention and began speaking loudly as the others were not interested in her, shouting insistently about the content of her digital activity. In addition to speaking loudly or shouting, the children occasionally used the term “look” in order to attract the others’ interest, to show off their work and to involve others in their play. They were keen to show off their digital play and to receive praise.

Meral: “Look, here’s a heart...”

Researcher: “Oh, yes.”

Meral: “I’m bored with this game; it makes me sleepy.”

Researcher: “What will you do now then? Drawing?”

Meral: “This is drawing... I will draw something... Look at my drawings.”

Researcher: “You haven’t colored these stones yet.”

Meral: “Look, did you see? Click on which? Flower, human, animal?”

Researcher: “Color animal. A bird.”

Meral: “I can zoom and paint, look.”

Although the excerpt referred to a co-viewing situation, it had the potential to turn into a JME, which included the parents’ active engagement in the child’s digital play. In this example, at first, Meral and the researcher were talking about her digital activity. Then, the researcher requested she color some animals. However, Meral ignored him and continued to show the researcher her work. The following excerpt includes the mother subconsciously trying to turn a co-viewing into a JME.

*Ela was playing a game on a smartphone, whilst her mother watched.*

Ela: “Look, it is Masha.”

Mother: “What are they? Show me.”

Ela: “They are hearts...”

*A promotional video about a mobile game starts on the screen, but it includes inappropriate content.*

Mother: “It is not a game that you can play.”

Ela: “I’m not playing, it’s a video.” (*she clicks “skip,” smiles widely, and then continues playing*)

Mother: “Where are you going? Click there.” (*she tries touching the screen*)

*Ela blocks her mother’s hand.*

Ela: “No, not from there... One plus four. What is the answer?”

Mother: “It is five.”

The presence of a sibling presented a significant opportunity for the children to share their digital playing. The children would seek the siblings’ help and engage them in the decision-making process. Both Hakan and Turan had a sibling among the participants of the study. The sharing of their digital activities with their siblings were observed during the field study. While a previous excerpt in the section on “Adults’ initiations for sharing digital activities” included an example of Hakan’s JME with his sister, the following excerpt presents Turan and his brother sharing a digital activity.

*Turan was watching a video on YouTube. His brother (Murat) was playing Minecraft on a smartphone. The brother gives up playing, moves to sit near to Turan and starts watching him play.*

Brother: “Turan, I haven’t watched this video before.”

Turan: “He is making a big car.”

Brother: “Let’s watch it then.”

*After a while, the brother takes out his smartphone and reopens Minecraft.*

Turan: “What are you playing? I’m coming.”

Brother: “Open World A. I’m building a pool there.”

Turan: “I will collect some trees and stones for the pool.”

Brother: “I have them. Don’t break those stones.”

Turan: “We can build a house here, look here.”

Brother: “I’m coming, wait there...”

In the parental interviews at the start of the study, when asked about their daily routines and activities with their children, the parents reported that they were reluctant to get involved with their children as they often felt too tired. Either that or for other reasons, it resulted in the parents’ tendency to construct a co-viewing situation as they relaxed. Therefore, the presence of a sibling presented an opportunity

for the children to share their play in JME. Both Hakan and Turan had a sibling among the participants of the study. Therefore, it was their JME cases with their siblings that were observed during the field study.

The previous excerpt is an example of Turan's JME with his brother. The interaction between Turan and his brother started with the brother watching Turan play. They talked about the video. Then, Turan's video watching transformed into playing Minecraft together in multiplayer mode. They shared the game together and Turan followed his brother's instructions during the play. However, this did not always happen. Although siblings presented a great opportunity to share digital activities, sometimes the children refused their engagement and felt upset.

The children also initiated communication to engage in the parents' digital activities, with the parents then inviting the child to join the activity. The children watched the parents' activities and commented on them. Furthermore, they became involved with the parents' digital activities and scaffolded them as if they were more experienced than the parents.

*Ela was playing a game (Kuzucuk) on her father's smartphone. The researcher and Ela's father watched her play.*

Researcher: "Ela, can I play?"

Ela: "Okay, I will give you next level..."

Ela: "Okay, here, take it."

*The game they were playing was new to the researcher, but it was one of Ela's favorites. After a while, she started to intervene in the researcher's play.*

Ela: "Now, you should select the triangle and put it in that box."

Researcher: "Hmm, it's easy."

Ela: "No, you should be quicker, or you'll fail."

*Ela starts touching the screen and shows the researcher how to collect coins.*

Ela: "This is an easy level. Wait, I will open you a harder level. Okay, now you use the shapes to build a home. Slide them to the right first."

Researcher: "Okay, but what is that insect?"

Ela: "It's an insect that eats your shapes. Use the pesticide quickly."

The researcher was a novice at the game and Ela realized it. Then, Ela began directing the researcher. When he was too slow, she could not contain herself without joining in to play and started touching the screen. She showed the researcher how to play the game. Then, she moved back and started commenting again on his play. Ela proved successful at adjusting her support level to the researcher. In the post-interview, Hakan's mother also explained how Hakan taught her a game. She reported that Hakan liked showing how he could play and liked teaching others. She mentioned a case in which Hakan downloaded a drawing game onto her smartphone. Then he taught the game to her. When he came back home from kindergarten, he asked her whether or she had played the game while he was out.

To summarize, the children were good at sharing the digital activities. They invited others to play, and also talked about their activities. In addition, they communicated with others in order for them to reach the goal of the digital activity when they need help. Nonetheless, the children insisted upon intervening in the digital activities that they could successfully play. Rather than intervening, they demanded that they were followed and praised when they were successful in playing a digital game. Moreover, the children shared in others' digital activities and directed them during their play.

#### ***4.1.3. Daily Life Issues***

Apart from the interactions related to digital activities, the parents and their children also interact as part of daily life. The children-initiated interactions and expressed their daily needs such as wanting to eat something or to go to the bathroom. Similarly, the parents initiated and engaged with the children by chatting to them.

##### ***4.1.3.1. Adults' initiations for daily life***

Conversational dialogue, or chatting, was another type of interaction initiated by the parents during the digital activities. The parents always talked freely about each family members' day as well as other topics, and initiated having a chat whilst relaxing in front of the television.

*Ela was listening to her parents chat together about the weekend. There was a documentary showing on the television, and Ela occasionally looked up at the screen.*

Mother: “What do you want to do this weekend, Ela?”

Ela: “I want to go and see Buket.” (*her cousin*)

Father: “We will go to the garden whilst they go and see your grandparents.”

Mother: (*she pats Ela’s hair*) “Ela will come with us too.”

*Ela started looking at the television. There was a program about a dog. The volume was turned down low, but the barking of the dog disrupted the silence.*

Father: “You listen to your parents advice when we are there, right, Ela?”

Mother: (*she touches Ela’s arm*) “Ela is a clever girl.”

*Ela smiles.*

Ela: “Look dad, the black dog is like your friend’s dog.”

Father: “That one is small. My friend’s dog is much bigger.”

Mother: “How many puppies are there? They are so sweet.”

Ela: “Yesterday, there were cats. Tiny cats...”

The excerpt is a good example to show a digital activity mixed with the chatting of the family members. Both the digital activity and the chatting continued simultaneously. Therefore, the parents and children willingly engaged in chatting as an activity.

#### *4.1.3.2. Children’s initiations for daily life*

The children frequently interacted with others related to digital activities. On the other hand, they also initiated communication in order to meet their own needs during these activities, demanding whatever they felt they needed in daily life. They would ask for a glass of water or milk, and perhaps cakes or snacks, and expressed their need to use the bathroom as necessary.

*Turan was explaining his game (Minecraft) to the researcher whilst playing on his tablet. He needed to go to the bathroom. Then, he slowly got up, but then sat back down and continued playing.*

Turan: “It is morning. I sleep here, this is a bed.”

Researcher: “Can you sleep now?”

Turan: “No, you can only sleep at nights. It is morning now. Look at this horse. It is mine. Wait, I want to go to the bathroom (*he stops using the tablet*).

Horse, you wait, too. Dad, I’m going to go to the bathroom.”

*Turan runs to the bathroom.*

Father: “I’m coming.”

In the excerpt, Turan intrinsically felt the need to go to the bathroom. However, he tried to postpone it as he wanted to continue with the activity until the last possible moment. Then, he stopped using the tablet and asked his father for help in the bathroom. The children’s perseverance to continue playing when needing the bathroom during digital activities was a common observation. The other children too demonstrated tendency.

The content of the digital activities also motivated the children in their expression of daily demands in some cases. When the children saw someone doing something that they also wanted, they began to demand it too.

*Hakan was watching cartoons on the television. The characters on the screen were eating cake. Hakan’s parents and the researcher were chatting.*

Hakan: (*turns to his mother*) “Mom, I want some cake and water.”

Mother: “Are you hungry?”

Hakan: “No, I’m not. But I’d like some cake. Can you bring me some chocolate milk too?”

Hakan liked eating in front of the television, and he generally demanded something to eat or drink whilst he watched. He had a tendency to substitute snacks for meals as he did not want to discontinue the digital activity. When he saw cake being eaten on the television, he asked for some cake. When his mother asked whether or not he was hungry, he replied “no,” as that would have meant he had to go to the kitchen for a meal if he was hungry.

## 4.2. Forms of Interactions

The cases were determined as the happenings emerged in the period after interactions were initiated between the parents and their children. Then, each case was categorized as conflict or synchrony according to the degree of harmony in the child/parent interaction. Cases which included divergence between the parents and their children were labeled as conflict; whereas, cases which represented a match in the children's and parents' goals were labeled as synchrony.

This section aims to present the different forms of interactions and clarify the emergence of conflicts and synchronies by addressing RQ2 "What is the form of interaction between parents and children during digital activities?" Detailed examples are provided for each form in order to develop a point of view regarding the occurrence and evolution of the cases.

### 4.2.1. Conflicts

*Hakan's father and the researcher were watching television. Hakan was playing a game on his tablet in which he was driving a car.*

Hakan: "Drrrr, wuuuuuu, drrrrr..." (*tries to imitate the car's sound*)

Father: "Stop, don't do that. Don't scream."

Hakan: "I didn't scream. I was driving a car. Look, here's a helicopter. Vuuunnnn... drrrrr..."

The excerpt presented an example of a case that included an element of conflict. Hakan's father was watching television and Hakan's imitation of the car's sound disturbed him. Hakan was driving a car in a digital game and was just imitating the sound of the car. However, his father's direction to stop making noise disrupted his imitation. Hakan did not think that he had screamed; thinking instead that he was just innocently playing his game.

This section describes conflicts observed during digital activities. Some examples of conflict and the characteristics that led to the conflict cases are introduced. Then, the parents' and children's tactics for coping with each other during conflicts are detailed throughout the chapter.

The parents' had many instances of directing their children during the digital activities. Some of those directions precluded the children from continuing with the digital activities. When the parents tried to control the digital devices such as turning a device on or off, turning the volume up or down, or changing the channel/application, they occasionally encountered dyssynchrony of the children.

*Turan was playing a game. His parents and the researcher were chatting.*

*Turan's mother wanted him to turn off the device he was using.*

Turan: "Mom, can I play some more?"

Mom: "No, you have finished your time."

Turan: "Mom, come on, one more."

Mom: "Lets draw a picture instead. Come on."

Turan: "I'm bored, I don't want to do drawing."

Mom: "No."

Father: "I've sent the photo to your teacher."

Turan: "I've downloaded that game."

Father: "Turn it off, come on."

Turan: "Nooo, daaad. Dad, please?"

Father: "Charge it. When it's full, then you can play."

Turan: "Nooo, I don't want to."

Father: "Ooooww, it has stopped working now. Go and charge it."

*Turan stopped using the tablet and put it on the table. Then he laid down and started crying.*

The excerpt is typical of the conflicts seen. The parents wanted the child to stop a digital activity, and had to force the child to turn the device off. Meanwhile, the child wanted to continue with the digital activity. The parents also directed the children as to the proper use of the digital devices during the activities. The following example was presented again as it was consisted to be a good conflict example, where the parent warned the child and attempted to intervene with the digital activity. However, the child resisted at first. Then, the father helped motivate her in using the digital device

more suitably. Finally, the child adjusted the device herself based on her father's directions.

*Meral was watching a cartoon on television. Then she started to crawl closer towards the television while her father and the researcher talked about some issue. Meral's father continued talking, but warned Meral.*

Father: "Hey, Meral, you are too close. It will hurt your eyes. Don't look at it that close. Can you go back?"

Meral: "Well, nooo."

Father: "Pack your toys and sit here. Move back, come on. Yes, okay. You can sit there then."

*Meral waits for a while, then goes back and sits on the sofa.*

Father: "Yes, well done honey."

All the example conflicts mentioned so far included parents' intervening in the children's digital activities. In each, the parents aspired to modify their children's digital activities, but the children resisted them. However, the following examples of conflicts are different, as the parents and the children have changed roles. The interrupters were the children and the parents were those being interrupted. The children wanted to attract the attention of the parents when they felt they were being ignored. Therefore, they tried to attract attention by interrupting the parents. On the other hand, the parents sometimes tended to ignore the children and continue with their own activities. Especially, Ela and Turan's parents intrinsically reported that their children sometimes "do odd things" to attract their attention.

Ela's father: (*parental interview transcript*) "Ela likes playing digital games on my smartphone. I let her when I have another thing to do... When her mother and I do daily things, or we are relaxing, we let her watch television and play games on the smartphone... However, when Ela feels she is isolated, she begins to get up. For example, she comes and starts to explain something. You have nowhere to escape, you just have to listen and talk to her."

Ela's father explained Ela's tendency to want to be in the spotlight. As underlined by the children's interactions to attract their parent's attention during digital activities, other children apart from Ela shared this inclination to seek the limelight. The following excerpt is an example that the researcher observed in a home visit to Meral's family.

*Meral's parents and the researcher were chatting while Meral was playing a game on his father's smartphone. Meral started speaking loudly regarding the content of the game.*

Meral: "Sausage, hot dog, sausage, sausage...!" (*she screamed*)

*The parents both look at Meral.*

Researcher: "We are listening to you."

*The parents continue talking.*

Meral: "Haaaa!" (*she screamed*)

Father: "What is sausage?"

Meral: "Sandwich, ummmm ice cream..."

*The chatting ends and the parents begin listening to Meral.*

When the others were chatting and did not show interest in Meral, she began speaking loudly in order to attract the attention of the people around her. Although one person (*the researcher*) expressed an interest, Meral continued screaming until everyone was paying attention to her. She was the winner in this conflict as the others ended their activity and totally engaged in Meral's.

The cases presented were typical examples of the conflicts seen by the researcher on the home visits, and demonstrate the emergence of the conflicts. The next section aims to clarify which characteristics of the cases led to conflicts.

#### *4.2.1.1. Characteristics of cases that led to conflicts*

Interaction between the children and the parents during digital activities were both intentionally and unintentionally initiated, and by the parents or by the children. Subsequently, the initiations evolved into conflicts and synchronies. Some cases with several characteristics had a tendency to evolve into conflicts. These characteristics

were passive exposure to digital technology, inappropriate content, multitasking, and the parents' communication unrelated to the digital activities.

#### 4.2.1.1.1. Passive exposure

The first feature of cases that led to conflict was the means of the children's exposure to a digital technology. When the children experienced passive exposure, their attention was divided into two parts. One was the continuance of their main activity, whilst the second was the emergent activity by means of passive exposure.

The families tended to keep the television always switched on, irrespective of whether someone was watching or not. Therefore, passive exposure to television, as a digital activity, was commonplace in the families' daily life. It was observed that passive exposure distorted the children's non-digital activities. In a visit by the researcher to Ela's home, Ela was playing chess with her father whilst the television was also switched on. They were playing chess together and occasionally looking up at the television as they heard noises from the program showing. Sometimes Ela's father had to remind her that it was her turn at chess. Ela's father sometimes watched the television, then they would return to playing chess. Ela's father explained the role of passive exposure in his post-interview. He implied that he was aware of the negative influence of passive exposure. Although he did not name it as passive exposure, he described passive exposure situations such as watching television while drawing, or playing chess.

When it came to the children's passive television exposure during digital activities, the cases were similar to those involving non-digital games. Although the children engaged in a digital activity, passive television exposure distracted their attention. Therefore, the children were unable to concentrate on their main digital activity, as in the following excerpt.

*Meral was playing a painting game on a tablet with her mother. The television was on and there was a music video playing.*

Mother: "Meral, choose red and color these dots."

Meral: "Mom, I colored here with red."

*Meral heard some noises from the television and started watching the video. Her mother started watching the video too. After a while, her mother turned back to playing the game.*

Mother: “Darling, now we can choose a fruit.”

*Meral did not respond as she was looking at the television. In the game, her mother chose a strawberry.*

Mother: “Meral, Meral.”

Meral: (turns to her mother) “What?”

*Meral stopped watching the video and went back to playing the game instead. However, she still occasionally looked back at the television.*

Meral always liked to play games with her mother. Therefore, she was also keen on painting with her mother. However, when she heard the sounds of the video from the television, she started watching it. Her mother also watched the television with her. Then, when her mother mentioned the main activity (the game), Meral did not react. When she finally turned to her mother, she tried to understand the situation, which was by then unfamiliar to her, and asked an odd question. Passive exposure to television consistently interrupted Ela and her mother’s concentration during their digital (main) activity.

There were other cases similar to the concept of this example excerpt. The commonality was the hindering role of passive exposure to the interaction between the children and the parents. Passive exposure interrupted the continuity of the interaction in any moment of digital activity. Whilst it blocked the emergence of interaction at the beginning of cases, passive exposure weakened or ended the communication during the digital activities. Passive exposure achieved this by distracting the children’s or the parents’ attention away from the main activity. However, when it came to active exposure of a single digital activity, this provided the opportunity for the parents to spend quality time with their children. As previously mentioned, the children and the parents engaged in sharing with and scaffolding each other in some of the cases. One important feature of such cases was both the children’s and the parents’ motivation and concentration on digital activities without interruption. Therefore, it could be said that interaction between the children and the parents might be considered stronger

when there was active exposure to a single content, rather than the distortion effect seen through passive exposure.

#### 4.2.1.1.2. Inappropriate content

The digital activity's content was important in terms of its enrichment of the interaction between children and parents. The content of a digital activity was always the center of the interaction. In this subsection, inappropriate content refers to content which includes one or more of the following; violence, sexually explicit content, dangerous behaviors, hate speech, or offensive language. In addition, content which included speech or images considered too fast for children (e.g., images moving too fast for a child's underdeveloped eye tracking), and which demanded intense concentration were deemed inappropriate content for the children.

*Hakan's parents were chatting and Hakan was playing a game on his tablet near to his father. The game was about a superhero who crashes cars and smashes the houses of evil characters.*

Father: "Hakan, what is that?"

Hakan: "I'm riding a motorcycle. I can even fly with the bike."

Father: *(to the researcher)* "Nowadays, Hakan prefers games based on maelstrom. He plays counter, war, sniper games... Turn the volume of the game down Hakan, I have a headache."

*Hakan did not respond and continued playing.*

Father: "Hakan, Hakan, do you hear me?"

Hakan: *(shouts)* "What?"

Father: "Turn the volume down Hakan."

Mother: "Hakan, come on, turn the volume down."

*Hakan still did not respond. Hakan's father touched him on the shoulder.*

Father: "Son, turn it down, then you can play."

Hakan: "Oof, aargh. I failed because of you."

In the excerpt, Hakan had a tendency to play games which included a level of anarchy and violence. When his father directed him to turn down the volume, Hakan did not notice him as the game included fast-moving objects which required Hakan's

deep concentration. Hakan was racing a motorcycle and had to really concentrate on it. When his father repeated his direction, Hakan became angry with him and shouted back.

#### 4.2.1.1.3. Multitasking

Multitasking referred to undertaking more than one task simultaneously, as has been previously mentioned at the beginning of Section 2.2 (Digital Technologies in the Early Years). It was observed that the children sometimes had a tendency towards multitasking. The children engaged in performing two tasks simultaneously, continuing their main digital activity in addition to taking on a new (desired) activity. When it came to the cases in question, two different multitasking cases were observed during the study. The first type was adding a new digital activity to an existing main digital activity.

*Turan was watching television with his brother. After a while, Turan invited his father to play with his tablet, and his father accepted. They sat in front of the television, which was already on, and began to play together. Turan's direction was towards the television.*

Father: "Turan, what shall we play?"

Turan: "I will open the Clash Royale game dad."

Father: "Murat (*brother*), where is the remote control? Can you turn it off?"  
(*the television*)

Turan: "No, don't turn it off."

Father: "We can play that puzzle game. We downloaded it last weekend."

*Turan heard a noise and started looking at the television. Then, he looked at his father and began to explain.*

Turan: "Dad, Clash Royale is better, you'll see."

*Turan touched the icon of Clash Royale. While the game was opening, he started looking at the television again.*

Father: "Which character will we select?"

*Turan did not respond. He scratched his nose and watched the television.*

Father: "You watched too much cartoons today. Murat (*brother*), where is the remote control? Can you turn it off?"

Turan: “No. Okay, now we will attack with these goblins...”

*After a while, Turan looks at the television again.*

Father: “Turan, it’s your turn.”

*Turan did not reply. Turan’s father took out his phone and went and sat on the sofa. Turan continued watching the television.*

This excerpt was an example of the first type of multitasking. Turan offered to play a game together on the tablet and his father accepted. When the father directed that the television be switched off, Turan declined. Then, when Turan heard something from the television, he began watching it. Although the father warned him, Turan continued his multitasking. However, Turan’s multitasking distorted the shared digital activity between him and his father. Therefore, the father’s motivation towards the activity decreased and it led to his giving up the activity.

The second type of multitasking case consisted of a main digital activity and an added non-digital activity. The added non-digital activities were mainly eating or drinking something, or non-digital play which did not demand any significant attention. The key feature of the added activity was that it did not prevent the children from performing the main activity. They especially tended to eat or drink something whilst continuing with their (main) digital activity.

The children liked to drink something during their digital activities. Chocolate milk was the most frequent beverage. On one occasion, Ela drank milk while she was watching television. She was careful not to spill it. However, when someone communicated with her, she did not respond or move. She was close to an interaction. The following excerpt is another example of a child’s multitasking.

*Hakan was playing with his tablet and eating cake. The television was on and the others were watching it. Hakan was not eating carefully. He bit into the cake and threw the rest of it onto the plate whilst still looking at tablet’s screen.*

Father: “Hakan, do not scoff your food. Eat slowly, or you’ll drop the cake.”

*Hakan did not respond. He continued his digital playing whilst simultaneously eating. Hakan’s mother suddenly stood up.*

Mother: (*getting angry*) “Hakan, what did you do, oof?”

*Hakan gave up eating the cake and continued playing.*

*His mother handed him a plate to use.*

Mother: (*grumbles*) “Clean the sofa. Don’t scatter it.”

*Hakan’s father held Hakan’s hand and Hakan stood up.*

Hakan: “I didn’t do that.”

When the children did not eat carefully during the digital activities, the problem worsened. Although the parents warned them, as in this excerpt, the children ignored their advice which resulted in conflicts being caused. As the children paid attention to both eating something and maintaining their activity, they closed themselves off to interaction with anyone.

In another case, Hakan was playing on his tablet and drinking chocolate milk from a bottle. In addition, there was a cartoon on the television which Hakan had demanded, although he was only occasionally looking at the television. When his mother and the researcher tried to initiate some interaction with him, Hakan ignored them. When he finished the milk, the researcher tried again to initiate an interaction using the same question. That time Hakan replied to him. He stopped using the tablet and continued to only watch the television.

To summarize, when children engaged in multitasking, it prevented them from truly initiating or maintaining interaction with others.

#### 4.2.1.1.4. Irrelevant message of interaction

The children were generally open to interaction during the digital activities. They particularly liked sharing about the content of digital activities. However, in some cases the parents encountered problems while initiating interaction with the children as they were too concentrated on the digital activity. The children sometimes ignored the parents’ attempts to communicate when concentrating intensely on a digital activity. Nevertheless, if the communication was related to the content of the digital activity, the children responded positively to the parents’ interaction initiation.

*Hakan was watching cartoons whilst playing on a tablet. His mother and the researcher were talking, and his father was on the phone.*

Researcher: “Hakan, did you play outside today?”

*Hakan did not respond, and continued watching television.*

Mother: “I didn’t let him as it was cold. But he escaped anyway.”

Researcher: “Hakan, do you love playing outside?”

Hakan did not respond. After a while, the researcher asked another question to Hakan.

Researcher: “Hakan, which do you love more, the television or your tablet?”

Hakan: “Tableet, oof.”

Mother: “Which do you love more, your tablet or your father?”

Hakan: “I’m not gonna say. Look, I’m playing this game I downloaded.”

The excerpt is an example of a negative response of a child to a parent’s communication. There were several questions directed at Hakan during the digital activity. Hakan was not interested in the questions which were unrelated to the digital activity. However, after a while, he stopped ignoring the questions when the communication switched to being relevant to the digital activity.

To summarize, the children had a tendency to ignore non-digital messages of communication, responding only to messages deemed relevant to issues regarding a digital activity. This inclination might stem from the children having felt that the parents’ irrelevant communication was a threat to the continuance of their digital activity. Therefore, they might have elected to ignore those messages, which in turn led to conflicts.

#### *4.2.1.2. Tactics in conflicts*

In a case of conflict, both the parents and the children employed a way to cope with their opponent. They defended themselves and tried to dictate their own desires, using a variety of tactics to gain advantage at the end of the conflict. However, the parents’ and the children’s tactics had differences that stemmed from the characteristics of the two sides. While the children preferred crying, whining, and insisting, the parents were capable of exerting their authority. At the same time, both insistently repeated their desires when they were being ignored.

Although the children and the parents used different tactics during the conflicts, presenting both tactics together could provide a broader perspective as they

are interrelated. Therefore, the children's and the parents' tactics were introduced first. Frequency, meaning, and descriptions of the tactics are then presented in a unified table. Next, some conflict cases are detailed in order to show the encounter of the two sides.

Naturally, the children seemed weaker when in a conflict with a parent, and that influenced their tactics. The children used several strategies in order to cope with the parents in terms of gaining an advantage at the end of a conflict. These strategies were ignoring, shouting, crying/whining, moving away, offering to finish, offering once more, insisting, fudging, dyssynchrony, and explaining or reasoning. As for the parents, they were the authority figures during conflicts. Their tactics were repeating, explaining, providing an alternative activity, ownership of the digital device, time and space restriction, physical contact, and no action. Table 7 presents a brief description of the children's and parents' tactics.

Table 7: Tactics of Children and Parents

Tactics of Children (n = 128)		Tactics of Parents (n = 78)	
<i>Tactic</i>	<i>Description</i>	<i>Tactic</i>	<i>Description</i>
Ignoring (36.7%)	Ignoring commands and directions of parents	Repeating (38.47%)	Repeating directions insistently
Shouting (5.46%)	Shouting, screaming to dictate	Explaining (16.67%)	Explaining the situation to the children
Crying/ whining (7.80%)	Crying/whining while talking	Providing activity (14.10%)	Motivating children for an alternative activity
Moving away (9.38%)	Taking digital device to become physically inaccessible	Ownership of digital device (8.97%)	Using the power of ownership
Offering to finish (3.13%)	Offering to finish the activity when disturbed	Time & space restriction (7.69%)	Restricting children's use in point of time and space
Offering once more (2.34%)	Demanding one more digital activity	Physical contact (3.85%)	Touching children while interacting
Insisting (4.68%)	Insisting to push their demand onto their parents	No action (10.25%)	Aborting and going back
Fudging (3.13%)	Detaining or huddling commands of parents to maintain digital activity		
Disagreement (25.4%)	Expressing "no"		
Explaining/ reasoning (2.34%)	Explaining and negotiating the situation		

As can be seen from Table 5, the children employed several tactics in order to cope with the parents during their conflicts with them. When the children were faced with a conflict in a digital activity, they generally preferred ignoring the reactions of the parents and continuing with the digital activity as if the reaction of the parent had never occurred. The children also screamed or shouted at the parents to defend themselves. Additionally, the children cried or whined while talking in conflicts. They sometimes changed their physical position as if to attempt to become physically untouchable. Moreover, they chose negotiating with the parents by offering to finish the activity in dispute, agreeing to just one more digital activity, or explaining their demands. They occasionally insisted upon their notions and desires during conflicts.

The parents preferred negotiating more than the children. They tried to explain the situation to the children and solve the problem. They offered alternative activities instead of the digital activity. They usually utilized the tactic of offering some addition to the negotiation. When the children ignored the parents' negotiation efforts, they repeated their directions and comments insistently. In addition, they would physically touch the children (e.g., place a hand on the child's shoulder) while talking to them. Touching was a reference to the authority of the parents. However, when the parents failed at their negotiation, they would employ stricter tactics. They sometimes declared that they were the actual owner of the device being used, and that they were therefore the sole authority to decide whether or not it could be used. They also restricted the duration and place of the children's digital activities. Surprisingly, when some parents felt that they could not cope any further with the children, they would retreat and take no further action related to the conflict. In that case, they accepted the win of the children.

As stated previously, the conflicts included struggles between the children's and parents' tactics. Both parties would choose their tactics based on the situation and their opponent's strategies. The following excerpt is a good example of a conflict.

Father: "Ela, you finished your turn. Now turn it off."

*Ela did not reply and silently continued.*

*Afterwards, Ela's father tried again. He tried to take the phone out of her hand, but Ela would not give it up.*

Father: “Ela... Ela... Can I ask you a question?”

*Ela still did not reply.*

Father: “Enough. Give me the phone.”

*Ela runs away and goes to another sofa.*

Father: “Ela. Who am I talking to? Ela.”

*Ela proceeds to open another game without saying anything about the issue.*

Father: “Okay, then I will not give you my phone anymore. You are banned from using it.”

*Ela, seemingly disinterested, imitated the sounds of the game.*

*Ela’s father took the phone out of her hand. First, Ela smiled at him, but then she started crying.*

The case started with the father’s direction to Ela. However, Ela did not like the idea of turning off the device. She ignored his direction and continued with the digital activity. Then, the father repeated his direction for her to stop the activity. He tried to exert force and physically take the phone from Ela, and also shouted at Ela, but she ignored him again. When the father repeated his direction, Ela moved away from him to another sofa. After Ela’s ignoring him again, he expressed a future limitation. This threat affected Ela. Although she did not say anything, she changed the application. Her father saw the effect and went further by using the term “ban.” Ela started making the whimpering sounds of the game. She seemed disinterested and ignored her father. However, she was fully aware of everything. In the end, the father used force and physically took the phone from Ela. She then looked up, smiled at first, but then she started crying.

It was seen that although the children may have ignored the parents and their directions, they were aware of the parents’ actions. When they felt that solely ignoring the parents was ineffectual in resolving a conflict, the children employed alternative tactics simultaneously in order to gain the advantage. For example, the children sometimes shouted as a means of defending themselves when they felt under pressure. The children tried to dissemble the facts which they knew but did not like to mention. The following excerpt shows Hakan’s attempt to hide his watering eyes as he wanted to continue with the digital activity.

*Hakan was playing on his tablet, along with the researcher. Hakan's parents were watching a series on television.*

Hakan: "We are in a forest."

Father: "Hakan, when will you stop?"

Hakan: "I will finish later. Now I'm building a house."

Father: "Your eyes are getting worse again."

Hakan: "No they are not (*shouts*). Don't lie. You're a liar!"

*Hakan's father backs down and continued to watch television.*

While Hakan was explaining the game to his sister, his father asked Hakan to stop playing with the tablet. Hakan claimed he would close the device when the game ended. Then, his father explained to him that he had to turn it off as his eyes had become watery and red. Although Hakan's eyes were indeed red and watery, Hakan refused to acknowledge it and shouted back at his father. When Hakan shouted, his father stepped back. The father may have thought that if he pursued it too far, the problem could be exacerbated. After that, Hakan's father took no further action, and turned to watch the television.

Eating whilst watching television generally consisted of a snack, fruit juice, or some assorted nuts. However, eating behaviors seen during tablet and smartphone usage differed somewhat. While the children demanded a substitute meal or snack whilst watching television, they tended to refuse eating in digital activities which were based on the usage of a smartphone or tablet.

*Turan was playing on a tablet in the kitchen. His mother was preparing dinner for the family. However, Turan refused to eat before finishing his game. His mother asked Turan to stop playing several times, but Turan did not reply. Then, his mother started feeding him whilst Turan continued to play.*

This is an example of a conflict occurring during a meal time. Turan was playing on the tablet in the kitchen. When the dinner was ready, his mother offered him the alternative of eating a meal to playing his digital game. She asked him to turn

off the tablet and eat his lunch. However, Turan offered back that he would start his lunch after finishing his game. His mother repeated insistently that he had to turn off the tablet and start eating his lunch. Turan refused. Then, his mother gave up asking him and started feeding Turan while he was playing.

The children offered to finish a game as a delaying tactic. In this way, they both accepted the directions of the parents and managed to continue with their activity. However, the children's offers were not limited to just finishing the activity. They sometimes wanted to play one more game as well, such as in the following excerpt.

*Hakan was watching cartoons on television. When the cartoons finished, he asked his mother...*

Hakan: "Mom, can I play another game?"

Mother: "No, you cannot. It is too late today."

Hakan: "Come on." (*tries to take the phone*)

Mother: "It is out of charge. If the alarm does not work in the morning, what will I do?"

Hakan: "One more, please, just one more."

Mother: "No, you can't play."

Hakan: "It's so unfair!"

Father: "Give it up Hakan. I will open a cartoon for you. Look!"

*Hakan gives up and starts watching television.*

Hakan asked his mother for a chance to play a game on her phone. His mother refused him and explained her reason. However, Hakan requested insistently and tried to take the phone. Then, his mother explained one of her reasons to Hakan once more. Although Hakan insisted, she continued to refuse him. Afterwards, Hakan's father offered an alternative. Hakan accepted that and started watching television instead.

The children also employed the same tactics in the case of conflict with their siblings. They used the strategies to defend themselves against their siblings and their parents.

*Turan's parents and the researcher were chatting. Turan was playing on the tablet while his brother was playing on the smartphone. His brother wanted to play on the tablet because its screen was wider than that of the smartphone. Therefore, he wanted the tablet from Turan.*

Brother: "Turan, okay, when we finish this game, we will swap devices."

Turan: "Nooo."

Brother: "Turan, is it okay that we change now, or shall I go and tell dad about you."

Turan: "Nooo, I don't want to change."

Father: "Turan, you must change after two minutes, so you have just two minutes more."

Turan: "I don't want to change!" (*continues playing*)

Mother: "Okay, (*seriously*) change now!"

Father: (*goes closer to Turan and touches his shoulder*) "Turan, change it, or your mother will take all of the devices away."

*Turan's brother started touching the tablet's screen. Turan started crying and gave up using the tablet. His father started apologizing to Turan's brother. Turan took the tablet and went off to another room.*

The excerpt is an example of children's conflict with their siblings during a digital activity. Turan's brother wanted to exchange devices. However, Turan directly refused him. When Turan's brother demanded help from their father, the father provided Turan with some extra time so as to convince him. However, Turan refused that too. The brother took heart from their mother's direction and started touching the tablet. Turan began crying and gave up the tablet. His tactic worked. He ended up taking the tablet again and went away.

The children also used fudging to distract the parents' attention in conflicts. When they were directed to eating, cleaning, or the gathering up of belongings, the children delayed these tasks as a means to smoothing over the conflict.

*Meral was watching cartoons on television and the parents were chatting. Meral's toys were strewn about over the carpet.*

Father: “Meral, can you gather up your toys?”

Meral did not respond.

Mother: “Honey, gather up your toys and you can watch later.”

*Meral started gathering up her toys whilst also watching television. However, she gave up after putting just four toys into the box, then she continued watching.*

In this excerpt, at first, Meral ignored her father’s direction. Then, when her mother asked again, she started gathering up her toys. She also continued watching television. When the attention of the parents was distracted, she gave up collecting the toys and continued watching television. In this conflict, the parents did not realize her fudging tactics. However, in some cases, the parents did notice the children’s fudging and directed them once again. Nevertheless, the children used this tactic in order to continue with the digital activity.

To summarize, the children and the parents employed a variety of tactics to cope with their opponent in a conflict. The parents used the tactics to direct their children and to transform the children’s negative responses into positive ones. On the other hand, the children employed these tactics as a means to defend themselves, as well as to continue or initiate a digital activity.

#### **4.2.2. Synchronies**

The children and parents initiated many interactions during the digital activities. As previously explained, when the desires and demands of the children and parents were confronted, the interactions evolved into cases of conflict. On the other hand, when the objectives and requests of the two sides were complementary to each other, synchrony between the parties evolved. The main difference between conflict and synchrony was that the children or parents accepted their opponents’ demands and directions, and responded in accordance with their opponents’ desires.

This section aims to demonstrate the occurrence of synchrony cases during the digital activities. First, some typical examples of synchronies are presented. Then, several features of the cases that led to synchrony are clarified. Finally, the strategies used in synchrony cases by the children and parents are detailed.

In a typical synchrony case, either the children or the parents were engaged in a digital activity. Then, one party interacted with the person engaged in the digital activity, and the engaged person positively responded to the interaction. The following excerpt is a simple example for the children's appropriate response to a parents' directions that included synchrony.

*Hakan was playing a car racing game on his tablet. The others were watching a film on the television.*

Hakan: "Dad, I'm passing him, vnnnnnnnnnn" (*he imitated the car's sound*)

Father: "Don't crash!"

Hakan: "I'm fast, vnnnnnnnnnn, drnnnnnnnnn."

Father: "Hakan, turn down the volume. I can't understand anything of the film I'm watching."

*Hakan turned down the volume. However, he continued making the sounds imitating the car in his game.*

Hakan: "Yees, drnnnnnnnnn."

*Hakan's father looked at him and spoke...*

Father: "Hakan, ssshhh."

*Hakan stopped making the sounds and continued playing the game.*

Hakan was playing a game on his tablet. However, the noise of his playing disturbed his father. First, his father asked him to turn down the volume and Hakan accepted his request. Then, his father demanded that he not imitate the sounds of the game. Hakan also accepted this demand and stopped making the noises. As a result, Hakan and his father calmly continued with each of their own activities.

The following examples are based on parents' responses to children's demands and desires. First, Meral demanded her mother's help to achieve a goal. Then, Turan tried to engage his father into his digital activity.

*Meral was playing on the tablet. She shook and reversed the tablet. Her mother watched her play for a while. Then Meral asks for her help.*

Meral: "Mom, I will cook a chicken. I want a sauce for it."

Mother: “Meral, you have to salt the egg. Slide tomatoes quickly. Do you remember it?”

Meral: “I’m trying. Now, look, like this?”

Mother: “Yes, now scramble the eggs.”

Meral: “Okay mom, I will cook the chicken...”

In this excerpt, Meral attempted to prepare a sauce for cooking a chicken. However, she could not achieve it on her own, and sought the help of her mother, who accepted her request. Her mother gave tips to Meral. Then, Meral tried again and was able to achieve the task. Her mother continued scaffolding Meral, and they both worked in accordance with each other during the activity.

The following excerpt portrays a parent’s positive response to a child’s invitation to join a digital activity.

*Turan was playing on the tablet alone. His father was watching television sat on the other sofa. Turan went to his father.*

Turan: “Dad, there are no more horses.”

*His father turned to Turan and started looking at the tablet’s screen.*

Father: “Hmm, Turan, how many horses are there?”

Turan: “No more horses father. Look, I have two houses here. This is a bed, and I cook here.”

*Turan’s father listened to him and watched his acts in the game. Turan was sitting near to his father.*

Father: “Can you build a school?”

Turan: “No, I can’t.”

Father: “But you have many resources actually...”

Turan was playing alone. Then, he tried to engage his father in his digital play. He showed the game to his father and explained about the content. His father gave up watching television and started talking to Turan instead. He asked questions about the activity and watched Turan’s play. After the father had observed some of Turan’s playing, they continued with the digital activity together.

As previously stated, synchrony cases included the complementary nature of both the children's and parents' acts, with both sides having behaved correspondingly to the other. In synchrony cases, there were some characteristics of the cases that supported the complementary nature of the acts. The following subsection aims to demonstrate the characteristics of cases which led to synchrony.

#### *4.2.2.1. Characteristics of cases that led to synchrony*

There were some characteristics of cases that enriched the concordance between the parents and the children. These characteristics can be divided into two types. First, some features of the digital activities provided a supportive atmosphere for synchrony between the involved parties. When the digital activity was suited to scaffolding, or ensured the active engagement of the participants, the case had the tendency to include synchrony. The second type was the mood of the digital activity's participants. When the parents and children were in a good mood, they tended to more positively respond to requests and expectations.

##### *4.2.2.1.1. Nature of digital activity*

The dynamics, content, and flow of the digital activities played a key role in the interaction between the parents and the children. When the activity provided opportunities for interaction, negotiation, and cooperation, there were significant prospects for the activity's participants to spend quality time together. Sometimes, the children required scaffolding from the parents in terms of exploring, problem solving, thinking, decision making, and learning during the digital activities. Therefore, the nature of the digital activities was important to bringing the children and the parents together for co-viewing and JME, which were the forms of scaffolding seen during the home visits of the study.

Scaffolding was the most frequently observed phenomena in synchrony cases. Co-viewing and JME emerged during digital activities which required passing control to the child, and also necessitated active engagement. Correspondingly, negotiation and communication occurred whilst scaffolding, and led to synchrony between the children and the parents.

The following excerpt exhibits how a joint media engagement occurred with a cooking game, which included alternative ways of proceeding and provided different options rather than a fully-structured flow.

*Turan was playing a cooking game with his mother.*

Turan: "I'm baking a cupcake. I'll show you the menu."

Mother: "Okay, so I choose this type of cake. Can you bake that?"

Turan: "I can cook this whole meal for you. I'll use eggs for cooking the chickens. I'm preparing the sausage."

*Turan showed his mother.*

Mother: "Okay, that seems good."

Turan: "Now, we use sugar, salt, and flour. Now I'm mixing them."

Mother: "I don't like too much salt, Turan. Now cook it."

Turan: "It is cooking. I'm preparing the plate."

Mother: "Let's prepare a salad for your meal too. Open that page, click there.

There are onions, peppers, and tomatoes."

Turan: "You can prepare. Slice these."

*Turan's mother sliced up the virtual ingredients and prepared the salad in the game. Turan watched her.*

Turan: "Mom, it is ready. The chicken is ready."

*Turan took the tablet and served up the virtual meal in the game.*

This digital activity is a good example to show how the nature of content influenced the engagement and cooperation of the participants. When Turan talked to his mother, she encouraged him and became actively engaged in the digital activity. In addition, they cooperatively negotiated regarding the preparation of the meal. It was shown that content which is engaging and provides adaptive scaffolding can improve the quality of the interaction. Moreover, scaffolding was observed whilst a sibling was engaged in a digital activity.

*Hakan was playing a problem-solving game, which included opening doors with specific keys, and basic addition and subtraction problems on the tablet. Hakan's sister (Didem) and the researcher watched Hakan play, and his father was busy using his smartphone. A cartoon was being shown on the television.*

Hakan: "Yes, I did it."

Researcher: “I think you must go down and turn right. Then open the door and click here.”

Hakan: “No, the ghost will see the light. So, I will move here.”

Researcher: “You must move there to open the door.”

Hakan: “No, you will see now... Aww, it doesn't work... Yes, I did it, I opened the door!”

Researcher: “Okay, so what will you do next? Can you explain this game to me?”

Hakan: “We will go there and collect the keys, then we can open this door.”

Sister: “You must solve the problem on the computer linked to the door. It has a password.”

*The password is the answer to the addition of two plus three. Hakan attempted it several times.*

Hakan: “Oh, nooo.”

Sister: “Click five. That's the answer.”

Hakan: “Five?”

Sister: “Now, write that code below. Zero, two, six.”

Sister: “Give it to me, I'll do it.”

*Hakan gave the tablet to his sister and started watching her play the game.*

In JME, the children shared tablets and smartphones by letting someone watch, negotiate, or guide their efforts on a digital activity. Furthermore, they shared devices when they were unsuccessful or needed some help in order to achieve a goal of the digital activity. The previous excerpt was a typical occurrence of the JME, and included showing and explaining the activity, asking for help and engaging parents in the decision making so as to achieve the goals of the digital activity.

#### 4.2.2.1.2. Communicating related to digital activity

Some parents became aware that it was easy to communicate with the children when talking about the digital activity. They knew that the children would most probably reply when they talked about the content on the screen or something else related to the digital activity. Besides, the parents guessed that the children would likely disagree with their advice and warnings if they were to directly express

themselves. Therefore, the parents first initiated communication relevant to the digital activity of the children; and only then turned to their actual subject.

*Ela was watching television. Her parents and the researcher were chatting. Her father looked at the clock.*

Father: “Ela, it is time for your medicine. You must go and take it in the kitchen.”

*Ela ignored him and continued watching television. After a while;*

Mother: “Ela, what is he doing? Is he writing?”

Ela: “The paper man is drawing a snowman. It will come alive and tell a story to the children.”

Mother: “Good, now go to the kitchen and take your medicine honey, come on.”

Ela: “Okay, I’m coming back soon.”

When Ela’s father directed her, Ela did not respond to him. However, her mother started off by talking about the content shown on the television. Ela engaged in interacting with her mother and explained the content. Then, her mother reminded her to go and take her medicine. As Ela was actively interacting with her mother, she did not ignore the request. When Ela’s mother observed that Ela was in an active conversation with her, she was able to direct her in a friendly way.

In the post-interview, Tuna’s mother explained how she easily contacted with her son. She said,

*I think Tuna loves sharing what he is doing on the tablet... He asks me questions about his playing. When he begins communicating, I feel that he is opening up to me. Therefore, I share in his playing so as to attract his interest. I ask him questions and he replies, then I can direct him easily.*

### **4.3. Interaction Strategies**

This section addresses RQ3 “What are the interaction strategies used by parents and their children during digital activities?” To this aim, the specific strategies used by the parents and their children in conflicts or synchronies are detailed.

### ***4.3.1. Resolution strategies of conflicts***

Each conflict had a specific resolution ( $n = 89$ ). However, these could be grouped into three types. The first type of resolution strategy was submission of the children (34.80%), meaning that the children's entered the arrangement themselves according to the parents' demands or viewpoints. The second type of resolution strategy was parental submission (53.92%), which referred to the parents' acceptance of the children's demands. The third resolution strategy type was mutual resolution (11.28%) such as when the parents and children found some middle ground and agreed modifications to both their original positions.

#### ***4.3.1.1. Child submission***

The first resolution strategy type was self-adjustment by the children. The children were observed to have used several tactics in their conflicts with their parents. However, they were unable to cope with the parents' tactics, and therefore submitted to their parents' will. This strategy demonstrated the superior power of the parents. The following excerpt shows the typical emergence of the children's rearrangement of their position.

*Hakan was playing on his tablet whilst the others were watching television. His father looked at Hakan and noticed that he was looking at the screen from much too close a distance.*

Father: "Hakan, don't look at the screen from that close. You will hurt your eyes."

*Hakan ignored him and continued with his activity.*

Father: "Hakan, Hakan, move the tablet away from your eyes."

*Hakan moved the tablet and continued with his digital activity.*

At first, Hakan ignored his father's advice. However, his father insistently repeated his direction. Hakan then moved the tablet back away from his eyes; finally following the directions of his father.

Parents' directions that commanded their children to turn off the digital devices occasionally ended in conflict. The following excerpt is an example of a

conflict that occurred following a parent's direction for their child to stop a digital activity, and the child's eventual submission at the end of the conflict.

*Meral was playing on her tablet in the kitchen. Her mother was preparing lunch for the table. When it was ready, she invited Meral to sit at the table.*

Mother: "Meral, lunch is ready. I've cooked tomato soup for you."

Meral: "You start, I will come later."

Mother: "Honey, come to the table. Please stop playing now."

Meral: "It has not finished yet, wait."

Mother: "No, we are waiting for you, be quick, come to the table."

Meral whined, gave up using the tablet, and began eating.

Meral resisted her mother's direction as she wanted to continue playing until the game was finished. However, her mother did not accept waiting for her. Finally, Meral gave up using the tablet and joined in the meal.

The parents always seemed stronger than the children during conflicts. Therefore, the children had a tendency to use more psychological tactics. However, sometimes the parents exerted their authority by using direct force or showing their anger to the children.

*Turan and his brother were playing using a tablet and a smartphone. Their parents and the researcher were chatting. Their mother looked at a clock on the wall, then she turned to the children...*

Mother: "That is enough, your time is up. Time to stop."

*The boys' mother tried to take the devices away by force, but the children start screaming.*

Father: "Murat (*brother*), stop now!" (*looking serious*)

*The brother gave up using the smartphone.*

Father: "Turan, you too. Look at me. Stop when I say."

Turan: "Nooo, I have five more minutes."

Father: (*seemingly nervous*) "Turan, stop. Do as I say, stop now."

*Turan gave up using the tablet and started whining. His father took away and closed the device.*

Turan's mother first tried using force to take away the devices. However, she was unsuccessful. The father then exerted his authority to Murat (brother) by looking at him. Then, Turan disagreed with his father and demanded more time. The father then used his psychological force and Turan gave up using the tablet. Then, the father removed the devices.

#### *4.3.1.2. Parental submission*

When it came to parental submission, the children sometimes pushed their desires and demands onto the parents. In some conflicts, the parents adjusted themselves. In such cases, it was the children who ended up as the absolute winner, doing whatever they wanted such as continuing or initiating a digital activity.

*Meral was playing on her mother's smartphone. Her parents and the researcher were chatting. Nobody showed any interest in Meral. Therefore, Meral tried to gain the attention of the others.*

*Meral: (loudly) "There is a tiny cat, tiny cat."*

*The others ignored her and continued chatting.*

*Meral: "There is some milk for the tiny cat. Drink it."*

*The others still ignored her, so Meral went to her mother.*

*Meral: "Mom, look. It's a lovely cat."*

*Meral was sitting near to her mother and showed her the screen.*

*Mother: "Oh, what is the cat's name?"*

*Meral and her mother talked about the activity. Her father and the researcher continued chatting.*

When Meral realized that nobody was showing any interest in her, she tried to gain some attention by making a remark. However, her first attempt was unsuccessful. Then, she directly communicated with her mother and showed the screen to her. Her mother then gave up talking to the others and showed interest in Meral and her digital activity.

*Ela's father was watching a documentary on television. Ela looked at her father and silently took the remote control.*

Father: "Ela, haven't you already watched television today? Let's turn down the volume. Give it to me."

Ela: "No!" *(she then changed the channel)*

Father: "You watched at your aunt's. So, give me back the remote control so I can watch the news.

*Ela pushed away from her father, but her father did nothing more. He began talking to Ela's mother, whilst Ela continued watching cartoons.*

This excerpt showed a conflict where Ela changed the television channel whilst her parents were watching it. Her father opposed her, but Ela still continued her action. She moved away from her father and he gave up directing her and adjusted himself according to Ela's desire.

#### *4.3.1.3. Compromise*

All of the aforementioned resolution strategies had a result where there was one loser. However, some negotiations during the conflicts demonstrated settlements with a win-win status for both the children and the parents. When the parents and the children adjusted themselves slightly, the compromise strategy was seen to be productive for both sides.

*Hakan's parents and the researcher were having a discussion while Hakan was watching a fairytale on television. Hakan took the remote control and turned up the volume.*

Hakan: "You are too noisy, I cannot hear, aargh!" *(he turned the volume up a bit)*

*The parents continued talking and Hakan became angry with his father.*

Hakan: "I'm telling you I cannot hear!" *(starts turning up the volume)*

Father: "Okay, you watch, and we'll talk. Enough, now turn down the volume."

Researcher: "What are you watching Hakan?"

*Hakan did not reply, but turned down the volume and continued watching. Hakan's father began to speak more quietly.*

In this conflict, Hakan wanted to continue watching television, whilst his father wanted to continue talking. At the beginning, Hakan became angry and turned up the television's volume. However, the move led to the situation worsening. His father began talking even louder. Then, when the two sides eventually adjusted themselves, both sides came out as winners. Hakan continued watching television and his father continued chatting with the researcher.

The parents offered the children a mutual solution in some conflicts, and the children accepted the deal. Therefore, compromise occurred when the two conflicting sides adjusted their positions in the conflict.

*Turan was watching video on YouTube, while his mother was preparing a meal. His father was relaxing and sometimes looked at the screen and controlled what he was watching.*

Mother: "Turan, the meal will be ready soon. Therefore, it is time to stop watching your video. You watched too much today already."

*Turan did not respond, and he continued watching his video. His mother warned him again whilst she was serving up the meal.*

Mother: "Turan, come and sit next to your father. You have been watching videos since the morning."

Turan: "Mom, I don't want to eat."

Mother: "No, you have to eat, stop it now."

Turan: "No, I want to watch this video."

Mother: "Okay, pause it. When you finish your meal, you can continue watching."

Turan: "Okay, wait, I'm pausing it."

*Turan paused the video, relocated the tablet at a point close to him, and began eating.*

### **4.3.2. Strategies in synchronies**

Both the children and the parents became involved with synchronies during their digital activities. They met through shared commonalities and behaved in accordance with each other's desires, demands, and acts. Several synchrony strategies emerged across the observed cases of synchrony ( $n = 73$ ). These strategies were; (i) following instructions (27.40%), (ii) accompanying (47.95%), and (iii) cooperation (24.65%). Each strategy is defined in the following subsections, along with examples.

#### **4.3.2.1. Following instructions**

The first strategy was based on the children and parents following each other's instructions. Instructions of both parties were prevalent during the digital activities. Therefore, the children and the parents often encountered the instructions of the other party. In the case of synchronies, they welcomed each other's instructions and behaved accordingly in harmony with the instructions. However, the level of compliance to the instructions were not all the same. Therefore, the strategy of following instructions is divided into two, as "obedience," and "self-seeking of parents."

##### **4.3.2.1.1. Obedience**

*Turan was playing a game on the tablet. His father was watching television and surfing the Internet on his smartphone. The phone emitted a beeping sound as an alert to a low battery charge level. Turan's father turned to Turan;*

Father: "Turan, do you know where the charger is? It's on the table in the kitchen downstairs. Can you bring it to me?"

Turan: "Okay, dad. I'll go and get it."

*Turan stopped using the tablet and went downstairs. He returned with the charger, singing as he came back.*

Some instructions required self-sacrifice of the person being directed. Therefore, the directed person either terminated or altered their activity in parallel with the given instruction. They would totally or partly change their point in the digital activity in order to follow the instruction. In the previous excerpt, Turan's father

directed an instruction at Turan which required Turan to sacrifice his digital activity for a short amount of time. Although the children tended to continue their digital activity during observations, Turan complied and gave up his tablet to go and fetch the charger unit for his father. Turan followed the direction, even though it required him to terminate his digital activity, albeit temporarily. It was not only the children, but also the parents who presented examples of them sacrificing their activities to accommodate the children's requests, as in the following excerpt.

*Meral was playing with her toys while her father was watching the news one evening on the television. Her father occasionally commented about the news to Meral's mother. Ela gave up playing with her toys and began to watch the television. After a while,*

Meral: "Dad, open a cartoon, I want to watch cartoons."

Father: "Which channel do you want to watch?"

Meral: "Open Channel 1."

*Her father opened the channel that Meral had requested.*

Meral: "Okay, I'll watch this one."

There were some synchrony cases in which the parents terminated their activity as their children had directed them, as in the previous example. When Meral demanded to select the content shown on the television, her father followed her instruction and he ended his own activity completely. When it came to altering an activity rather than terminating in full, the parents and children occasionally changed their positions in regard to the digital activities. These cases included instructions which did not require the ending of a digital activity. Therefore, the children frequently accepted these directions in order to continue with their own digital activity.

*Hakan was watching television whilst sitting on the sofa. His parents were chatting. Hakan stood up and started walking around whilst also watching television. He stopped in front of the screen and started watching it. Hakan's mother looked at him.*

Mother: “Hakan, come back. Go sit back on the sofa and watch it from there. Don’t look at it from too close.”

*Hakan went back and sat on the sofa. His mother continued chatting with Hakan’s father.*

The excerpt is an example of synchrony in which Hakan easily followed the directions of his mother. The directions she gave did not demand a total change in Hakan’s digital activity. Hakan accepted his mother’s request and continued watching television.

Similar cases were also observed with the children attempting to direct the parents. For example, in one home visit, it was observed that Meral was playing a game on her tablet whilst her parents were chatting. Then, she asked her parents to speak more quietly as she was unable to concentrate on her game. Her parents agreed to her request and started speaking quietly so as not to disturb her.

#### 4.3.2.1.2. Self-seeking of parents

Some synchrony cases included the self-seeking or selfish desires of the parents. When the parents wanted not to be disturbed by their children, they directed the children in order to keep them occupied. The following excerpt examples a synchrony case which included the self-seeking of a parent.

*Ela was chatting with her mother in the living room. Her father was busy with his phone. After a while, Ela’s mother stood up and gave the remote control to Ela.*

Mother: “Ela, I’m going to the kitchen. Open Channel A. It may be time for Paper Man.”

Ela: “Yes, umm... There is Masha. I like it.”

Mother: “You watch it then, I’m going to the kitchen.”

Ela: “Okay mom.”

*During the post interview with Ela’s mother, she expressed the following:*

Ela’s mother: *(parental interview transcript)* “We turn on her television. Umm, sometimes we give Ela a smartphone while I’m doing the housework.

She loves talking and spending time with me, so I put the television on and she watches it.”

This self-seeking synchrony case was observed on a home visit to Ela and her family. Ela’s mother wanted to go to the kitchen in order to prepare a meal. However, she was not sure of the need to disturb Ela. Therefore, she offered Ela a digital activity. Her mother drove forward her own interests and directed Ela for this purpose. While Ela was watching television in the living room, her mother managed to prepare the meal in the kitchen in peace.

The fathers also employed this strategy for their own purposes when they were relaxing. Two of the fathers mentioned parallel things during their interviews and the home visit observations.

Hakan’s father: (*parental interview transcript*) “When I come home in the evening, I want to relax and rest. However, Hakan comes to me and asks, ‘Dad, what is this, dad, what is that?’ I say to him, ‘Okay son, watch cartoons or play on your tablet...’ I’m free when he is busy with his tablet, so I let him play.”

It was observed that Turan’s father also directed his son to keep him busy with digital activities. Turan’s father offered him a digital activity before making a phone call to someone. He did not want to be disturbed by Turan whilst he was talking on the phone.

To summarize, the parents used digital technologies in order to keep their children busy so as not to be disturbed themselves. When the children were offered digital activities, they agreed with their parents’ request and engaged in the digital activity.

#### 4.3.2.2. *Accompanying*

The children were open to sharing their digital activities. They liked when someone watched them while they were playing on mobile devices. The parents also had a tendency to observe the children’s digital activities in terms of the children’s safety (monitoring the content). Therefore, accompaniment was often observed during

the field study. However, the emergence of accompanying or accompaniment as a strategy occurred in two ways. First, the parents agreed to the child's invitation to a digital activity. They would sit near to the children and join in with their digital activity.

*Turan's mother was surfing the Internet using her smartphone. Turan entered the living room with a tablet in his hand. He sat next to his mother.*

Turan: "Mom, I've brought the tablet. Now I will show you how I cut up the fruit."

*Turan's mother gives up using her phone and places a hand on Turan's shoulder.*

Mother: "What are you playing? Are you going to make a fruit salad?"

Turan: "Look, there are many fruits. I will cut all of them up. Look, it's a pineapple."

Mother: "It's a big one isn't it? What is this, is it a cherry?"

Turan: "Yees, look, it is ready..."

This example presented an engagement and accompaniment of Turan's mother to his digital activity. When Turan tried to show his activity to his mother, she responded positively to him and the act of accompaniment emerged. On the other hand, the second type of accompanying strategy seen was the parents' spontaneous engagement and the children's acceptance of their company. This type occurred when the parents approached and began watching the children's digital activity. Then, the children positively responded to the parent attending to the digital activity.

*Meral was playing a dressing game on the tablet while her parents and the researcher were chatting on the balcony. The game had a melodic sound which everyone could hear. After a while, the sound changed, and different noises were heard. Meral's father went to sit next to her.*

Father: "Meral, what are you playing honey?"

*Meral turned the screen towards her father.*

Meral: “Dad, I’m dressing this girl. I’m choosing a hairclip for her. Look, she will be a Barbie. This dress is like mine.”

Father: “Yes, yours is red. This is orange.”

*Meral’s father continues watching Meral’s play, but sometimes he rejoined chatting with the other parents.*

The parents sometimes freely engaged in the children’s digital activities without invitation. They accompanied the children during their digital activities in order to check and monitor the content. In the previous excerpt, Meral’s father noticed that the sounds of the game had changed. He might have thought that a promotional video had popped up. He therefore moved to check Meral’s play. Meral welcomed him and began explaining the game she was playing. Then he accompanied her during her digital activity.

#### 4.3.2.3. Cooperation

When the children’s and parents’ demands and desires corresponded, the cases would result in synchronies. Synchronies between the children and the parents led them to behave cooperatively. In a cooperative synchrony case, the parents and the children shared common goals, each aiming to achieve their goals in a cooperative atmosphere.

*Ela’s parents were chatting whilst drinking tea. Ela entered the room.*

Father: “Ela, let’s watch television.” (*taking the remote control*)

Ela: “Yees, I like it. I want to open Channels 1 and 5. What is on Channel 6?”

...

Ela: “I love this, let’s watch it.”

Father: “Okay but it’s about to finish. Let’s change it.”

Ela: “Okay, open Channel 5.”

Father: “Ooo, look at this.” (he opened Channel 5 and found a cartoon which was one of Ela’s favorites)

*Ela was sitting next to her mother and they start watching together.*

Ela and her father aimed to watch television together. Her father turned on the television and Ela advised him on the choice of content. They then negotiated which channel to watch and cooperatively decided upon the content. This is an example of cooperation in a watching case which might be considered unproductive. When it came to the children's and parents' engagement in digital play, cooperation was the main strategy observed.

*Turan was playing a game on his tablet. The game was about a spider finding its way to some food within a labyrinth. There were barriers, doors, and tubes throughout the labyrinth. The game had more than one solution. Turan began playing the game. After some trial attempts, he went to sit next to his father.*

Turan: "Dad, I have downloaded this game."

Father: "What is it? How do you play it?"

Turan: "Now, look, this is the spider. You have to show it the way to the food. Don't touch these bushes...*(he explains the game)* Now, I will go here."

*Turan tried to find the way to the food. However, he couldn't achieve it. Meanwhile, his father observed Turan's playing in order to understand the rules of the game.*

Father: "Turan, don't start by moving here. Go there and pass the tube..."

*Turan and his father together approached the virtual food. They cooperatively played the game together and reached the goal of the level.*

Turan showed the game to his father as he was not successful by himself. Although he did not expressly ask for his father's help, he implied it through agreeing to play together. His father agreed and they began playing together cooperatively.

#### **4.4. Summary of Findings**

This chapter aimed to provide deep information about the interactions observed between the children and parents during their digital activities. The detailed examples and quotations presented aimed to clarify the interactions observed by the researcher.

It was found that the interactions included topics of directing, sharing digital activities, and issues related to daily life. Directions were related to operating the digital devices and their proper usage. Sharing by the parents and children of their digital activities was the second topic of the interactions. The third topic of the interactions related to daily life such as happenings that day, meals, and the upcoming weekend.

It should be noted that there were certain characteristics that led to conflicts and synchronies. The children's passive exposure to the digital technologies, inappropriate content of some digital activities, the children's multitasking, and irrelevant communication during digital activities were related to the conflicts. On the other hand, appropriate features of digital activities and interaction related to digital activities led to synchronies.

Tactics employed during the conflicts were also investigated in the study. The children and parents employed several tactics in order to cope with other parties in the case of conflicts. The children's behaviors from most observed to the least were; ignoring, saying "no," moving away, crying, shouting, insisting, offering to finish or asking for more time, fudging, and trying to explain in order to gain the advantage during conflicts. As for the parents, the tactics seen, from most observed to least, were repeating, explaining, providing an alternative activity, restricting children's usage of digital technologies, backing up, reminding of their ownership of the device, and physical contact in order to handle the conflicts.

There were several resolution strategies that were observed during the conflicts. The first was submission of the children (34.80%), which refers to the children's arrangement of their points in the digital activity. The second was when the parents submitted (53.92%), adjusting themselves according to the children's demands. A mutual solution or compromise (11.28%) was the third type of strategy observed, which refers to when the middle ground was sought by both the parents and the children.

When it came to the strategies that emerged in the cases of synchronies, there were three strategies observed during the study. First, the parents and the children followed each other's instructions (27.40%) in synchronies. Self-devotion and self-seeking by the parents were revealed as subtypes of this strategy. Second,

accompanying or accompaniment occurred when one of the participants would move to work together with another (47.95%) during digital activities. The third strategy seen was cooperation (24.65%), where the parents and children engaged in digital activities cooperatively and tried to accomplish the tasks of the digital activities together.

## CHAPTER 5

### DISCUSSION

The major results of the study are discussed in the context of the literature, with implications and recommendations presented in this chapter. The chapter is presented in accordance with the four main themes of the findings. Therefore, the following order has been used to organize the discussion; (i) aims of interaction during digital activities, (ii) characteristics of cases leading to conflicts and synchronies, (iii) conflicts during digital activities, and (iv) synchronies during digital activities.

#### **5.1. Aims of Interaction During Digital Activities**

It was revealed that the parents and children frequently interacted with each other during digital activities and that the interactions differed in their content. According to the findings of the current study, the aims of interaction can be divided into two types. First, the interactions included the directions of both the parents and the children. The parents' directions were related to the operating of digital devices (i.e., opening or closing a device) and children's proper usage of such devices (i.e., alerting children when they were looking at a screen from too close a distance). The children's directions consisted of instructions given to operate a digital device (i.e., changing the television channel) and providing solutions for technology-related problems (i.e., weak wireless signal). Secondly, the interactions included the sharing of digital activities. The parents' sharing consisted of watching, talking, and intervening in the children's digital activities. In addition, the parents invited the children to join in their digital activities. When it came to the children's sharing, the children actively shared their activities and engaged in the parents' activities. They presented their activities and invited the parents to join their activities when they needed help to accomplish certain tasks. The children also participated in the parents' activities and talked, watched, and interfered with the parents' activities.

Although there are debates and concerns about digital technologies' isolating children, this study has shown that children actively engage in interaction with others around them during digital activities. It is underlined that technology can enhance children's interaction and collaboration with their peers (Hsin et al., 2014; Infante et al., 2010; Lim, 2015). In addition, digital technology usage at home can facilitate and maintain parent-child interaction (Kenner et al., 2008). Similarly, Vourloumi (2014) reported that both child-initiated and parent-initiated digital activities were social and emotional in context during technology usage of children at home. Parents play key roles in providing such opportunities for digital activities within a social context. They see children's technology usage as a preparation for the future and that they benefit from digital technologies as they support children's development and learning (Plowman & McPake, 2013). Therefore, as children have a tendency to interact during digital activities, their parents' active engagement and interaction can yield benefits for the children.

The current study has shown that children directed and were also directed by their parents during digital activities. Similarly, Shahrinin and Butterworth (2002) found that children intensely interacted with their environment during computer-based activities, and that nearly 23% of the interactions were related to directions. Therefore, it should be taken into consideration that directions could limit the behaviors of children. In the current study, parents' directions were related to the operation of digital technologies and the children's appropriate usage of such technologies. Directions aimed at children's proper digital technology usage are important and considered beneficial in protecting children from the possible harmful effects emphasized in the literature. However, excessive parental direction in the operation of digital technologies could also be seen to diminish children's natural behaviors. Therefore, if parents have rules they want to introduce and enforce related to their children's digital activities, they should share these rules with the children upfront. Such rule sharing prior to the commencement of digital activities should therefore decrease the instances of directions being given.

The current study emphasized that both children and parents engaged in sharing behaviors during their respective digital activities, and that this underlined the social aspect of digital technologies. It should also be noted that the social

characteristics of family context may influence children's digital activities in the home setting. Therefore, social interactions between children and family members are a necessary subject of research studies. Stephen et al. (2013) focused on family contexts in which young children experienced digital technologies at home. They reported observing sharing behaviors similar to those reported in the current study. It was seen that parents and older siblings support young children's usage of digital technologies by giving instruction, encouraging, broadening information, and through modeling. Additional motivation was also provided in order to cope with childhood frustrations when the children failed to succeed. Technology affords children three potential positions: (i) owner (controller of the technology), (ii) participant (advice proposer), or (iii) spectator (observer without giving advice) (Ljung-Djärf, 2008). Therefore, the act of sharing moves children from one position to another. Therefore, they can experience a variety of social behaviors from waiting their turn to negotiating. Recent studies have shown taking turns, sharing, integrating ideas, and helping as constructive outcomes of children using digital technologies (Charissi & Rinta, 2014; Hyun & Davis, 2005; Kucirkova et al., 2014; Lim, 2012). Digital activities which include sharing provide the basis for children to experience and practice prosocial behaviors. Therefore, sharing patterns in the course of digital activities could be considered as a key component to the supporting of children's social development.

Surprisingly, the current study also found that children sometimes directed solutions to parents when facing a technical problem. Prensky (2001) defined "digital natives" as children who were born into a digital world. These children are the natural opponents of so called "digital immigrants" such as their parents and teachers. On the other hand, Plowman and McPake (2013) underlined that this term did not explain children's facility for technology. Children become capable of using digital technologies by observing and imitating the behaviors of others (Plowman, McPake, & Stephen, 2008). Similarly, as seen in the current study, children's proficiency can stem from some kind of digital literacy where they have prior experience on certain issues. The term digital literacy includes not only skills, but also covers e-safety and the ability to find and select information (Plowman et al., 2011). Children may establish and improve their digital literacy by observing and imitating parents within

their close proximity. Therefore, parental digital technology usage is vital for children's digital literacy.

## **5.2. Characteristics of Cases Leading to Conflicts and Synchronies**

While some cases included common viewpoints of both the parents and the children, some cases evolved into conflicts when the participants' demands and viewpoints did not correspond. Therefore, the leading characteristics of both conflicts and synchronies were investigated as part of the current study. The study revealed two main characteristics in cases that led to synchronies. The first and most influential characteristic is the nature of the digital activity itself. When the digital activity provided opportunities for scaffolding, and included hands-on activities rather than isolated, it often led to synchronies. Additionally, a positive mood of the participants also directed cases to result in synchronies. On the other hand, four characteristics were found in the cases that led to conflicts. First, when the children were passively exposed to digital technologies, it might canalize the case into becoming a conflict. The second characteristic was inappropriate content of digital activities such as violence, offensive language, or speech or images considered too fast for children (e.g., images moving too fast for a child's underdeveloped eye tracking), and which demands their intense concentration. Third, when children engaged in a digital or non-digital secondary activity, multitasking emerged as another characteristic that led to conflicts. Lastly, content of communication not concerning with the digital activities was also seen to lead to conflicts.

The children also accidentally used and experienced certain digital technologies in this study. These "passive exposures" were analyzed and noted that such exposure of children to digital technologies was determined as a leading characteristic in conflicts. Passive exposure is seen as a barrier to healthy two-way interaction between children and parents. Similarly, Kirkorian et al. (2009) found that passive exposure limited parent-child interactions, having negatively affected both the quantity and quality of interactions. Just as passive exposure is a threat to children's natural play (Schmidt et al., 2008), it may also disrupt children's digital play.

Total screen time is widely considered as an indicator of children's digital technology usage. However, Sweetser et al. (2012) implied that screen time should be

separated as active and passive exposure of children. Children intentionally use digital technologies, but on the other hand, with digital technologies tending to surround today's children, they are most probably also passively exposed to digital technologies in daily life. Digital technologies surround almost every place in modern human life such as shopping malls, cars, and restaurants. Therefore, the ratio of quiet environments seems to be decreasing. Quiet environments are essential for imagination. They provide the silence in which to stop and think (Blumenthal, 2009). Noise can interrupt play and imagination (Schmidt et al., 2008), as well as the concentration of children (Christakis et al., 2004).

In the current study, it was observed that the children unintentionally interacted with digital technologies in the case of passive exposure. In addition, it was revealed that children intentionally engaged in secondary activities whilst already party to a digital activity. This multitasking emerged in cases that led to conflict. In the literature, it is clear that multitasking can occur whilst children are interacting with digital technologies (Common Sense Media, 2013; Rideout et al., 2010). In the current study, one of the most notable forms of multitasking was the children eating or drinking during some of their digital activities. DeShetler (2014) emphasized that children multitask by eating whilst watching television. There are two important issues that should be underlined at this point. First, multitasking is not confined to a certain digital activity or related to a certain tool. Children can draw pictures while watching television or drinking a beverage while playing on a smartphone. Multitasking can be a legitimate possibility for all digital activities. However, multitasking may negatively affect both the imagination and concentration. Switching between tasks can interrupt children's concentration on tasks. As multitasking requires a significant amount of children's concentration and interest, it may weaken their interaction with others. Second, children's eating during digital activities may cause nutritional problems. Children may not be aware of the amount and types of foods they are consuming while concentrating on a digital activity. There are two possibilities relating to children's intake. Children may eat less when overly focused on a digital activity. On the other hand, they may eat more than advisable by simply being unaware of their intake amounts. Francis and Birch (2006) reported that children who had higher frequency of meals eaten in front of the television at home ate more in the television-watching

condition than they did otherwise. Therefore, multitasking by eating can either increase or decrease children's intake, depending on prior experience with eating during television viewing. In order to prevent children from this, digital activities during mealtimes should be withdrawn. Especially, having a television in the kitchen can distort the eating habits of children.

Content was a key component of the digital activities observed in the current study. It was revealed that when children engaged in a digital activity which included inappropriate content, it often led to conflicts. Inappropriate content included one or more of the following; violence, offensive language, fast dialogue, or images too fast and therefore unsuitable for children's eye tracking. The content of media is a key determinant of the effect of digital technologies on the learning and development of young children. When digital activities include unsuitable content, it may yield undesirable outcomes. For example, the link between media violence and aggressive behaviors has been widely investigated in the literature (AAP, 2011). The negative effect of violent content on children's social behaviors, and social relationships was also reported in a meta analysis by Comstock (2008). Another meta analysis found that violent content in video games increased aggressive behaviors, and decreased empathy and prosocial behaviors (Anderson et al., 2010). Riddle, Cantor, Byrne, and Moyer-Gusé (2012) reported that 35% of children aged between five years and 12 were frightened by watching excessive amounts of news broadcasts that reported on disasters, war, or kidnappings.

The link between violent content and undesired social effect can be explained by Bandura's social cognitive theory (Bandura, 1997). The theory assumes that behaviors are acquired through observation, and children have a tendency to imitate what they observe during digital activities. In a parallel manner, some studies reported that children imitated prosocial behaviors after watching educational content on television, and vice versa (Rideout & Hamel, 2006; Rideout et al., 2003). Hence, the prosocial content term may be useful, as it suggests decreasing the amount of violent content (Calvert, 2015). Prosocial content on television, games, software, and videos can promote the prosocial behaviors of children (Gentile et al., 2009). However, as young children cannot analyze and differentiate the content of the media to which they are exposed (Ernest et al., 2014), both media programs and advertisements should

exclude potentially unsuitable content (AAP, 2011). Pop-up promotional webpages and videos may result in children's exposure to violence, sexually explicit material, or other unsuitable contents. Therefore, advertisement-free platforms are vital for children to securely engage in digital activities at home.

Apart from violent or other unsuitable content, some digital activities include fast character speech or fast moving images, both of which are hard for children to comprehend. As a result, they are forced to overly concentrate and focus on the screen, resulting in children becoming self-enclosed and unable to adequately respond when faced with such content types.

Most people create a tie to the characters they see on screen and engage in parasocial interactions (Schiappa et al., 2005). Parasocial interaction is deliberately and widely used in children's media. In some content designed for young children, a character will directly look at the camera, talk to the child, and then pause for a reply (for comprehension and response). Then, the character acts as if it has heard the child's response (Calvert, 2015). But, when characters talk or move too fast, children may not be able to fully understand the conversations or the act. The AAP (2016) recommended that parents avoid fast-paced programs (as children are incapable of understanding), apps with distracting content, as well as any violent content. Furthermore, such content may limit the attention span of young children, or provoke other attention-related problems (Zimmerman & Christakis, 2007).

As expressed at the beginning of this section, while some characteristics of cases led to conflicts, other characteristics led to synchronies. The most important characteristics that led to synchronies was the nature of the digital activities themselves. When the digital activity was more hands-on and provided opportunities for scaffolding, it strengthened the interaction and led to synchronies. This finding relates to the role of the DAP framework (Copple & Bredekamp, 2009) for digital activities. As mentioned in the literature review chapter of the current study, the NAEYC and the Fred Rogers Center issued a joint special position statement for technology and digital media usage in early childhood education (NAEYC & The Fred Rogers Center, 2012). The joint statement emphasized the significance of the DAP and described developmentally appropriate digital activities as "Effective uses of technology and media are active, hands-on, engaging, and empowering; give the child

control; provide adaptive scaffolds to ease the accomplishment of tasks; and are used as one of many options to support children's learning" (NAEYC & The Fred Rogers Center, 2012, p. 6). Effective digital activities bring children-peers and children-parents together with an emphasis on co-viewing and JME (Takeuchi & Stevens, 2011). Therefore, parents have a key role in managing the developmentally appropriate digital activities of children in the home setting. Judge et al. (2015) defined three roles for parents, as facilitator, teacher, and gatekeeper. Each of these roles enrich children's digital activities. The guidance of parents and scaffolding can improve the benefits of children's digital technology usage (Fisch, 2014; McPake et al., 2013). Parents have the role of JME partner for favorable and harmless usage of digital technologies. They are also responsible to ensure the developmentally appropriate usage of technologies outside of the school environment.

In addition to scaffolding, when digital activities were hands-on and there was more than one way to accomplish the activity's tasks, the parents and children became engaged in intense interaction, negotiated ideas, and behaved cooperatively. Therefore, these circumstances led to synchronies between the parents and the children. Digital activities which include problem solving can provide a collaborative and social atmosphere for young children. This atmosphere may enrich and support the interaction between children and others during the digital activities. Similarly, Fessakis et al. (2013) reported that providing problem-solving activities in which children plan and can easily play by trial and error can produce a variety of social interactions.

However, it should be noted that certain entertainment activities are labelled as educational or appropriate for children. Those activities only provide learning opportunities for a limited time as "*digital activity alone does not guarantee either educational or playful encounter*" (Stephen & Plowman, 2014, p. 3). Clear verbal descriptions and visual presentations of the content, a story embedded in the activity to initiate thinking and problem solving, interesting characters to attract the attention of children, and creative activities such as building and painting are among the most important characteristics of developmentally appropriate digital activities (Folorunsho, 2016).

When the characteristics led to conflicts and synchronies are summarized, while passive exposure, inappropriate content, and multitasking relate to conflicts, the nature of digital activities and the mood of participants relate to synchronies. In the literature, some studies have focused on the factors influencing interaction during digital activities (Ihmeideh & Shawareb, 2014; Lim, 2015; Nevski & Siibak, 2016; Shahrinin & Butterworth, 2002). These studies identified the supporting factors of interactions as; DAP, positive attitudes of children, scaffolding patterns of parents, design of the environment, parental usage and attitudes towards digital technologies, and user-friendly and open-ended software. On the other hand, hindering factors included authoritarian parenting style, interruption of parents, environmental limitations, and closed-software. These factors are important to both providing learning and development opportunities, and preventing children from possible threats of inappropriate content or designs.

The final characteristic seen with regards to direct interaction was the relevance of communication to the digital activity. Children had a tendency to respond to the parents' interactions when the parents' message pertained to the digital activity. On the other hand, when the message was about an unrelated issue, the children tended to ignore the communication. For example, when a parent asked a question about a child's day at preschool, while the child was watching a cartoon, the child tended to ignore the communication and not respond appropriately. However, when the message was directly or indirectly related to what was on the screen, the child would reply. Two possible explanations may be considered here in order to clarify this issue.

First, the link between the digital activity and the context may influence the children's response to the interaction. Lim (2015) reported on a connection between digital activities with a classroom theme as a supporting factor to children's social interaction in a technologically rich context. When children use digital technologies for entertainment or to create drawings, they prefer to work alone and usually prefer not to reply to their peers' interaction (Marsh, 2010). However, when children use digital technologies related to an ongoing classroom activity, the children have the tendency to interact more and to exchange information (Yelland, 2011).

The second explanation is that children selectively perceive the communications of parents. According to Sherif and Hovland (1961), individuals are

inclined to maintain their own positions when making judgments. When the message of the communication provides a position which is perceived to fall within the individuals' acceptance level, the individuals judge the message's position as acceptable. On the contrary, when the message's position is perceived in the area of rejection, the recipient judges the message's position as being unacceptable. When children encounter an irrelevant message from parents, they may be disturbed and perceive the message as a threat to the continuance of their digital activity, and therefore might tend to ignore the conversation. On the other hand, when the parents' message is related to the child's digital activity, the child may judge it as acceptable and thereby engage in the communication.

To summarize, certain characteristics canalize interactions into conflicts or synchronies. Passive exposure, inappropriate content, multitasking, and irrelevant communication were seen to lead to conflicts; whilst in contrast, the rich nature of digital activities and communication relevance led to synchronies.

### **5.3. Conflicts During Digital Activities**

Both the children and their parents employed a variety of tactics in order to deal with each other in the case of conflicts. The study revealed children's tactics as ignoring, shouting, crying/whining, asking for more time or finishing, explaining, moving away, and insisting. When it came to the parents, they provided an alternative activity, repeated insistently, made physical contact, limited the time and place of digital activities, and explained in order to convince the children.

During the current study, the children expressly wanted to use digital technologies. As McKenney and Voogt (2010) argued, children had positive attitudes towards technology usage at home. Therefore, the children's tactics were aimed at continuance of their existing digital activities. On the other hand, the parents' tactics were aimed at negotiating with the children. Thornberg (2006) categorized these tactics as antisocial and prosocial. The current study showed that the children employed both antisocial and prosocial tactics. However, it was seen that the children's antisocial tactics dominated over the children's prosocial tactics. On the other hand, although the parents also employed prosocial and antisocial tactics, they mainly used prosocial tactics during conflicts with their children. Actually, children have a

predisposed tendency to employ prosocial tactics when engaged in a conflict with their parents (Dunn & Herrera, 1997). However, in the current study, the children used mainly antisocial tactics during conflicts. Two possible hypotheses could explain this. First, as the children's aim was the continuance of their digital activities, they could have a tendency to use more aggressive tactics. Second, children's tactics vary across different conflict situations and contexts (Dunn & Herrera, 1997; Thornberg, 2006), and it is assumed that children use conflict tactics in a similar way to their opponents (Thornberg, 2006). However, in the current study, although the parents employed mainly prosocial tactics, the children chose to use antisocial tactics. Therefore, inconsistency seen between the results of the current study and the literature may stem from the nature of the conflicts. In other words, children may tend to use more aggressive and antisocial tactics during digital activities than non-digital.

Emerging resolution strategies of conflicts were investigated in this study. It was revealed that there were three different resolution strategies that emerged from the conflicts. The first strategy was child submission that referred to children's adjustment of their viewpoints and position in the digital activity. The second strategy was submission of parents, whereby the parents acceded to the child's demands and viewpoints. These two strategies were unilateral. Finally, a mutually agreed solution or compromise occurred when some common ground was found between the parents and the children. Both parties adapted themselves according to the commonality of the compromise strategy. When the strategies were sorted according to the most commonly seen, parental submission was the most frequently observed in the current study. Child submission emerged as the second most frequently employed strategy, followed by compromise. Although standoff and withdrawal were other resolution strategies reported in the literature (Vuchinich, 1987), neither were observed during the current study. This showed that the participants of the conflicts proposed a solution, whether unilateral or bilateral. These results were consistent with the literature. Lin (2009) investigated conflict situations of children aged three to six years old with their parents, and revealed that while parents mostly employed negotiation as a tactic, children tended to use ignoring. Additionally, Lin (2009) reported that the conflicts usually ended with children's submission.

The results of the current study showed that although the children and parents employed similar tactics to those seen in the literature, the resolution strategies in the current study differed from the literature. It should be underlined that the results reported in the literature were derived from child-parent conflicts in non-digital cases. Therefore, individuals' engaging in a digital activity could influence the resolution strategies. In other words, children might tend to be more resistant, egocentric, and decisive in order to maintain their position in conflicts related to the continuance of a digital activity. Thus, they might fail to understand and meet the other party's demands, emotions, and desires. On the other hand, in the current study, it was the parents who adjusted their behaviors and desires in order to meet the demands of the children during digital activities. As expressed in the literature review chapter of this study, children tend to be egocentric at a young age. Therefore, parents could be more successful in understanding the other party's thoughts owing simply to their more advanced age. Furthermore, as children used strict and antisocial tactics during conflicts, parents might tend to avoid conflicts, and submit themselves to ending any conflict.

To summarize, it can be inferred that digital technologies influence the tactics and resolution strategies of both parents and children. As previously mentioned, conflicts can be highly sensitive to variance in context and individual characteristics (Dunn & Herrera, 1997; Thornberg, 2006). Nevertheless, it should be underlined that conflicts provide opportunities for children experiencing prosocial behaviors. Therefore, some benefit for the children at the end of conflicts should be ensured.

#### **5.4. Synchronies During Digital Activities**

This study revealed parent-child synchronies as a frequently seen phenomena which emerged during the observed digital activities. In synchronies, parents and children followed each other's questions, accompanied each other during digital activities, and behaved cooperatively. It was found that there were three synchrony strategies that emerged in the case of synchronies. The first strategy was parents and children following the instructions of each other. The most frequently employed strategy was accompanying, which constituted nearly half of the synchronies observed. The second most observed strategy was cooperation. Almost a quarter of the

synchronies included the cooperation of both the children and the parents. Lastly, close to a quarter of the synchronies consisted of participants' following each other's directions. This strategy had two subtypes, obedience and self-seeking of parents. Obedience emerged when one participant followed the direction of the other. Self-seeking of parents was when the parents selfishly motivated the children towards a digital activity in order to advance their own self-interests.

This study showed that children and parents synchronously engaged by accompanying and cooperating during digital activities. These two strategies are significant since they may afford children the opportunities to enhance their communication and interaction competence, and to learn compliance with social demands (Pianta et al., 1989). Children's synchrony with parents in a cooperative atmosphere could be an effective means for children to understand emotions, as well as for their development of self-control (Feldman et al., 1999). Besides, children and parents' engaging in digital activities together could support their spending valuable time together. Furthermore, while accompanying referred to co-viewing, cooperation was related to JME. These two terms are important for both enriching children's interaction with digital technologies and for protecting children from the potential negative effects of digital technology usage. The positive effects of co-viewing on children has been underlined in the literature (Valkenburg et al., 1999). In addition, JME can support children's learning by providing opportunities and resources for making sense and meaning to a particular content, and as beneficial to future situations (Takeuchi & Stevens, 2011). Co-viewing and JME are strongly recommended by some associations. The AAP (2016) advised families to use media together with their children, to avoid solo media usage by children, to monitor the content seen by children, and to play together.

Two types of scaffolding relating to digital technology emerged, which are co-viewing and joint media engagement (JME). Co-viewing is when children watch television alongside parents, but without talking about the content on the screen (Valkenburg et al., 1999). On the other hand, JME contains both the shared experience as well as interaction between the child and others. JME includes playing, contributing, reading, viewing, and discussing together (Takeuchi & Stevens, 2011). Thus, parents can take on the role of JME partner for favorable and harmless usage of digital

technologies, ensuring developmentally appropriate usage of digital technologies outside of the school environment. The NAEYC (2012) recommended the co-engagement of parents during the digital activities of children. The role of co-engagement was reported in a study by Eagle (2012), who focused on the nature of parent-child interactions around digital picture books and other puzzles. She investigated a father-child and mother-child interaction during shared usage of digital laptops designed for young children. The mode of interaction between the parents and the children were instructional, with the parents contributing to the children's goal achievement in the activities through encouragement, showing, and helping.

Children and parents followed each other's directions in the current study. While some directions had a positive effect for their opponent, some had a neutral effect to the other side of the interaction. However, the parents also accepted a negative effect in the synchronies. As Fogel (1993) mentioned, while children accept positive and neutral effects, parents accept positive, neutral, and negative effects in synchronous interactions. On the other hand, some directions of parents included highly a positive effect for the parents, and were therefore considered as self-seeking directions. When the parents wanted not to be disturbed by the children, they invited the children to engage in a digital activity. They tended to use digital activities as a digital babysitting service. This situation can easily be observed in daily life. When one goes to a restaurant frequented by parents and their children, it is common to observe a child being "kept busy" with a smartphone or tablet during the mealtime. Radesky et al. (2014) investigated the patterns of mobile device usage by children and caregivers during meals in fast-food restaurants, observing caregivers eating a meal with one or more children. The study revealed that most caregivers used mobile devices. In addition, some caregivers gave mobile devices to the children for the purposes of entertainment, or to seemingly control the children's behavior. Furthermore, caregivers' focusing on the devices interrupted the interaction during the mealtime. Not only in restaurants, but parents can also be seen to pass mobile devices to children in other places such as shops, markets, and cars (Chiong & Shuler, 2010). However, it may have a side effect for the children. The AAP (2016) cautioned parents to avoid using digital technologies as a means to calm children. Though some exceptional times can be accepted such as on long journeys, medical procedures, and

airplane flights, these concerns should be taken into consideration in that it may negatively influence children developing their own emotional regulation.

## **5.5. Conclusion**

This study aimed to investigate the interaction of young children with parents during digital activities. First, the interactions were examined in detail according to the aforementioned topics. Then, the interactions were divided into conflicts and synchronies. The characteristics of interactions that led to conflicts and synchronies were also analyzed. Then, the children's and parents' tactics observed during conflicts and resolution strategies were determined. Lastly, synchrony strategies were also determined.

The study revealed that children and parents engaged in interactions with each other during digital activities, with both aiming to direct each other in relation to digital activities and the sharing of digital activities. They also interacted with each other in relation to their daily life routines during digital activities. However, certain characteristics of the observed interactions led diverted interactions to either conflict or synchrony. While passive exposure to digital technologies, inappropriate content during digital activities, multitasking of children, and irrelevant communication during interactions were related to conflicts, the appropriate nature of digital activities and relevant communication during interactions were linked to synchronies.

Children and parents employed several tactics during conflicts in order to cope with each other. The children mainly used antisocial tactics such as crying, ignoring, moving away, and shouting, whereas the parents used prosocial tactics such as explaining, repeating, and providing alternative activities. It was found that three resolution strategies emerged from conflicts which, from the most to least observed were parents' submission, children's submission, and compromise. On the other hand, three synchrony strategies were seen in the cases of synchronies. Nearly half of the synchronies included participants' accompanying each other. The remaining were divided between cooperation and participants following each other's instructions.

All of these results demonstrate that children and parents frequently interact with each other during engagement in digital activities. However, the interaction is sensitive to the context in which it occurs. Therefore, one component of the context

may positively or negatively influence the interaction. Context plays a key role in transforming an interaction into a conflict or a synchrony. It should be underlined that both conflicts and synchronies have the potential to enrich children's social development as, rather than isolation, they include intense interaction of both the children and parents. The children experience reciprocal, mutual, and harmonious interaction in synchronies, but conflicts can provide opportunities for children's egocentrism. Interactions may improve children's understanding of others' perspectives, as well as their ability to arrange intentions, negotiate, and to understand shared standards.

To conclude, children's experiences with technology and interactive media increasingly form part of the context of daily life, which must be considered as part of the developmentally appropriate framework. JME is a key factor for the appropriate usage of digital technologies as it includes sharing as well as precluding children from the potential harmful effects of digital device usage. However, context influences the interaction of both children and parents. The developmental level of children, parental attitudes, the content, individual interests, differences of children, and technology usage patterns of families may each influence children's interactions with both digital technologies and others. Parents have significantly important roles in providing high quality experiences to their children as they are one of the key determinants of children's interaction with digital technologies. Media mentors can be useful to support parents in deciding how children can best benefit from digital technologies. The final words of this study are to emphasize the application of "balance":

The key point here is, of course, 'balance'. Sitting the children in front of the computer, the television or even a parent during 'sharing' or 'story time' has to be balanced with opportunities for the children to move around in their play within and outside the setting (Siraj-Blatchford, 2010, p. 2).

## **5.6. Implications**

This study was conducted in order to investigate children's interactions with parents during digital activities in the home setting. Therefore, it provides useful information especially for parents, caregivers, teachers, and others who interact with children during digital activities. The study revealed that children may intensely

interact with their surroundings during digital activities. These findings show that children are not isolated when engaged in digital activities. Adults have a role in enriching the social aspect of children's digital activities. These digital activities can be linked to natural, learning, or outdoor activities.

It was also revealed that children's interactions with parents during digital activities can be influenced by certain contextual characteristics. Multitasking, passive exposure, inappropriate content, and irrelevant communication were seen to negatively influence interactions. On the other hand, the appropriateness of digital activities and relevant communication positively affected the interactions. It should be noted that there may be other contextual characteristics that may affect interactions. In addition, interactions may vary across different contexts. Therefore, parents should be made aware about determining these characteristics which may be particular to each child.

Moreover, the study showed that interactions can transform into conflicts or harmony. Nevertheless, conflict and harmony are equally good opportunities for children to practice certain social behaviors. Besides, children are naturally suited to employing certain tactics in conflicts. Therefore, even though there may be a conflict during certain digital activities, parents can also benefit from these situations by supporting the development of children. Adults should be made aware of the children's tactics in order that they can motivate children to negotiate, share, and understand their own emotions, as well as those of others. To summarize, parents bear a considerable responsibility to provide secure and appropriate digital activities to their children. Parents have joint roles as facilitators, teachers, and gatekeepers, and should therefore provide appropriate designs and content for children, rather than focusing solely on screen time duration.

## **5.7. Limitations**

There were three limitations pertinent to this study. First, the study was conducted with four families. However, the children's interactions with the parents during the digital activities were each sensitive to the context. Therefore, the observed results may vary across different families and across various contexts. Further studies should be conducted in order to investigate children's interactions with parents during digital activities in different family contexts.

The second limitation was that the researcher was a participant-observer and existed within the family context during data collection. In addition, video recordings were taken during some of the home visits. Although every possible precaution was taken into consideration, the very existence of the researcher and the video recording equipment may have influenced both the children and the family members' behaviors and actions. Therefore, ethnographic studies in which an observer naturally exists within the context may provide more valid results about children's interactions with parents during digital activities.

Lastly, although the engagement of young children with digital technologies has been studied for more than 20 years, very little research has focused on children's interactions with other individuals during digital activities, which is a relatively new phenomena. Besides, some of the few published studies focused on the classroom context. However, children also use digital technologies in the home environment, probably more so today than in the classroom. As there have been very limited numbers of studies focusing on children's interactions with family members during digital activities, this may have influenced the literature review and discussion. The results of this study were not comparable to similar studies as there has been little research paralleled to the aims of the current study. Therefore, further studies about children's interactions with other individuals in the home setting are necessary in order to provide for the comparison of findings of this study.

## REFERENCES

- American Academy of Pediatrics Councils on Communications and Media. (2016). Media and young minds. *Pediatrics*, *138*(5), e20162591.
- Aarsand, P. A., & Aronsson, K. (2009). Response cries and other gaming moves-Building intersubjectivity in gaming. *Journal of Pragmatics*, *41*(8), 1557–1575.
- Akçay, D., & Özcebe, H. (2012a). Evaluation of computer game playing habits of children at pre-school education levels and their families. *J Child*, *12*(2), 66–71.
- Akçay, D., & Özcebe, H. (2012b). Is television effective on aggressive behavior in preschool children. *Çocuk Sağlığı ve Hastalıkları Dergisi*, (55), 82–87.
- Aktaş-Arnas, Y. (2005). Computer assisted education in early childhood. *Eurasian Journal of Educational Research*, *20*, 36–47.
- American Academy of Pediatrics Committee on Public Education. (2001). Children, adolescents, and television. *Pediatrics*, *107*(2), 423–426.
- American Academy of Pediatrics. (2011). Media use by children younger than 2 years. *Pediatrics*, *128*(5), 1040–1045.
- Anderson, C. A., Shibuya, A., Ihori, N., Swing, E. L., Bushman, B. J., Sakamoto, A., ... Saleem, M. (2010). Violent video game effects on aggression, empathy, and prosocial behavior in eastern and western countries: a meta-analytic review. *Psychological Bulletin*, *136*(2), 151–173.
- Anderson, D. R., & Pempek, T. A. (2005). Television and very young children. *American Behavioral Scientist*, *48*(5), 505-522.
- Armstrong, A., & Casement, C. (2000). *The child and the machine*. Beltsville, MD: Robins Lane Press.

- Arnott, L. (2013). Are we allowed to blink? Young children's leadership and ownership while mediating interactions around technologies. *International Journal of Early Years Education*, 21(1), 97–115.
- Arnott, L. (2016). An ecological exploration of young children's digital play: framing children's social experiences with technologies in early childhood. *Early Years*, 36(3), 271–288.
- Ayvaci, H. S., & Devecioğlu, Y. (2010). Computer-assisted instruction to teach concepts in pre-school education. *Procedia - Social and Behavioral Sciences*, 2(2), 2083–2087.
- Bandura, A. (1997). Self Efficacy: the exercise of control. *American Journal Of Health Promotion*, 149(3), 8–10.
- Baxter, J., & Hayes, A. (2007). How four year-olds spend their days: Insights into the caring context of young children. *Family Matters*, 76, 34–43.
- Bird, J., & Edwards, S. (2015). Children learning to use technologies through play: A Digital Play Framework. *British Journal of Educational Technology*, 46(6), 1149–1160.
- Blackwell, C. K., Lauricella, A. R., & Wartella, E. (2014). Factors influencing digital technology use in early childhood education. *Computers & Education*, 77, 82–90.
- Blackwell, C. K., Lauricella, A. R., & Wartella, E. (2016). The influence of TPACK contextual factors on early childhood educators' tablet computer use. *Computers and Education*, 98, 57–69.
- Blumenthal, E. (2009). Review of Imagination and play in the electronic age. *Journal of the American Psychoanalytic Association*, 57(1), 257–262.
- Bond, B. J., & Calvert, S. L. (2014). A model and measure of us parents' perceptions of young children's parasocial relationships. *Journal of Children and Media*, 8(3), 286–304.

- Boulter, A., Von Bergen, C. W., Miller, M. J., & Wells, D. (2001). Conflict resolution: An abbreviated review of current literature with suggestions for counselors. *Education, 116*(1), 93–97.
- Bratitsis, T., & Ziannas, P. (2015). From Early Childhood to Special Education: Interactive Digital Storytelling as a Coaching Approach for Fostering Social Empathy. *Procedia Computer Science, 67*, 231–240.
- Bredekamp, S. (1987). Developmentally appropriate practice in early childhood programs serving children from birth through age 8. Washington, DC: NAEYC.
- Bredekamp, S., & Copple, C. (1997). Developmentally appropriate practice in early childhood programs. Revised Edition. Washington, DC: NAEYC.
- Broadhead, P. (2001). Investigating sociability and cooperation in four and five year olds in reception class settings. *International Journal of Early Years Education, 9*(1), 23–35.
- Bronfenbrenner, U. (1986). Ecology of the family as a context for human development: Research perspectives. *Developmental Psychology, 22*(6), 723–742.
- Bronfenbrenner, U. (1989). Ecological systems theory. *Annals of Child Development, 6*, 187–249.
- Brooker, L., & Siraj-blatchford, J. (2002). “Click on Miaow !”: how children of three and four years experience the nursery computer. *Contemporary Issues in Early Childhood, 3*(2), 251-273.
- Bruner, J. (2011). Foreword. In R. J. Sternberg & D. D. Preiss (Eds.), *Intelligence and Technology: The Impact of Tools on the Nature and Development of Human Abilities* (pp. ix–xi). New York, NY: Routledge.
- Buckingham, D. (2007). Beyond technology: Children’s learning in the age of digital culture. Cambridge, MA: Polity Press.

- Buckleitner, W. (2010). A taxonomy of touch. *Children's Technology Review*, 18(11), 10–11.
- Bukowski, W. M. (2003). What does it mean to say that aggressive children are competent or incompetent? *Merrill-Palmer Quarterly*, 49(3), 390–400.
- Burton, S. L., & Pearsall, A. (2016). Music-based iPad app preferences of young children. *Research Studies in Music Education*, 38(1), 75–91.
- Calvert, S. L. (2015). Children and digital media. In R. M. Lerner (Ed.) *Handbook of Child Psychology and Developmental Science*, Vol. 4: Ecological Settings and Processes (7th Ed.), 375–415.
- Calvert, S. L., Richards, M. N., & Kent, C. C. (2014). Personalized interactive characters for toddlers' learning of seriation from a video presentation. *Journal of Applied Developmental Psychology*, 35(3), 148–155.
- Çankaya, Ö. (2012). Influence of Computer Games on Mathematical Concepts Learning in Early Childhood (Master's thesis). Ataturk University, Erzurum, Turkey.
- Charissi, V., & Rinta, T. (2014). Children's musical and social behaviours in the context of music-making activities supported by digital tools: examples from a pilot study in the UK. *Journal of Music, Technology and Education*, 7(1), 39-58.
- Chaudron, S. (2015). Young Children (0-8) and Digital Technology: A qualitative exploratory study across seven countries. Technical report by the Joint Research Centre of the European Commission. <https://doi.org/10.2788/00749>
- Chiong, C., & Shuler, C. (2010). Learning: Is there an app for that? Investigations of young children's usage and learning with mobile devices and apps. *The Joan Ganz Cooney Center*, 34, 13-20.
- Cho, C. H., & Cheon, H. J. (2005). Children's exposure to negative internet content: effects of family context. *Journal of Broadcasting & Electronic Media*, 49(4), 488–509.

- Cho, K. S., & Lee, J. M. (2017). Influence of smartphone addiction proneness of young children on problematic behaviors and emotional intelligence: Mediating self-assessment effects of parents using smartphones. *Computers in Human Behavior*, *66*, 303–311.
- Christakis, D. A., Ebel, B. E., Rivara, F. P., & Zimmerman, F. J. (2004). Television, video, and computer game usage in children under 11 years of age. *Journal of Pediatrics*, *145*(5), 652–656.
- Clements, D. H. (2002). Computers in Early Childhood Mathematics. *Contemporary Issues in Early Childhood*, *3*(2), 160-181.
- Clements, D. H., & Sarama, J. (2003). Engaging Young Children in Mathematics. *Engaging Young Children in Mathematics: Standards for Early Childhood Mathematics Education*. London: Routledge.
- Common Sense Media. (2013). Zero to Eight, 1–38. Retrieved from <http://www.commonsensemedia.org/research/zero-to-eight-childrens-media-use-in-america-2013>
- Comstock, G. (2008). A sociological perspective on television violence and aggression. *American Behavioral Scientist*, *51*(8), 1184–1211.
- Copple, C., & Bredekamp, S. (2009). *Developmentally appropriate practice in early childhood programs serving children from birth through age 8*. Washington, DC: National Association for the Education of Young Children.
- Cordes, C., & Miller, E. (2000). Developmental risks: The hazards of computers in childhood. *Fool's Gold: A Critical Look at Computers in Childhood*, 19–44. Retrieved from <http://files.eric.ed.gov/fulltext/ED445803.pdf>
- Creswell, J. W. (2007). *Qualitative inquiry and research design: choosing among five approaches* (3rd ed.). Thousand Oaks, CA: Sage.
- Crotwell, R. M., Hernandez-Reif, M., & Curtner-Smith, M. E. (2013). A brief play intervention to improve synchronous interactions and play skills in low income mother-child dyads. *Dialog*, *16*(3), 102–126.

- Cuffaro, H. K. (1984). Microcomputers in education: Why is earlier better? *Teachers College Record*, (85), 559–568.
- de Mendonça, J. S., Cossette, L., Strayer, F. F., & Gravel, F. (2011). Mother-child and father-child interactional synchrony in dyadic and triadic interactions. *Sex Roles*, 64(1), 132–142.
- Deater-Deckard, K., & O'Connor, T. G. (2001). Parent-child mutuality in early childhood: two behavioral genetic studies. *Developmental Psychology*, 36, 561–570.
- DeShetler, L. M. (2014). A case study on how preschool children play: Comparing parental beliefs and preschoolers' home technology use (Doctoral dissertation). The University of Toledo, Toledo.
- Doise, W. (1989). Constructivism in social psychology. *European Journal of Social Psychology*, 19, 389–400.
- Downes, T. (2002). Children's and families' use of computers in Australian homes. *Contemporary Issues in Early Childhood*, 3(2), 182-196.
- Driscoll, C., & Carter, M. (2004). Spatial density as a setting event for the social interaction of preschool children. *International Journal of Disability, Development and Education*, 51(1), 7–37.
- Duncan, G. J., Magnuson, K., & Murnane, R. J. (2016). Reforming preschools and schools. *Academic Pediatrics*, 16(3), 121–127.
- Dunn, J., Cutting, A. L., & Fisher, N. (2002). Old friends, new friends: predictors of children's perspective on their friends at school. *Child Development*, 73(2), 621–635.
- Dunn, J., Gray, C., Moffett, P., & Mitchell, D. (2016). 'It's more funner than doing work': children's perspectives on using tablet computers in the early years of school. *Early Child Development and Care*, 188(6), 819-831.

- Dunn, J., & Herrera, C. (1997). Conflict resolution with friends, siblings, and mothers: A developmental perspective. *Aggressive Behavior*, 23, 343–357.
- Eagle, S. (2012). Learning in the early years: Social interactions around picturebooks, puzzles and digital technologies. *Computers and Education*, 59(1), 38–49.
- Ebbeck, M., Yim, H. Y. B., Chan, Y., & Goh, M. (2016). Singaporean parents' views of their young children's access and use of technological devices. *Early Childhood Education Journal*, 44(2), 127–134.
- Edwards, C. P. (2000). Children's play in cross-cultural perspective: a new look at the six cultures study. *Cross-Cultural Research*, 34(4), 318–338.
- Edwards, S., & Bird, J. (2017). Observing and assessing young children's digital play in the early years: Using the digital play framework. *Journal of Early Childhood Research*, 15(2), 158–173.
- Eisenberg, N., Spinrad, T. L., & Knafo-Noam, A. (2015). Prosocial development. In R. M. Lerner (Ed.), *Handbook of Child Psychology and Developmental Science* (pp. 1–47). John Wiley & Sons.
- Elkind, D. (2007). The power of play : How spontaneous, imaginative activities lead to happier, healthier children. *The American Journal of Play* (Vol. 1). Cambridge, MA: Da Capo Press.
- Erdoğan, S., & Baran, G. (2008). A study on the opinions of parents regarding television watching habits of their children in the four-six age group. *The Social Sciences*, 3(3), 245–248.
- Ernest, J. M., Causey, C., Newton, A. B., Sharkins, K., Summerlin, J., & Albaiz, N. (2014). Extending the global dialogue about media, technology, screen time, and young children. *Childhood Education*, 90(3), 182–191.
- Evans, G. W. (2006). Child development and the physical environment. *Annual Review of Psychology*, 57(1), 423–451.

- Fabes, R. A., Martin, C. L., & Hanish, L. D. (2009). Children's behaviors and interactions with peers. In K. H. Rubin, W. M. Bukowski, & B. Laursen (Eds.), *Handbook of Peer interactions, Relationships and Groups* (pp. 45–62). New York, NY: The Guilford Press.
- Feldman, R., Greenbaum, C. W., & Yirmiya, N. (1999). Mother-infant affect synchrony as an antecedent of the emergence of self-control. *Developmental Psychology*, *35*, 223–231.
- Fessakis, G., Gouli, E., & Mavroudi, E. (2013). Problem solving by 5-6 years old kindergarten children in a computer programming environment: A case study. *Computers and Education*, *63*, 87–97.
- File, T., & Ryan, C. (2014). Computer and Internet use in the United States: 2013. *Current Population Survey Reports. US Census Bureau*, (November). Retrieved from <http://www.census.gov/prod/2013pubs/p20-569.pdf>
- Fisch, S. M. (2014). *Children's learning from educational television: Sesame Street and beyond*. New York: Routledge.
- Fisher, J. (2008). *Starting from the child (3<sup>rd</sup> Ed.)*. England: Open University Press.
- Fogel, A. (1993). Two principles of communication: Co-regulation and framing. In J. Nadel & L. Camaioni (Eds.), *New perspective in early communicative development* (pp. 9–22). London: Routledge.
- Folorunsho, A. I. (2016). *Young children's engagement and interactions with digital and non-digital activities: a case study*. (Doctoral dissertation). Canterbury Christ Church University, Canterbury, England.
- Fomichova, O., & Fomichov, V. (2000). Computers and the thought-producing self of the young child. *British Journal of Educational Technology*, *31*(3), 213–220.
- Francis, L. A., & Birch, L. L. (2006). Does eating during television viewing affect preschool children's intake? *Journal of the American Dietetic Association*, *106*(4), 598–600.

- Friedrich, L. K., & Stein, A. H. (1975). Prosocial Television and Young Children: The Effects of Verbal Labeling and Role Playing on Learning and Behavior. *Child Development, 46*(1), 27–38.
- Frost, J., Wortham, S., & Reifel, S. (2008). *Play and child development (3rd Ed.)*. Upper Saddle River, NJ: Pearson.
- Gentile, D. A., Anderson, C. A., Yukawa, S., Ihori, N., Saleem, M., Ming, L. K., ... Sakamoto, A. (2009). The effects of prosocial video games on prosocial behaviors: International evidence from correlational, longitudinal, and experimental studies. *Personality and Social Psychology Bulletin, 35*(6), 752–763.
- Gómez, F., Nussbaum, M., Weitz, J. F., Lopez, X., Mena, J., & Torres, A. (2013). Co-located single display collaborative learning for early childhood education. *International Journal of Computer-Supported Collaborative Learning, 8*(2), 225–244.
- Gottman, J. M., & DeClaire, J. (1997). *The heart of parenting: How to raise an emotionally intelligent child*. New York: Simon & Schuster.
- Haktanır, G. (2015, April). Education for sustainable development. In Ö. Demirel (Chair), *Sustainable Education for Everyone*. Panel conducted at the meeting of 24<sup>th</sup> National Educational Sciences Conference, Niğde, Turkey.
- Harper, L. V., & McCluskey, K. S. (2003). Teacher-child and child-child interactions in inclusive preschool settings: Do adults inhibit peer interactions? *Early Childhood Research Quarterly, 18*, 163–184.
- Harrist, A. W., Pettit, G. S., Dodge, K. A., & Bates, J. E. (1994). Dyadic synchrony in mother-child interaction: Relation with children's subsequent kindergarten adjustment. *Family Relations, 43*, 417–424.
- Harrist, A. W., & Waugh, R. M. (2002). Dyadic synchrony: Its structure and function in children's development. *Developmental Review, 22*(4), 555–592.
- Haugen, K. (1998). Using technology to enhance early learning experiences. *Child Care Information Exchange, 9*(9), 47–56.

- Haugland, S. W. (2000). Early childhood classrooms in the 21st century: Using computers to maximize learning. *Young Children*, 55(1), 12–18.
- Healy, J. M. (2000). Failure to connect: How computers affect our children's minds: For better or worse. *The Phi Delta Kappan*, 81(5), 1–11.
- Heft, T. M., & Swaminathan, S. (2002). The effects of computers on the social behavior of preschoolers. *Journal of Research in Childhood Education*, 16(2), 162–174.
- Henderson, S., & Yeow, J. (2012). iPad in education: a case study of ipad adoption and use in a primary school. *2012 45th Hawaii International Conference on System Sciences (HICSS)*, 78–87.
- Hendrickson, J. M., Tremblay, A., Strain, P. S., & Shores, R. E. (1981). Relationship between toy and material use and the occurrence of social interactive behaviors by normally developing preschool children. *Psychology in the Schools*, 18(4), 500–504.
- Higgins, S., Beauchamp, G., & Miller, D. (2007). Reviewing the literature on interactive whiteboards. *Learning, Media and Technology*, 32(3), 213–225.
- Hoffner, C. (1996). Children's wishful identification and parasocial interaction with favorite television characters. *Journal of Broadcasting and Electronic Media*, 40(3), 389–402.
- Hohmann, C. (1998). Evaluating and selecting software for children. *Child Care Information Exchange*, 9(98), 60–62.
- Hsin, C.-T., Li, M.-C., & Tsai, C.-C. (2014). The influence of young children's use of technology on their learning: a review. *Educational Technology & Society*, 17(4), 85–99.
- Hughes, B. (2002). *A Playworker's Taxonomy of Play Types* (2nd Ed.). London: PlayLink.

- Huh, Y. J. (2017). Rethinking young children's digital game play outside of the home as a means of coping with modern life†. *Early Child Development and Care*, 187(6), 1042–1054.
- Huston, A. C., Wright, J. C., Rice, M. L., & Kerkman, D. (1990). Development of television viewing patterns in early childhood: A longitudinal investigation. *Developmental Psychology*, 26(3), 409–420.
- Hutinger, P. L., & Johanson, J. (2000). Implementing and maintaining an effective early childhood comprehensive technology system. *Topics in Early Childhood Special Education*, 20(3), 159–173.
- Hyun, E. (2005). A study of 5- to 6-year-old children's peer dynamics and dialectical learning in a computer-based technology-rich classroom environment. *Computers and Education*, 44(1), 69–91.
- Hyun, E., & Davis, G. (2005). Kindergartners' conversations in a computer-based technology classroom. *Communication Education*, 54(2), 118–135.
- Ihmeideh, F. M., & Shawareb, A. A. (2014). The association between internet parenting styles and childrens use of the internet at home. *Journal of Research in Childhood Education*, 28(4), 411–425.
- Im-Bolter, N., Anam, M., & Cohen, N. J. (2015). Mother–Child Synchrony and Child Problem Behavior. *Journal of Child and Family Studies*, 24(7), 1876–1885.
- Infante, C., Weitz, J., Reyes, T., Nussbaum, M., Gómez, F., & Radovic, D. (2010). Co-located collaborative learning video game with single display groupware. *Interactive Learning Environments*, 18(2), 177–195.
- Innocenti, M. S., Stowitschek, J. J., Rule, S., Killoran, J., Striefel, S., & Boswell, C. (1986). A naturalistic study of the relation between preschool setting events and peer interaction in four activity contexts. *Early Childhood Research Quarterly*, 1, 141–153.
- Janssens, J. M. A. M., & Deković, M. (1997). Child rearing, prosocial moral reasoning, and prosocial behaviour. *International Journal of Behavioral Development*, 20(3), 509–527.

- Jenkin, M. (2015). Tablets out, imagination in: the schools that shun technology. Retrieved January 5, 2016, from <https://www.theguardian.com/teacher-network/2015/dec/02/schools-that-ban-tablets-traditional-education-silicon-valley-london#comments>
- Jensen-Campbell, L. A., Gleason, K. A., Adams, R., & Malcolm, K. T. (2003). Interpersonal conflict, agreeableness, and personality development. *Journal of Personality, 71*(6), 1059–1086.
- Johansson, E. (2002). Morality in preschool interaction: Teachers' strategies for working with children's morality. *Early Child Development and Care, 172*(2), 203–221.
- Johnson, D. W., & Johnson, R. T. (1996). Teaching all students how to manage conflicts constructively: The Peacemakers Program. *Journal of Negro Education, 65*(3), 322–334.
- Johnson, D. W., & Johnson, R. T. (2004). Implementing the “Teaching Students To Be Peacemakers Program.” *Theory into Practice, 43*(1), 68–79.
- Johnson, G. M. (2010). Internet use and child development: the techno-microsystem. *Australian Journal of Educational and Developmental Psychology, 10*(780), 32–43.
- Johnson, G. M. (2015). Young children at risk of digital disadvantage. In K. L. Heider & M. R. Jalongo (Eds.), *Young Children and Families in the Information Age: Applications of Technology in Early Childhood* (pp. 255–275). New York: Springer.
- Johnson, G. M., & Pupilampu, K. P. (2008). Internet use during childhood and the ecological techno-subsystem. *Canadian Journal of Learning & Technology, 34*, 19–28.
- Judge, S., Floyd, K., & Jeffs, T. (2015). Using mobile media devices and apps to promote young children's learning. In *Young Children and Families in the Information Age: Applications of Technology in Early Childhood* (pp. 117–131).
- Kacar, A. Ö., & Doğan, N. (2007, August). *Role of computer assisted education in early childhood*. Paper presented in Akademik Bilişim-2007, Kütahya, Turkey.

- Kagan, S., & Knight, G. P. (1981). Social motives among Anglo American and Mexican American children: Experimental and projective measures. *Journal of Research in Personality, 15*(1), 93–106.
- Keengwe, J., & Onchwari, G. (2009). Technology and early childhood education: A technology integration professional development model for practicing teachers. *Early Childhood Education Journal, 37*(3), 209–218.
- Kenanoğlu, R., & Kahyaoğlu, M. (2011). *The relationship between preschool children's internet usage and their cognitive and social behaviors*. Paper presented in 5th International Computer & Instructional Technologies Symposium, Elazığ, Turkey.
- Kenner, C., Ruby, M., Jessel, J., Gregory, E., & Arju, T. (2008). Intergenerational learning events around the computer: A site for linguistic and cultural exchange. *Language and Education, 22*(4), 298–319.
- Kervin, L., Verenikina, I., & Rivera, M. C. (2015). Collaborative onscreen and offscreen play : examining meaning-making complexities. *Digital Culture & Education, 2*(7), 228–239.
- Kesicioğlu, O. S. (2011). An analysis of the impact of an instructional program designed with direct instruction method and of a computer assisted instructional program designed in accordance with this method on preschoolers' geometric figures concepts learning (Doctoral dissertation). Gazi University, Ankara, Turkey.
- Kim, S., Boldt, L. J., & Kochanska, G. (2015). From parent–child mutuality to security to socialization outcomes: developmental cascade toward positive adaptation in preadolescence. *Attachment and Human Development, 17*(5), 472–491.
- Kirkorian, H. L., Pempek, T. A., Murphy, L. A., Schmidt, M. E., & Anderson, D. R. (2009). The impact of background television on parent : child interaction. *Child Development, 80*(5), 1350–1359.
- Knight, G. P., & Carlo, G. (2012). Prosocial development among mexican american youth. *Child Development Perspectives, 6*(3), 258–263.

- Kochanska, G. (1997). Mutually responsive orientation between mothers and their young children: implications for early socialization. *Child Development, 68*, 94–112.
- Kol, S. (2012). Gaining the effect of time and space concepts to six-year-old children in computer assisted instruction (Doctoral dissertation). Selçuk University, Konya, Turkey.
- Konca, A. S. (2014). Preschool Children's Interaction with Information and Communication Technology (Master thesis). Inonu University, Malatya, Turkey.
- Krebeck, A. (2010). Closing the digital divide: Building a public computing center. *Computers in Libraries, 30*(8), 12–15.
- Kucirkova, N., Messer, D., Sheehy, K., & Fernández Panadero, C. (2014). Children's engagement with educational iPad apps: Insights from a Spanish classroom. *Computers and Education, 71*, 175–184.
- Kucirkova, N., Messer, D., Sheehy, K., & Flewitt, R. (2013). Sharing personalised stories on iPads: A close look at one parent-child interaction. *Literacy, 47*(3), 115–122.
- Küçükoğlu, B. (2013). *The Design of Computer Aided Training for Pre-school Education* (Master thesis). Bahçeşehir University, İstanbul, Turkey.
- Lankshear, C., & Knobel, M. (2003). New Technologies in Early Childhood Literacy Research: A Review of Research. *Journal of Early Childhood Literacy, 3*(1), 59–82.
- Lathem, S. (2005). Learning communities and digital storytelling: new media for ancient tradition. *Society for Information Technology and Teacher Education International Conference 2005*, 2286–2291.
- Lauricella, A. R., Barr, R., & Calvert, S. L. (2014). Parent-child interactions during traditional and computer storybook reading for children's comprehension: Implications for electronic storybook design. *International Journal of Child-Computer Interaction, 2*(1), 17–25.

- Lauricella, A. R., Wartella, E., & Rideout, V. (2015). Young children's screen time: The complex role of parent and child factors. *Journal of Applied Developmental Psychology, 36*, 11–17.
- Learning and Teaching Scotland. (2003). *Early Learning, Forward Thinking: The Policy Framework for ICT in Early Years*. Dundee: S. Executive.
- Lee, S. J., Bartolic, S., & Vandewater, E. A. (2009). Predicting children's media use in the USA: Differences in cross-sectional and longitudinal analysis. *British Journal of Developmental Psychology, 27*(1), 123–143.
- Lepičnik-Vodopivec, J., & Samec, P. (2013). Communication technology in the home environment of four-year-old children (Slovenia). *Comunicar, 20*(40), 119–126.
- Li, Y., & Ranieri, M. (2010). Are “digital natives” really digitally competent?-A study on Chinese teenagers. *British Journal of Educational Technology, 41*(6), 1029–1042.
- Lichtman, M. (2013). *Qualitative Research in Education, A User's Guide*. Qualitative Research in Education, A User's Guide. Thousand Oaks, CA: Sage.
- Lieberman, D. A., Fisk, M. C., & Biely, E. (2009). Digital games for young children ages three to six: From research to design. *Computers in the Schools, 26*(4), 299–313.
- Lim, E. M. (2012). Patterns of kindergarten children's social interaction with peers in the computer area. *International Journal of Computer-Supported Collaborative Learning, 7*(3), 399–421.
- Lim, E. M. (2015). The factors influencing young children's social interaction in technology integration. *European Early Childhood Education Research Journal, 23*(4), 545–562.
- Lin, L. (2009). *Parent-child conflict and conflict resolution in family for children aged 3-6 in guangzhou* (Doctoral dissertation). South China Normal University, Guangzhou, People's Republic of China.

- Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic inquiry*. California: Sage Publications.
- Lindsey, E. W., & Caldera, Y. M. (2015). Shared Affect and Dyadic Synchrony Among Secure and Insecure Parent-Toddler Dyads. *Infant and Child Development, 24*(4), 394–413.
- Lindsey, E. W., Cremeens, P. R., Colwell, M. J., & Caldera, Y. M. (2009). The structure of parent-child dyadic synchrony in toddlerhood and children's communication competence and self-control. *Social Development, 18*(2), 375–396.
- Livingstone, S., & Helsper, E. (2007). Gradations in digital inclusion: Children, young people and the digital divide. *New Media and Society, 9*(4), 671–696.
- Livingstone, S., Marsh, J., Plowman, L., Ottovordemgentschenfelde, S., & Fletcher-Watson, B. (2014). *Young children (0-8) and digital technology: a qualitative exploratory study- national report- UK*. Luxembourg: Jount Research Centre, European Commission.
- Ljung-Djårf, A. (2008). To play or not to play - That is the question: Computer use within three Swedish preschools. *Early Education and Development, 19*(2), 330–339.
- Longaretti, L., & Wilson, J. (2006). The impact of perceptions on conflict management. *Educational Research Quarterly, 29*(4), 3–15.
- Luckin, R., Connolly, D., Plowman, L., & Airey, S. (2003). Children's interactions with interactive toy technology. *Journal of Computer Assisted Learning, 19*(2), 165–176.
- MacKay, K. L. (2015). Does an iPad Change the Experience? A Look at Mother-Child Book Reading Interactions (Doctoral Dissertation). Brigham Young University.
- Mares, M. L., & Pan, Z. (2013). Effects of Sesame Street: A meta-analysis of children's learning in 15 countries. *Journal of Applied Developmental Psychology, 34*(3), 140–151.

- Mares, M., & Woodard, E. (2005). Positive Effects of Television on Children's Social Interactions : A Meta-Analysis. *Media Psychology*, 7(3), 301–322.
- Marsh, J. (2010). Young children's play in online virtual worlds. *Journal of Early Childhood Research*, 8(1), 23–39.
- Marsh, J., Brooks, G., Hughes, J., Ritchie, L., Roberts, S., & Wright, K. (2005). Digital beginnings: Young children's use of popular culture, media and new technologies. *Young Children's Use of Popular Culture, Media and New Technologies*, 158. Retrieved from <http://www.esmeefairbairn.org.uk/docs/DigitalBeginningsReport.pdf>
- Marsh, J., Plowman, L., Yamada-Rice, D., Bishop, J., & Scott, F. (2016). Digital play: a new classification. *Early Years*, 36(3), 242–253.
- Mawson, W. B. (2010). *Collaborative play in early childhood education*. New York, NY: Nova Science Publishers.
- Maynard, R. (2010). Computers and young children. *Canadian Children*, 35(1), 15–18.
- McCarrick, K., & Li, X. (2007). Buried treasure : the impact of computer use on young children ' s social , cognitive , language development and motivation. *AACE Journal*, 15(1), 73–95.
- McDaniel, B. T., & Radesky, J. S. (2018). Technoference: parent distraction with technology and associations with child behavior problems. *Child Development*, 89(1), 100–109.
- McKenney, S., & Voogt, J. (2010). Technology and young children: How 4-7 year olds perceive their own use of computers. *Computers in Human Behavior*, 26(4), 656–664.
- McManis, L. D., & Gunnewig, S. B. (2012). Finding the education in educational technology with early learners. *Young Children*, 67(3), 14–24.

- McPake, J., Plowman, L., & Stephen, C. (2013). Pre-school children creating and communicating with digital technologies in the home. *British Journal of Educational Technology*, 44(3), 421–431.
- Merdin, E. (2017). *Young Children's Electronic Media Use and Parental Mediation* (Master thesis). Middle East Technical University, Ankara, Turkey.
- Merrell, K. W. (1996). Social-emotional assessment in early childhood: The preschool and kindergarten behavior scales. *Journal of Early Intervention*, 20(2), 132–145.
- Merriam, S. (2009). *Qualitative research: a guide to design and implementation*. California: John Wiley & Sons.
- Miell, D., & Dallos, R. (1996). *Social interaction and personal relationships*. London: Sage Publications.
- Miles, M. B., & Huberman, A. M. (1994). *Qualitative data analysis* (2nd ed.). Thousand Oaks, CA: Sage.
- Ministry of Education. (2005). *Foundations for Discovery: ICT Framework for Early Childhood Education*. Wellington: Learning Media.
- Mishra, P. K., & Joseph, A. (2012). Early childhood care and education: An ICT perspective. *Information Technologies and Learning Tools*, 27(1), 12-26.
- Mize, J., & Pettit, G. S. (1997). Mothers' social coaching, mother-child relationship style, and children's peer competence: is the medium the message? *Child Development*, 68, 312–332.
- More, C. M., & Travers, J. C. (2013). What's app with that? selecting educational apps for young children with disabilities. *Young Exceptional Children*, 16(2), 15–32.
- Moustakas, C. (1994). *Phenomenological research methods. Methods*. Thousand Oaks, CA: Sage.
- Moyles, J. (2013). The Excellence of Play. *The Journal of Arthroplasty*, 28, 167-172.

- NAEYC. (1996). NAEYC position statement: Technology and young children—ages three through eight. *Young Children*, 51(6), 11–16.
- NAEYC. (2009). Developmentally appropriate practice in early childhood programs serving children from birth through age 8 - a position statement of the national association for the education of young children. Retrieved from <https://www.naeyc.org/sites/default/files/globally-shared/downloads/PDFs/resources/position-statements/PSDAP.pdf>
- NAEYC and the Fred Rogers Center. (2012). Technology and interactive media as tools in early childhood programs serving children from birth through age 8. *Children*, (January), 1–15.
- Nevski, E., & Siibak, A. (2016). The role of parents and parental mediation on 0–3-year olds’ digital play with smart devices: Estonian parents’ attitudes and practices. *Early Years*, 36(3), 227–241.
- Nikken, P., & Schols, M. (2015). How and why parents guide the media use of young children. *Journal of Child and Family Studies*, 24(11), 3423–3435.
- Ofcom. (2013). *Children and Parents: Media Use and Attitudes Report*. Retrieved from [https://www.ofcom.org.uk/\\_\\_data/assets/pdf\\_file/0018/53514/research07oct2013.pdf](https://www.ofcom.org.uk/__data/assets/pdf_file/0018/53514/research07oct2013.pdf)
- Ofcom. (2016). Children and parents: media use and attitudes report. *Ofcom*, (November), 228. Retrieved from [http://stakeholders.ofcom.org.uk/binaries/research/media-literacy/children-parents-nov-15/childrens\\_parents\\_nov2015.pdf](http://stakeholders.ofcom.org.uk/binaries/research/media-literacy/children-parents-nov-15/childrens_parents_nov2015.pdf)
- Ogelman, H. G., Güngör, H., Körükçü, Ö., & Sarkaya, H. E. (2018). Examination of the relationship between technology use of 5-6 year-old children and their social skills and social status\*. *Early Child Development and Care*, 188(2), 168–182.
- Orlick, T., Zhou, Q. Y., & Partington, J. (1990). Co-operation and conflict within Chinese and Canadian kindergarten settings. *Canadian Journal of Behavioral Science*, 22, 20–25.

- Ozdemir, S. (2008). Using multimedia social stories to increase appropriate social engagement in young children with autism. *Turkish Online Journal of Educational Technology*, 7(3), 80–88.
- Öztürk, C., & Karayağiz, G. (2007). Preschool children's television viewing and factors influencing their view. *Milli Egitim*, 36(175), 116–128.
- Packer, M. J., & Scott, B. (1992). The hermeneutic investigation of peer relations. In L. T. Winegar & J. Valsiner (Eds.), *Children's development within social context* (pp. 75–111). Hillsdale, NJ: Lawrence Erlbaum.
- Palmer, S. (2016). Why the iPad is a far bigger threat to our children than anyone realises. Retrieved January 20, 2018, from <http://www.dailymail.co.uk/femail/article-3420064/Why-iPad-far-biggerthreat-%0Achildren-realises-Ten-years-ago-psychologist-SUE-PALMER-predicted-toxiceffects-%0Asocial-media-sees-worrying-new-danger.html>
- Parette, H. P., Hourcade, J. J., Blum, C., Watts, E. H., Stoner, J. B., Wojcik, B. W., & Chrismore, S. B. (2013). Technology user groups and early childhood education: a preliminary Study. *Early Childhood Education Journal*, 41(3), 171–179.
- Pasiak, C., & Menna, R. (2015). Mother–child synchrony: implications for young children's aggression and social competence. *Journal of Child and Family Studies*, 24(10), 3079–3092.
- Perry, K. H., & Moses, A. M. (2011). Television, language, and literacy practices in Sudanese refugee families: “I learned how to spell English on Channel 18.” *Research in the Teaching of English*, 45(3), 278–307.
- Persson, A., & Musher-Eizenman, D. R. (2003). The impact of a prejudice-prevention television program on young children's ideas about race. *Early Childhood Research Quarterly*, 18(4), 530–546.
- Piaget, J. (1997). *The moral judgment of the child*. New York: Free Press Paperbacks.
- Pianta, R. C., Sroufe, L. A., & Egeland, B. (1989). Continuity and discontinuity in maternal sensitivity at 6, 24, and 42 months in a high-risk sample. *Child Development*, 60, 481–487.

- Plowman, L., & McPake, J. (2013). Seven Myths About Young Children and Technology. *Childhood Education*, 89(1), 27–33.
- Plowman, L., McPake, J., & Stephen, C. (2008). Just picking it up? Young children learning with technology at home. *Cambridge Journal of Education*, 38(3), 303–319.
- Plowman, L., McPake, J., & Stephen, C. (2010). The technologisation of childhood? Young children and technology in the home. *Children and Society*, 24(1), 63–74.
- Plowman, L., & Stephen, C. (2003). A ‘benign addition’? Research on ICT and pre-school children. *Journal of Computer Assisted Learning*, 19(2), 149–164.
- Plowman, L., & Stephen, C. (2005). Children, play, and computers in pre-school education. *British Journal of Educational Technology*, 36(2), 145–157.
- Plowman, L., Stephen, C., & McPake, J. (2010). Supporting young children’s learning with technology at home and in preschool. *Research Papers in Education*, 25(1), 93–113.
- Plowman, L., Stevenson, O., Mcpake, J., Stephen, C., & Adey, C. (2011). Parents, pre-schoolers and learning with technology at home: Some implications for policy. *Journal of Computer Assisted Learning*, 27(4), 361–371.
- Plowman, L., Stevenson, O., Stephen, C., & McPake, J. (2012). Preschool children’s learning with technology at home. *Computers and Education*, 59(1), 30–37.
- Polit, D. F., Beck, C. T., & Hungler, B. P. (2001). *Essentials of nursing research: methods, appraisal and utilization* (5th Ed.). Philadelphia: Lippincott Williams & Wilkins.
- Prensky, M. (2001). Digital natives, digital immigrants. *On the Horizon*, 9(5), 1–6.
- Preradović, N., Lešin, G., & Šagud, M. (2016). Investigating parents’ attitudes towards digital technology use in early childhood: a case study from Croatia. *Informatics in Education*, 15(3), 127–146.

- Radesky, J. S., Kistin, C. J., Zuckerman, B., Nitzberg, K., Gross, J., Kaplan-Sanoff, M., ... Silverstein, M. (2014). Patterns of mobile device use by caregivers and children during meals in fast food restaurants. *Pediatrics*, *133*(4), 843–849.
- Raver, C. C., & Zigler, E. F. (1997). Social competence: An untapped dimension in evaluating head start's success. *Early Childhood Research Quarterly*, *12*, 363–385.
- Reed, T., & Brown, M. (2000). The expression of care in the rough and tumble play of boys. *Journal of Research in Childhood Education*, *15*(1), 104–116.
- Rescorla, L., & Fechnay, T. (1996). Mother child synchrony and communicative reciprocity in late-talking toddlers. *Journal of Speech, Language, and Hearing Research*, *39*, 200–208.
- Richards, M. N., & Calvert, S. L. (2017). Measuring young U.S. children's parasocial relationships: toward the creation of a child self-report survey. *Journal of Children and Media*, *11*(2), 229–240.
- Riddle, K., Cantor, J., Byrne, S., & Moyer-Gusé, E. (2012). "People killing people on the news": young children's descriptions of frightening television news content. *Communication Quarterly*, *60*(2), 278–294.
- Rideout, V. (2013). *Zero to eight: Children's media use in America 2013*. *Common Sense Media*. Retrieved from <https://www.commonsensemedia.org/research/zero-to-eight-childrens-media-use-in-america-2013>
- Rideout, V. (2017). The Common sense census: media use by kids age zero to eight. *Common Sense Media*.
- Rideout, V., Foehr, U., & Roberts, D. (2010). Generation m [superscript 2]: media in the lives of 8-to 18-year-olds. *Henry J Kaiser Family Foundation*. Retrieved from <http://files.eric.ed.gov/fulltext/ED527859.pdf%0Apapers3://publication/uuid/04C1D383-2C2D-47C9-9DAC-3AA3CB15A923>

- Rideout, V., & Hamel, E. (2006). The media family: Electronic media in the lives of infants, toddlers, preschoolers and their parents. The Henry J. Kaiser Family Foundation.
- Rideout, V., Vandewater, E., & Wartella, E. (2003). Zero to six: electronic media in the lives of infants, *Electronic Media*, 1–38.
- Rogers, Y., & Price, S. (2009). How mobile technologies are changing the way children learn. In *Mobile Technology for Children* (pp. 1–22).
- Rubin, K. H., Maioni, T. L., & Hornung, M. (1976). Free Play Behaviors in Middle- and Lower-Class Preschoolers: Parten and Piaget Revisited. *Child Development*, 47(2), 414.
- Rudasill, K. M., & Rimm-Kaufman, S. E. (2009). Teacher-child relationship quality: The roles of child temperament and teacher-child interactions. *Early Childhood Research Quarterly*, 24(2), 107–120.
- Sandy, S. V., & Boardman, S. K. (2000). The peaceful kids conflict resolution program. *The International Journal of Conflict Management*, 11(4), 337–357.
- Saracho, O. N. (2015). Developmentally-appropriate technology and interactive media in early childhood education. In *Young Children and Families in the Information Age: Applications of Technology in Early Childhood* (pp. 183–205).
- Schiappa, E., Gregg, P. B., & Hewes, D. E. (2005). The parasocial contact hypothesis. *Communication Monographs*, 72(1), 92–115.
- Schmidt, M. E., Pempek, T. A., Kirkorian, H. L., Lund, A. F., & Anderson, D. R. (2008). The effects of background television on the toy play behavior of very young children. *Child Development*, 79(4), 1137–1151.
- Schneider, B. H., Benenson, J., Fülöp, M., Berkics, M., & Sándor, M. (2011). Cooperation and competition. In P. K. Smith & C. H. Hart (Eds.), *The Wiley-Blackwell Handbook of Childhood Social Development* (Second Ed., pp. 472–490). John Wiley & Sons.

- Shahrimin, M. I., & Butterworth, D. M. (2002). Young children's collaborative interactions in a multimedia computer environment. *Internet and Higher Education, 4*, 203–215.
- Shantz, C. U. (1987). Conflicts between children. *Child Development, 58*, 283–305.
- Sherif, M., & Hovland, C. (1961). *Social judgment*. New Haven, CT: Yale University Press.
- Shuler, C. (2009). Pockets of Potential: Using Mobile Technologies to Promote Children's Learning. *Joan Ganz Cooney Center*, (January), 1–56. Retrieved from <https://8823b2b3-0f26-4eac-b58e-76a95997f0e0/Paper/p762>
- Siraj-Blatchford, I., & Siraj-Blatchford, J. (2003). *Mora than Computers: Information and Communication Technology in the Early Years*. London: The British Association for Early Childhood Education.
- Siraj-Blatchford, J. (2010). Analysis: "Computers benefit children." *Nursery World, 7*, 1–3.
- Slutsky, R., & DeShetler, L. M. (2017). How technology is transforming the ways in which children play. *Early Child Development and Care, 187*(7), 1138–1146.
- Stanne, M. B., Johnson, D. W., & Johnson, R. T. (1999). Does Competition Enhance or Inhibit Motor Performance: A Meta-Analysis. *Psychological Bulletin, 125*(1), 133–154.
- Stephen, C., & Plowman, L. (2014). Digital play. In E. Brooker, M. Blaise, S. Edwards (Eds.). *The SAGE Handbook of Play and Learning in Early Childhood*, 330–341. Thousand Oaks, California: Sage.
- Stephen, C., Stevenson, O., & Adey, C. (2013). Young children engaging with technologies at home: {The} influence of family context. *Journal of Early Childhood Research, 11*(2), 149–164.

- Sweetser, P., Johnson, D., Ozdowska, A., & Wyeth, P. (2012). Active versus passive screen time for young children. *Australasian Journal of Early Childhood*, 37(4), 1–5.
- Takeuchi, B. L., & Stevens, R. (2011). The New Coviewing: Designing for Learning through Joint Media Engagement. The Joan Ganz Cooney Center at Sesame Workshop.
- Tassi, F., & Schneider, B. H. (1997). Task-oriented versus other-referenced competition - differential implications for childrens peer relations. *Journal of Applied Social Psychology*, 27(17), 1557–1580.
- Thornberg, R. (2006). The situated nature of preschool children’s conflict strategies. *Educational Psychology*, 26(1), 109–126.
- Tobin, J., Hsueh, H., & Karasawa, M. (2009). *Preschool in three cultures revisited: China, Japan, and the United States*. Chicago, IL: University of Chicago Press.
- Tsuk, K. E. (1998). The emotional relationship between mothers and their aggressive young children: An observation of mother–child interaction. (Doctoral dissertation). York University, Toronto.
- Turkish Statistical Institute (2015). Families use of information technologies. Retrieved from <http://www.tuik.gov.tr/HbPrint.do?id=18660>.
- Valkenburg, P. M., Krcmar, M., Peeters, A. L., & Marseille, N. M. (1999). Developing a scale to assess three styles of television mediation: “Instructive mediation,” “restrictive mediation,” and “social coviewing.” *Journal of Broadcasting and Electronic Media*, 43(1), 52–66.
- Van Evra, J. (2004). *Television and child development*. Mahwah, NJ: Erlbaum.
- Van Scoter, J., & Boss, S. (2002). Learners, language, and technology. Making Connections That Support Literacy. *Northwest Regional Educational Laboratory*.

- Vourloumi, G. (2014). An ethnographic case study of young children's experiences of technology use at home and school (Doctoral dissertation). Durham University, Durham, England.
- Vuchinich, S. (1987). Starting and Stopping Spontaneous Family Conflicts. *Journal of Marriage and The Family*, 49(3), 591–601.
- Vygotsky, L. S. (1978). *Mind in Society: The Development of Higher Psychological Processes*. Cambridge, Massachusetts: Harvard University Press.
- Wartella, E., Richert, R. A., & Robb, M. B. (2010). Babies, television and videos: How did we get here? *Developmental Review*, 30(2), 116–127.
- Yagmurlu, B., & Sanson, A. (2009). Parenting and temperament as predictors of prosocial behaviour in Australian and Turkish Australian children. *Australian Journal of Psychology*, 61(2), 77–88.
- Yelland, N. (2011). Reconceptualising play and learning in the lives of young children. *Australasian Journal of Early Childhood*, 36(2), 4–12.
- Yelland, N. (2015). Playful explorations and new technologies. In J. Moyles (Ed.), *The excellence of play* (4th ed, pp. 225–236). Berkshire, England: Open University Press.
- Yüksel, P. (2011). Using digital storytelling in early childhood education: a phenomenological study of teachers experiences (Doctoral dissertation). Middle East Technical University, Ankara, Turkey.
- Zimmerman, F. J., & Christakis, D. A. (2007). Associations Between Content Types of Early Media Exposure and Subsequent Attentional Problems. *Pediatrics*, 120(5), 986–992.

## APPENDICES

### Appendix A: Parent Pre-Interview Protocol

1. Ailenizden bahseder misiniz? (Yaş-eşin yaşı, aylık gelir, meslek-eşin mesleği, çocukların yaşları...)
2. Çocuğunuzun günlük rutininin bahseder misiniz? (okula gidiş dönüş saatleri, oyun saati, yemek saati vb.)
3. Sizin çocuğunuzla olan günlük rutininizi anlatır mısınız? (beraber oyun oynama, alışveriş vb.)
4. Evinizde hangi bilgi ve iletişim teknolojileri var?
5. Çocuğunuz bunlardan hangilerini kullanıyor?
6. Bu cihazları hangi amaçla aldınız? Özellikle çocuğunuzun kullanımı için aldığınız bir cihaz var mı?
7. Çocuğunuz bu cihazları ne zaman kullanıyor?
8. Çocuğunuz bu cihazları günde ortalama ne kadar kullanıyor?
9. Çocuğunuz bu teknolojileri çoğunlukla evin hangi odasında kullanıyor?
10. Çocuğunuz bilgi ve iletişim teknolojilerini kullanırken yanında kim oluyor? Tek başına mı başka biriyle mi kullanıyor?
11. Çocuğunuz bilgi ve iletişim teknolojileri kullanırken uyması gereken herhangi bir kuralınız var mı?
12. Eğer çocuğunuz için yeni bir bilgi ve iletişim teknolojisi cihazı alacak olsaydınız ne alırdınız? Niçin?
13. Siz evinizde bulunan cihazlardan hangilerini kullanıyorsunuz? Günde ortalama ne kadar kullanıyorsunuz?
14. Sizce çocuğunuz için iyi teknoloji kullanımı nedir?
15. Sizce çocuğunuz için kötü teknoloji kullanımı nedir?
16. Eğer çocuğunuza benim bir teknolojik cihaz getirmemi isteseydiniz bu ne olurdu?
17. Çocuğunuzun teknoloji kullanımını gözlemek için günün hangi zamanları daha uygun?

## **Appendix B: Parent Post-Interview Protocol**

- Çocuklarınız teknoloji kullanırken onlarla nasıl etkileşim kuruyorsunuz? Etkileşimi nasıl başlatıp, nasıl sürdürüyorsunuz?
- Çocuklarınız teknoloji kullanırken onlarla etkileşim kurarken dikkat ettiğiniz hususlar nelerdir?
- Çocuklarınız teknoloji kullanırken onlarla etkileşim kurmada karşılaştığınız zorluklar nelerdir? Bu zorluklarla nasıl başa çıkıyorsunuz?
- Çocuklarınız teknoloji kullanırken sizinle etkileşim kuruyor mu? Etkileşimi nasıl başlatıp sürdürüyorlar?
- Siz teknoloji kullanırken çocuklarınızla etkileşim kuruyor musunuz? Etkileşimi nasıl başlatıp sürdürüyorsunuz?
- Siz teknoloji kullanırken çocuklarınız sizinle etkileşim kuruyor mu? Etkileşimi nasıl başlatıp sürdürüyorlar?
- Siz teknoloji kullanırken çocuklarınızla etkileşim kurmada karşılaştığınız zorluklar nelerdir? Bu zorluklarla nasıl başa çıkıyorsunuz?

## **Appendix C: Coding System for Topics of Interactions**

**Question:** What topics of interaction emerge during digital activities?

### **Topics**

#### **1) Directing**

##### 1a) Parents' directing

Parents direct children during digital activities.

1a1) operating digital technology: directing switching on/off, turning the volume up/down, changing channel/application

1a2) proper use of digital technology: alerting children when they look at the screen from too close

1a3) daily life: directions concerning non-digital issues, e.g., directing gathering toys, eating meal

##### 1b) Children's directing

Children direct parents during digital activities.

1b1) directing to operate digital device: directing parents to switch on/off, turning the volume up/down, changing channel/application

1b2) providing solution for a tech-related issue: directing parents to fix problems during digital activities

#### **2) Sharing**

##### 2a) Parents' sharing

Parents aim to share digital activities.

2a1) watching a child play: looking at the screen while children playing/watching

2a2) talking about the digital activity: talking about the digital activity while children playing/watching

2a3) interfering in a digital activity: interfering in a children's digital activity, deciding what to do in the activity

2a4) inviting child to a digital activity: adults' inviting children to a digital activity belonging to adults, e.g., inviting children to watch a movie together

### 2b) Children's sharing

Children aim to share digital activities

2b1) showing the digital activity: showing the digital activity to others

2b2) explaining the digital activity: informing about the digital activity

2b3) asking help to achieve goals of digital activity: asking others' to accomplish the tasks during digital activities

2b4) asking questions about the outcomes of the game: inquiring about the outcomes when achieved the goal of a digital activity, e.g., collecting coins and unlocking new themes in a game

2b5) engaging parents in decision making: negotiating with adults while selecting which section to play

2b6) watching others' digital activity: looking at the screen while others' watch television or play digital game

2b7) talking about others' digital activity: commenting on others' digital activity

2b8) interfering to the digital activity of others: acting in the digital activity of others

### **3) Daily Life**

#### a) Parents' initiations for daily life

Parents initiate interaction for chatting.

#### b) Children's initiations for daily life

Children initiate interaction for meeting daily needs.

## **Appendix D: Coding System for Leading Characteristics of Cases**

**Question:** What characteristics of cases lead to conflicts, and synchronies?

### **Characteristics**

#### **1) Conflicts**

##### 1a) Passive exposure

Children accidentally use or experience secondary digital activity.

##### 1b) Inappropriate content

Children experience the content which is not suitable for children.

1b1) Violence: content which includes one or more of following: fighting, shooting, stealing, disturbing, self-harming, bullying, etc.

1b2) Offensive language: content which includes inappropriate words

1b3) Images too fast for eye tracking: developmentally inappropriate images which children may not be capable of eye tracking

1b4) Fast speech: speech too fast of characters on screen which may be hard for children to understand

##### 1c) Multitasking

Children do two different tasks simultaneously.

1c1) A digital activity as secondary activity: Children's engaging in a second digital activity such as watching television or playing games on digital devices.

1c2) A non-digital activity as secondary activity: Children's engaging in a non-digital secondary activity such as playing non-digital games or eating snacks-drinking beverages.

##### 1d) Irrelevant communication

Communication of which message is not related the digital activity.

## **2) Synchronies**

### 2a) Nature of digital activity

Digital activity that provides opportunities for active engagement of children, scaffolding, and problem solving.

### 2b) Relevant communication

Communication of which message is related the digital activity.

## Appendix E: Coding System for Tactics in Conflicts

**Question:** What are the tactics employed by children and parents during conflicts?

### **Tactics**

#### **1) Tactics of Children**

##### 1a) Ignoring

Ignoring commands and directions of adults

##### 1b) Shouting

Shouting, screaming to dictate

##### 1c) Crying/whining

Crying/whining while talking

##### 1d) Moving away

Taking digital device to become physically inaccessible

##### 1e) Offering finishing

Offering to finish the activity

##### 1f) Offering once more

Demanding one more digital activity

##### 1g) Insisting

Insisting to push his/her demand on adults

##### 1h) Fudging

Detaining or huddling commands of adults to maintain digital activity

##### 1i) Disagreement

Expressing 'no'

##### 1j) Explaining/reasoning

Explaining and negotiating the situation

## **2) Tactics of Parents**

### 2a) Repeating

Repeating directions insistently

### 2b) Explaining

Explaining the situation to the children

### 2c) Providing alternative activity

Motivating children for an alternative activity

### 2d) Ownership of the digital device

Using the power of ownership

### 2e) Time and space restriction

Restricting children's use in point of time and space

### 2f) Physical contact

Touching children while interacting

### 2g) No action

Aborting and going back

## **Appendix F: Coding System for Resolution Strategies**

**Question:** What resolution strategies emerge at the end of conflicts?

### **Strategies**

#### **1) Child submission**

Child agrees or accedes to the parent's demands or viewpoint.

Example:

Child accepts closing the television and eating meal at the end of conflict

#### **2) Parental submission**

Parent agrees or accedes to the child's demands or viewpoint.

Example:

Parent gives children extra time for playing on a tablet.

#### **3) Compromise**

A middle ground is found between the parent and the child so that they modify their original positions. The participants find a mutual solution.

Example:

Child and parent demand watching different contents. At the end of conflict, they decide on a common channel.

## **Appendix G: Coding System for Synchrony Strategies**

**Question:** What agreement strategies emerge in the case of synchronies?

### **Strategies**

#### **1) Following instructions**

##### a) Obedience

One of the participants terminates or alters his/her activity as the other participant directed an instruction.

Examples:

-Child desires watching cartoons while adult is watching his/her program. The parent opens cartoons for the child.

-Noise of television disturbs mother. She asks children to turn down the volume, and child turns down the volume.

##### b) Self-seeking of parents

Parent's selfishly motivating children to a digital activity as the adult aims to further self-interest.

Example:

-Father gives his smartphone to the child while relaxing as he aims to occupy the child during his rest.

#### **2) Accompanying**

One of the participants accompanies to the other during digital activities.

Examples:

-Parent accompanies to child's digital activity when the child showed his/her digital play.

-Parent and child watch television together.

### **3) Cooperation**

Parent and child cooperatively engage in a digital activity to reach a common goal.

Example:

-Parent and child cooperate to accomplish the task of a digital game.

## Appendix H: Ethics Committee Approval/ Etik Kurulu Onayı

UYGULAMALI ETİK ARAŞTIRMA MERKEZİ  
APPLIED ETHICS RESEARCH CENTER



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05 NİSAN 2017

Konu: Değerlendirme Sonucu

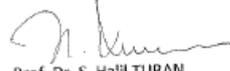
Gönderen: ODTÜ İnsan Araştırmaları Etik Kurulu (İAEK)

İlgi: İnsan Araştırmaları Etik Kurulu Başvurusu

Sayın Doç.Dr. Feyza ERDEN ;

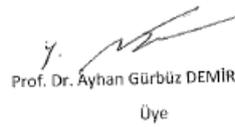
Danışmanlığımı yaptığımız doktora öğrencisi Ahmet Sami KONCA'nın "*Teknososyal Küçük Çocuklar*" başlıklı araştırması İnsan Araştırmaları Etik Kurulu tarafından uygun görülerek gerekli onay 2017-EGT-063 protokol numarası ile 08.05.2017 – 14.06.2018 tarihleri arasında geçerli olmak üzere verilmiştir.

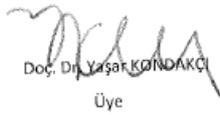
Bilgilerinize saygılarımla sunarım.

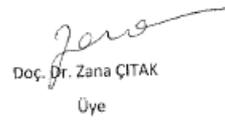
  
Prof. Dr. Ş. Halil TURAN

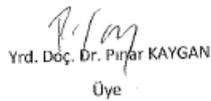
Başkan V

  
Prof. Dr. Ayhan SOL  
Üye

  
Prof. Dr. Ayhan Gürbüz DEMİR  
Üye

  
Doç. Dr. Yaşar KONDAKCI  
Üye

  
Doç. Dr. Zana ÇITAK  
Üye

  
Yrd. Doç. Dr. Pınar KAYGAN  
Üye

  
Yrd. Doç. Dr. Emre SELÇUK  
Üye

## Appendix I: Curriculum Vitae

### PERSONAL INFORMATION

Surname, Name: Konca, Ahmet Sami  
Nationality: Turkish (TC)  
Date and Place of Birth: 30 December 1989, Kayseri  
Marital Status: Married  
Phone: +90 386 280 5179  
email: [samikonca@gmail.com](mailto:samikonca@gmail.com)

### EDUCATION

Degree	Institution	Year of Graduation
MS	Inonu Uni. Early Childhood Ed.	2014
BS	Selcuk Uni. Elementary Math.	2011
High School	Mustafa Koyuncu Anatolian High School, Kayseri	2007

### WORK EXPERIENCE

Year	Place	Enrollment
2012- Present	Kirsehir Ahi Evran University	Res. Assist.

### FOREIGN LANGUAGES

Advanced English

### PUBLICATIONS

Konca, A. S., Özel, E. & Zelyurt, H. (2016). Attitudes of preschool teachers towards using information and communication technologies (ICT). *International Journal of Research in Education and Science (IJRES)*, 2(1), 10-15.

Şad, S. N., Konca, A. S., Özer, N., & Acar, F. (2016). Parental e-nvolvement: a phenomenological research on electronic parental involvement. *International Journal of Pedagogies and Learning*, 11(2), 163-186.

Konca, A. S., & Koksalan, B. (2017). Preschool Children's Interaction with ICT at Home. *International Journal of Research in Education and Science*, 3(2), 571-581.

Konca, A. S., & Tasdemir, A. (2018). Faculty Technology Mentoring Program Facilitates--A Case Study. *Malaysian Online Journal of Educational Technology*, 6(3), 38-51.

Dikmenli, Y., Yakar, H., & Konca, A. S. (2018). Development of disaster awareness scale: A validity and reliability study. *Review of International Geographical Education Online (RIGEO)*, 8(2), 206.

Dikmenli, Y., & Konca, A. S. (2016). Tüketici çevre bilinci algı ölçeği geçerlik ve güvenilirlik çalışması. *Eğitimde Kuram ve Uygulama*, 12(6), 1273-1289.

Çağdaş, A., Özel, E., & Konca, A. S. (2016). İlkokul başlangıcında velilerin aile katılım düzeylerinin incelenmesi. *Eğitimde Kuram ve Uygulama*, 12(4), 891-908.

Özel, E., Konca, A. S., & Zelyurt, H. (2016). Okul Öncesi Öğretmen Adaylarının Yabancı Dil Eğitimine Yönelik Tutumlarının İncelenmesi. *Kırşehir Eğitim Fakültesi Dergisi*, 17(1), 331-342.

#### PRESENTATIONS

Köksalan, B., Özel, E., Zelyurt, H. & Konca, A. S. (2012). The Effect of Parent Education on Some Children Rearing Behaviours of Parents with Six and Seven Year-Old Children. 3rd International Congress on Early Childhood Education, Eylül 2-4, Adana.

Özel, E., Konca, A. S. & Zelyurt, H. (2015). Okul Öncesi Öğretmen Adaylarının Yabancı Dil Eğitimine İlişkin Görüşlerinin İncelenmesi. 4th International Preschool Education Conference, Eylül 2-5, Ankara.

Konca, A. S., Zelyurt, H. & Özel, E. (2015). Attitudes of Pre-School Teachers Towards Using Information and Communication Technologies. International Conference on Education, Mathematics, Science & Technology (ICEMST), Nisan 23-26, Antalya.

Zelyurt, H., Özel, E. & Konca, A. S. (2015). An Investigation on Prespective Pre-School Teachers' Perception of Their Adequacy on Teaching Foreign Languages to Young Children. International Conference on Research in Education and Science (ICRES), Nisan 23-26, Antalya.

Konca, A. S. & Köksalan, B. (2015). Okul Öncesi Dönemde Bilgi ve İletişim Teknolojileri (OÖBİT) Ölçme Aracının Geliştirilmesi. 4th International Preschool Education Conference, Eylül 2-5, Ankara.

Dikmenli, Y. & Konca, A. S. (2016). Tüketici Çevre Bilinci Algı Ölçeği Geçerlilik ve Güvenirlik Çalışması. 15th International Primary Teacher Education Symposium

Taşdemir, A., Konca, A. S. & Kaya B. (2016). The Competences of Primary School Teachers for Using Instructional Technologies Analysis of Current Situation. International Conference on Social Sciences and Humanities

Taşdemir, A., Dilek, H., Baltacı, S. & Konca, A. S. (2016). STEM Activities in Early Childhood Education The Concept of Force. International Conference on Education in Mathematics, Science Technology 2016

Dilek, H., Taşdemir, A., Konca, A. S. & Baltacı, S. (2016). Effects of Early Childhood STEM Activities to the Children s Problem Solving Skills. International Conference on Education in Mathematics, Science & Technology 2016

Dikmenli, Y. & Konca, A. S. (2016). Factors Affecting Preservice Teachers Environmental Consciousness. The 2016 International Academic Research Conference in Berlin

Konca, A. S. & Dikmenli, Y. (2016). An Investigation of Preservice Teachers Environmental Consciousness. The 2016 International Academic Research Conference in Berlin

Özçakır, B., Konca, A. S. & Arıkan, N. (2016). Okul Öncesinde Geometrik Şekillerin Öğretilmesinde Tablet Üzerinde Etkinlik Geliştirilmesi. 1st International Academic Research Congress

Konca, A. S., Özçakır, B. & Arıkan, N. (2016). Investigating effects of technology assisted instruction to 4 6 years children s recognition and discrimination of basic geometric shapes. 1st International Academic Research Congress

Dilek, H., Taşdemir, A., Konca, A. S. & Baltacı, S. (2017). The influence of early childhood STEM activities on the children's belief towards science-learning. Humanities and Social Sciences Conference

Yakar, H., Dikmenli, Y., Konca, A. S. & Özçakır, B. (2017). An Investigation of Preservice Teachers' Disaster Consciousness. Third Sarajevo International Conference

Dikmenli, Y., Yakar, H., Özçakır, B. & Konca, A. S. (2017). Sosyal Bilgiler ve matematik Eğitimi Öğretmen Adaylarının Afet Bilinci Algısının Karşılaştırılması. 6. Uluslararası Sosyal Bilgiler Eğitimi Sempozyumu

Yakar, H., Dikmenli, Y., Konca, A. S. & Özçakır, B. (2017). Afet Bilinci Algı Ölçeği Geçerlilik ve Güvenirlik Çalışması. IX. Uluslararası Eğitim Araştırmaları Kongresi

Dikmenli, Y., Yakar, H., Konca, A. S. & Özçakır, B. (2017). Sınıf Eğitimi ve Fen Eğitimi Öğretmen Adaylarının Afet Bilinci Algısı. IX. Uluslararası Eğitim Araştırmaları Kongresi

Konca, A. S. & Erden, F. (2017). Information and communication technologies use of Turkish preschool teachers. 27th EECERA Annual Conference, Bologna, Italy.

Öztürk Demirbaş, Ç., Dikmenli, Y., Yakar, H. & Konca, A. S. (2017). Öğretmen Adaylarının Millî Park Algı Düzeylerinin İncelenmesi. 6. International Congress on Current Debates in Social Science

Konca, A. S. & Erden, F. (2018). Young children's social cooperation behaviors while using ICT: a case study. 28th EECERA Annual Conference, Budapest, Hungary.

## Appendix J: Turkish Summary/ Türkçe Özet

### EV ORTAMINDAKİ DİJİTAL AKTİVİTELERDE EBEVEYN VE KÜÇÜK ÇOCUKLAR ARASINDAKİ ETKİLEŞİMLERİN İNCELENMESİ

#### 1. Giriş

Okul öncesi dönemde bilgi ve iletişim teknolojilerinin rolü ve etkisi konusunda tartışmalar 1980'lerden beri devam etmektedir. Gelişen teknoloji ve artan erişimler neticesinde, 21. yüzyıl dijital çağ olarak isimlendirilmiştir (Li ve Ranieri, 2010). Bilgiye erişirken, bağlantı kurarken ya da çevreyi etkileyen dijital teknolojiler günlük yaşamın bir parçası haline gelmişlerdir (Siraj-Blatchford ve Siraj-Blatchford, 2003).

Okul öncesi dönem çocuklar sınıfta veya ev ortamlarında kaçınılmaz olarak yoğun bir teknoloji etkileşimine girmektedirler. Ev ortamında çocukların televizyon, akıllı telefon ve tablet gibi dijital teknolojileri sıklıkla kullandıkları belirlenmiştir (Konca, 2014). Merdin'e (2017) göre, 0-6 yaş arası çocuklar evde televizyon (%98,3), akıllı telefon (%93,2) ve tablet (%63,3) kullanmaktadırlar. Çocukların bu tür dijital teknolojilerle etkileşime girmeleri ve kullanmaları onlar için bazı potansiyel faydalar sunmaktadır (NAEYC & Fred Rogers Centre, 2012). Mishra ve Joseph (2012) dijital teknolojilerin çocuklar için önemini iki başlık altında incelemiştir. İlk olarak, dijital teknolojiler çocukların çevresini sürekli etkilemektedir. Bu nedenle, çocukların fiziksel ve sosyal dünyalarının bir parçası haline gelmişlerdir. Bu nedenle dijital teknolojiler çocukların bilişsel, sosyal ve duygusal gelişiminde önemli bir rol oynamaktadır (Johnson, 2010). Diğer yandan, dijital teknolojiler okul öncesi eğitimi çeşitli yönlerden desteklemek için imkanlar oluşturmaktadır. Çocukların oyun etkinliklerinin zenginleştirilerek desteklenmesi dijital teknolojilerin ev ortamında sunduğu en önemli özelliklerden birisi olarak görülmektedir. Ancak, bazı araştırmalar, dijital teknolojilerin çocukların gelişimi üzerindeki muhtemel olumsuz sonuçlarına dikkat çekmektedir. Özellikle, erken yaşta teknoloji kullanımını sıklıkla eleştirilen bir konu haline gelmiştir.

Yapılan arařtırmalar incelendiğinde, çocukların dijital teknolojileri ev ortamlarında kullanımına iliřkin olarak, çoğunlukla çocukların ekran zamanlarına odaklanılmıř, içeriklerin ve amaçlanan fonksiyonların olumlu ya da olumsuz sonuçlarını (ör. öğretim kavramları) sunmuřtur (Aarsand ve Aronsson, 2009; Buckingham, 2007). Ayrıca bu çalışmalarında çocukların dijital etkinliklerinin doğrudan gözlemlenmesi yerine ebeveyn görüşmelerine dayanarak (Munasib ve Bhattacharya, 2010; Rose, Vittrup ve Leveridge, 2013) veri toplanmıřtır. Bu çalışmada ise ebeveynlerin görüşleri veya bakıř açıları yerine, gerçek ortamdaki çocukların dijital etkinliklerine odaklanılmıřtır. Bu tür bir çalışma, çocukların dijital etkinlikleri hakkında daha ayrıntılı bilgi sağlaması açısından önemlidir.

Bu çalışma, çocukların ve ebeveynlerin evde dijital etkinlikler sırasında birbirleriyle nasıl etkileřime girdiklerini incelemektedir. Çocukların dijital etkinlikler sırasındaki etkileřimleri, çocuklar ve dijital etkinlikleri konusunda yetkisi bulunan ebeveynlerden ayrılamaz. Ebeveynler ve çocuklar, etkinlikler sırasında karmařık bir etkileřim içindedirler. Ancak bu etkileřim, ebeveynler ve çocuklar arasında dijital etkinliklerin zamanı, yeri ve süresi konusunda çatıřma ve senkronizasyon olarak görölmektedir. Bu nedenle, faaliyetler sırasında ebeveynler ve çocuklar arasındaki etkileřime bakılarak, dijital ortamdaki ev içi faaliyetlerin sosyal yönü hakkında daha sağlıklı bulgular elde edilebilir. Bu çalışma, çocukların veya ebeveynlerin televizyonla, akıllı telefonla ve tabletle ilgilendiđi dijital etkinlikleri içermektedir. Bu üç cihaz, arařtırmanın yapıldıđı alanın çevresinde en sık kullanılan dijital teknoloji formları olduđu için çalışmaya dahil edilmiřtir (Konca, 2014). Bu řekilde, dijital aktiviteler sırasındaki ebeveynler ve çocuklar arasındaki etkileřimlerin arařtırılması amaçlanmaktadır.

Sosyal etkileřimler çocuk-çocuk arasında veya çocuk-yetiřkin arasında gerçekteřebilir. Dijital etkinlikler sırasında katılımcılar istek, arzu ve niyetlerine göre kendilerini sosyal olarak konumlandırırılar. Ljung-Djarf (2008) bu konumları sahip olma, izleme ve katılma olarak üç bařlık altında sınıflandırmıřtır. Bu bağlamda çocuklar dijital aktivite esnasında kendi konumlarıyla uyumlu olarak sosyal etkileřimde bulunurlar. Dijital teknolojilerin çocukların sosyal gelişimine tehdit olarak algılanması gerektiđini vurgulayan arařtırmacılar olmasına rađmen bazı çalışmalar çocuđun dijital aktivitelerle etkileřimini sosyal açıdan incelemeyi hedeflemiřlerdir.

Johnson (2010) Bronfenbrenner'in modelini çocuğun sosyal olarak diğer insanlarla etkileşimde bulunduğu çeşitli sistemleri yapılandırmak için yeniden düzenlemiştir. Tekno-altsistem çocuklara hem dijital aktiviteleri yürütmeleri hem de aynı zamanda diğer insanlar ve diğer sistemlerle etkileşimde bulunmaları için uygun ortamı sağlayan bir yapı olarak tanımlanmıştır.

Literatür incelendiğinde çocuklar ve dijital teknoloji üzerine yapılan çalışmaların genellikle cihazların kullanımı, içeriklerin pozitif ve negatif dönüşleri veya bazı kavramların öğretilmesindeki rolü üzerine durulduğu görülmüştür. Bunların yanı sıra yapılan çalışmaların bazıları sadece ebeveynlerin ifadelerine odaklandığı, çocukların dijital aktivitelerinden gözlem yoluyla veri toplanmadığı belirlenmiştir. Bu çalışmalar farklı yerlerde ve farklı aileler üzerinde yapıldığı için değerli bilgiler içermektedir. Ancak sadece ebeveyn mülakatları üzerine veya anketle elde edilen sonuçlardan derinlemesine bilgi elde edilememektedir. Bu bağlamda bu çalışma çocukların dijital aktiviteler esnasında ebeveynlerle olan sosyal etkileşimlerini incelemeyi amaçlamıştır ve aşağıdaki araştırma sorularına cevap aranmıştır.

1: Dijital aktiviteler esnasında ebeveyn ve çocuklar arasındaki etkileşimin amaçları nelerdir?

2: Dijital aktiviteler esnasında ebeveyn ve çocuklar arasındaki etkileşimin türleri nelerdir?

3: Dijital aktiviteler esnasında ebeveyn ve çocukların kullandığı etkileşim stratejileri nelerdir?

## **2. Yöntem**

Bu araştırmanın esas amacı çocukların dijital aktiviteler esnasındaki sosyal etkileşimlerini incelemektir. Nitel bir yaklaşım olan fenomenolojik araştırma tasarımı bireylerin ne yaşadıklarını ve bu yaşadıklarının nasıl gerçekleştiğini araştırmak için kullanılmıştır (Moustakas, 1994). Bu nedenle, fenomenolojik araştırma belirli birolgulu yaşamış bireylerin yaşamış deneyimlerinin özünü tanımlamanın ve anlamının yollarını aramaktadır (Lichtman, 2013).

Araştırmaya yaşları 48-60 ay arasında olan 4 çocuk ve aileleri katılmıştır. Bu çocukların ikisi kız, ikisi erkektir. Ailelerin ekonomik durumları incelendiğinde, bir aile düşük, iki aile orta, bir aile yüksek düzeyde aylık gelire sahiptir. Ayrıca çocukların ikisinin kendilerinden büyük kardeşi varken iki çocuk ise kardeş sahibi değildir.

Araştırmada veri toplamak için farklı yöntemler kullanılmıştır. Bu yöntemlerin ilki ev ziyaretleri ve bu ziyaretler esnasında yapılan gözlemlerdir. Her aileye 10 ev ziyareti olmak üzere toplam 40 ev ziyareti yapılmıştır. Bu ziyaretlerin toplam süresi 110 saat 53 dakikadır. Ayrıca, bu ziyaretlerin 60 saati video ile kayıt altına alınmıştır. Ev ziyaretleri süresince araştırmacı gözlem formu kullanarak notlar almış ve veri kaybı yaşamamak için uygun durumlarda video kayıtları gerçekleştirilmiştir. Veri toplamak için ayrıca araştırma başlangıcı ve ev ziyaretlerinin tamamlanması sonrasında ebeveynlerle mülakatlar yapılmıştır. İlk mülakat aileleri tanımayı ve onların teknoloji kullanımı hakkında bilgi edinmeyi amaçlamıştır. Yapılan son mülakatlar ise dijital aktivitelerde gözlemlenen olgular hakkında daha fazla bilgi edinmeyi amaçlanarak yapılmıştır. Bunların yanı sıra çocuklarla ziyaretler esnasında bazı davranışları neden sergilediğini anlamlandırmak, dijital aktiviteleri hakkında daha fazla bilgi edinmek amacıyla kısa görüşmeler yapılmıştır.

Araştırma boyunca elde edilen tüm veriler yazılı hale getirilerek MAXQDA 2018 programına yüklenmiştir. Yeni kodlar oluşması veya var olan kodların düzenlenmesi öngörülerek Lincoln ve Guba'nın (1985) kodlama prosedürü analiz boyunca takip edilmiştir. Bu doğrultuda yeni kodlar eklenmiş, var olan kodlar yeni ortaya çıkan olgulara göre yeniden düzenlenmiş, kodlar arasındaki ilişkiler belirlenmiş ve yeni çıkan kategoriler birbiriyle ilişkilendirilmiştir.

Araştırmadan elde edilen verilerin geçerliği ve güvenilirliği de araştırma ve analiz süreci boyunca göz önüne alınmıştır. İç geçerliliği sağlamak amacıyla uzun süren gözlemler, farklı veri kaynakları kullanılarak veri elde edilmesi ve her aileden bilgileri doğrulamak amacıyla bir kişi ile görüşmeler gerçekleştirilmiştir. Verilerin güvenilirliği içinse ikinci bir kodlayıcı belirlenerek verilerin bir kısmını araştırmacıdan ayrı olarak kodlaması sağlanmıştır. Araştırmacı ve ikinci kodlayıcı arasındaki uyum Miles ve Huberman'ın (1994) formülüne göre hesaplanmış ve 0,89 olarak bulunmuştur.

### **3. Bulgular**

Bu bölümde araştırmadan elde edilen bulgular sunulmuştur. İlk olarak çocuk ve ebeveynlerin sosyal etkileşimlerinin amaçları incelenmiştir. Daha sonra dijital aktiviteler esnasında ortaya çıkan etkileşimlerin türleri araştırılmıştır. Son olarak

dijital aktiviteler esnasında ebeveyn ve çocukların kullandıkları stratejiler belirlenmiştir.

Araştırma sonucunda ortaya çıkan bulguların genel yapısı aşağıdaki tabloda sunulmuştur. Şekilde yer alan bulguların ayrıntılı açıklamasına da bu bölümde yer verilmiştir.

Tablo 1: Bulguların genel özeti

<i>Etkileşimin Amacı</i>			
• Yönlendirme:	40.75%		
• Paylaşma:	53.55%		
• Günlük yaş.:	5.7%		
<i>Etkileşim Türleri</i>			
• Çatışma:	54.9%		
• Uyum:	45.1%		
<i>Yol açan özellikler</i>			
<i>Çatışma</i>		<i>Uyum</i>	
• Çoklu görev		• Dijital aktivitenin doğası	
• Pasif maruz kalma		• İlgili iletişim	
• Uygunsuz içerik			
• İlgisiz iletişim			
<i>Çatışma Tatikleri</i>			
<i>Çocukların taktikleri</i>		<i>Ebeveynlerin taktikleri</i>	
• Göz ardı etme	• Bir hak daha talep etme	• Tekrar etme	• Cihaz sahibi olduğunu belirtme
• Bağırma	• Israr etme	• Açıklama	• Yer ve zaman kısıtlaması
• Ağlama	• Yarıda bırakma	• Alternatif aktivite önerme	• Fiziksel etkileşim
• Uzaklaşma	• İhtilaf		• Tepki vermeme
• Tamamlama talebi	• Açıklama		
<i>Etkileşim stratejileri</i>			
<i>Çatışma çözme stratejileri</i>		<i>Uyum stratejileri</i>	
• Çocuğun uyumu	34.80%	• Emirlere itaat	27.40%
• Ebeveyn uyumu	53.92%	• Eşlik etme	47.95%
• Ortak uyum	11.28%	• İşbirliği	24.65%

### 3.1. Sosyal Etkileşimlerin Amacı

Bu bölümde çocukların ve ebeveynlerin sosyal etkileşimlerinin amaçları belirlenmiştir. Bölüm boyunca “Dijital aktiviteler esnasında ebeveyn ve çocuklar arasındaki etkileşimin amaçları nelerdir?” sorusuna cevap aranmıştır.

Araştırma boyunca çocukların ve ebeveynlerin iletişim başlatmaya açık oldukları ve her iki tarafında dijital aktiviteler esnasında etkileşime girdikleri

görülmüştür. Ebeveynler dijital aktiviteler esnasında çocuklarıyla farklı yollarla etkileşim başlatmışlardır. Ancak bu başlangıçların iki ana amacı olduğu ortaya çıkmıştır. Bunların ilki yetişkinlerin çocuklarını yönlendirme amaçları nedeniyle çocuklarına çeşitli direktifler vermeleridir. Etkileşimlerin ikinci amacı ise hem çocukların hem de kendi dijital aktivitelerini paylaşma düşüncesi olmuştur. Çocuklar ise paylaşma ve ebeveynleri yönlendirme amacıyla etkileşime girmişlerdir. Bunlara ek olarak ise yetişkin ve çocuklar günlük hayatla ilgili etkileşime dijital aktivite esnasında sık sık girmişlerdir.

Ebeveynlerin çocuklarını yönlendirmeleri gözlem boyunca sık sık meydana gelmiştir. Ebeveynlerin yönlendirmeleri üç amaç altında birleşmiştir. Bunlardan ilki dijital teknolojileri kullanmak için çocukları yönlendirmeleri olmuştur. Bu amaç doğrultusunda ebeveynler, çocuklara sesi açıp kısma, dijital cihazları açma kapama, kanal veya uygulama değiştirme gibi direktifler vermişlerdir. Ebeveynlerin ikinci tür direktifleri ise çocukların dijital teknolojileri uygun kullanmasına yönelik direktiflerdir. Bu doğrultuda ebeveynler, çocuklar televizyona veya tablet ile akıllı telefon ekranına çok yakından baktığı zaman, çok yüksek sesle televizyon veya video izleme, çocuğun yetişkinin ekrana bakışını kısıtladığı zaman çocuklara yönlendirmeler yaparak dijital teknolojileri daha sağlıklı kullanmalarını amaçlamışlardır. Üçüncü olarak, ebeveynler dijital aktiviteler esnasında çocuklara günlük hayatla ilgili yönlendirmeler yapmışlardır. Çocuklara ilaç saati geldiğini ilacının içmesini söylemesi, tuvalete gitmesini söylemesi, eşyalarını toplaması gibi direktifler bu amaç doğrultusunda gerçekleştirilmiştir.

Araştırma boyunca çocukların da yetişkinleri yönlendirdiği görülmüştür. Çocukların yönlendirme amaçlı etkileşimleri de üç başlık altında toplanmıştır. Bunlardan ilki çocukların kendi isteklerine göre dijital cihazları kontrol etme amaçlarıdır. Yetişkinlere kanal değiştirmelerini söyleme, sesi açmasını veya kısıtlamasını talep etme gibi amaçlar buna örnek olarak verilebilir. Ayrıca çocuklar yetişkinleri dijital aktiviteler boyunca kablosuz ağa bağlanma gibi teknik bir problemle karşılaşıldığında çözüm önerileri sunarak yönlendirmişlerdir.

Sosyal etkileşimlerin ikinci amacı ebeveyn ve çocukların dijital aktiviteleri paylaşma olarak belirlenmiştir. Dijital aktivite esnasında hem çocuk hem de ebeveyn dijital aktiviteye diğer tarafı da dahil etmek için girişimde bulunmuşlardır.

Yetişkinlerin paylaşma amaçları incelendiğinde; yetişkinler çocukların televizyon izleme aktivitelerine doğal olarak katılmışlardır. Bunun yanı sıra yetişkinler çocukların dijital aktivitelerini izleyerek, dijital aktiviteler hakkında yorum yaparak ve dijital aktivitelere müdahale ederek çocukların dijital aktivitelerini paylaşmışlardır. Ayrıca ebeveynler çocukları kendi dijital aktivitelerine dahil ederek paylaşma amacı taşımışlardır.

Çocukların dijital aktiviteleri paylaşma amaçları araştırma boyunca sıklıkla gözlemlenmiştir. Çocuklar kendi dijital aktivitelerini paylaşmaya oldukça meyilli olmuşlardır. Dijital aktivite esnasında sık sık yetişkinlere yaptıklarını gösterme, onlarla dijital aktivite hakkında konuşma eğiliminde oldukları görülmüştür. Çocukların dijital aktiviteleri paylaşımlarına bakıldığında yetişkinleri aktiviteye davet etmişler, dijital aktiviteler hakkında düşüncelerini sormuşlar, yardıma ihtiyaç duyduklarında yetişkinlerin yardımını talep etmişler, bazı durumlarda yetişkinleri aktivitenin karar verme sürecine dahil etmişlerdir. Ayrıca, çocuklar da tıpkı yetişkinler gibi karşı tarafın dijital aktivitesini izlemişler, aktivite hakkında konuşmuşlar ve zaman zaman yetişkinlerin dijital aktivitelerine müdahale ederek onları yönlendirmişlerdir.

Sosyal etkileşimlerin amacı son olarak günlük hayatla ilgili niyetler olmuştur. Yetişkinler çocuklarla günlük hayatla ilgili sohbet etme amacıyla sosyal etkileşime girmişlerdir. Çocuklar ise su ile yiyecek gibi ihtiyaçlarını gidermek için dijital aktiviteler esnasında günlük hayatla ilgili etkileşimde bulunmuşlardır.

### ***3.2. Etkileşim Türleri***

Sosyal etkileşimler yetişkin ve çocuk arasındaki harmoninin derecesine göre iki kategoriye ayrılmıştır. Sosyal etkileşim esnasında yetişkin ve çocuk arasında bir fikir ayrılığı söz konusu ise bu etkileşim çatışma olarak sınıflandırılmıştır. Ancak, sosyal etkileşim esnasında yetişkin ve çocuk arasında herhangi bir fikir ayrılığı söz konusu değilse bu etkileşim uyum olarak sınıflandırılmıştır. Çatışma içerisinde yetişkin ve çocuk farklı amaçlarla hareket ederken, uyum durumunda yetişkin ve çocuğun amaçları örtüşmektedir. Yapılan analiz sonucunda sosyal etkileşimlerin %54,9'u çatışma olarak sınıflandırılırken, geriye kalan %45,1 ise yetişkin ve çocuk arasında uyum olarak belirlenmiştir.

#### ***3.2.1. Çatışma***

Çatışma durumlarında ebeveyn ve çocuklar birbirlerine üstünlük sağlamak için çeşitli taktikler kullanarak kendi arzularını dikte etmeye çalıştıkları belirlenmiştir. Fakat ebeveyn ve çocukların taktiklerin çeşitli açıdan farklılıklar gösterdiği belirlenmiştir. Çocuklar anti-sosyal taktikler olan ağlamak, ısrar etmek, bağırarak, sızlanmak gibi taktikler kullanırken yetişkinler sosyal taktikler olan anlatma, tekrar söyleme, açıklama gibi taktikleri kullanmışlardır.

Çatışma boyunca çocukların daha zayıf taraf olduğu görülmüştür. Bu nedenle çocuklar çatışma sonunda avantaj sağlamak için birden fazla taktikleri de kullandığı belirlenmiştir. Çocukların kullandığı stratejiler göz ardı etmek, bağırarak, ağlamak / sızlanmak, uzaklaşmak, bitene kadar devam etmeyi teklif etmek, bir kez daha oyun hakkı teklif etmek, ısrar etmek ve açıklamak olarak sıralanmıştır. Ebeveynlerin taktikleri alternatif bir aktivite sağlamak, dijital cihazın sahibi olduğunu belirterek sözünü geçirmeye çalışmak, zaman ve mekan kısıtlamasına gitmek, fiziksel temas ve çocukların stratejileri karşısında sessiz kalmak olarak tespit edilmiştir.

Çocuklar dijital aktivitede bir çatışmayla karşı karşıya kaldıklarında, genellikle ebeveynlerin tepkilerini görmezden gelmeye ve ebeveynlerin taleplerini hiç duymamış gibi dijital aktiviteye ile devam etmeye eğilim göstermişlerdir. Çocuklar ayrıca kendilerini savunmak için bağırma, sızlanma gibi anti-sosyal taktiklere başvurmuşlardır. Bazen fiziksel olarak ebeveynlerden uzaklaşarak konumlarını değiştirmişlerdir. Ebeveynler daha çok konuşarak çatışmayı çözmeyi tercih etmişlerdir. Dijital etkinlik yerine alternatif faaliyetler sunarak çocuklarla ortak bir noktada buluşmaya çalışmışlardır. Ancak çocuklar ebeveynlerin taleplerini görmezden geldiklerinde tekrar ederek, yeniden anlatarak iletişimi sürdürmeye çalışmışlardır. Otorilerinin bir göstergesi olarak çocuklarla fiziksel temas kurmuşlar, omuzlarına veya kollarına dokunarak onlarla daha etkin bir iletişim oluşturmaya çalışmışlardır. Bazen, kullanılan cihazın gerçek sahibi olduklarını ve bu yüzden kullanılıp kullanılmayacağına karar vermenin tek otoritesi olduklarını beyan etmişlerdir.

Çatışma durumları incelendiğinde bazı etmenlerin çatışmaya yol açtığı görülmüştür. Bu etmenler dijital teknolojiye pasif maruz kalma, uygunsuz içerik, çoklu görev yapma ve ebeveynlerin dijital etkinliklerden ilgisiz iletişimleri olarak belirlenmiştir. Çatışmaya neden olan ilk etmen, çocukların dijital teknolojiye pasif maruz kalmasıdır. Çocuklar pasif maruziyet yaşadıklarında, konsantrasyonları ikiye

ayrılarak bir kısmı asıl faaliyetin devamında kullanılırken ikincisi ise pasif maruz kalma ile ortaya çıkan aktivitede kullanılmıştır. Pasif maruziyetin en yaygın olduğu ortam ise ailelerin herhangi birinin izleyip izlememesinden bağımsız olarak televizyonu sürekli açık tutma eğilimleridir. Bu nedenle, çocukların televizyona pasif olarak maruz kalması sıklıkla gözlemlenmiştir. Bu pasif maruz kalmanın çocukların dijital olmayan etkinliklerinin doğasını bozduğu görülmüştür. Pasif maruz kalma çocuklar ve ebeveynler arasındaki etkileşimi engelleyici olarak görülmektedir. Pasif maruz kalma dijital aktivite esnasında etkileşimin sürekliliğini kesintiye uğratarak iletişimi zayıflatma veya sonlandırmaya neden olmuştur. Pasif maruz kalma sonunda ebeveyn veya çocuğun dikkati asıl yapılan faaliyetten uzaklaştığı için etkileşim olumsuz etkilenmiştir.

Dijital aktivelerin içeriği, çocuklar ve ebeveynler arasındaki etkileşimi zenginleştirmesi açısından önemlidir. Dijital aktivite süresince içerik etkileşimin önemli bir parçası olmuştur. Şiddet, cinsel içerik, tehlikeli davranışlar, nefret dili veya saldırgan dil uygunsuz içerik olarak görülmüştür. Bunun yanı sıra çocuklar için çok hızlı olan konuşma ve görüntüler yoğun konsantrasyon gerektirdiği için çocuklar için uygun olmadığı kabul edilmiştir.

Çocukların aynı anda birden fazla işle meşgul olmaları çoklu görev olarak adlandırılmıştır. Çocukların dijital aktivite esnasında çoklu görev yapma eğiminde oldukları belirlenmiştir. Çocuklar istenen bir faaliyete ek olarak dijital aktiviteye devam etmişlerdir. Çocuklar aynı anda iki dijital aktivite, veya aynı anda dijital-dijital olmayan aktivite gerçekleştirmişlerdir. Dijital olmayan aktiviteye örnek olarak bir şeyler yemek yada içmek, veya dijital olmayan bazı oyunlar verilebilir.

Çocuklar dijital etkinlikler sırasında genellikle etkileşime açıktılar. Özellikle dijital aktivitelerin içeriği hakkında paylaşımda bulunmayı sevmişlerdir. Ayrıca, ebeveynler çocuklar dijital aktiviteye çok yoğunlaştığı zaman onlarla etkileşime geçmede problem yaşamışlardır. Çocuklar ebeveynlerin iletişimleri dijital aktive ile ilgiliyken iletişim kolaylaşırken, ebeveynlerin iletişimlerinin içeriği dijital aktiveden bağımsız olduğu durumda ebeveyn-çocuk etkileşimini başlatmak ve sürdürmek zorlaşmıştır. Özetle, çocuklar dijital aktiveden bağımsız olan iletişimi görmezden gelme eğilimine sahipken dijital bir faaliyetle ilgili konularda gelen mesajları

cevaplamışlardır. Bu eğilim, ebeveynlerin dijital etkinlikleri sürdürme için bir tehdit olduğunu düşünen çocuklardan kaynaklanmış olabilir.

### 3.2.2. Uyum

Çocuklar ve ebeveynler dijital aktiviteler sırasında birçok etkileşime başladılar. Daha önce açıklandığı gibi, çocukların ve ebeveynlerin istek ve talepleriyle karşı karşıya kaldıklarında, etkileşimler çatışma durumlarına dönüştü. Öte yandan, iki tarafın amaçları ve talepleri birbirini tamamlayıcı olduğunda, taraflar arasındaki uyum gelişti. Çatışma ve uyum arasındaki temel fark, çocukların veya ebeveynlerin, rakiplerinin taleplerini ve yönlerini kabul etmeleri ve rakiplerinin isteklerine göre yanıt vermeleriydi.

Tipik bir uyum durumunda, çocuklar ve ebeveynler dijital faaliyetle meşgulken bir taraf diğeriyle etkileşime girmiştir. Bu durumda diğer taraf bu etkileşime uygun cevap vererek uyum gerçekleşmiştir. Uyum durumlarında çocuklar ve ebeveynlerin davranışları birbirlerini tamamlayıcı nitelikte olup her iki taraf da birbirine göre davranmıştır.

Çocukların ve ebeveynlerin uyum içerisinde oldukları durumların bazı belirgin özellikleri saptanmıştır. Bu özelliklerin ilki, dijital aktivitelerin bazı özelliklerinin uyum durumunun oluşmasında destekleyici rolünün olmasıdır. Dijital aktivitenin işbirliğine uygunluğu, katılımcıların aktif katılımına imkan tanıyan aktiviteler, etkileşimin uyum durumu olmasında etkili olmuştur. İkinci tür özellik ise ebeveynlerin iletişimlerinin dijital aktiviteyle ilgili olmasıdır. Ebeveyn iletişimi dijital aktiviteyle ilişkili olduğunda çocuklar daha fazla cevaplama ve tepki gösterme eğiliminde oldukları için bu durumlar uyum içermiştir.

### 3.3. Etkileşim Stratejileri

#### Çatışma Çözüm Stratejileri

Her çatışma durumu kendine özel çözümler içermiştir. Ancak, bu çözümler genel olarak üç başlık altında toplanmıştır. İlk çözüm stratejisi olarak çocukların ebeveynlere göre kendilerini düzenlemesidir (%34,80). Bu stratejide çocuklar kendilerini ebeveynlerin taleplerine ve bakış açılarına uygun olarak düzenlemeleri görülmüştür. İkinci tür stratejide ebeveynlerin çocuklarına göre kendilerini düzenlemeleridir (%53,92). Üçüncü çözüm stratejisinde ise ebeveyn ve çocuklar

çatışma durumunda birbirlerine karşılıklı tavizler vererek ortak bir noktada buluşmaları görülmüştür (%11,28).

İlk çözüm stratejisinde çocuklar kendilerini ebeveynlere göre düzenlemişlerdir. Çocuklar ebeveynlerine göre kendilerini düzenlerken aynı zamanda çeşitli taktikler kullanmışlardır. Ancak, ebeveynlerin de kendi taktikleri olduğu için çocuklar baş edemedikleri durumlarda ebeveynlerin iradesine teslim olmuşlardır. Bu stratejide ebeveynin üstünlüğünü kabul etme görülmüştür. Ebeveynler çatışma sırasında her zaman çocuklardan daha güçlü görünmüşlerdir. Bu nedenle çocuklar daha çok psikolojik taktikler kullanma eğilimi belirlenmiştir. Ancak, bazen ebeveynler doğrudan güç kullanarak, yada bu gücü çocuklara göstererek otoritelerini kullanmışlardır. Ancak, bazı durumlarda ise ebeveynler çocuklara göre kendilerini ayarlamışlardır. Çocuklar bazı durumlarda ebeveynlere yönelik istek ve taleplerini çeşitli taktikler kullanarak zorlamışlardır. Ebeveyn ise bu durumda çocuğa uyum sağlamış, çocuk dilediği gibi hareket etmiştir.

Yukarıda bahsedilen çözüm stratejilerinin hepsinde bir kazanan ve bir kaybeden olduğu görülmektedir. Bunların birlikte, bazı müzakereler çatışmanın çocuklar ve ebeveynler için kazan-kazan sonucuna ulaşmalarını sağlamıştır. Ebeveyn ve çocuklar müzakere sonunda birbirlerine uyum sağladıklarında uzlaşma stratejisi her iki taraf için de üretken olmuştur. Ebeveynler çocuklara karşılıklı bir çözüm sunmuş ve çocuklar da bunu bir anlaşma gibi görüp kabul etmişlerdir. Bu nedenle, çatışmada taraflardan birisi konularını değiştirdiğinde uzlaşma görülmüştür.

### *3.3.1. Uyum Stratejileri*

Çocuklar ve ebeveynler dijital etkinlik sırasında uyum göstermişlerdir. Ortak bir yolla bir araya gelerek birbirlerinin istek, talep ve davranışlarına göre hareket etmişlerdir. Gözlemlenen uyum durumlarında çeşitli uyum stratejilerinin olduğu görülmüştür. Bu stratejiler talimatlara uyma (%27,40), eşlik etme (%47,95) ve işbirliği (%24,65) olarak belirlenmiştir.

İlk strateji birbirlerinin talimatlarını takip eden çocuk ve ebeveynleri içermektedir. Daha önce de belirtildiği gibi dijital aktiviteler esnasında her iki taraf da talimatlar vermiştir. Uyum durumunda, ebeveyn veya çocuk karşı tarafın talimatlarını uyum içerisinde karşılayarak talimata uygun davranmışlardır. Ancak bazı talimatlar da birey açısından farklılık göstermiştir. Bazı talimatlar itaat gerektirirken bazı talimatlar

da ebeveynin çıkarıcı talimatları olarak görülmüştür. Bu doğrultuda, bazı talimatlara uyarken çocuk yada ebeveyn kendinden ödün vermesi, fedakarlık yapması gerekmiştir. Bu nedenle yönlendirilen kişi talimata paralel olarak faaliyetini sonlandırmış veya değiştirmiştir. Bazı durumlar ise ebeveynin çıkarıcı talimatlarını içermiştir. Ebeveynler çocuklar tarafından rahatsız edilmek istemediklerinde, onları meşgul tutmak için bir dijital aktiviteye yönelik talimat vermişlerdir.

Çocuklar dijital etkinlikleri ebeveynlerle paylaşmaya açık olarak gözlemlenmiştir. Mobil cihazlarla oyun oynarken birilerinin onların oyunlarını izleyip takip etmesini arzulamışlardır. Ebeveynler de çocukların oyunlarını güvenlik açısından göz ucuyla veya doğrudan takip etmişlerdir. Bu nedenle, ebeveynlerin çocukların dijital faaliyetlerine eşlik etmesi sıklıkla gözlenmiştir. Ancak, eşlik etme iki türde ortaya çıkmıştır. İlkinde, ebeveyni çocuk dijital etkinliğe davet etmiştir. Ebeveyn bu durumda çocuğun davetini kabul ederek ona eşlik etmiştir. İkincisinde ise ebeveyn kendiliğinden çocuğa eşlik etme faaliyetinde bulunmuştur. İçeriği kontrol etmek, çocukların oyunlarını izlemek için dijital aktivite sırasında eşlik etmişlerdir.

Çocukların ve ebeveynlerin talep ve istekleri karşılıklı kabul gördüğünde uyum ortaya çıkmıştır. Buna ek olarak, çocuk ve ebeveyn ortak bir amaca yönelik birlikte hareket ettiklerinde işbirliği de ortaya çıkmıştır. İşbirliğinin olduğu bir uyum durumunda, ebeveyn ve çocuklar ortak hedefleri paylaşmış ve her biri hedefe işbirliği atmosferinde ulaşmayı hedeflemişlerdir.

#### **4. Tartışma**

Her ne kadar dijital teknolojilerin çocukları sosyal olarak izole ettiği hakkında tartışmalar ve kaygılar olsa da, bu çalışma, çocukların dijital etkinlikler sırasında çevrelerindeki diğerleriyle etkileşime girdiklerini göstermiştir. Teknolojinin çocukların akranlarıyla etkileşimini ve işbirliğini geliştirebileceği vurgulanmaktadır (Hsin ve diğerleri, 2014; Infante ve diğerleri, 2010; Lim, 2015). Ayrıca, evde dijital teknoloji kullanımı ebeveyn-çocuk etkileşimini kolaylaştırabilir ve koruyabilir (Kenner ve ark., 2008). Benzer şekilde, Vourloumi (2014), hem çocukların hem de ebeveynlerin başlattığı dijital aktivitelerin, çocukların evde teknoloji kullanımı sırasında bağlamda sosyal ve duygusal olduğunu bildirmiştir. Ebeveynler, sosyal etkinlikler bağlamında dijital aktiviteler için bu tür fırsatları sağlamada kilit rol oynamaktadır. Çocukların teknoloji kullanımını geleceğe bir hazırlık olarak görülmüş

ve çocukların gelişimini ve öğrenmelerini desteklerken dijital teknolojilerden yararlandıkları belirtilmiştir (Plowman ve McPake, 2013). Bu nedenle, çocuklar dijital etkinlikler sırasında etkileşime girme eğiliminde olduklarından, ebeveynlerinin aktif katılımı ve etkileşimi çocuklar için faydalar sağlayabilir.

Mevcut çalışma, çocukların dijital aktiviteler sırasında ebeveynleri tarafından yönlendirildiğini ve yönlendirildiğini göstermiştir. Benzer şekilde, Shahrinin ve Butterworth (2002), çocukların bilgisayar temelli etkinlikler sırasında çevreleriyle yoğun bir şekilde etkileşime girdiklerini ve etkileşimlerin yaklaşık %23'ünün yönlendirmelerle ilgili olduğunu bulmuşlardır. Bu nedenle, talimatların çocukların davranışlarını sınırlayabileceği dikkate alınmalıdır. Bu çalışmada, ebeveynlerin talimatları, dijital teknolojilerin çalışması ve çocukların bu teknolojilerin uygun kullanımı ile ilgilidir. Çocukların doğru dijital teknoloji kullanımına yönelik talimatlar önemlidir ve çocukların literatürde vurgulanan olası zararlı etkilerden korunmasında yararlı olduğu düşünülmektedir. Bununla birlikte, dijital teknolojilerin işleyişindeki aşırı ebeveyn yönünün, çocukların doğal davranışlarını azalttığı da görülebilir. Bu nedenle, ebeveynlerin çocuklarının dijital etkinlikleriyle ilgili olarak tanıtmak ve uygulamak istedikleri kuralları varsa, bu kuralları önceden çocuklarla paylaşmalıdırlar. Bu nedenle, dijital faaliyetlerin başlamasından önceki bu kural paylaşımı, verilen talimatların örneklerini azaltmalıdır.

Mevcut çalışma hem çocukların hem de ebeveynlerin, kendi dijital etkinlikleri sırasında davranış paylaşımında bulunduğunu ve bunun dijital teknolojilerin sosyal yönünün altını çizdiğini vurgulamıştır. Ayrıca, aile bağlamının sosyal özelliklerinin çocukların ev ortamındaki dijital etkinliklerini etkileyebileceği de belirtilmelidir. Bu nedenle, çocuklar ve aile üyeleri arasındaki sosyal etkileşimler, araştırma çalışmalarının gerekli bir konusudur. Stephen ve diğ. (2013), küçük çocukların evde dijital teknolojiler yaşadığı aile bağlanlarına odaklanmıştır. Bu çalışmada bildirilenlere benzer gözlemci paylaşım davranışları rapor etmişlerdir. Ebeveynlerin ve daha büyük kardeşlerin, talimat vererek, cesaretlendirerek, bilgiyi genişleterek ve modelleme yoluyla küçük çocukların dijital teknolojileri kullanmalarını destekledikleri görülmüştür. Çocukların başarılı olamadığı durumlarda çocukluktaki sıkıntılarla başa çıkabilmek için ek motivasyon da sağlanmıştır. Teknoloji, çocuklara üç potansiyel pozisyon kazandırır: (i) sahip (teknolojinin

denetleyicisi), (ii) katılımcı (tavsiye öneren kişi) veya (iii) izleyici (tavsiye vermeden gözlemci) (Ljung-Djärf, 2008). Bu nedenle paylaşım eylemi, çocukları bir konumdan diğerine taşır. Bu nedenle, sıra beklemekten pazarlığa kadar çeşitli sosyal davranışlar deneyimleyebilirler. Son zamanlarda yapılan çalışmalar, dijital teknolojiler kullanan çocukların sırayla alındığını, paylaşıldığını, bütünleştirildiğini ve yapıcı sonuçlara yardımcı olduğunu göstermiştir (Charissi ve Rinta, 2014; Hyun ve Davis, 2005; Kucirkova ve diğerleri, 2014; Lim, 2012). Paylaşımı içeren dijital aktiviteler, çocukların sosyal davranışlarını deneyimlemesi ve uygulamasına temel oluşturur. Bu nedenle, dijital etkinlikler sırasında kalıpların paylaşılması, çocukların sosyal gelişiminin desteklenmesi için kilit bir bileşen olarak düşünülebilir.

Araştırmanın ilginç bir sonucu olarak, çocukların bazen teknik bir sorunla karşı karşıya kaldıklarında ebeveynlere çözüm yönlendirdikleri tespit edilmiştir. Prensky (2001), “dijital yerlileri” dijital bir dünyada doğmuş çocuklar olarak tanımlamıştır. Bu çocuklar, ebeveynleri ve öğretmenleri gibi “dijital göçmenler” değil, dijital dünyanın doğal bireyleridir. Öte yandan, Ploughman ve McPake (2013), bu terimin çocukların teknoloji için olanaklarını açıklamadıklarını belirtmiştir. Çocuklar, başkalarının davranışlarını gözlemleyerek ve taklit ederek dijital teknolojileri kullanabilirler (Ploughman, McPake ve Stephen, 2008). Benzer şekilde, bu çalışmada da görüldüğü gibi, çocukların yeterliliği, belirli konularda önceden deneyime sahip oldukları bir tür dijital okuryazarlıktan kaynaklanabilir. Dijital okuryazarlık terimi, sadece becerileri değil aynı zamanda e-güvenliği ve bilgi bulma ve seçme becerisini de içerir (Plowman et al., 2011). Çocuklar, yakınlarına ebeveynlerini gözlemleyerek ve taklit ederek dijital okuryazarlıklarını kurup geliştirebilirler. Bu nedenle, ebeveynlerin dijital teknoloji kullanımı, çocukların dijital okuryazarlığı için hayati öneme sahiptir.

Çocuklar ayrıca bu çalışmada bazı dijital teknolojileri yanlışlıkla kullanmış ve deneyimlemiştir. Bu “pasif riskler” analiz edilmiş ve çocukların dijital teknolojilere bu şekilde maruz kalmasının çatışmalarda ana bir özellik olarak belirlendiğine dikkat çekilmiştir. Pasif maruz kalma, çocuklar ve ebeveynler arasında sağlıklı iki yönlü etkileşimin önündeki bir engel olarak görülmektedir. Benzer şekilde, Kirkorian ve ark. (2009), pasif maruz kalmanın, ebeveynlerin çocuk etkileşimlerini kısıtladığını, etkileşimlerin hem miktarını hem de kalitesini olumsuz yönde etkilediğini bulmuştur.

Pasif maruz kalma, çocukların doğal oyunlarına bir tehdit oluşturduğu gibi (Schmidt ve ark., 2008), çocukların dijital oyunlarını da bozabilir.

Toplam ekran süresi, çocukların dijital teknoloji kullanımının bir göstergesi olarak kabul edilir. Bununla birlikte, Sweetser ve ark. (2012), bu zamanın çocukların aktif ve pasif maruz kalma olarak ayrılması gerektiğini belirtmiştir. Çocuklar kasıtlı olarak dijital teknolojileri kullanabilirler, ancak diğer yandan, günümüz çocuklarını çevreleyen dijital teknolojilerle, muhtemelen günlük olarak dijital teknolojilere de pasif olarak maruz kalmaktadırlar.

Bu çalışmada, çocukların pasif maruz kalma durumlarında istemeden dijital teknolojilerle etkileşime girdiği görülmüştür. Buna ek olarak, çocukların dijital bir aktiviteye taraf olurken, kasıtlı olarak ikincil faaliyetlerde buldukları ortaya çıkmıştır. Literatürde, çocuklar dijital teknolojilerle etkileşime girerken çoklu görev yapmanın olabileceği açıktır (Common Sense Media, 2013; Rideout ve diğerleri, 2010). Bu çalışmada, en önemli çoklu görev biçimlerinden biri, dijital etkinlikler sırasında yiyip içen çocuklar olmuştur. DeShetler (2014), çocukların televizyon izlerken yemek yiyerek çok görevli davranış içerisine girdiklerini vurgulamıştır. Bu noktada altı çizilmesi gereken iki önemli konu var. İlk olarak, çoklu görev belirli bir dijital faaliyetle sınırlı değildir veya belirli bir araçla ilişkili değildir. Çoklu görev tüm dijital etkinlikler esnasında gerçekleştirilebilir. Bununla birlikte, çoklu görev hem hayal gücünü hem de konsantrasyonu olumsuz yönde etkileyebilir. Görevler arasında geçiş yapmak çocukların görevlere yoğunlaşmasını engelleyebilir. Çoklu görev, önemli miktarda çocuğun yoğunlaşmasını ve ilgisini gerektirdiğinden, başkalarıyla etkileşimlerini zayıflatır. İkincisi, dijital etkinlikler sırasında çocukların yemek yemesi beslenme sorunlarına neden olabilir. Çocuklar, dijital bir etkinliğe odaklanırken, tükettikleri yiyeceklerin miktarını ve türlerini fark etmemesi ileride beslenme problemlerine yol açabilir.

Dijital aktivitelerin içeriği bu çalışmada gözlemlenen dijital etkinliklerin kilit bir bileşeni olarak vurgulanmıştır. Çocukların uygunsuz içerik içeren dijital bir faaliyete girdiklerinde genellikle çatışmalara yol açtığı ortaya çıkmıştır. Medya içeriği, dijital teknolojilerin küçük çocukların öğrenmesi ve gelişimi üzerindeki etkisinin kilit bir belirleyicisidir. Dijital aktiviteler uygun olmayan içerik içerdiğinde, istenmeyen sonuçlar doğurabilir. Örneğin, medya şiddeti ve saldırgan davranışlar arasındaki

bağlantı literatürde geniş biçimde araştırılmıştır (AAP, 2011). Şiddet içeren içeriğin çocukların sosyal davranışları ve sosyal ilişkiler üzerindeki olumsuz etkileri Comstock (2008) tarafından yapılan bir meta analizde de bildirilmiştir. Diğer bir meta analizde, video oyunlarındaki şiddet içeren içeriğin agresif davranışları arttırdığı, empati ve sosyal davranışları azalttığı tespit edildi (Anderson ve ark. 2010). Riddle, Cantor, Byrne ve Moyer-Gusé (2012), beş ila 12 yaşları arasındaki çocukların %35'inin afet, savaş veya kaçırma olayları hakkında bildirilen aşırı miktarda haber yayını izlemekten korktuğunu bildirmiştir. Şiddetli ya da diğer uygunsuz içeriklerin yanı sıra, bazı dijital aktiviteler çocukların kavramaları zor olan hızlı karakterli konuşmaları ya da hızlı hareket eden görüntüleri içermiştir. Sonuç olarak, çocuklar aşırı yoğunlaşmaya ve ekrana odaklanmaya zorlanmıştır. Bu da çocukların kendi kendine kaplanmalarına ve bu tür içeriklerle karşı karşıya kaldıklarında yeterince tepki verememelerine neden olmuştur.

Bu çalışmada aynı zamanda uyum durumları araştırılmıştır. Uyuma yol açan en önemli özellik, dijital aktivitelerin kendi doğasıydı. Dijital aktivite işbirliği ve aktif katılıma olanak sağladığında uyum durumu daha çok gözlemlenmiştir. Bu bulgu, DAP çerçevesinin (Copple ve Bredekamp, 2009) dijital aktivitelerdeki rolü ile ilgilidir. Bu çalışmanın literatür taraması bölümünde belirtildiği gibi, NAEYC ve Fred Rogers Centre, erken çocukluk eğitiminde teknoloji ve dijital medya kullanımı için ortak bir açıklama yapmıştır (NAEYC ve Fred Rogers Merkezi, 2012). Ortak açıklama, DAP'ın önemini vurgulamış ve gelişimsel olarak uygun dijital aktivitelerde ebeveynin rolü ve iş birliğini önemli bir faktör olarak göstermiştir. Bu nedenle, ebeveynlerin, ev ortamında çocukların gelişimsel olarak uygun dijital etkinliklerini yönetmede kilit bir rolü vardır. Hakim ve ark. (2015) ebeveynler için kolaylaştırıcı, öğretmen ve koruyucu olarak üç rol tanımlamıştır. Bu rollerin her biri, çocukların dijital etkinliklerini zenginleştirir. Ebeveynlerin ve iskelelerin yönlendirilmesi, çocukların dijital teknoloji kullanımının faydalarını artırabilir (Fisch, 2014; McPake ve ark., 2013). Ebeveynler, dijital teknolojilerin olumlu ve zararsız kullanımı konusunda aktif role sahiptir. Ayrıca okulların dışındaki teknolojilerin gelişimsel olarak uygun şekilde kullanılmasını sağlamaktan da sorumludurlar.

Çatışma ve uyum durumlarına yol açan özellikler özetlendiğinde, pasif maruz kalma, uygunsuz içerik ve çoklu görev çatışmaları ilgili olduğunda, dijital

faaliyetlerin doğası ve ebeveynlerin iletişimi uyum durumlarıyla ilgilidir. Literatürde, bazı çalışmalar dijital aktiviteler sırasında etkileşimi etkileyen faktörler üzerine odaklanmıştır (Ihmeideh & Shawareb, 2014; Lim, 2015; Nevski ve Siibak, 2016; Shahrinin ve Butterworth, 2002). Bu çalışmalar etkileşimlerin destekleyici faktörlerini; DAP, çocukların olumlu tutumları, ebeveynlerin işbirliği, çevrenin tasarımı, ebeveynlerin teknoloji kullanımı ve dijital teknolojilere yönelik tutumları ve kullanıcı dostu ve açık uçlu yazılımlar olarak sıralamıştır. Öte yandan, engelleyici faktörler otoriter ebeveynlik tarzı, ebeveynlerin kesilmesi, çevresel sınırlamalar ve kapalı yazılımlar olarak tespit edilmiştir. Bu faktörler hem öğrenme hem de gelişme fırsatları sağlamak ve çocukların uygunsuz içerik veya tasarımlardan kaynaklanan olası tehditlerden korunmalarında önemlidir.

Çocuklar ebeveynlerin mesajları dijital etkinlikle ilgili olduğunda ebeveynlerin etkileşimlerine cevap verme eğilimi göstermişlerdir. Öte yandan, mesaj ilgisiz bir meseleyle ilgili olduğunda, çocuklar iletişimi görmezden gelme eğilimindedirler. Örneğin, bir ebeveyn, anaokulunda bir çocuğun günü hakkında bir soru sorduğunda, çocuk bir çizgi film izlerken, çocuk iletişimi görmezden gelmeye ve uygun şekilde cevap vermemeye meyilliydi. Bununla birlikte, mesaj ekrandaki mesajla doğrudan veya dolaylı olarak ilgili olduğunda, çocuk cevap vermiştir. Bu durumlarda çocuklar ya ebeveyni dijital aktiviteyi sürdürmek için bir tehdit olarak görmüş, yada algıda seçicilikle ilişkili olarak dijital aktiviteden ilgisiz iletişime kapalı olmuşlardır.

## **5. Sonuç**

Bu çalışma, dijital aktiviteler sırasında küçük çocukların ebeveynleri ile etkileşimlerini araştırmayı amaçlamıştır. İlk olarak, yukarıda belirtilen konulara göre etkileşimler detaylı olarak incelenmiştir. Daha sonra etkileşimler çatışmalara ve uyumlara bölünerek detaylıca analiz edilmiştir. Çatışmalara ve senkronizasyonlara yol açan etkileşimlerin özellikleri de araştırma kapsamında irdelenmiştir. Daha sonra çatışmalar ve çözüm stratejileri sırasında gözlenen çocukların ve ebeveynlerin taktikleri belirlenmiştir. Son olarak, senkronizasyon stratejileri de sunulmuştur.

Çalışma, çocukların ve ebeveynlerin, dijital aktiviteler sırasında birbirlerini yönlendirmeyi ve dijital aktivitelerin paylaşılmasını ilişkilendirmeyi amaçlayan dijital aktiviteler sırasında birbirleriyle etkileşime girdiklerini ortaya koymuştur. Aynı zamanda dijital aktiviteler sırasındaki günlük yaşam rutinleri ile ilgili olarak

birbirleriyle etkileşime geçtikleri vurgulanmıştır. Bununla birlikte, gözlenen etkileşimlerin belirli özellikleri, etkileşimlerin çatışma ya da uyum durumu olmasına enden olmuştur. Dijital teknolojilere pasif maruz kalma, dijital aktiviteler sırasındaki uygunsuz içerik, çocukların çoklu görevler yapması ve etkileşimler sırasındaki ilgisiz içerikte iletişim çatışmalar ile ilgiliyken, dijital aktivitelerin uygun doğası ve etkileşimler sırasındaki ilgili iletişim uyum durumlarıyla ilişkilendirilmiştir.

Çocuklar ve ebeveynler birbirleriyle başa çıkmak için çatışmalar sırasında çeşitli taktikler kullanmışlardır. Çocuklar çoğunlukla ağlamak, görmezden gelmek, uzaklaşmak ve bağırarak gibi anti sosyal taktikler kullanırken, ebeveynler açıklamak, tekrarlamak ve alternatif aktiviteler sağlamak gibi sosyal taktikler kullanmışlardır. Çözüm stratejileri en çok gözlenenenden en aza doğru ebeveynin çocuğa uyumu, çocuğun ebeveyne uyumu ve ortak uzlaşma olarak sıralanmıştır. Öte yandan, uyum durumlarında üç tür uyum stratejileri belirlenmiştir. Bu uyum stratejilerinin en çok gözlemlenen katılımcıların birbirine eşlik etmesi olmuştur. Daha sonra, ebeveyn ve çocukların birbirlerinin talimatlarını izlemesi ve işbirliği diğer uyum stratejileri olarak tespit edilmiştir.

Bu sonuçlar, çocukların ve ebeveynlerin, dijital etkinliklere katılım sırasında sıklıkla birbirleriyle etkileşime girdiklerini göstermektedir. Ancak, etkileşim gerçekleştiği ortama oldukça duyarlıdır. Bu nedenle, bağlamın bir bileşeni etkileşimi olumlu veya olumsuz yönde etkileyebilir. Bağlam, bir etkileşimi bir çatışmaya veya uyum durumuna dönüştürmede kilit bir rol oynayabilir. Hem çatışmaların hem de uyum durumlarının, çocukların sosyal gelişimini zenginleştirme potansiyeline sahip oldukları, izolasyondan ziyade, hem çocukların hem de ebeveynlerin yoğun etkileşimini içerdikleri vurgulanmalıdır. Çocuklar senkronizasyonlarda karşılıklı ve uyumlu etkileşimler yaşarlar, ancak çatışmalar çocukların ben merkezliliğini aşmaları için fırsatlar sağlayabilir. Etkileşimler, çocukların başkalarının perspektiflerini anlamalarının yanı sıra niyetleri düzenleme, pazarlık yapma ve paylaşılan standartları anlama yeteneklerini geliştirebilir.

Sonuç olarak, çocukların teknoloji ve etkileşimli medya ile ilgili deneyimleri giderek artan bir şekilde günlük yaşam bağlamının bir parçasını teşkil etmekte olup, gelişimsel olarak uygun çerçevenin bir parçası olarak düşünülmelidir. Ebeveyn ve çocuğun birlikte dijital teknolojileri kullanımı, dijital cihaz kullanımının potansiyel

zararlı etkilerinden çocukların önlenmesinin yanı sıra paylaşımı da içerdiğinden, dijital teknolojilerin uygun kullanımı için kilit bir faktördür. Bununla birlikte, bağlam hem çocukların hem de ebeveynlerin etkileşimini etkileyen önemli bir faktördür. Çocukların gelişim düzeyi, ebeveyn tutumları, içerik, bireysel ilgi alanları, çocukların farklılıkları ve ailelerin teknoloji kullanım şekilleri, çocukların hem dijital teknolojiler hem de başkalarıyla etkileşimlerini etkileyebilir. Ebeveynler, çocuklarının dijital teknolojilerle etkileşiminin kilit belirleyicilerinden biri olduğu için çocuklarına yüksek kaliteli deneyimler sağlamada önemli rol oynamaktadır. Medya danışmanları, ebeveynlerin, çocukların dijital teknolojilerden en iyi şekilde nasıl faydalanabileceğine karar vermede desteklenmesi için faydalı olabilir.

Bu çalışma, çocukların ev ortamında dijital etkinlikler sırasında ebeveynlerle etkileşimlerini araştırmak amacıyla yapılmıştır. Bu nedenle, özellikle ebeveynler, bakıcılar, öğretmenler ve dijital etkinlikler sırasında çocuklarla etkileşime giren diğer kişiler için faydalı bilgiler içermektedir. Çalışma, çocukların dijital etkinlikler sırasında çevreleriyle yoğun bir şekilde etkileşime girebileceklerini ortaya koymuştur. Bu bulgular, çocukların dijital etkinliklerle uğraşırken izole olmadıklarını göstermektedir. Yetişkinler, çocukların dijital etkinliklerinin sosyal yönünü zenginleştirmede rol oynamaktadır.

Ayrıca, çocukların dijital etkinlikler sırasında ebeveynlerle etkileşimlerinin, belirli bağlamsal özelliklerden etkilenebileceği de ortaya kondu. Çoklu görev, pasif maruz kalma, uygunsuz içerik ve ilgisiz iletişimin etkileşimleri olumsuz yönde etkilediği görülmüştür. Öte yandan, dijital faaliyetlerin uygunluğu ve ilgili iletişim etkileşimleri olumlu yönde etkiledi. Etkileşimleri etkileyebilecek başka bağlamsal özellikler olabileceğine dikkat edilmelidir. Ek olarak, etkileşimler farklı bağlamlarda değişebilir. Bu nedenle, ebeveynler, her bir çocuğa özel olabilecek bu özellikleri belirleme konusunda bilinçlendirilmelidir.

Ayrıca, çalışma etkileşimlerin çatışmalara ya da uyumlara dönüşebileceğini göstermiştir. Bununla birlikte, çatışma ve uyum, çocukların belirli sosyal davranışları uygulamalarında eşit derecede iyi fırsatlardır. Ayrıca, çocuklar çatışmalarda belirli taktikleri doğal olarak kullanırlar. Bu nedenle, belirli dijital aktiviteler sırasında bir çatışma olsa da, ebeveynler çocukların gelişimini destekleyerek de bu durumlardan faydalanabilir. Çocukların kendi duygularını ve düşüncelerini müzakere etmeye,

paylaşmaya ve anlamaya motive edebilmeleri için çocukların taktikleri konusunda yetişkinlere bilgi verilmelidir. Özetlemek gerekirse, ebeveynler çocuklarına güvenli ve uygun dijital aktiviteler sağlama konusunda önemli bir sorumluluk üstlenir. Ebeveynlerin kolaylaştırıcılar, öğretmenler ve koruyucu olarak ortak rolleri vardır ve bu nedenle, yalnızca ekran süresi süresine odaklanmak yerine, çocuklar için uygun tasarımlar ve içerik sağlamalıdır.

Bu çalışmayla ilgili üç tür sınırlıktan bahsedilmelidir. İlk olarak, çalışma dört aile ile yapılmıştır. Ancak, dijital aktiviteler esnasında gerçekleşen etkileşimler ortama ve bağlama oldukça duyarlıdır. Bu nedenle, sunulan sonuçlar farklı aileler veya farklı ortamlar araştırıldığında farklılık gösterebilir. Bu nedenle, farklı aile ortamı veya çeşitli bağlamlarda dijital etkinlikler sırasında çocukların ebeveynlerle etkileşimi daha ayrıntılı araştırılmalıdır.

İkinci sınırlama, araştırmacının katılımcı bir gözlemci olması ve veri toplama sırasında ortamda bulunmasıdır. Ayrıca, bazı ev ziyaretleri sırasında video kayıtları alınmıştır. Olası önlemler alınmış olmasına rağmen, araştırmacı ve video kayıt cihazının varlığı hem çocukları hem de aile üyelerinin davranışlarını ve eylemlerini etkilemiş olabilir. Bu nedenle, bir gözlemcinin bağlam içinde doğal olarak var olduğu etnografik çalışmalar, dijital aktiviteler sırasında çocukların ebeveynleriyle etkileşimleri hakkında daha geçerli sonuçlar sağlayabilir.

Son olarak, küçük çocukların dijital teknolojilerle etkileşimi 20 yıldan fazla bir süredir çalışılsa da, dijital aktiviteler sırasında çocukların diğer bireylerle etkileşimleri üzerine çok az araştırma yapılmıştır. Ayrıca, yayınlanan az sayıdaki çalışmadan bazıları sınıf içeriğine odaklanmıştır. Dijital etkinlikler sırasında çocukların aile üyeleriyle etkileşimlerine odaklanan çok sınırlı sayıda çalışma olduğu için, bu durum literatür taramasını ve araştırma raporunun tartışma bölümünü etkilemiş olabilir. Bu çalışmanın sonuçları, bu çalışmanın amaçlarına paralel çok az araştırma yapıldığı için benzer çalışmalarla karşılaştırılabilir olmayabilir. Bu nedenle, bu çalışmanın bulgularının karşılaştırılması için çocukların ev ortamında diğer bireylerle etkileşimleri hakkında daha fazla araştırma yapılması gerekmektedir.

## Appendix K: Tez İzin Formu / Thesis Permission Form

### ENSTİTÜ / INSTITUTE

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TEZİN ADI / TITLE OF THE THESIS (İngilizce / English) : INVESTIGATING THE SOCIAL INTERACTIONS BETWEEN PARENTS AND YOUNG CHILDREN DURING DIGITAL ACTIVITIES AT HOME

TEZİN TÜRÜ / DEGREE: Yüksek Lisans / Master  Doktora / PhD

1. Tezin tamamı dünya çapında erişime açılacaktır. / Release the entire work immediately for access worldwide.
2. Tez iki yıl süreyle erişime kapalı olacaktır. / Secure the entire work for patent and/or proprietary purposes for a period of **two years**. \*
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\* Enstitü Yönetim Kurulu kararının basılı kopyası tezle birlikte kütüphaneye teslim edilecektir.  
A copy of the decision of the Institute Administrative Committee will be delivered to the library together with the printed thesis.

Yazarın imzası / Signature .....

Tarih / Date .....