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Perceptions of Families on ICT Use of Pre-School Children in Turkey

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ABSTRACT
The present qualitative study was conducted to investigate the perceptions of families regarding the use of ICT by preschool children in Turkey. The study group was created by snowball sampling method and consisted of 40 parents. An interview form which included semi-structured interview questions was used for data collection. Content analysis, which is one of the qualitative research data analysis methods, was used for data analysis. The results showed that tablets were the electronic device owned by most children, children mostly used television, children used ICT more when they are with their parents, children used ICT for 193 minutes per day, children used tablets the most on a daily basis, and children used ICT to watch cartoons, and to play games. The observed prominent positive effect of ICT was that it contributed to children's learning processes. Regarding the negative effects of ICT, parents stated that children acquire negative behaviors from ICT use. Parents used and suggested the strategies of establishing more parental control on ICT use, as well as limiting the time for ICT use for the purpose of protecting their children from the negative effects of ICT.

KEYWORDS
Preschool; children; parent; ICT.

INTRODUCTION

The 21st century is known as the information age, within which the technological developments continue to progress unabated. These developments (Güney, 2021) that have accelerated widely in Information and Communication Technologies (ICT) have caused ICT to become a part of daily lives of children as well as adults. Today, children are born into a world where technological devices are intertwined with daily life. Children start interacting with technological devices in the first days of their lives (Biber et al., 2019), so much so that children today start to use digital devices on their own from a young age of 4-6 months (Hsin et al., 2014). Studies show that the use of ICT is increasing day by day, while the age of children to encounter ICT is gradually decreasing (Gjelaj et al., 2020; Lauricella et al., 2015).

The term ICT refers to all devices containing computers or microcontrollers, such as electronic or digital toys, game consoles, cameras, media players, smartphones, handhelds, laptops and desktop computers (Palaiologou, 2016). Among these, televisions, smartphones, tablets and computers have an important place in children's lives, as their families also use these devices more frequently day by day (Assathiany et al., 2018). Studies on the use of ICT by preschool children have also shown that children prefer these devices more than others (Güney, 2021).

Television is one of the most easily accessed ICT devices by children (Güngör, 2014). Today, almost every family owns a television. Television is one of the ICTs that is used by most children because it offers both visual and auditory stimuli, provides access to many channels suitable for children, provides internet connection and entertainment (Güney, 2021). In addition to the functions of traditional phones such as calling and messaging, smart phones can be used for many different purposes such as playing games, watching videos, listening to music and searching for things. These features have contributed to the widespread use of smart phones. Official data show that smartphones are used in almost every household in Turkey (Türkiye İstatistik Kurumu, 2022). Consequently, these devices have become more accessible to children. In addition, recent studies show that children start using smartphones at an increasingly younger age (Kabali et al., 2015). Children can play games, watch cartoons and videos on smartphones. Tablets are ICT devices that do not require computer hardware such as a mouse or keyboard. Tablets also offer many features found in smartphones and computers (Güney, 2021). Tablets are frequently used by children because they allow multiple applications to be installed, they are light and easy to carry, they provide ease of use, they can be connected to the internet in different environments (Wu et al., 2014), they are relatively low cost, and they provide access to many entertainment and information resources (Kabali et al., 2015). Tablet use has become a common practice in every household, regardless of the socio-economic status of the family (Waisman et al., 2018). Additionally, it is known that children start using tablets before the age of two (Kabali et al., 2015). As a result of the advancements in computer technologies, the widespread use of wireless internet, the increase in purchasing power and the use of computers as an entertainment tool, computers have become increasingly popular ICT

devices as well. The computers in households are accessed by children as well as adults (Güney, 2021). Children generally use the computer to explore, solve problems and puzzles (Clements & Sarama, 2003), play games and watch cartoons (Güney, 2021).

There are different opinions and research results on whether the effect of ICT use on children is beneficial or harmful. Many researchers emphasize that the use of ICT has a positive impact on children's development and learning processes, and that ICT, for example, contributes to the development of children's communication skills, problem-solving skills, early literacy and math skills, and creativity (Hsin et al., 2014). In addition, ICT helps children to integrate into e-society (Plowman & Stephen, 2003), to learn gender roles (American Academy of Pediatrics (AAP), 2016), and social roles (Kaumbulu, 2011). In addition to these, some studies also emphasize the negative effects of ICT use on children. Evidence shows that ICT impacts children's development, health (AAP, 2016; Güngör, 2014; Waisman et al., 2018), behavior (Güngör 2014; Mikelić Preradović et al., 2016) and time management skills (Gjelaj et al., 2020; Guedes et al., 2019; McCloskey et al., 2018) in a negative manner.

Several studies conducted in Turkey investigated the views of parents on the use of ICT by preschool children. These studies examined the relationship between university graduate parents' perceptions (Kaya, 2020) and television (Güngör, 2014), technology use (Biber et al., 2019), smartphones (Genç, 2014), new media (Durmuş & Övür, 2021), tablets (Yılmaz Genç & Fidan, 2017), the relationship between technology use and social skills and social status (Gülay Ogelman et al., 2018), the relationship between digital media use and self-regulation skills, and technology addiction (Canaslan Akyar & Sungur, 2022) and compulsive behaviors (Dere, 2022). Several international studies have investigated the relationship between computers (Hatzigianni & Margetts, 2014), tablets and smartphones (Ateş & Durmuşoğlu Saltalı, 2019; Guedes et al., 2019), screens (Assathiany et al., 2018; Waisman et al., 2018), digital technology (Gjelaj et al., 2020; Jabbar et al., 2019), problematic smartphone use (Park & Park, 2021), digital device usage for learning (Sivrikova et al., 2020), parents' technology usage, the relationship between parental attitudes and children's age (Lauricella et al., 2015), mobile device usage frequency, preferred application types, parents' beliefs and strategies (Papadakis et al., 2022), children's mobile device use in low-income rural areas (McCloskey et al., 2018), and concept of ICT (Vodopivec & Samec, 2017).

Behavioral foundations are laid in the preschool period. This period includes developmentally critical years in which development takes place very rapidly. The positive or negative effects of ICT use on children in this critical period depend on how these devices are used. Factors related to ICT use, such as the duration of use, media content and parental control, determine whether these effects turn out to be positive or negative. It is a fact that preschool children often need parental support in making their own decisions and establishing a structure in their lives (Kaya, 2020). Parents' opinions and attitudes matter in all aspects related to the child in terms of supporting positive behaviors or preventing negative ones. Therefore, parents have great influence on the effect of ICT use on children. There is a gap in the literature

regarding the data on the ICT devices most commonly used by children in Turkey. It is therefore important to provide an overarching overview of the current situation. The aim of the present study is to -explore the perceptions of families regarding the use of ICT by preschool children in Turkey. For this purpose, answers to the following questions were sought within the scope of the study:

- What is the distribution of ICT devices owned and used by children?
- What is the distribution of children using ICT devices alone or with their parents?
- What is the daily usage time of ICT devices by children?
- For what purposes do children use ICT devices?
- What are the positive effects of ICT device use on children?
- What are the negative effects of ICT device use on children?
- What strategies do parents use to protect children from the negative effects of ICT?
- What are the parents' suggestions for children to use ICT in an effective and efficient manner?

METHOD

Research Model

The present study was conducted to investigate families' perceptions of ICT use by preschool children. The study was designed as a case study, which is one of the qualitative research approaches. Qualitative research uncovers experiences or facts and provides interpretations of these (Creswell, 2009; Merriam, 2013). In case studies, specifically, a phenomenon or event is examined in depth on the basis of how and why (Merriam, 2013). Glesne (2014) stated that variables such as individuals, institutions, groups or environment can be considered as a case in qualitative research. In the present study, families' perceptions of ICT use by preschool children were investigated in depth.

Participants

Participants consisted of 40 parents who had children in the preschool period. Parents were selected by snowball sampling, which is one of the purposeful sampling methods. Snowball sampling aims to include participants who fulfill the criteria in a study (Merriam, 2013). In this method, new situations that are possible sources for new information are accessed by asking the participants who else can be interviewed, which leads to a cumulative information growth as a snowball (Patton, 2014). Using this method, the researcher contacted two families who had children in the pre-school period and resided in the same site with him, and as a result of the referral of these families, he formed the final study group. The study group consisted of 34 mothers and 6 fathers; the mean age was 33.13 (age range 24-44); monthly income of the participants was 9977 Turkish Liras (between 4000-30000), 4 of the participants had primary school degree, 4 had secondary school degree, 13 had high school degree, 2 had associate degree and 17 had undergraduate degree. There were 21 girls and 19 boys in the group

composed by the children of the participants, 6 of them were four years old, 23 were five years old and 11 were six years old.

Data Collection and Data Collection Tools

The data were collected with an interview form including semi-structured interview questions developed by the researcher. Interview questions were prepared by reviewing the relevant literature and taking the opinions of two experts in the field. The interview form included questions regarding parents' personal information and eight open-ended questions about families' perceptions of their children's use of ICT. The interviews were conducted face to face with the participants by the researcher at the planned place and time. Each interview lasted approximately 30-45 minutes. Data collection was performed between 15 July 2022 and 10 August 2022. The data collected in the interviews were recorded in written form.

Data Analysis

In data analysis, inductive approach was used, one of the content analysis methods. Content analysis aims to access concepts and relationships that explains the data. In this method, new themes and categories are discovered by analyzing the data in depth (Yıldırım & Şimşek, 2013). Inductive analysis, on the other hand, involves a process of breaking data into units and creating categories to reveal the latent information (Corbin & Strauss, 2008). In this context, codes were first generated from the data, and then the codes that are semantically related to each other were gathered under the same category. Similarities and differences were found among these categories upon close inspection and themes that would form the research findings were obtained. Themes were intended to be as descriptive as possible and were presented with as frequencies and percentages. The codes K1, K2… used for the participants during the analyzes are presented in the same form in the report. In addition, direct quotations from the participants were included in the report.

Validity and Reliability

In the present study, it was ensured that the validity and reliability were obtained. Peer review was performed for plausibility (Lincoln & Guba, 1985). In terms of transferability, purposive sampling method was preferred and direct quotations were used. (Yıldırım & Şimşek, 20013). One of the most effective ways to increase reliability in qualitative studies is to obtain inter-rater consensus. For this purpose, codes and categories were created by two different researchers separately; later, the consistency between the coders was examined. The reliability of the data analysis was calculated using the formula by Miles and Huberman (1994): Consensus Rate= [Consensus/ (Consensus + Disagreement) X 100]. The consensus rate was found to be 97%. Şencan (2005) stated that a consensus percentage of 70% and above indicates that reliability is ensured. Finally, an expert review and evaluation process was employed to ensure confirmability (Merriam, 2013). Ethics committee approval was obtained from Nevşehir Hacı Bektaş Veli University with the decision number 2022.06.194.

RESULTS

The findings are presented under eight titles as per the research questions. The findings were presented as frequency and percentage values, and were accompanied by cited Figures.

ICT devices owned and used by children

The distribution of the frequency and percentage values of the ICT devices owned and used by the children is presented in Table 1.

Table 1.

ICT devices owned and used by children

ICT Ownership/Use	Ownership		Use	
	f	%	f	%
Television	5	13	34	85
Smartphone	6	15	29	73
Tablet	15	38	17	43
Computer	1	3	5	13
Total	22	55	40	100

As it can be seen in Table 1, the ICT device owned by most children is a tablet, while only one of the children has a computer. 22 children have at least one ICT device. Children use the television the most and the computer the least. All children use at least one ICT device.

Children's use of ICT: alone or with parents

The frequency and percentage distribution of children's use of ICT alone or with their parents is presented in Table 2.

Table 2.

Children's use of ICT alone or with parents

ICT Usage	Alone		With Parents	
	f	%	f	%
Television	7	18	30	75
Smartphone	15	38	14	35
Tablet	13	33	4	10
Computer			5	13
Total	29	73	34	85

As it can be seen in Table 2, whether children use ICT alone or with their parents varies depending on the ICT device used. It was found that, in general, children use the television and computer with their parents, while they use the tablet and smartphone alone. Overall, all of the ICT devices are mostly used with parents.

Children's daily ICT device usage times

Children's daily ICT device usage times are presented in Table 3.

Table 3.

Children's daily ICT device usage times

ICT Device Usage Time	Minimum (mins)	Maximum (mins)	Average (mins)
Television	30	240	103
Smartphone	30	180	76
Tablet	30	330	122
Computer	30	120	72
Total	60	480	193

As it can be seen in Table 3, children use an ICT device for at least 30 minutes a day. The maximum usage time per day varies according to the ICT device. It was found that the tablets are used most often. Total usage of ICT is minimum 60 minutes and maximum 480 minutes per day, whereas average daily ICT usage time was found to be 193 minutes. Tablets are used most frequently and computers are used least frequently.

Children's purposes for using ICT devices

The frequency and percentage distribution of children's purposes for using ICT devices are presented in Table 4.

Table 4.

Children's purposes for using ICT devices

Purpose of ICT device usage	Television		Computer		Tablet		Smartphone		Total	
	f	%	f	%	f	%	f	%	f	%
Watching Cartoons	29	73			5	13	6	15	33	83
Playing Games			4	10	11	28	22	55	30	75
Watching Videos	5	13			9	23	8	20	18	45
Searching things			2	5	4	10	5	13	9	23
Listening To Music					4	10	3	8	7	18
For Fun	4	10	1	3	3	8	1	3	6	15
Passing Time	4	10	1	3	1	3	1	3	4	10
Listening To Stories					1	3	3	8	3	8
Other	1	3					1	3	2	5

As it can be seen in Table 4, it is seen that children use ICT devices for various purposes. Children often use the television to watch cartoons, while they use the computers, tablets and smartphones to play games. ICT devices are mostly used for watching cartoons. Listening to

stories was the least stated purpose of ICT device use. Some of the statements of the parents are as follows:

Television: *'(He) wants to watch TV because (he) likes watching cartoons. Cartoons are interesting (for him)* (K 13)'. '(*She) uses TV to watch cartoons and pass time. (She) uses it for watching cartoons.* (K 19).' (*She) watches TV for fun and to pass time* (K 34)".

Computer: *'(She) uses the computer for learning, playing games and for fun* (K 32)'. '(*He) uses it to play games and sometimes to search for things* (K 23)'.

Tablet: '*(He uses it for) playing games, watching cartoons and videos. If (he) gets curious about something, (he) uses (the tablet) to search that topic* (K 1)'. '*(She) plays games, watches videos, puts music on* (K 14)'.

Smartphone: *'(She) watches videos of cats and dogs because (she) loves animals very much. Sometimes (she) plays games* (K 19)'. '*(He) listens to music, plays a soccer game* (K 25)'.

Positive effects of ICT use on children

The themes and categories that emerged regarding the positive effects of ICT use on children are presented in Table 5.

Table 5.

Positive effects of ICT use on children

		Television		Computer		Tablet		Smartphone		Total	
Theme	Category	f	%	f	%	f	%	f	%	f	%
Contribution to learning		21	53	2	5	9	23	15	38	32	80
	Knowledge and skills	17	43	2	5	6	15	13	33	25	63
	Concept	2	5			4	10	2	5	8	20
	Positive behavior	4	10					1	3	5	13
Contribution to development		10	25	2	5	7	18	5	13	15	38
	Cognitive	5	13			5	13	5	13	11	28
	Linguistic	7	18	2	5	4	10	1	3	9	23
	Social	2	5			1	3	1	3	2	5
Happiness		4	10			4	10	5	13	11	28
Other								3	8	3	8

As it can be seen in Table 5, it is seen that the use of ICT devices contributes to children's learning and development processes, as well as their happiness levels. The theme contribution to learning includes the categories of knowledge and skill, concept and positive behavior. It has been found that the device that contributes the most to children's learning is television. The theme contribution to development includes the categories of cognitive, linguistic and social development. Here again, the device that contributes the most to the development of children is television. The happiness theme was not divided into categories. It has been seen that the effect of smartphones on children's happiness is higher than other devices. Some of the statements of the parents are as follows:

Television: *'(She) looks up to cartoon characters with positive traits. For example, after watching cartoons on helping each other, (she) behaves more helpful towards (her) sibling or friends.* (K 2)'. *'When (he) watched educational cartoons, (he) learned colors and counting up to 10. Cartoons contributed to (his) language development and improved (his) vocabulary.* (K 11)'.

Computer: *'(She) learns new things* (K 22)'. *'(Computer) contributes to (her) language development. (She) learns new information* (K 32).'

Tablet: *'Educational applications affect (his) language development and cognitive development positively.* (K 7)'. '*(She) is learning new information, learning words, having fun* (K 14)'.

Smartphone: *'(He) repeats the good behavior (he) sees* (K 20)'. '(*His) attention is improving, (his) skills such as logic and reasoning are developing* (K 35)'.

Negative effects of ICT use on children

The themes and categories that emerged regarding the negative effects of ICT use on children are presented in Table 6.

As it can be seen in Table 6, the negative effects of ICT on children are discussed in four themes: physiological, behavioral, physiological, developmental and temporal. The behavioral theme includes the categories of violence/aggression, addiction and pressuring parents. The device that best contributes to the development of children is television. It was found that the devices that have the most negative effect on children's behavior are television and smartphones. The physiological theme includes the categories of eye health, immobility and general health. The device that affect children's physiology most negatively was found to be television. The developmental theme includes the categories of cognitive, linguistic and social skills. It has been seen that television and smartphone have a more negative impact on children's development compared to other devices. Temporal theme was not divided into categories. Children spent most of their time in front of the television unproductively. Some of the statements of the parents are as follows:

Television: *'When (he) watches violent cartoons, (he) sometimes tries to do what (the characters) do.* (K 9)'. '*(It) makes (him) addicted* (K 29)'.

Computer: *'(She) becomes immobile because (she) plays for long periods of time* (K 22)'. *'(It) makes (her) eye health deteriorate. (Her) lower back hurts* (K 32)'.

Tablet: *'(He) does not want to play with (his) friends because of it. He becomes lonely. When the tablet or the internet is not working, (he) just sits and does nothing. (He) has not socialized. The only activity (he engages in) is (playing) with tablet* (K 16)'. *'(She) always looks at the screen. (Her) eyes started hurting* (K 21)'.

Smartphone: '*(He) plays war games with (his brother).'* (K 6) *(Because) the games are violent, (he) can get aggressive. It has negative effects on the eyes, brain and body. He becomes very inactive. He gets ill-tempered* (K 15)'.

Table 6.

Negative effects of ICT use on children

		Television		Computer		Tablet		Smartphone		Total	
Theme	Category	f	%	f	%	f	%	f	%	f	%
Behavioral		13	33	1	3	10	25	13	33	26	65
	Violence/ Aggression	10	25	1	3	5	13	9	23	16	40
	Addiction	3	8			5	13	6	15	12	30
	Pressuring Parents	1	3	1	3	2	5	1	3	3	8
Physiological		10	25	4	10	8	20	9	23	18	45
	Eye health	5	13	2	5	6	15	4	10	11	28
	Immobility	6	15	2	5	1	3	3	8	7	18
	General Health	2	5	1	3	1	3	4	10	5	13
Developmental		8	20	1	3	5	13	8	20	16	40
	Cognitive Skills	6	15			1	3	5	13	10	25
	Linguistic skills	1	3	1	3	1	3	3	8	4	10
	Social skills	2	5			3	8	1	3	4	10
Temporal		4	10					3	8	5	13

Strategies parents use to protect their children from the negative effects of ICT

The distribution of strategies parents use to protect their children from the negative effects of ICT is presented in Table 7 as frequency and percentage values.

As it can be seen in Table 7, parental control was the strategy most used by parents to protect their children from the negative effects of ICT, while the strategy least used was explaining the negative effects of ICT. Parents prefer parental control strategy for television,

limiting time strategy for computer and smartphone, and both strategies for tablet usage. Some of the statements of the parents are as follows:

Table 7.

Strategies parents use to protect their children from the negative effects of ICT

Strategies	Television		Computer		Tablet		Smartphone		Total	
	f	%	f	%	f	%	f	%	f	%
Parental control	18	45	3	8	8	20	11	28	26	65
Limiting time	11	28	5	13	8	20	16	40	23	58
Turning off/Not using	6	15			3	8	5	13	10	25
Offering alternative activities	4	10			1	3	2	5	5	13
Explaining	2	5			2	5	1	3	4	10

Television: *'I take (her) out, take (her)to the park, make an effort (for her) to spend time with social activities* (K 5)'. *'I monitor what (he) watches. I do not allow harmful content. Sometimes I turn it off* (K 12)'.

Computer: *'I monitor the content (she) watches. I try to limit screen time. We talk about what (she) watches* (K 1)'. *'I let (him) to use it in certain areas and I monitor him* (K 31)'.

Tablet: *'I establish a daily time limit. (She) abides by it even though it is sometimes difficult (for her)* (K 8)'. *'I make sure that (he) spends less time (using it). I choose age-appropriate content* (K 26)'.

Smartphone: *'I usually take the phone away by saying that the internet quota is full. If (she) insists, we do something else she enjoys. We play hide-and-seek, for example* (K 4)'. *'I set a limited time. I monitor the content (he) plays or watches* (K 28)'.

Parents' suggestions for children to use ICT in an effective and efficient manner

The distribution of parent's suggestions for children to use ICT in an effective and efficient manner is presented in Table 8 as in frequency and percentage values.

According to Table 8, regarding the effective and efficient use of ICT, the most recommended strategy by parents was parental control, while the least recommended strategies were explaining, modeling and not letting the child use the ICT device. Parents mostly recommended the parental control strategy for television and tablet use, and limiting time strategy for computers and smartphones. Some of the statements of the parents are as follows:

Television: '*Educational content is needed, also restrictions should be placed and content watched by children should be controlled* (K 11)'. '*As parents, we should set boundaries and let them spend time with their friends, by taking them to the park for example* (K 13)'.

Computer: *'It is important that the child does not use the computer for too long and that the contents are supervised by the parents* (K 32)'. *'Children should be allowed to use the computer for a certain period of time* (K 22)'.

Table 8.

Parents' suggestions for using ICT in an effective and efficient manner

Suggestions	Television		Computer		Tablet		Smartphone		Total	
	f	%	f	%	f	%	f	%	f	%
Parental control	18	45	3	8	13	33	12	30	27	68
Limiting time	9	23	4	10	5	13	13	33	20	50
Offering alternative activities	1	3			2	5	5	13	7	18
Creating content suitable for children	3	8							3	8
Explaining	2	5							2	5
Modeling	1	3	1	3	1	3	1	3	2	5
Not letting the child use the device			1	3	1	3	1	3	2	5

Tablet: *'It is necessary to plan the child's tablet usage time and it is necessary to control the content played or watched (by him)* (K 5)'. *'We need to set a time limit suitable for the child. We need to create opportunities for the child so that she is able to play with her friends. We need to monitor what she sees or hears* (K 14)'.

Smartphone: *'I recommend limiting/preventing children's device use as much as possible until children reach high school age* (K 2)'.*'Limiting time for device use is necessary. More activities are needed* (K 3)'.

DISCUSSION

The results of this study showed that the device owned by most children is the tablet, among other ICTs. This might be because tablets have many applications, are portable, easy to use, and can be purchased by most families. It was found that the ICT device used by most children is television. Previous studies have also found that children use the television more (Gjelaj et al., 2020) and the computer less (Darga, 2021; Gjelaj et al., 2020) compared to other devices. It is known that television is a phenomenon that affects many populations all around world, regardless of geographical barriers (Guedes et al., 2019). Therefore, the facts that there is a television in almost every house and television is a device that offers both visual and auditory stimuli, provides access to many channels suitable for children, provides internet connection and entertainment might have resulted in it being the ICT device used by children the most

(Güney, 2021). The finding that the computer is a device that is used least by children compared to other devices might be due to the facts that computers are larger in size compared to other ICT devices, they cannot be carried around as easily, and majority of the features offered by the computer for children are also available on tablets and smart phones. It was observed that children use ICT devices with their parents more often than alone. In literature, different research results can be found regarding the use of ICT devices by children alone or with someone else. While there is evidence from previous studies showing that children use ICT more often alone (Darga, 2021; McCloskey et al., 2018), there is also evidence that they use it more often when accompanied by an adult (Durmuş & Övür, 2021; Papadakis et al., 2022). The results of the present study showed that children use ICT more often with their parents, which can be evaluated as a positive result because it implies that parents' awareness regarding the importance of parental control in children's use of ICT is high. Experts also recommend that children be accompanied by parents who can monitor and interfere with the contents while using ICT devices. (Radesky et al., 2015). It was also observed that children's ICT device usage time is over one hour, which is the recommended usage time by APP for preschool children. Previous studies (Genç, 2014; Gjelaj et al., 2020; Guedes et al., 2019; Jabbar et al., 2019) showed that children use ICT devices more than one hour a day. Assathiany et al., (2018) stated that children use ICT devices for 55 minutes on a daily basis. Prolonged use of ICT by children is undesirable as it can be harmful. The ICT device being in the bedroom of the child, the sociocultural level of the parents (AAP, 2016), and the attitudes and practices of the parents (Lauricella et al., 2015) may lead to prolonged use of ICT devices for children. Social learning theory claims that most of children's learning is established by observing and modeling in social life. (Schunk, 2012). Therefore; it can be argued that the prolonged use of ICTs by children might be mostly due to the practices of their parents. In addition, the duration of children's ICT use may have increased, as the new lifestyle caused the children to live in apartments and deprived them from environments to play with their friends.

While children mostly use the TV for watching cartoons, they prefer the computer, tablet and smartphone for playing games. Overall ICT devices are mostly used for watching cartoons and playing games. Previous studies also support this result (Canaslan Akyar & Sungur, 2022; Dere, 2022; Kaya, 2020; McCloskey et al., 2018; Papadakis et al., 2022). Children identify themselves with the heroic characters in cartoons and have the opportunity to reflect their inner world through animal characters. In addition, ICT devices may have been mostly used for watching cartoons because they combine visual and auditory elements, present objects and events in motion (Yaşar Ekici, 2015) and are accessible through various ICTs. As ICT devices have become widespread, children's play preferences have also changed and traditional children's games have been replaced by digital games (Sapsağlam, 2018). The fact that ICT provides various game applications, ease of use, and access to various media over the internet may have led children to play games with ICT devices. In addition, the scarcity of traditional playgrounds and

the fact that parents leave their children alone with ICT instead of spending time with them can be other factors that contribute to this result.

The most emphasized positive effect of ICT by parents is that children learn new knowledge and skills, followed by its contribution to children's development. This result is supported by previous findings in the literature. Previous studies have emphasized that ICT has positive effects on children's development and learning processes (Clements & Sarama, 2003; Durmuş & Övür, 2021; Gjelaj et al., 2020; Jabbar et al., 2019; Vodopivec & Samec, 2017). It is a well-known fact that the advancements in ICT offer great opportunities for children's development and learning. The results of the present study also are in parallel. However, the importance of physical play and peer interaction on children's development and learning should not be underestimated. Therefore, it can be said that it is crucial for parents to fine-tune the balance between children's use of ICT and their interaction with peers.

Parents also stated that ICT might have negative effects on children. Violence/aggression was the most emphasized negative effect, followed by physical health. Previous studies (Ateş & Durmuşoğlu Saltalı, 2019; Durmuş & Övür, 2021; Gjelaj et al., 2020; Kaya, 2020; Vodopivec & Samec, 2017) have also shown that ICT may disrupt behaviors and physiological health. ICT has both positive and negative effects on children. Parents have a great role in minimizing the negative effects by paying attention to the duration and content of ICT use and encouraging the children to use the ICT devices together. Parental control and time limitation come to the fore among both the practices and suggestions made by parents to protect their children from the negative effects of ICT. This finding is also supported by the evidence in the literature. Previous studies have shown that (Guedes et al., 2019; Kaya, 2020; Radesky et al., 2015; Sivrikova et al., 2020; Yılmaz Genç & Fidan, 2017) establishing parental control and limiting time act as a protective factor against negative effects of ICT usage. Parents' monitoring of children's ICT use and establishing time limits can be considered as positive practices to protect children from the negative effects of ICT. Given that preschool period has crucial importance in terms of development and habit formation, parental control over children in this period is expected to be greater than at later ages. This power dynamic also holds significance in terms of ICT usage. The presence of the parent in the process plays an accelerating role in increasing the contribution of ICT to children, in the development of children's motor, cognitive and language skills, and in the development of parent-child interaction (Wu et al., 2014). Moreover, the suitability of ICT contents for the child can be managed through parental control. Since parents have a responsibility to ensure that ICT is used positively by their children, parents must be the decision maker on how and for how long ICT should be used (Ateş & Durmuşoğlu Saltalı, 2019).

CONCLUSION and SUGGESTIONS

The results of the present study have shown that tablets are the device owned by most children, and more than half of children have their own ICT device. It was observed that each and every child owns at least one ICT device. Television is the device that is used by most children. Children

use the television and computer with their parents, while they use the tablet and smartphone alone more often. Overall, all of the ICT devices are mostly used with parents. Children's daily use of ICT is 193 minutes, while the tablet is the device used the most and the computer the least. Children mostly use the television for watching cartoons, the computer for playing games and searching for things, and the tablets and smartphones for playing games. Total ICT is mostly used for watching cartoons and playing games. The positive effect of ICT is found to be contributing to the learning of children, whereas its negative effect is causing children to develop negative behaviors. Parental control and limiting time were the most common strategies parents used to protect their children from the negative effects of ICT. Parental control and limiting time were the most common strategies used by parents to protect their children from the negative effects of ICT.

Eliminating children's interaction with ICT altogether is not a realistic goal, however; parental control and supervision should be provided to children when using ICT. Parents can protect their children from the negative effects of ICT by accompanying their children while using ICT, controlling the content that their children are exposed to, imposing time limits, spending quality time and developing alternative activities for children. It is a fact that preschool children take their parents as a model. In this context, parents themselves need to be more meticulous in their attitudes towards the use of ICT. It is a prerequisite for parents to have sufficient knowledge about the use of ICT to minimize the disadvantages and to benefit from the advanced technologies. Thus, necessary actions shall be taken to raise the awareness of parents. Parents should also educate their children regarding the use of ICT. ICT should not act as a babysitter or a reward tool. In addition to these, content producers should prepare educational, instructive and quality content that includes nonviolent and positive behavior models for children. Future studies should investigate the factors affecting the use of ICT, such as the socioeconomic level of the family, education level, age and gender of the child. The majority of the study group consisting of mothers, the data being based on parental views, the demographic characteristics of parents and children not being taken into account, and using a small sample of ICT devices that consist of smart phones, tablets, televisions and computers are limitations of the present study.

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