

Young Children's Electronic Media Use and Parental Rules and Regulations

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ABSTRACT

Today's children are born and raised in media-saturated environments, surrounded by televisions, computers, tablets, smartphones, and other portable electronic devices. Because these devices have become an indispensable part of everyday life, they have a significant influence on children's entertainment and leisure, as well as their education. This study, therefore, examined the media environment in young children's homes (from 0 to 6 years of age), how early and how much they use television, computers, and tablet/smartphones, and the media environment in their homes and the parents' rules and regulations for their children's electronic media use. The sample for this study consisted of 412 parents of 0- to 6-year-old children who brought their children to the Social Paediatrics Department of the Faculty of Medicine in Ankara, Turkey, for developmental check-ups. The data for this study were collected through a questionnaire that was prepared by the researcher. The findings indicate that almost all children live in homes with different types of electronic media devices and they start to use them at an early age with longer time than recommended and parents try to use some rules in order to regulate their children's usage.

INTRODUCTION

Today's children are born into a media-saturated environment that includes televisions, radios, DVD players, computers, internet access, mp3 players, and other portable electronic devices such as smartphones. These devices have become an indispensable part of human life and therefore have a significant impact on children's entertainment and leisure, as well as their education (Calvert & Wilson, 2008). While technology has only been in existence for a relatively short amount of time, the usage of electronic media devices continues to grow at a rapid pace (Kabali, Irigoyeni, Nunez-Davis, Budacki, Mohanty, Leister, & Bonner, 2015). This pervasiveness of electronic media devices raises new questions about if and how young children are exposed to these devices, how much time they spend on these devices, as well as parents' opinions about the impact these devices are having on their children and any parental regulation of their use. Children are susceptible to all types of stimuli from media devices, even when they are not directly exposed to them. Therefore, parents' opinions about the effects of media on their children and the rules and regulations they set in their homes regarding media device usage are important for understanding children's media usage and its impact on their development (Nikken & Schols, 2015).

Children in the past have never had as many sources of entertainment and information access as children in the twenty-first century. In fact, young consumers are specifically targeted by media and technology companies, including traditional media, like television and radio, and more recent technological advances, such as computers and wireless media like smartphones, tablets, computer games, etc. (Arnett, 2007). The role of the media in children's lives has been the source of much debate for many years, but when reviewing the published studies related to the effect of media on children, especially younger children, it is clear that the amount of research on which claims, policy decisions, and suggestions are based is woefully inadequate (Lee, 2004).

LITERATURE REVIEW

Television Use by Children

Today, most children live in a multimedia environment, but television is the most commonly used media device by the average child. And even though children in developed countries are using a larger variety of media devices, television use has not decreased. Rather, total media use has just grown (Kabali et al., 2015).

American Academy of Pediatrics (AAP) warned families that infants and toddlers learn more quickly through interactions with the real world than they do through media use (2016). Moreover, under the age of 2, technology use in early learning settings is discouraged except for promoting relationship development, such as using video chatting software to talk to relatives, friends, and families. However, despite the warnings of the AAP and related research findings, the amount of media being produced and marketed for young children—even those younger than two years—has continued to grow. Today, in Turkey, there are countless

DVDs and television channels specifically for children who are 6 months to 3 years old, such as Baby TV, Baby First, Bebeğim TV, and Luli TV. These channels provide 24-hour programming designed for parents and infants to watch together. Parental reasons may differ for why they allow their children to watch these channels, but it is well-known that there is no research to support that these channels improve young children's development.

Various studies have looked at children's television viewing habits because of the potential negative consequences of this behavior. First of all, heavy exposure to television during the early years can cause addiction to television later on in life (Van den Bulck & Beullens, 2005). Even though addiction is defined as biological dependency on a substance since all pleasurable experiences have a biological element if someone gets extremely dependent on one sort of pleasure and feels terrible if they are no longer engaged in the act, it can also be an addiction (Goodman, 1990). The meaning of the term—addiction can, therefore, be expanded to nondrug behaviors, from gambling to video gaming, television watching, and Internet use. Television addicts always feel compelled to have their televisions turned on, and they face negative consequences from this behavior (McIlwraith, 1998). For instance, Kubey and Csikszentmihalyi (1990) compared light viewers (described as people who watch television less than 2 hours a day) and heavy viewers (people who watch television more than 4 hours a day) and found out that heavy viewers feel significantly worse when they are alone and/or in an unstructured environment or performing an unstructured action, such as waiting in a queue. Because television addicts are more easily bored and distractible, they tend to have poorer attention control. They also often report using television to distract themselves from unpleasant thoughts and to kill time (Arnett, 2007). When a person watches television for 3 hours a day, he ends up spending 9 full years of a 75-year life span on this activity. Since one-third of a life span is spent sleeping, that leaves only 40 waking years for the other activities.

Television use also negatively affects young children's physical health. For example, young children are particularly susceptible to blue light emitted by light-emitting diodes (LEDs), and LEDs are used to illuminate screens on devices, such as computers, smartphones, tablets, and televisions (Cajochen, Frey, Anders, Späti, Bues, Pross, Mager, Wirz-Justice & Stefani 2011). Researchers have found that the blue-enriched light emitted from screens stimulates wakefulness, suppresses melatonin, and disrupts sleep cycles (Cajochen et al., 2011).

Exposure to short-wavelength light (i.e., blue light) has also been associated with other negative health consequences, such as breast cancer, prostate cancer, diabetes, heart disease, and obesity (Healy, Minors, & Waterhouse, 1993), as well as emotional disorders, such as anxiety and depression. In addition, exposure to the blue-enriched light emitted by screened devices during or after dinner can alter one's metabolism and increase hunger. Therefore, screen time can actually cause obesity. For those reasons, young people are more vulnerable to this danger.

Computer Use by Children

Children tend to start using computers later than they begin using television, as computer use requires some manual and cognitive developmental features (Lee, 2004). However, there is now a wide use of computers among young children. For example, a recent related study showed that about three-quarters of 5-year-olds use computers and about 25 percent of 5-year-olds utilize the Internet. In addition, this number increases to over 50 percent by the age of 9 and to at least 75 percent by the age of 17 (Debell & Chapman, 2004).

There is one potential positive outcome from using computers at a young age: Engaging with computers and computer-related activities early in a child's life can provide them with the abilities and confidence they need to move on to more complex applications. For instance, studies show that school-aged children who utilize computers at home have more positive behaviors toward computers, which is reflected in their attitudes toward computers at school (Mumtaz, 2001). Overall, an early start in computing can familiarize children with computers and foster self-confidence in future activities.

However, many researchers argue that screen time negatively affects individuals physiologically, suggesting that screens directly hinder physical development (e.g., vision and brain connectivity). Exposure to computer screens can affect vision (Yan, Hu, Chen & Lu, 2008) and lead to what physicians are referring to as computer vision syndrome, CVS. CVS results from intensive viewing of screen technology, which can lead to eye discomfort, fatigue, blurred vision, and headaches (Blehm et al., 2005). Screen time occurs both at home and at school (Nielsen, 2014), and the introduction of new devices (e.g., handheld devices, smartphones, and tablets) has heightened the intensity and prolonged the amount of time that children engage with screened electronic devices, putting them at greater risk of developing CVS. While CVS related screen time use is a cause for concern, research examining the consequences of heavy computer use, specifically Internet use, has documented negative neurophysiological effects (e.g., white matter abnormalities and atrophy in grey matter density), thus raising further concerns. The DSM-5 has listed a new category,—Internet gaming disorder, among clinical conditions in need of further study (American Psychiatric Association, 2013, p. 795). This disorder has several features in common with substance use disorders and gambling disorder, all of which may have common pathophysiology (i.e., dopaminergic disorders). Interestingly, other recent studies have also shown white matter abnormalities and atrophy in gray matter in Internet-addicted teens. These findings are significant since these areas of the brain play critical roles in decision making, emotional processing, cravings, and compulsive and repetitive behaviors.

Tablet/Smartphone Use by Children

The popularity of touchscreen phones continues to grow in today's technology-oriented society even in younger ages. Ahearne and colleagues (2015) observed that children become experts quickly on touchscreen usage: At 12 months of age, they can perform basic functions on these devices, and at 24 months, they can use these devices purposefully (2015).

Since tablets and smartphones are used by children in similar ways, they were analyzed together in the current study. For example, both are generally used for entertainment, such as watching videos or playing games. Cristia and Seidl (2015) found that photo and video viewings are the most common activities that children perform on touchscreen devices, but there has been a growing trend in educational use in recent years, such as math and foreign language apps. However, while there are many apps designed for young children, there is no proof of their quality and educational value (Ahearne et al., 2015).

Media Regulation

The term —regulation has been utilized in the related literature to refer to various types of media behavior. For example, parents can regulate their children's use of media to keep them from developing dangerous media habits or addictions. However, children's media use also occurs out of parents' mediation (Kotler, Wright, & Huston, 2001). These interactive relationships are less likely to work with older children, who can choose among different media devices and are more autonomous compared to younger children. We can assume that young children's media consumption is at least partly due to parental choices and regulation (or lack of regulation) because they are less likely to disobey rules or engage with undesirable media content. And there are many parents who do not consider it necessary to regulate their young children's media use since they consider their behavior to be socially acceptable (Kotler et al., 2001). Television tends to be the most heavily regulated medium in most families (Woodard & Gridina, 2000). When parents set strict regulations or rules, the amount of television watching sharply decreases. Similarly, when the parents of 3- to 5-year-old children restricted their children's television watching (i.e., showed high levels of regulation and low levels of encouragement), the children watched less television when compared to children those whose parents fell back on other mediation practices (Huston, Wright, Rice, Kerkman, & St. Peters, 1990). When parents frequently impose limitations on television watching (both the amount of time and content viewed), it is natural that children will spend less time watching television (Kotler, 1999). And, conversely, when there is less parental mediation, children become much heavier television viewers (Desmond, Singer, & Singer, 1990). These children tend to have parents who worry less about the negative effects of television and are not concerned about controlling their children's television use (Holman & Braithwaite, 1982).

Another study showed that 55 percent of parents with children between the ages of 2 to 17 reported —always or —often limiting the amount of time their children could play computer and video games (Gentile & Walsh, 2002), but there was not a specific analysis of whether different limits were set for younger versus older children. Younger children tend to need help from their parents when using computers, from using hardware and software to reading the print on the screen. Therefore, computer use tends to only take place when their parents or other family members are nearby.

Moreover, the ways in which parents and other adults in the family utilize media shape the media environment in the house, which in turn can influence children's media use. Parents' opinions regarding media can manifest themselves through different attitudes, such as making media available at home (or not), regulating their children's media usage, and encouraging (or not encouraging) a pervasive media environment. All of these features can influence children's media use. Even though it is not fully clear what motivates parents to adopt certain beliefs regarding media use, it is reasonable to hypothesize that they are influenced by their education and socioeconomic levels and child-related characteristics e.g. age.

METHOD

Research Design

The general purpose of this study was to explore young children's relationships with electronic media devices and understand the rules and regulations that families create for children's media use. The face-to-face survey methodology was used, in which the researcher verbally administered the questionnaire. The questionnaire includes two main parts: The first part focused on the demographic information of the parents and children which includes parents' age, occupations and educational level and the child's age and gender. The second part of survey focused on the children's electronic media usage and the parental rules and regulations for children's usage. In this part, the media environment at home and the children's media use habits was investigated with Likert-type and yes/no questions. This part of the study was analyzed using quantitative methods. The study was completed with mothers and fathers of 412 children in the age range of 0 to 6 years who came to the Social Paediatrics Department of a large university hospital in Ankara for developmental check-ups between December 15, 2016, and March 15, 2017. After the data were gathered from the parents, they were entered into the Statistical Package for the Social Sciences Program (SPSS24).

Population and Sampling

Zero to 6-year-old children who came to the Social Paediatrics Department, a university facility serving the developmental needs of young children in Ankara for developmental follow-ups were the population of the study. The department staff conducts developmental follow-up appointments for both babies and young children. Survey were conducted with parents who just regularly scheduled appointments of normally developing children. To collect the necessary data, the researcher went to the department for 2

days a week for 3 months. A total of 412 children in the age range of 0 to 6 were identified with convenience sampling. The parents were told about the aim of the research study, and their consent was required before the children could participate in the research.

Instrumentation

The questionnaire was chosen as the data collection tool in this study. On a questionnaire, subjects respond to certain items by writing and/or by marking an answer sheet (Fraenkel, Wallen, & Huyn, 1993). Generally, participants receive a questionnaire through the mail or some other indirect way, but in this study the researcher verbally administered the questionnaire to each participant and then recorded his or her answers, thus minimizing the potential for missing data. Moreover, this gave the researcher a chance to observe participants' verbal reactions and the points on the questionnaire that they felt were particularly important. The questionnaire was prepared by the researcher based on the findings from a review of the current literature and with the light of the research questions. The most commonly used electronic media devices were identified as televisions, tablets, smartphones, and computers (Connell, Lauricella, & Wartella, 2015; Kirkorian, Wartella, & Anderson, 2008; V. J. Rideout, Vandewater, & Wartella, 2003). Hence, the usage of these four electronic media devices was emphasized in the survey. Smartphones and tablets are often used for the same reasons or to perform similar tasks, such as watching videos and playing games. Therefore, in this study, they were evaluated together. With the questionnaire, those were measured: media technology in the home, how long the media devices were used in daily, age of first use, ability to use, when they start to turn on the technology and kind of rules and regulations for the use of media devices. The questionnaire is presented in Appendix 1.

Data Analysis

The data that were collected via the questionnaire were entered into SPSS24. The missing data was checked, but as the questionnaire was administered face to face, this was not an issue. To describe the characteristic of the sample, descriptive statistics were used. The percentage distributions of the demographic characteristics of the parents and children were identified. Then, the frequency and percentage of the survey items were found. Lastly, the mean, median, and standard deviations were checked for continuous variables.

RESULTS

Demographics about the participants

In total, 412 parents-320 mothers (77.7%) and 92 fathers (22.3%) - who had children between the ages of 0-6 participated in the study. The majority of the parents were in the age range of 30-39 (58.3%), and more than half of the parents (59.3%) had a college degree while 30.3% of them graduated from high school. Only a small percentage of the parents (10.4%) had primary education. Three age groups were investigated in this study, 0-2 years, 3-4 years and 5-6 years respectively. The sample comprised of 412 children (children aged 0-2, N = 121; 3-4, N = 164; and 5-6, N= 127). The number of girls and boys were equal (girl N=206; boy N=206)

Electronic media environment for 0- to 6-year-old children in the household

The results showed that children's houses were filled with media devices, including TVs, computers, tablet/smartphones, game consoles, and radios. Nearly all households (98.3%) had a television in the study. After television, smartphones were the second most commonly used electronic media device in children's houses. Almost all the parents (93.2%) who participated in the study had smartphones. Tablets and computers were the next most commonly used media devices in young children's households. More than half of the households had tablets (63.3%) and computers (62.9). The rooms where the electronic media devices are most commonly used at home is summarized in Table 1.

Table 1: Rooms where the electronic media devices are most commonly used at home

	Television		Tablet		Smart phone		Computer		Game console		Radio	
	N	%	N	%	N	%	N	%	N	%	N	%
Living room	348	84.5	185	44.9	280	68.0	108	26.2	60	14.6	96	23.3
Dining room	45	10.9	20	4.9	42	10.2	8	1.9	2	.5	99	24
Study room	1	.2	17	4.1	18	4.4	99	24.0	5	1.2	6	1.5
Child's room	11	2.7	38	9.2	44	10.7	44	10.7	18	4.4	12	2.9
No	7	1.7	151	36.7	28	6.8	153	37.1	327	79.4	199	48.3

Age of onset of using electronic media devices

In the current study, it was also aimed to find out the age of onset of children's media device usage. Results showed that any children (85.6%) started watching television before they reached two years of age and they were not passive consumers. Almost one third (29.4%) of the parents reported that their children can turn the TV set on by themselves, and 26.2 percent can change channels by the age of 2. Additionally, 24.8 percent of 0 to 2-year-old children asked their parents to watch specific TV channels.

The results indicated the children did not engage in computers as actively as they did on television. The parents reported that only one-third (31.3%) of their children were able to turn on the computer on their own, while 29.9 percent played games on the computer.

Watching videos on the computer was seemed to be the most popular activity among young children because 43.9 percent of the parents reported that this was what their children did on the computer.

The findings showed that young children started to use tablet/smartphone earlier than they began to use computers. More than two-thirds (75.2 %) of the children watched videos on tablet/smartphone, while 58 percent played games. More importantly, almost 60 percent of the parents (57.5%) reported that their children could turn on tablet/smartphones by themselves.

Children's level of knowledge on how to use electronic media devices

In this research, the children's level of knowledge of how to use electronic media devices was also examined. The results showed that many of the toddlers and preschoolers, even infants were not just passively consuming media chosen by other members of their families. They were turning on the TV themselves (58.5%), changed TV channels (57.3%), turned on the computers themselves (30.6%), turned on tablet and/or smartphone by themselves (59.7%), opened video games on the computer themselves (25%), opened video games on tablet and/or smartphone (51.5%), installed programs on the computer (7.5%), and installed programs on tablet and/or smartphones (17.5%).

The length of time children spent on electronic media devices across different age groups

The parents were asked how much time their children spent on electronic media devices in daily life. The answers were coded with the range of 0 to 4 (no=0; less than 1 hour= 1; 1 to 2 hours=2; 3 to 4 hours=3; more than 4 hours=4). The results showed that children six and under spent approximately one to two hours a day by watching television (mean: 1.68, mode: 2), they spent almost the same amount of time on playing with a person (mean: 1.66, mean: 2). They played with toys up to one hour daily (mean: 1.39, mode: 2), and then watched video on a tablet/smartphone (mean:.95).

It was seen that the amount of time spent watching TV increased with age (for children with the age range of 0-2, mean: 1.32, 3-4 year-olds, mean: 1.74, 5-6 year-olds, mean: 1.93); watching video on the computer (for children with the age range of 0-2, mean: .28, 3-4 year-olds, mean: .60, 5-6 year-olds, mean: .80).

The findings also revealed that playing the game on the computer also increased with age (for 0-2 year-olds, mean: .12, 3-4 year-olds, mean: .38, 5-6 year-olds, mean: .75). However, tablet/smartphone usages did not change much between the 3-4 year-olds (mean: 1.16) and 5-6 years-old children (mean: 1.09).

The amount of time spent playing with toys also did not differ much across different age groups (for 0-2-year-old children, mean: 1.34, 3-4-year-old children, mean: 1.35, 5-6-year-old children, mean: 1.48). However, reading time increased with age (for 0-2-year-old children, mean: .62, 3-4-year-old children, mean: .79, 5-6-year-old children, mean: 1.08).

The relationship between the children's level of knowledge of electronic media use and age intervals

In the current study, the relationship between the children's level of knowledge of electronic media use and age intervals was tested via chi-square. It is seen that there is a statistically significant difference between children's level of knowledge of how to use electronic media devices and age intervals. More specifically, it is seen that there is a significant difference across different age ranges and the ability to turn on TV ($X^2_{(3)}=89,29$, $p=,000<,05$); change TV channels ($X^2_{(3)}=75,37$, $p=,000<,05$); turn on the computer ($X^2_{(3)}=69,39$, $p=,000<,05$); open games and videos on the computer ($X^2_{(3)}=49,18$, $p=,000<,05$); open games and videos on tablet/smartphone ($X^2_{(3)}=116,54$, $p=,000<,05$); install program on the computer ($X^2_{(3)}=12,74$, $p=,002<,05$), and install applications on tablet/smartphone ($X^2_{(3)}=30,56$, $p=,000<,05$). The result is shown in Table 2.

Table 2: Chi-square results regarding the differences across different age ranges and children's adequacy of electronic media use

Children's adequacy of electronic media usage		Age of children			$X^2_{(3)}$	p	
		0-2 ages	3-4 ages	5-6 ages			
Turning on TV	Yes	N	29	110	102	89,29	,000*
		%	24,0	67,1	80,3		
	No	N	92	54	25		
		%	76,0	32,9	19,7		
Changing TV channels	Yes	N	35	95	106	75,37	,000*
		%	28,9	57,9	83,5		
	No	N	86	69	21		
		%	71,1	42,1	16,5		
Turning on the computer	Yes	N	9	46	71	69,39	,000*
		%	7,4	28,0	55,9		
	No	N	112	118	56		
		%	92,6	72,0	44,1		
Opening games and videos on the computer	Yes	N	6	42	55	49,18	,000*
	%	5,0	25,8	43,7			

Opening games and videos on tablet/smart phone	No	N	115	121	71	116,54	,000*
		%	95,0	74,2	56,3		
	Yes	N	13	105	94		
		%	10,7	64,0	74,0		
Installing program on the computer	No	N	108	59	33	12,74	,002*
		%	89,3	36,0	26,0		
	Yes	N	1	14	16		
		%	,8	8,5	12,6		
Installing application on tablet/smart phone	No	N	120	150	111	30,56	,000*
		%	99,2	91,5	87,4		
	Yes	N	4	30	38		
		%	3,3	18,3	29,9		
	No	N	117	134	89		
		%	96,7	81,7	70,1		

*p<,05

The parental rules and regulations for the children’s electronic media device use

In the current study, the parents were asked if they provided guidance to their children when using electronic media devices and if they had any rules for if, when, and how long their children were permitted to use media devices to reveal how often and how long children used electronic media devices by themselves. Most of the parents had media related rules for what to do with electronic media devices and the length of time spent using electronic media devices. Specifically, more than half of the parents set more rules for what children watch on TV (66.3%) than they do related to the length of time to spend watching TV (50.2%). For tablet/smartphone use, more than half of the parents set rules for the length of time to spend using them (59.2%), and what they can do with them (60.7%). For children's computer use, half of the parents set rules for what children do on the computer (48.5%) and for the duration of computer use (48.1%).

The parental rules and regulations for the children’s electronic media device use was investigated, and Table 3 summarize the related findings.

Table 3: Frequency tables for the rules while using electronic media devices

Rules for...		N	%
duration of watching TV	yes	207	50,2
	no	204	49,5
what children watch on TV	yes	273	66,3
	no	139	33,7
duration of using computer	yes	198	48,1
	no	214	51,9
what children do on computer	yes	200	48,5
	no	212	51,5
duration of using tablet/smart phone	yes	244	59,2
	no	168	40,8
what children do on tablet/smart phone	yes	250	60,7
	no	162	39,3

The difference between parents’ educational level and length of time children’s spent using electronic media devices

The differences between the parental educational level and the length of time the children are allowed to use electronic media devices were investigated via chi-square test, and the results were presented in Table 4. It was seen that there was a significant difference in the length of time children spend watching television according to the education levels of parents.

Table 4: Chi-square results regarding the difference between parents' educational level and children's electronic media use durations

Frequency of using electronic media devices	Education of parents	No	Less than hour	1	1 to 2 hours	More than 3 hours	X ² (3)	p
Watching TV	≤ high school	N 15	33		73	47	25,32	,000*
		% 8,9	19,6		43,5	28,0		
	>high school	N 37	80		100	27	16,43	,001*
		% 15,2	32,8		41,0	11,1		
Watching video on the computer	≤ high school	N 117	20		23	7	14,62	,002*
		% 70,1	12,0		13,8	4,2		
	>high school	N 142	70		25	7	13,79	,003*
		% 58,2	28,7		10,2	2,9		
Playing computer games	≤ high school	N 119	18		26	4	34,35	,000*
		% 71,3	10,8		15,6	2,4		
	>high school	N 182	44		13	5	4,23	,238
		% 74,6	18,0		5,3	2,0		
Watching video on tablet/smart phone	≤ high school	N 56	57		43	12	2,74	,433
		% 33,3	33,9		25,6	7,1		
	>high school	N 90	111		33	9	18,61	,000*
		% 37,0	45,7		13,6	3,7		
Playing games on tablet/smart phone	≤ high school	N 55	45		56	12	2,74	,433
		% 32,7	26,8		33,3	7,1		
	>high school	N 132	73		35	4	4,23	,238
		% 54,1	29,9		14,3	1,6		
Playing with toys	≤ high school	N 33	72		43	20	2,74	,433
		% 19,6	42,9		25,6	11,9		
	>high school	N 45	84		83	29	18,61	,000*
		% 18,7	34,9		34,4	12,0		
Playing with somebody (siblings, parents, friends etc.)	≤ high school	N 23	54		57	34	2,74	,433
		% 13,7	32,1		33,9	20,2		
	>high school	N 37	62		97	46	18,61	,000*
		% 15,3	25,6		40,1	19,0		
Reading or being read	≤ high school	N 82	58		19	7	18,61	,000*
		% 49,4	34,9		11,4	4,2		
	>high school	N 74	126		39	5	16,0	2,0
		% 30,3	51,6		16,0	2,0		

*p<,05

CONCLUSION

The results from the study provide information on the electronic media environments of young children in their homes and how their organizational (access), and behavioral (rules and mediation while using them) components are interrelated.

The findings indicate that almost all children live in homes with different types of electronic media devices. Television is the most commonly used electronic media, followed by smartphones, tablets, and computers. Most of the media devices used by children have Internet access.

Children ages 6 years and under spend approximately 1 to 2 hours a day watching television, which is about the same amount of time that they spend playing with friends, playing with toys, and watching videos on tablets/ smartphones (i.e., up to 1 hour daily) Also, they often read or are read to for up to 1 hour a day. Children have begun watching television at younger ages. They, therefore, acquire skills related to television use at an earlier age. They then start to use tablets/smartphones after they have already started using the television, and then computer use comes later as they grow.

The mediation when children used electronic media is an important issue for the parents. The findings showed that parents mediate their children's media use in similar ways; some parents set rules about content and duration. More than half of the parents set rules for what children watch on TV (66.3%) and the length of time that children should spend watching TV (50.2%). For tablet/smartphone use, more than half of the parents set rules for the length of time to spend using them (59.2%) and what they could do with them (60.7%). For children's computer use, half of the parents set rules for what children will do on computer (48.5%) and the length of time to spend using computer (48.1%). There is also a relationship between parents' educational levels and their guidance of their children's media use. More educated parents tend to mediate use more than other parents. These findings are consistent with the related literature's perspective of children's media use in early years.

DISCUSSION AND RECOMMENDATIONS

The study shows that the home electronic media environment and the parental rules and regulations are both predictors of children's electronic media use habits. These findings indicate the need to shape the home media environment to promote healthy media usage habits. Therefore, it provides information especially for parents. Children who spend their days in an environment filled with television sets, computers, and video games have greater opportunities to use media (Strasburger, Wilson, & Jordan, 2009). The present study shows that the accessibility of media at home and diversity in terms of media devices affects children's electronic media use routines. The results indicate that children start to use electronic media at an early age and that they use these media devices more than the expected amount. Although the AAP recommends that children under the age of 2 years should not be exposed to any screen media (Patton & Sawyer, 2000), this study shows that the rate of children who watch television under 2 is high.

Families should be warned about the AAP recommendations and encouraged to gain knowledge about the effects of early exposure to media on children's development. They should be encouraged to avoid screen time for children younger than 2 years, restrict their older children's electronic media usage, and to develop strategies for mediating their children's media use. At this point, parents may need to be supported in restricting and controlling their children's media usage. Additionally, when children do use media devices, their parents should be encouraged to participate with their children by providing guidance on age-appropriate use of all media, including the television, computer, tablets, and smartphones. They should discuss and share their opinions about programs, movies, cartoons, game characters, etc. Talking with them about what they watch, hear, and read is important to allow them to express judgement and approval of what they are exposed to in the media. Parents can also play a big role in helping their children differentiate between fantasy and reality, especially when it comes to sex, violence, and advertising. A large body of research has shown that parent mediation when young children use the media is an essential resource for children's overall media literacy development (Nikken & Schols, 2015). If the parents are not media literate, then they are less likely to be a part of their children's media use experiences. Therefore, parents need to be encouraged to be media literate in order to support the children in terms of healthy media use.

Ethics and Consent: Ethics committee approval for this study was received from the Ethics Committee of Middle East Technical University (Date: January 2, 2017; Approval Number: 28620816/46, Decision Number:2016-EGT-146).

APPENDIX 1: QUESTIONNAIRE

Anketi dolduran katılımcı hakkında demografik bilgiler:

Yaşınız	Medeni Haliniz		Mesleğiniz	Öğrenim Durumunuz				
	Evli	Bekâr		Okur-Yazar	İlköğretim	Lise ve Dengi	Yüksek Öğrenim (Ön lisans, Lisans) Belirtiniz	Diğer (Belirtiniz)

Elektronik medya kullanımı ile ilgili bilgi verilen çocuk hakkında demografik bilgiler:

Çocuğunuzun Adı	Yaşı (Ay olarak)	Cinsiyeti		Okul öncesi eğitim kurumuna (kreş, anaokulu) gidiyor mu?		Kaçıncı çocuk?			
		Kız	Erkek	Evet	Hayır	Tek çocuk	En küçük çocuk	Ortanca çocuk	Büyük çocuk

1- Lütfen aşağıda belirtilen elektronik medya araçlarını evinizde kullandığınız yere göre işaretleyiniz.

	Salon	Oturma odası	Mutfak	Çalışma odası	Çocuk odası	Yok
Televizyon						
Tablet						
Akıllı telefon						
Bilgisayar						
Video oyunları (X-box ya da playstation gibi)						
Radyo ya da müzik çalar						

2- Evinizde internet bağlantınız var mı?

Evet

Hayır

3- Sıradan bir günü düşündüğünüzde çocuğunuza uygun olduğunu düşündüğünüz kutucukları işaretleyiniz.

	Hayır	1 saatten az	1-2 saat	3-4 saat	4 saatten fazla
Televizyon izler					
Bilgisayarda video veya film izler					
Bilgisayarda oyun oynar					
Tablet veya akıllı telefonda video veya film izler					
Tablet veya akıllı telefonda oyun oynar					
Oyuncaklarıyla yalnız oynar					
Kardeşiyle/arkadaşıyla/anne-babasıyla oyun oynar					
Kitap okur (yetişkin yardımıyla)					

4- Lütfen çocuğunuza uygun olduğunu düşündüğünüz durumu işaretleyiniz. Eğer belirtilen durumlar çocuğunuz için yaş/gelişimsel durumu/ilgisizliği gibi sebeplerle uygun değilse "Geçersiz" kutucuğunu işaretleyiniz.

	Her zaman	Sık sık	Genelde	Nadiren	Hiç
Çocuğum televizyon ya da videoyu yalnız izler					
Çocuğum televizyon ya da video izlerken yanında bir yetişkin (anne/baba/kardeş gibi) bulunur					
Çocuğum bilgisayar ile yalnız oyun oynar					
Çocuğum bilgisayar ile oyun oynarken yanında bir yetişkin (anne/baba/kardeş vs.) bulunur					
Çocuğum tablet veya akıllı telefon ile yalnız oyun oynar					
Çocuğum tablet veya akıllı telefon ile oyun oynarken yanında bir yetişkin bulunur					

5- Lütfen ailenize uygun olduğunu düşündüğünüz durumu işaretleyiniz.

	Her zaman	Sık sık	Genelde	Nadiren	Hiç
Evde birileri varken televizyonu açık bırakırım (Kimse izlemese bile)					
Evde yapmam gereken bir işim olduğunda çocuğumun elektronik medya araçlarıyla vakit geçirmesine (televizyon ve video izlemek/tablet veya telefonda oyun oynamak gibi) izin veririm					
Evde yemek saatlerinde televizyon açık bulunur					
Çocuğum oyun oynarken televizyon açık bulunur					

6- Lütfen aşağıda anlatılan durumlar için evinizde kurallar olup olmadığını belirtiniz.

	Var	Yok
Çocuğunuzun ne kadar süreyle televizyon izleyebileceğine ilişkin kurallar		
Çocuğunuzun televizyonda ne izleyip izleyemeyeceğine ilişkin kurallar		
Çocuğunuzun bilgisayarda ne kadar süre geçirebileceğine ilişkin kurallar		
Çocuğunuzun bilgisayarda ne yapabileceğine ilişkin kurallar		
Çocuğunuzun tablet ve akıllı telefonda ne kadar süre geçirebileceğine ilişkin kurallar		
Çocuğunuzun tablet ve akıllı telefonda ne yapabileceğine ilişkin kurallar		

7-Lütfen aşağıda belirtilen eylemleri çocuğunuzun yapıp yapmadığını işaretleyiniz. Çocuğunuz gelişimsel açıdan belirtilen eylemleri yapamayacak düzeyde ise "Geçersiz" kutucuğunu işaretleyiniz.

	Evet	Hayır
Televizyonu kendi açabilir		
Televizyon kanalını kendi değiştirebilir		
Bilgisayarı kendi açabilir		
Tablet veya akıllı telefonu kendi açabilir		
Bilgisayarda istediği oyunu veya videoyu kendi açabilir		
Tablet veya akıllı telefonda istediği oyunu veya videoyu kendi açabilir		
Bilgisayara program indirip kurabilir veya kaldırabilir		
Tablet veya akıllı telefona program indirip kurabilir veya kaldırabilir		

8- Lütfen aşağıda listelenmiş olan eylemleri çocuğunuzun ilk ne zaman yaptığını işaretleyiniz.

	1 yaş (0-12 ay)	2 yaş (13-24 ay)	3 yaş (25-36 ay)	4 yaş (37-48 ay)	5-6 yaş (49-60 ay)	Geçersiz (Yapmıyor)
Televizyon izlemek						
Televizyonu kendi başına açmak						
Televizyon kanalını kumanda kullanarak değiştirmek						
Belirli bir tv kanalını ya da programı sormak						
Bilgisayarda video izlemek						
Akıllı telefonda ya da tablette video izlemek						
Bir yetişkin desteğiyle bilgisayar kullanmak						
Yetişkin desteği olmadan bilgisayar kullanmak						
Bir yetişkin desteğiyle akıllı telefon ya da tablet kullanmak						
Yetişkin desteği olmadan akıllı telefon ya da tablet kullanmak						
Bilgisayarı kendi açıp kapatmak						
Akıllı telefon ya da tableti kendi açıp kapatmak						
Bilgisayar oyunu oynamak						
Akıllı telefon ya da tablette oyun oynamak						

REFERENCES

- AAP. (2011). Media Use by Children Younger Than 2 Years. *Pediatrics*, 128(5), 1040–1045. <https://doi.org/10.1542/peds.2011-1753>
- Ahearne, C., Dilworth, S., Rollings, R., Livingstone, V., & Murray, D. (2015). Touch-screen technology usage in toddlers. *Archives of Disease in Childhood*, 100(2), 181–182. <https://doi.org/10.1136/archdischild-2015-309278>
- Arnett, J. J. (Ed.). (2007). *Encyclopedia of Children, Adolescents, and the Media: Two-volume set*. Sage Publications.
- Blehm, C., Vishnu, S., Khattak, A., Mitra, S., & Yee, R. W. (2005). Computer vision syndrome: a review. *Survey of ophthalmology*, 50(3), 253–262. <https://doi.org/10.1016/j.survophthal.2005.02.008>
- Cajochen, C., Frey, S., Anders, D., Späti, J., Bues, M., Pross, A., Mager, R., Wirz-Justice, A., O. (2011). Evening exposure to a light-emitting diodes (LED)-backlit computer screen affects circadian physiology and cognitive performance. *Journal of applied physiology (Bethesda, Md. : 1985)*, 110(5), 1432–1438. <https://doi.org/10.1152/jappphysiol.00165.2011>
- Calvert, S. L., & Wilson, B. J. (Eds.). (2008). *The handbook of children, media, and development* (pp. 1–4). Malden, MA: Wiley-Blackwell.
- Connell, S. L., Lauricella, A. R., & Wartella, E. (2015). Parental Co-Use of Media Technology with their Young Children in the USA. *Journal of Children and Media*, 9(1). <https://doi.org/10.1080/17482798.2015.997440>
- Cristia, A., & Seidl, A. (2015). Parental Reports on Touch Screen Use in Early Childhood. *PLOS ONE*, 10(6), e0128338. <https://doi.org/10.1371/journal.pone.0128338>
- DeBell, M., & Chapman, C. (2006). *Computer and Internet Use by Students in 2003*. Statistical Analysis Report. NCES 2006-065. <https://eric.ed.gov/?id=ED493283>
- Fraenkel, J. R., Wallen, N. E., & Huyn, H. H. (1993). *How to Design and Evaluate Research in Education*. *PsycCRITIQUES* (Vol. 38). <https://doi.org/10.1037/032719>
- Gentile, D. A., & Walsh, D. A. (2002). A normative study of family media habits. *Journal of Applied Developmental Psychology*, 23(2), 157–178.
- Goodman, A. (1990). Addiction: definition and implications. *Addiction*, 85(11), 1403–1408.
- Holman, J., & Braithwaite, V. A. (1982). Parental lifestyles and children's television viewing. *Australian Journal of Psychology*, 34(3), 375–382.
- Huston, A. C., Wright, J. C., Rice, M. L., Kerkman, D., & St. Peters, M. (1990). Development of television viewing patterns in early childhood: A longitudinal investigation. *Developmental Psychology*, 26(3), 409–420. <https://doi.org/10.1037/0012-1649.26.3.409>
- Kabali, H. K., Irigoyen, M. M., Nunez-Davis, R., Budacki, J. G., Mohanty, S. H., Leister, K. P., & Bonner, R. L. (2015). Exposure and Use of Mobile Media Devices by Young Children. *Pediatrics*, 136(6). <https://doi.org/10.1542/peds.2015-2151>
- Kirkorian, H. L., Wartella, E. A., & Anderson, D. R. (2008). Media and young children's learning. *The Future of Children / Center for the Future of Children, the David and Lucile Packard Foundation*, 18(1), 39–61. <https://doi.org/10.1353/foc.0.0002>
- Kotler, J. A., Wright, J., & Huston, A. (2001). Television use in families with children. In *Television and the American Family* (pp. 33–48).
- Kubey R, Csikszentmihalyi M. (1990). *Television and the Quality of Life: How Viewing Shapes Everyday Experience*. Hillsdale NJ: Erlbaum.
- Lee, J. H. M. (2004). *Predicting how early and how much young children use television and computers: The role of sociodemographic, family, and child characteristics* (Order No. 3143296). Available from ProQuest Dissertations & Theses Global. (305131893). Retrieved from <https://www.proquest.com/dissertations-theses/predicting-how-early-much-young-children-use/docview/305131893/se-2>
- McIlwraith, R. D. (1998). "I'm addicted to television": The personality, imagination, and TV watching patterns of self-identified TV addicts. *Journal of Broadcasting & Electronic Media*, 42(3), 371–386.
- Mumtaz, S. (2001). Children's Enjoyment and Perception of Computer Use in the Home and the School. *Computers & Education*, v36(n4), p347.
- Nikken, P., & Schols, M. (2015). How and Why Parents Guide the Media Use of Young Children. *Journal of Child and Family Studies*, 24(11). <https://doi.org/10.1007/s10826-015-0144-4>
- Patton, G. C., & Sawyer, S. M. (2000). Media and young minds. *Medical Journal of Australia*, 173(11–12), 570–571. <https://doi.org/10.1542/peds.2016-2591>
- Rideout, V. J., Vandewater, E. A., & Wartella, E. A. (2003). *Zero to six: Electronic media in the lives of infants, toddlers, and preschoolers (Report No. 6)*. The Henry J. Kaiser Family Foundation.
- Strasburger, V. C., Wilson, B. J., & Jordan, A. B. (2009). *Children, adolescents, and the media*. Sage.
- Van den Bulck, J., & Beullens, K. (2005). Television and music video exposure and adolescent alcohol use while going out. *Alcohol and Alcoholism*, 40(3), 249–253.
- Woodard, E. H. & Gridina, N. (2000). *Media in the Home 2000: The Fifth Annual Survey of Parents and Children*. Philadelphia, PA: Annenberg Public Policy Center of the University of Pennsylvania, 2000. <http://www.appcpenn.org/mediainhome/survey/survey7.pdf>
- Yan, Z., Hu, L., Chen, H., & Lu, F. (2008). Computer Vision Syndrome: A widely spreading but largely unknown epidemic among computer users. *Computers in Human Behavior*, 24(5):2026–2042. DOI:10.1016/j.chb.2007.09.004