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Investigation of relations among preschool children and their parents' use of technological devices and reading habits (An example kindergarten in the Kirikkale)

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Abstract

It is aimed on this research to examine relations among habits of children who take preschool education and they are 60-72 months old (age range) and their parents' use of technological devices and reading habits. The sample of the research consists of 5-6 years old students and their parents of a pre-school which is in the center of Kirikkale Province. A survey which was developed by the researcher intended for examining quality and quantity of technological devices and reading habits was used as a vehicle of data gathering. Descriptive statistics were utilized on the analysis of usage process for sociodemographic attributes and reading habits with technological devices of families and t test was utilized on the relational calculus of usage of parent's and child's technological devices reading habits. According to the results of research, the time that parents spare time to watch television is three times more than the time that they spare time for pressed materials such as book-newspaper and journal. Times were founded on the same level that parents and children watch television, use computer and reading book/looking book. Moreover, it was determined that book type that both parents and also children prefer mostly is children's books. Time and preferences of parents and children to use book are similar in terms of both quantitative qualitative and relevant results will be discussed to the accompaniment of literature works.

Keywords: Parent-child, reading habits, watching television, using computer, preschool.

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1. Introduction

The impact of technological development on society has become one of the most discussed subjects in the world today. The transformation in both technological progress and impact on social structure, as well as, the opinions and solution suggestions regarding the consequences develop in parallel to technological advancement.

Media tools are an extension of technology that has now become almost central to human life. Various tools such as televisions, computers, the Internet and smart phones are heavily used by the young and the old alike. In the general sense, they are instruments of entertainment, information and advertisement/promotion. These roles and functions can be considered beneficial only in case of conscious consumption toward these aims.

The time spent using these devices and the software, applications and games preferred especially by children and young adults is a subject that requires separate attention. According to the results of the "Survey on Children's Media Consumption Habits" published by the Radio and Television Supreme Council in 2013, children aged 6-18 read books, newspapers and magazines for 1 hour and 32 minutes, listen to the radio for 58 minutes, watch television for 1 hour and 55 minutes, talk on mobile phones for 2 hours and 39 minutes, go online for 1 hour and 48 minutes, and use the computer (offline) for 1 hour and 34 minutes, daily (Cakmak, 2014).

Today, heavy use of technology has also gained momentum among preschool children. Preschoolers can use devices with touch screens such as mobile phones and tablets almost as skillfully as adults. Although various researchers claim the ability to use technological devices at an early age promotes some areas of development, others assert it also has significant impacts such as attention deficit and inhibition of social and emotional development.

Considering that we live in the age of technology, it is impossible to conceive a life isolated from these devices. However, it is possible to take necessary precautions beginning from the preschool period. These precautions require further and increased research on the subject and the provision of proper guidance to families, educators and children in line with these studies.

2. Aim of the study

This study was aimed at quantitative and qualitative investigation of the use of technological devices and printed material by children aged 5-6 attending preschool, and their parents.

3. Methods

3.1. Population and sample

This research was carried out with the students continuing a kindergarten in Kirikkale province aged 5-6 and with their parents. As the research is both quantitative and qualitative, the number of participant cannot be increased. In addition, as the main population of this research is composed of 5-6 years old kindergarten students, it was carried out without full inventory sampling. The research was completed with 35 kindergarten students aged 5-6.

3.2. Data collection

A questionnaire was developed as data collection tool to investigate the quantity and quality of technological devices and printed material. The questionnaire comprised three sections. The first section was the Family Information Form. The second section included a chart developed to determine the amount of time the parents spent using technological devices and printed material. The chart consisted of sub-categories for genre classification of each technological device and printed material. The third section of the questionnaire contained a chart developed to determine the amount of time

the children spent with technological devices and printed material. The chart consisted of sub-categories for genre classification of each technological device and printed material, in addition to open-ended questions.

3.3. Data analysis

Descriptive research methods were used in the analysis of the socio-demographic characteristics of the families participating in the study and the usage times of technological devices and printed material. The dependent t test was used for correlation analysis of parent-child and technological devices-printed material usage. In qualitative analysis, the presence of technological devices-printed material usage was coded as 1 whereas its absence was coded as 0.

The level of significance in data comparison was taken as 0.05. Collected data was evaluated with SPSS 22.0 software package.

4. Results

The socio-demographic characteristics of the families comprising the sample group were as follows:

The majority of the mothers were 26-31 years-old (42.9%), high school graduates (62.9%) and housewives (68.6%). The majority of the fathers were 32-37 years-old (42.9%) and high school graduates (54.3%). The fathers were mostly engaged in trade (25.7%) and public service (22.9%) while 22.9% were self-employed.

11.4% of the families in the sample group had a lower household income than their expenditure while 71.4% had equal household income and expenditure, and 17.1% had a greater income than their expenditure.

65.7% of the children in the sample group were female whereas 34.3% were male, and 25.7% were an only child while 42.9% had 1 sibling and 31.4% had 2 or more siblings. Questionnaire results revealed that the adult responsible for the care of the child was, in most instances, the mother (97.1%) or the grandmother (2.9%).

Table 1. Daily usage of technological devices for the sample group parents and children

Technological Devices		Television		Mobile Phone		Computer	
Group	Duration	n	%	n	%	n	%
PARENTS	None	0	0	0	0	0	0
	Less than 30 minutes	4	11.4	13	34.2	10	28.6
	30 minutes – 1 hour	9	25.7	10	28.6	8	22.9
	1-3 hours	19	54.3	6	17.1	10	28.6
	More than 5 hours	3	8.6	6	17.1	8	22.9
CHILDREN	None	1	2.9	21	60	9	25.7
	Less than 30 minutes	9	25.7	3	8.6	4	11.4
	30 minutes – 1 hour	24	68.6	7	20	15	42.9
	1-3 hours	1	2.9	3	8.6	5	14.3
	More than 5 hours	1	2.9	1	2.9	2	5.7
Total		35	100	35	100	35	100

Table 1 shows that there are no parents use any technological devices. 54.3% of the parents in the sample group daily watched television for 1-3 hours while 68.6% of children in the sample group daily watched television for 30 minutes - 1 hour. 34.2% of the parents in the sample group daily using mobile phone for less than 30 minutes while 60% of children in the sample group daily do not use mobile phone. Most of the parents in the sample group daily use computer and about half of children in the sample group daily use computer for 30 minutes-1 hour.

The television shows the parents in the sample group watched were mostly children’s shows, game/quiz shows, fictional series, cooking shows, educational programs, documentaries, religious programs and sports shows, in order of preference. The children mostly watched children’s shows, cartoons, documentaries, game shows, advertisements, educational programs, and fictional series, respectively. The most watched children’s shows were animations, educational programs, game/quiz shows and documentaries, respectively.

Investigation of mobile application preferences of the parents and the children in the sample group revealed that the parents mostly used mobile phones for talking and texting while the children preferred to play games. The game application most commonly preferred by the children were puzzle games, followed by car racing, brain games, playing house and animal games.

The sample group parents mainly used their computers and the Internet for accessing information, followed by communication, educational and research purposes, listening to music, reading the news, work, shopping, banking, downloading files and software, office tools and watching films; while the children mostly preferred playing games, followed by watching films, using office tools and listening to music. The leading game the children played on their computers were brain games, followed by playing house, car racing, fighting, Barbie and puzzle games. The children mainly watched animation films and listened to Turkish pop music on the computer.

Table 2. Daily usage of printed materials of sample group parents and children

Printed Material		Books		Newspaper/Magazine	
Group	Duration	n	%	n	%
Parents	None	10	28.6	6	17.1
	Less than 30 minutes	9	25.7	18	51.4
	30 minutes – 1 hour	10	28.6	8	22.9
	1-3 hours	6	17.1	3	8.6
Children	None	9	25.7	21	60
	Less than 30 minutes	14	40	9	25.7
	30 minutes – 1 hour	8	22.9	4	11.4
	1-3 hours	4	11.4	1	2.9
Total		35	100	35	100

Table 2 shows that 28.6%, 25.7%, 28.6% and 17.1% of the parents in the sample group daily reading book; 51.4%, 22.9% and 8.6% of the parents in the sample group daily reading newspaper and magazine for none, less than 30 minutes, 30 minutes - 1 hour and 1 hour - 3 hours respectively. Table 2 also shows that 25.7%, 40%, 22.9% and 11.4% of the children in the sample group daily looking book; 60%, 25.7%, 11.4% and %2.9 of the children in the sample group daily reading newspaper and magazine for none, less than 30 minutes, 30 minutes - 1 hour and 1 hour - 3 hours respectively.

Book genres preferred the most by the parents in the sample group were children’s books, literary books, personal development books, occupational books, cooking books and science books, in order of preference. The book genres the children preferred to examine with their parents were children’s books, literary books, personal development books and science books, respectively. The children mainly preferred to read books of the novel and fairy tale genres.

Table 3. Comparison of daily usage of technological devices and printed material by parent and child

Tools	Group	\bar{x}	n	sd	p
Television	Parent	3.6000	35	.81168	.458
	Child	3.7143	35	.57248	
Mobile phone	Parent	3.1143	35	1.15737	.000
	Child	1.8571	35	1.19171	
Computer	Parent	2.3429	35	1.10992	.282
	Child	2.6286	35	1.19030	
Book	Parent	2.3429	35	1.08310	.464
	Child	2.2000	35	.96406	
Newspaper- magazine	Parent	2.2286	35	.84316	.000
	Child	1.5429	35	.85209	

Examination of Table 4 reveals that the time spent watching television, using the computer and reading/examining books were at similar levels for the parents and the children, with no significant difference ($p>0.05$). There was a significant difference between the parents and the children for the time spent using the mobile phone and reading/examining newspapers and magazines ($p>0,05$). Usage levels of these devices were found to differ between the parents and the children.

5. Discussion and conclusion

Examination of the socio-demographic information of the sample group families showed that the mothers’ ages were concentrated between 26 and 31, while the fathers’ ages were concentrated between 32 and 37; that the majority of the mothers were housewives and the majority of the fathers were tradesmen; and that the majority of both the mothers and the fathers were high school graduates. The household incomes of the families indicated that the majority were middle class.

The study results revealed that daily television screen time, mobile phone usage time and computer screen time of the parents in the sample group were 1-3 hours, less than 30 minutes and 30 minutes-1 hours, respectively. The parents generally never listened to the radio and spent less than 30 minutes per day reading books, magazines and newspapers. According to the findings, the time the parents spent watching television was three times the time they spared for reading printed material such as books, newspapers and magazines.

Studies conducted identified that computer usage had various adverse effects on reading habits such as declination in reading pleasure, decrease in reading comprehension skill, reduction in time spared for reading, and waning imagination. In a study (Brant, 2003) conducted in the USA, 37% of the participants said technological device use caused a decrease in the time spent reading (as cited in Demirer and Sunbul, 2011).

The study results indicated that daily television and computer screen times of the children in the sample group were both 30 minutes-1 hour. The majority of the children did not use mobile phones.

The children generally never listened to the radio or examined newspapers and magazines, and the daily period of time they spent reading books was less than 30 minutes. This is a favorable result as television or computer screen time for preschool children should be limited to a maximum of 30 minutes.

In the study conducted to investigate the television, computer and Internet usage of children aged 3-18, Arnas (2005) reported that every family had at least one television at home while half of the families had two or more, and that the percentage of the families with a computer and an Internet connection at home were 35.7% and 21.7%, respectively. The study also revealed that one third of the children had a television in the bedroom, and that 85.3% ate their meals, 10.1% did their homework and 4% read books while watching television. In 21.3% of the families with a computer at home, the computer was located in the child's room; most of the time, the computer was purchased for assistance with the child's homework (i.e. studying); however, only 19.7% of the children used the computer to access information and do their homework. The percentages of the children who used the computer for surfing, entertainment, chatting and gaming purposes were 7.8%, 13.6%, 5.7% and 22.6%, respectively. Furthermore, 45.4% of the children occasionally visited Internet cafes.

According to the results of the study by Erbay and Saltali (2012) carried out to determine the place of games in the daily lives of 6 year-old preschool children and their mothers' perception of games, the percentage of children who daily played games, watched television, engaged in artistic activities such as painting, drawing and play dough activity, spent time on the computer, helped with domestic chores, went out to visit relatives, the shopping mall or other places, and did homework were 91% (n=80), 71% (n=62), 28% (n=25), 27% (n=24), 26% (n=23), 17% (n=15) and 14% (n=12), respectively.

In their study on the association of computer and Internet use with reading habits in elementary school students, Demirer and Sunbul (2011) found that 25.8% of elementary school students attending the 5th, 6th, 7th and 8th grades had regular reading habits, and reported that approximately half of the students read books 2-3 days per week. In addition, the most significant result of the study was the finding that computer and internet use exceeding 1 hour per day adversely impacted the reading habits of elementary school students.

The results of the present study indicated that 25.7% of the children in the sample group did not spend any time with a book. Considering the importance of early childhood education, being introduced to books in the preschool period is of great significance that impacts future reading skills.

The television show preferences of the parents and the children comprising the sample group were generally analogous. Children's shows were the most favored TV shows for both groups, followed by game/quiz shows, documentaries, educational programs and fictional series. This led the researcher to postulate the existence of an interaction between the television viewing habits of the parents and the children. In this respect, the genre and the quality of preferred television shows are consequential.

The results indicated that the most popular children's shows among the children were animations, followed by educational programs, game/quiz shows and documentaries. This might be associated to the recently increased number of animation shows that visually appeal to the 5-6 age group.

The results revealed that the adults mainly used mobile phones for talking and texting, computers and the Internet for accessing information, communication and research, whereas the children used these devices mostly for playing games. The most popular game genre among the children was puzzle games. The ease of game play of puzzle games such as Angry Birds and Candy Crush, which have recently gained immense popularity, has made it possible for preschool children to play these games. The computer game genre preferred the most by the children was brain games, whereas the least preferred computer game genre was scoring games, the most popular genre on the mobile platform. This might be due to the fact that greater screen size available in computers is more

convenient for brain games such as chess and puzzles, whereas the touch screen of mobile phones is more conducive to puzzle games that can easily be played by small finger gestures.

According to another result of the study, television screen time, computer screen time and the time spent for reading/examining books were at identical levels for the parents and the children. In addition, the book genre preferred the most by both the parents and the children were children's books. The book preferences of the parents and the children were analogous in quantity and quality. This was an unsurprising result considering that children, especially in the preschool period, take adults as role models.

The study by Akkoyunlu and Tugrul (2002) regarding the effect of domestic technological interaction on the computer literacy of preschoolers reported "high" computer literacy skills for 54% of the children participating in the study. Children use technological devices available at home (such as computers, washing machines, stereos) generally alone or with the assistance of another person. The mean computer literacy scores of the children who employed these devices alone or with assistance were higher than that of those who did not use them. Furthermore, the mean computer literacy scores of the children with computer literate parents were also greater.

Albeit a review of literature reveals a positive correlation between technology and areas such as literacy, computer literacy and communication, technology also adversely impacts reading habits and social life, and causes physical inactivity.

The literature review on the impact of technology on children's development and learning by Hsin, Li & Tsai (2014) emphasizes three major themes: adult guidance, evaluation of (purpose and selection) technology and teaching approaches. Conscious consumption of technological devices in accordance with these criteria and under the supervision of adults can contribute to children's development and learning.

In conclusion, the results of this pilot study quantitatively and qualitatively investigating the use of technological devices and printed material in preschoolers aged 5-6 and their parents indicated the children saw the parents as role models regarding the selection of both books and various technological devices, as well as, the time spent using them. Therefore, it is imperative for parents to plan their daily schedule, especially for activities such as reading books, watching television and using the computer, with regard to not only themselves but also to their children. Parents should firstly regulate their own habits with respect to the genre and quality of preferred books and television shows, and then provide guidance to their children for age-appropriate usage time and purpose.

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