Through the Eyes of Early Childhood Students: Television, Tablet Computers, Internet and Smartphones

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ABSTRACT: The features, functions, and usage of media and media environment which have an important role in the lives of today's children are increasing day by day. This study aims to evaluate media environments and the children's experience from their points of view. The study followed the qualitative design and the participants of the study consisted of 34 preschool students. Children were asked questions to learn their opinions about television, tablet computers, the internet, and smartphones. The results revealed that children had knowledge about the media environment and they used it intensively. However, they were not aware of the possible dangers of the media contents substantially. It was understood that children did not get any knowledge or education about media usage and most of the children encountered negative content. The results suggest a need for training in media literacy for children.

KEYWORDS: Children, digital technology, digital media, media, media literacy, preschool.

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INTRODUCTION

The social and economic conditions of today limit and even remove the needs of people to entertain and socialize in daily life. Lack of time and economic insufficiency make people use or prefer media environments to entertain and socialise. Therefore, media environments can be used for a variety of purposes, such as education, leisure or leisure time. Technological gadgets such as television, tablets, computers, the internet, and smartphones exist in almost every home today. These kinds of media environments that have an important place in life become a mass media, and the media contents reach all segments of society and people of all ages with various income levels using these gadgets.

Media environments become varied, and they become suitable for almost everybody's personal preference, so they become interesting and an attraction center for individuals. Media contents are prepared for adults and children are ignored. Ac-

cordingly, the media contents published in media environments turn into structures that may influence children. People of all ages can be affected by the media, but preschoolers from the group that is affected most (Ostrov, Gentile & Mullins, 2013).

This study aims to evaluate the media environments and the experience of children from their points of view. The media tools were determined to be television, tablet computer, internet, and smartphones. The main reason for this determination is that these tools are commonly used for children aged 5–6. A qualitative method was used in this study, to obtain in-depth information. Some questions were determined to learn about the opinions of the pre-schoolers for television, tablet computers, the internet, and smartphones that were considered to be used by them.

The developments of technological inventions, especially of mobile touchscreen gadgets, go on non-stop (Flewitt, Messer & Kucirkova, 2015). No matter how the new technology develops, the contents for children arise quickly. The interest, habits, and abilities of children in on-line media become the focus of attention of marketing experts, so children, computer games, websites, social networking, and other interactive multimedia become the most important target for their markets (Buckingham, 2009; Seiter, 2008). Although technology is an instrument that is offered to improve the mental, physical, emotional and linguistic abilities of children, it can't replace human interaction that focuses on the personal needs of the child (Saracho, 2015). Especially studies about media literacy and the usage of new media environments of children in preschool education are carried out indirectly by teachers and parents (Cingel & Krcmar, 2013). Parents today face contradictory knowledge more than ever about what is best for their children (Troseth, Russo & Strouse, 2016). This requires new and different studies to understand children in this age range.

Nowadays, usage of media in children's lives is increasing. Especially television, smartphones, tablet computers and internet technologies have a massive part in their lives (Lauricella, Wartella & Rideout, 2015; Genc, 2014). It is not possible to keep children away from media tools when considering the use of widespread technology. That's why to raise awareness of these tools is very important and to learn the dangers they lived.

The most common media tool for preschool children is television (Gunduz, 2010; Wartella & Robb, 2007). According to a study in the United States, 96 per cent of families have at least one television, and 36 per cent of children under the age of 8 have a TV in their bedroom (Rideout, 2013). It is possible for children to encounter unwanted images because television often has adult-oriented programs. It is very important to evaluate the meaning of television for children regarding their perspectives and to determine the strategies to cope with the negativities faced by children on television.

Another widely used tool today is mobile technologies such as smartphones and tablet computers. It is not possible for pre-school children to have such tools. But

families have these kinds of tools and these tools attract children's attention. According to Turkish Statistical Institute (TUIK)'s data in 2016, 96.9 per cent of households have smartphones, and 29.6 per cent have tablets in Turkey. Learning children's opinions about smartphones and tablets, determining the problems they faced and the strategies to deal with problems is very important.

Undoubtedly one of the most important developments of our era is the internet. Widely used devices such as phones, tablet computers, and computers usually have an internet connection. Thus, children can access the internet for using these tools. In a doctoral study conducted in Turkey, the changes in children's internet usage between 2010 and 2015 were examined, and as a result, it was observed that the age of internet usage decreased gradually, the internet usage time increased, and the internet risks for children increased significantly (Aslan, 2015).

This study can be a guide for studies on media literacy education in the pre-school period because little work has systematically examined children's behavior for media usage and how these may be related to children's actual media consumption. Besides, works on pre-schoolers about media, the issues related to media and media usage are limited (Connell, Lauricella & Wartella, 2015; Hagood, 2003; Hourcade et al., 2010; Kazakoff, 2015; Lankshear & Knobel, 2003; Parette et al., 2010; Stephen & Plowman, 2008). In recent studies, results have been achieved in support of this study (Eisen & Lillard, 2017).

Pre-school is an important period that can affect the future life of an individual. Therefore, it is important for children to be informed about media tools. It is thought that this work will gain important perspectives to teachers, parents, and educational policy makers. Also, this study will be an important infrastructure for the quantitative studies that can be done in the future.

The following research questions were sought to learn about children's thoughts and experiences about media environments. Six research questions are listed below:

RQ1: What do media environments mean to children?
RQ2: What kind of content do children encounter?
RQ3: What are the thoughts of children' media tools being dangerous?
RQ4: What are the reasons that children find media dangerous?
RQ5: Did the children get any warning about the dangers of media?
RQ6: Did the children face any negative contents in the media environments?

METHODOLOGY

A qualitative method was used in this study because pre-school children cannot read and write, so it would be more appropriate to get information from children by interviewing them. Also, qualitative research can provide a detailed picture of children's attitudes toward media usage.

Data collection tool and analysis method

Children were asked questions through a semi-structured interview technique. Questions of the semi-structured interview form were prepared by a pre-school teacher and researchers and made easy enough to be understood by the children. Questions were evaluated and revised using a pilot study with three students and finally 37 questions were determined. The sound of children was recorded during the interviews. Then interviews were transcribed and coded. Afterward, the transcriptions were analyzed using the content analysis method.

The sample of the study

This study was conducted with 34 preschool students who received education in two different schools (state and private) in Turkey during the 2016–2017 academic year. The demographic information about the sample of the study is given in Table 1. Also, when both groups (state and private) were examined, it was seen that there was not much difference in the way to access media tools by children.

Table 1. Demographic descriptive statistics of groups (in numbers)

GROUPS	GENDER	FREQUENCY
State school	Girl	4
	Boy	4
Private school	Girl	14
	Boy	12
TOTAL		34

Source: Authors.

RESULTS

The results of the study are given under six headings.

What do media environments mean to the children?

Television: According to Table 2, it can be seen what television means for children. Here are the statements of the children about what television is: 'Watching beautiful things and films, learning good things, learning different and good knowledge' (Interview 1, Girl); 'Getting information about everything happening in the world' (Interview 2, Boy); 'A technological gadget' (Interview 7, Boy); 'There is a rectangle inside a rectangle, and it has a remote control' (Interview 18, Girl); 'It makes us see the cartoons and the news. We can also see the bad news' (Interview 22, Boy); 'Children watch cartoons on TV; the adults watch the films' (Interview 27, Boy); 'We watch cartoons; it makes our imagination come true' (Interview 28, Boy).

Tablet Computer: It can be seen what the tablet computer means for children. The statements of the children about tablets are: 'It is something we play a game with' (Interview 3, Girl); 'You can install a game and play games with it' (Interview 8, Boy); 'It has a big screen. There are games and cartoons' (Interview 14, Boy); 'A Tablet is something with the internet' (Interview 23, Girl).

Internet: It can be seen what the internet means for children. The statements of the children on the internet are given below: 'You watch films on the internet. You install games' (Interview 8, Boy); 'If we want to install games, we use it' (Interview 15, Boy); 'It is used for playing games, we turn to the internet and install games' (Interview 19, Girl); 'It helps us install games. When the internet is turned off, we can't download anything' (Interview 22, Boy); 'We use the internet when we want to install something' (Interview 23, Girl).

Smartphone: it can be seen what the smartphone means for children. Here are the statements of the children about smartphones: 'We talk to them when we are away and miss each other, so we stay in a good mood, we become happy' (Interview 1, Girl); ' A mobile phone is something used to talk to somebody' (Interview 3, Girl); 'It is used for talking and sending messages. You can also go on the internet' (Interview 17, Boy); 'We can call our dads when we are alone at home; we can call when we need something at home' (Interview 19, Girl); 'It is used for calling, looking at something and watching something' (Interview 20, Boy). (see Table 2)

What kind of content do children encounter?

Television: It can be seen what the content encountered by children means. Here are the statements of the children: 'Children's films and cartoons' (Interview 8, Boy); 'I watch cartoons and violent news.' (Interview 22, Boy); 'Cartoons, films, series' (Interview 33, Girl).

Tablet Computer: Referring to Table 3, it can be seen what the content encountered by children means. The statements of the children are given below: 'I play games; I watch cartoons' (Interview 4, Girl); 'I play games; I listen to songs' (Interview 13, Boy); 'It is used for playing games and looking at the pictures' (Interview 21, Boy).

Internet: It can be seen what the content encountered by children means. The statements of the children are given below: 'There are toy animals. I look at them. I look at Barbies' (Interview 5, Girl); 'I watch films, and I install games' (Interview 8, Boy); 'I look at funny videos and cartoons' (Interview 22, Boy).

Smartphone: It can be seen what the content encountered by children means. Here are the statements of the children: 'I take photos and look at the photos. I play games' (Interview 2, Boy); 'My parents don't let me use the phone' (Interview 3, Girl); 'I installed games. I play them' (Interview 6, Girl); 'I watch films, and I talk to my aunt' (Interview 9, Girl); 'I play games with my mom's phone. I use the internet' (Interview 25, Girl). (see Table 3)

Table 2. Opinions about media tools (in numbers)

The mean of…		N
Television	Watching something	16
	Watching a film	5
	Watching cartoons	4
	Getting the news	2
	A technological gadget	1
	It tells us what we can't see	1
	Rectangle	1
	No answer	4
Tablet computer	Playing games	7
	I don't have a tablet	4
	Something with the internet	2
	It shows the weather forecast	1
	A rectangle with keys	1
	Entertainment	1
	I know	9
	I don't know	3
	No answer	6
Internet	Install something	14
	I don't use it	12
	No answer	8
Smartphone	Talking to someone	28
	I don't know	3
	No answer	3

Source: Authors.

*What are the thoughts on children's media tools being dangerous?*

Figure 1 shows children's thoughts about media tools being dangerous. Television: The majority of children think that television is a dangerous thing (n = 21), some of them do not think that it is dangerous (n = 12) and one of them has no idea. Tablet computer: Nearly half of the students don't think that the tablet may be dangerous (n = 15). However, a number of them think that it is dangerous (n = 13). There are also those who don't have an idea for this (n = 6). Internet: The majority of children have no idea that the internet is dangerous (n = 16). Some of them don't think that the internet is dangerous (n = 12). However, it is dangerous according to some (n = 6). Smartphone: Nearly half of the children (n = 16) don't think that smartphones may be dangerous, they are dangerous for some of them (n = 10). Some of them have no idea about this matter (n = 8). (see Figure 1)

Table 3. Contents encountered by early childhood students (in numbers)

Watching/Doing with…		N
Television	Cartoons	20
	Cartoons, films	7
	Cartoons, films, series	4
	Cartoons, the news	3
Tablet computer	Playing games	11
	Playing games, watching cartoons	4
	Playing games, watching videos	3
	Installing games	2
	Playing games, watching videos, looking at photos	2
	Playing games, listening to music	2
	Watching cartoons	2
	I don't use it	1
	No answer	7
Internet	Watching a video	3
	Playing games	2
	Watching videos, playing games	2
	Watching videos, watching cartoons	2
	Watching cartoons, playing games	1
	Watching cartoons	1
	Listening to music, watching cartoons	1
	No answer	22
Smartphone	Playing games	12
	Playing games, watching videos	3
	Going online, playing games	3
	Taking/looking at photos, playing games	3
	They don't let me use it	2
	Talking on the phone	1
	Watching films, talking on the phone	1
	Playing games, Facebook	1
	Taking/looking at photos,	1
	Taking/looking at photos, talking	1
	Taking/looking at photos, watching videos	1
	No answer	5

Source: Authors.

Figure 1. Children's thoughts about media tools being dangerous (in numbers)
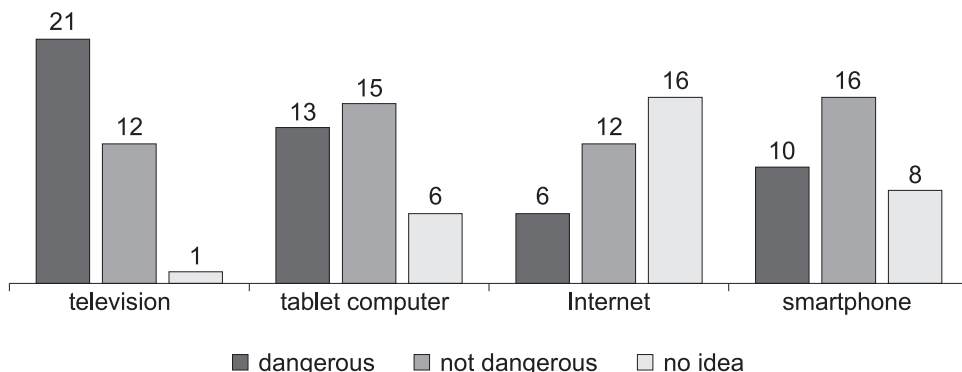
Source: Authors.

What are the reasons that the children find the media dangerous?

Television: It can be seen why television is found dangerous by children. Here are the statements of the children: 'It gives off radiation, and in fact, we get foolish if we watch it too much' (Interview 2, Boy); 'It can make your eyesight fail; your eyes may get swollen you can go blind' (Interview 8, Boy); 'It may kill our brain cells, so I don't watch it too often' (Interview 21, Boy).

Tablet computer: It can be seen why the tablet computer is found dangerous by children. Here are the statements of the children: 'It may break down because it is too sensitive. Can it be repaired when it is broken? I don't know' (Interview 1, Girl); 'Screen light may damage my eyes' (Interview 8, Boy); 'It makes the eyes blind. It always appears in our dreams' (Interview 34, Girl).

Internet: It can be seen why the internet is found dangerous by children. Here are the statements of the children: 'It can be damaged or break down' (Interview 1, Girl); 'It ruins our eyesight' (Interview 9, Girl); 'It can harm our eyes when it spreads out rays' (Interview 22, Boy).

Smartphone: It can be seen why a smartphone is found dangerous by children. Here are the statements of the children: 'I turn off the phone when there is a storm because there may be an electric shock' (Interview 1, Girl); 'It gives off radiation' (Interview 2, Boy); 'Our eyesight fails when we play with it too often' (Interview 23, Girl). (see Table 4)

Did the children get any warning about the dangers of the media by their teachers or parents?

Television: Children answered that they were informed or warned about watching TV (n = 17). However, there are also children who say the opposite (n = 13). Some students had no idea about this question (n = 4). Tablet computer: Children state that they are not warned or informed about using a tablet (n = 15). Only a few children (n = 3) say that they were informed or warned, a few of them don't remem-

Table 4. Reasons for children finding media dangerous (in numbers)

Reasons		N
Television is dangerous because	Our eyesight may fail	12
	Our brain cells die	2
	It can fall and break	2
	It gives off radiation	1
	Frightening things may appear	1
	We may have a bad dream	1
Tablet computers are dangerous because	Our eyesight may fail	10
	It may break down	2
	Our brains may get smaller	1
The Internet is dangerous because	Our eyesight may fail	4
	It may break down	2
Smartphones are dangerous because	Our eyesight may fail	7
	There may be an electric shock	1
	It gives off radiation	1
	It may break down	1

Source: Authors.

ber such a thing (n = 3). Internet: Children state that they were not warned or informed about the usage of the internet (n = 11). Some of them say they were warned or informed (n = 5), but a lot of them don't remember any warnings or information (n = 18). Smartphone: Children state that they were not warned or informed about using smartphones (n = 16). Only a few of them say they were warned or informed about it (n = 6), but a lot of them don't remember any warnings or information (n = 12). (see Figure 2)

Figure 2. Children's warning status (in numbers)
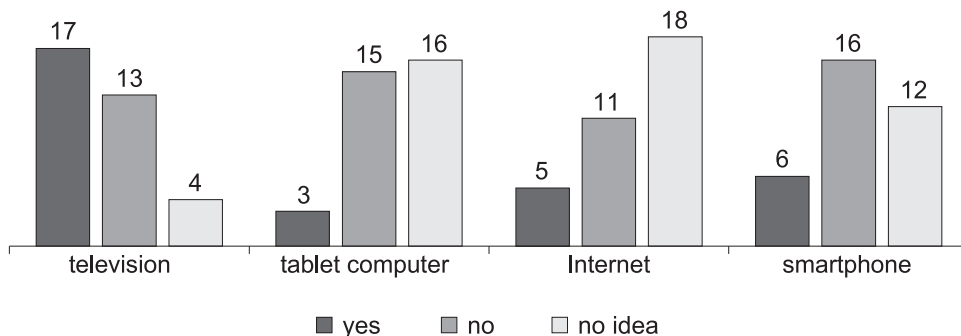
Source: Authors.

Did the children face any negative contents in the media environments?

Television: Although the number of children who said "no" to this important question (n = 19) is higher, the number of those who met something on TV that they did not want to see is not so low either (n = 15). On the other hand, children who were asked to explain what they saw watched the contents that they described as frightening (n = 8), shameful (n = 4), violent (n = 2) and ugly (n = 1). On the other hand, most of the children who saw the unwanted contents watched them (n = 8). There are children who changed the channel (n = 4) or couldn't look (n = 2), but also there are some who told their moms about it after they watched (n = 1). The statements of the children about the bad contents that they saw on television are: 'Once the underpants of a man were taken off in a cartoon' (Interview 9, Girl); 'I saw an awful thing. It was a war' (Interview 15, Boy); 'Once I saw somebody naked' (Interview 20, Boy); 'I saw that a man was eating a snake' (Interview 26, Girl); 'I saw something shameful' (Interview 27, Boy).

Tablet computer: The majority of the children (n = 17) said no to this question, but there are children who saw unwanted content, too (n = 7). When the children wanted to explain what they saw, they said that they watched contents like shameful (n = 3), violent (n = 3) and frightened (n = 1). On the other hand, some of the children who met unwanted content watched it (n = 4), but some changed the channel (n = 3). Here are the statements of the children about the bad contents that they met on the tablet computer: 'There was a woman who opened her butt in the bath. I saw something like this' (Interview 12, Girl); 'I saw naked boys and girls. They were shaking their butts' (Interview 14, Boy); 'I saw that a cartoon character was scary. I was frightened' (Interview 25, Boy); 'I heard something very bad. A child got furious and said something shameful' (Interview 27, Boy).

Internet: Most of the children said that they did not meet anything on the internet that they did not want to see (n = 13). On the other hand, there are children who met some contents that they did not want to see (n = 9). Children described the contents that they saw as scary (n = 8) and shameful (n = 1). Moreover, most of the children who saw unwanted content watched them (n = 8), and one of them deleted it (n = 1). The statements of children about the bad contents on the internet are: 'A monster appears in a game video. I am afraid of it' (Interview 8, Boy); 'I saw something violent with a bloody knife' (Interview 9, Girl); 'There was a man who was raising his hand. He had a sword in his hand' (Interview 15, Boy); 'There was a woman; a man was strangling her' (Interview 23, Girl).

Smartphone: Most of the children said no to this question (n = 19), but there are some who met unwanted content as well (n = 7). When children were asked to explain what they saw, they said that they watched the contents like scary (n = 6) and shameful (n = 1). On the other hand, some children who saw the content that they did not want to be watched (n = 4), deleted (n = 1), turned off (n = 1) and hid themselves behind the pillows (n = 1). The statements of the children about the bad contents that they saw on the smartphones are: 'I sometimes see the monster that

I am afraid of in the game video' (Interview 8, Boy); 'I saw something bloody' (Interview 9, Girl). (see Figure 3)

Figure 3. Children seeing bad things in media tools (in numbers)
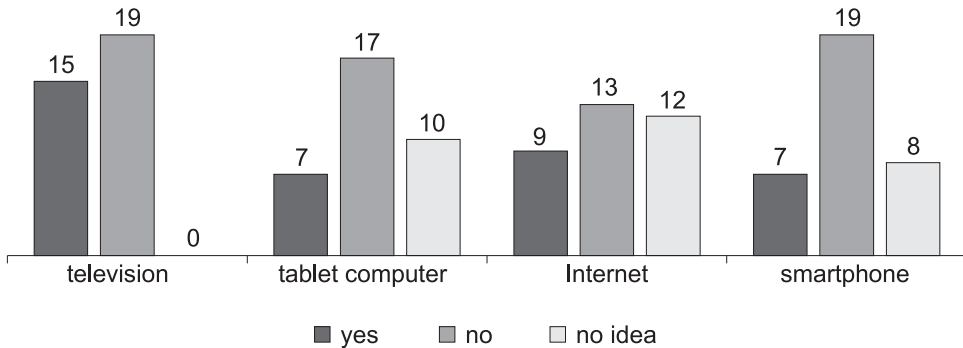
Source: Authors.

DISCUSSION

In this study, children's opinions about television, tablet computers, the internet and smartphones and their attitudes towards the content they encountered in these media were examined. According to the study results, television is a tool used to watch something, a tablet computer is a tool used to play games, the internet is a tool used to install or download something, and a smartphone is a tool used to talk to someone for children. Based on these findings, it can be said that pre-school children are aware of what media tools can be used for. On the other hand, it was observed that children are ignorant and unaware of the risks and threats they may encounter in television, tablet computer, the internet, and smartphone.

The children were asked which media tool might be dangerous. They responded that the television was mostly a dangerous vehicle. There are children who say there is not as much danger as children who find tablets dangerous. Most of the children stated that the internet is not a dangerous tool. Almost half of the children said that smartphones would not be a dangerous tool. Children were asked for what reasons the media tools could be dangerous. According to children, media tools could be dangerous because they could pose a threat to their eyes. Based on these findings it can be concluded that children are not aware of other threats that may arise from media tools.

Children were asked whether they received any warning against the threats that might come from media tools. Most of the warnings have been found to be about television and warnings about other media tools were found to be inadequate. Based on these findings it can be said that families are most alert of television because children are most exposed to television. Also, it can be said that families are not aware of the dangers that may come from the media.

According to the obtained data, it is seen that families do not place a specific restriction on media usage. Furthermore, children who use the media environments increase the risk of encountering content unsuitable for them. The pre-school period is the time when literacy skills (speaking, listening, reading, and writing) emerge and improve. The social and cultural environment in which they live is affected the learning abilities of children (Flewitt, Messer & Kucirkova, 2015; Timmons & Pelletier, 2015). Especially right media content for children must match their developmental needs, interests and their abilities (Lieberman, Fisk & Biely, 2009). In this context, it is quite important for families and teachers to take into account the factors mentioned above.

Children were asked whether they encountered undesirable content they did not want while using media tools. Children said they encountered bad content mostly on television, not much on other media tools and some of them did not make any comments. They were told that they were exposed to sexual and violent images more often when they were asked what kind of bad content they were exposed to.

According to the data obtained from the study, children are ignorant, uninformed and defenseless, not only against the risks of the internet but also the risks and dangers in the environments of television, tablets and smartphones that they often use. Otherwise, the warnings against the media environments are quite inadequate. Warnings are only about the excessive and right use of these environments. Also, information and warnings about media contents are few. The situation of the children to overcome the bad content that they see is unclear. Children who met unwanted bad content had to watch it generally, or some of them changed or turned it off.

It has been observed in the research that children encountered undesirable content they do not want to have to watch. Children are uninformed and unaware of the risks of television, tablets, the internet, and smartphones. This situation justifies the idea that children are often seen as weak and isolated individuals against the negative effects of the media. The knowledge about children's thought on new media is very scarce (Buckingham, 2009).

Children need a reliable guidance for media environments. Parents can share their experiences with their children like a guide (Lieberman, Fisk & Biely, 2009). Also, pre-school teachers can support these developments of the children. However, parents and teachers must be educated in media usage to perform this. Parents and teachers feel incompetent, and they want children to be educated in media literacy in the pre-school period (Vodopivec, 2011). The children who receive pre-school education spend most of their time at school. For this reason, improving the knowledge of the teachers for media environments will make them well-informed, and it will support the knowledge of children for the media environment and their critical media usage (Flores-Koulish et al., 2011).

Children should be restricted to television viewing time and programs that they watch. Besides, as well as watching TV, it is important to let them interact with the

creative objects under adults supervision for healthy child development (Wartella & Robb, 2007). The fact that media content for children has become rich and more complicated increases the importance of media education (Hoechsmann & Poyntz, 2012). However, there are some deficiencies in the help and suggestions that children can easily get against difficulties in using the new media environments. Schools can play a central role to improve digital literacy and to offer this to children intended for making up these shortages and meeting the needs (Buckingham, 2007). On the other hand, media literacy education must be equipped with transferable skills that children can use in all their acts, and it must contain the most valuable abilities such as education, critical thinking, and effective communication (Stein & Prewett, 2009).

CONCLUSION

There are some restrictions like the fact that many studies performed on digital media and children are short time studies, they work with small groups, and they are prepared with a specific number of research questions (Lieberman, Bates & So, 2009). This study also has similar restrictions. The answers were elicited from the children during the talks by explaining the questions, but some questions could not be answered in spite of all efforts. This study is not intended to generalize the results; instead, we were first interested in evaluating the media environments and the experience of the children from their point of view. In doing so, we hope to extend the growing body of literature on this important subject.

Children are informed about the media environments, and they know these environments. However, children and even their families are not aware of the potential dangers of media content. Also, children are not aware of the dangers and they haven't received any warnings or education on media usage. Furthermore, most of the children have undesirable experiences on televisions, tablets, or smartphones. This study is not very generalizable due to being a qualitative study. However, the findings show that some children who encountered undesirable content need to have an education for the right use of the media and media environments. Besides, this makes media literacy education for parents and teachers a current issue. Studies can be done to discover and determine the media literacy of pre-school children. Additionally, the effects of the negative contents on children can be searched, and General Aggression Model (Carnagey & Anderson, 2003) can be used for this.

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