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Investigating the Effect of the Media Literacy Family Education Program on the Media Literacy Levels of 48-60-Month-Old Children and Their Mothers

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ABSTRACT

The research aimed to examine the effect of the media literacy family education program on the media literacy levels of 48-60-month-old children and their mothers. The research was conducted as distance education with 48-60-month-old children and their mothers attending independent kindergartens affiliated with the Çankırı Provincial Directorate of National Education during the 2019-2020 academic period. In this context, 18 mothers and children formed the experimental group and 22 mothers and children formed the control group. The quantitative part of the study, which was carried out with a convergent parallel mixed method model, consisted of a 2 x 3 mixed plot semi-experimental design with experimental and control groups consisting of pre-test-post-test-permanence-test, and the qualitative part consisted of interviews with mothers after the program. In the study, the “General information form”, “Media literacy scale parent form”, “Media literacy scale child form” and “Semi-structured interview form” developed by the researchers were used as data collection tools, and the “Media literacy family education program” was prepared within the scope of the study. As a result of the research, a significant difference was found in the post-test scores of mothers and children in the experimental and control groups in favor of the experimental group. No significant difference was found in the comprehension dimension in the post-test-permanence-test scores of the mothers in the experimental group. In the interview held after the program, the mothers stated that there was a change in themselves and their children after the program, and that they found the training program effective. Based on the results obtained from the research, it can be recommended that parents act consciously about media and implement a media literacy family education program.

KEY WORDS

Early Childhood. Family Education. Media. Media Literacy. Parent.

1 Introduction

The media and the messages given through it have influenced people in every period and of all ages, shaped the world and become the fourth power. Thanks to the media and media tools that have a significant impact on the masses, people are informed, entertained and opinions, thoughts and ideas are shared with people who are miles away (Potter, 2018; Yılmaz & Güney, 2021). The messages, which have very important functions, that are conveyed by the media to the target audience, need to be well structured and filtered in this context. However, media owners do not always act in this direction, even if sometimes unknowingly. In particular, media owners who want to create a loyal consumer base, increase the sales of goods or products, and thus continue their existence, can also deliver inaccurate messages to the masses. In such a situation, people are misinformed and undesirable results may occur (Aarsand & Melander, 2016; Aydoğın, 2015; Mateus, 2021; Sezer & Sert, 2019; Šupšaková, 2016). These messages given through media can especially affect children in early childhood. Studies have shown that children in early childhood are very fond of media tools, spend most of the day with media tools (Aral & Kadan, 2021; Gündoğdu et al., 2016; Kadan & Aral, 2018a), and that media causes nutritional problems in children (Boylund & Whalen, 2015; Koyuncu-Şahin et al., 2018) and negative consequences in all development areas (Aral & Kadan, 2019; Coşkun & Arslantaş, 2016; Kadan & Aral, 2018b; Kadan & Aral, 2019; Kardeş, 2020; Lemish & Kolucki, 2013; Peterson & Densley, 2017; Wartella, 2013).

All kinds of behaviors and habits that can be taught or acquired by children in early childhood can follow them for a lifetime, almost like their identity. During the period of rapid development, children need adults to make sense of this world that is foreign to them. While children begin to chart a course for themselves through their communication and interactions with adults, they can also take them as role models. Children, who take adults' frequent use of media tools as a role model, become interested in media tools. Sometimes, parents receive help from these tools in managing their children's behavior outside of their own interests, which further strengthens children's interests (Kildare & Middlemiss, 2017). Studies have shown that visual and auditory effects from media tools, when combined with the developmental processes of children, pave the way for addiction and cause problems in developmental areas (Ai, 2013; Aral & Doğan Keskin, 2018; Basay et al., 2020; Chen & Gau, 2016; Cho & Lee, 2017; Diergarten et al., 2017; Ertemel & Aydın, 2018; Haug et al., 2015; Hazar & Hazar, 2017; Kucirkova et al., 2018; Mustafaoğlu et al., 2018; Panova & Carbonell, 2018; Park & Park, 2014). Parents have a great responsibility in making children aware of this situation. It is clear that parents can protect their children by first regulating their interest in media and limiting their media use (Coşkun & Arslantaş, 2016; Kildare & Middlemiss, 2017; Yılmaz & Güney, 2021; Yücelyiğit & Aral, 2020). In this case, the most important thing to do is to introduce the concept of media literacy to parents.

Media literacy is defined in the most general sense as a person's ability to perceive the information and messages given through media, to use the skills of analysis and synthesis when reflection on the messages, and to have the knowledge, skills and equipment for all these processes (Karaduman, 2019; Potter, 2018). Providing media literacy to children through their parents from very early ages can turn children into conscious, productive media users and support their development areas, especially preventing the development of addiction (Bulut-Özek, 2016; Can and Besler, 2018; Filiz, 2020; Hobbs, 2022; Scull et al., 2017; Weintraub-Austin et al., 2020). Studies on media literacy for families and children in early childhood have been found in the literature (Austin, 2018; Bulut-Özek, 2016; Dezuanni, 2018; Diergarten et al., 2017; Filiz, 2020; Henkel, 2019; Jie & Zixi, 2015; Karaağaç, 2015; Karaboğa, 2019; Karahisar, 2014; Marsh et al., 2017; Nieding et al., 2016; Sharkins et al. 2016; Šramová, 2014; Türkoğlu, 2017; Yıldız, 2017). When the studies were examined, it was determined that the studies focused on the current media literacy levels of children and parents in early childhood were limited, and that these studies were conducted abroad (Diergarten et al., 2017; Marsh et al., 2017;

Nieding et al., 2016). It is also thought that it is important to provide educational programs for children and families in early childhood. It is vital to eliminate these limitations. In the light of these thoughts, the research aimed to determine the effect of media literacy family education programs on the media literacy levels of 48-60-month-old children and their mothers. Under this general purpose, the following hypotheses were tested in the research.

Hypothesis 1: After the media literacy family education program has been applied to the mothers in the experimental group, the media literacy levels of the mothers in the experimental group will be higher than the media literacy level of the mothers in the control group.

Hypothesis 2: There will be a significant difference between the pre-test and post-test media literacy levels of mothers in the experimental group during the media literacy family training organized for parents.

Hypothesis 3: There will be no significant difference in the permanence test in the sub-dimensions of the media literacy scale of mothers in the experimental group.

Hypothesis 4: There will be no significant difference between the pre-test and post-test in the media literacy scale sub-dimensions of mothers in the control group.

Hypothesis 5: There will be a significant difference between the pre-test and post-test scores of the children in the experimental and control groups in the media literacy scale child form.

Hypothesis 6: There will be a significant difference between the pre-test and post-test scores of the children in the experimental group after the education they will have received with their mothers.

Hypothesis 7: There will be no significant difference between the post-test and the permanence- test in the permanence test conducted four weeks after the implementation of the media literacy family education program with the children in the experimental group.

Hypothesis 8: There will be no significant difference between the pre-test and post-test scores of the children in the control group.

2 Methodology

The research model, study group, data collection tools, data collection method and data analysis section are given below.

2.1 Research Model

Convergent parallel mixed method was used in the research. In the convergent parallel mixed method, quantitative and qualitative data are collected at the same time and analyses are performed differently. It is checked whether the findings in the analysis of quantitative and qualitative data confirm each other and the conclusion is reached together (Creswell, 2013). In the quantitative dimension of the research, a 2 x 3 mixed (split plot) semi-experimental design with experimental and control groups, consisting of pre-test-post-test and permanence test, was used and the interview method was used to collect qualitative data.

2.2 Study Group

The research was conducted in the 2019-2020 academic year with mothers and their children who attended pre-school education in Çankırı Provincial Center, the children being aged 48-60 months. In the study, mothers were preferred because they are the primary caregivers of their children and share longer periods of time with their children (Kayılı, 2018). In creating the study group, data obtained from Çankırı Provincial Directorate of National Education was taken into

consideration. At the same time, the opinions of Provincial Directorate of National Education was taken into consideration. At the same time, the opinions of Provincial Directorate of National Education officials and school administrators were taken into consideration. As a result of the opinions, it was determined that there were six independent kindergartens located in Çankırı city center. Experimental and control groups were created from parents reached through schools, and the program was applied to mothers online due to the COVID-19 pandemic. First of all, 22 mothers were included in the experimental group and 22 mothers were included in the control group, but during the application process, 4 mothers could not continue the training program due to COVID-19, hospitalization and prolonged recovery process. For this reason, the research was conducted with 18 mothers and their children in the experimental group and 22 mothers and their children in the control group. 55.6% of the mothers in the experimental group are in the 31-35 age group, 55.6% are university graduates, while 55.6% of the fathers in the experimental group are university graduates. The monthly income of 77.8% of the families in the experimental group is 4001 and above. Of the children in the experimental group, 66.7% are boys, 77.8% are five years old, and 38.9% have been attending preschool education for 17 months or more. While 36.4% of the mothers in the control group are in the 31-35 age group, 45.5% are high school graduates, 36.4% of the fathers are high school graduates and 36.4% are university graduates. 63.6% of the families in the control group have a monthly income of 4001 and above. 50% of the children in the control group are girls, 50% are boys and 54.5% are five years old. 36.4% of children have been attending pre-school education for six months.

2.3 Data Collection Tools

The data of the research were collected with the General information form, Media literacy scale parent form, Media literacy scale child form and Semi-structured interview form. In addition, the Media literacy family education program was developed for parents in the research.

General information form. The form contains questions designed to determine the age of the mothers, the education level of the parents, monthly income, gender, the age of the child, and how long the child has been attending pre-school education.

Media literacy scale parent form. It was developed to determine the media literacy levels of parents with children aged 36-72 months (Kadan and Aral, 2023). Media literacy scale parent form is a five-point Likert type measurement tool consisting of 34 items and three sub-dimensions (Analysis, Comprehension, Evaluation). Items are coded as 5 = *completely agree*, 4 = *partially agree*, 3 = *undecided*, 2 = *disagree*, 1 = *strongly disagree*. There are no reverse coded items in the scale. Among the sub-dimensions, the Analysis sub-dimension (9, 14, 15, 17, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 34) consists of 16 items, the Comprehension sub-dimension (1, 7, 10, 12, 16, 18, 19, 31, 33) consists of 9 items and the Evaluation sub-dimension (2, 3, 4, 5, 6, 8, 11, 13, 32) consists of 9 items. The highest score from the measurement tool is 170 and the lowest score is 34. A high score indicates a high level of media literacy. In the reliability analysis, Cronbach Alpha values were determined as .81 for the Comprehension sub-dimension, .86 for the Analysis sub-dimension and .79 for the Evaluation sub-dimension.

Media literacy scale child form. It was developed by researchers to determine whether 36-72-month-old children can distinguish between their media usage levels and smart signs in the media (Kadan & Aral, 2020). Media literacy scale child form is a measurement tool consisting of 10 illustrated items and a single dimension. The pictures on the measuring tool are shown to the children one by one and asked what they mean. When the child answers correctly, he/she receives "1" point, and when he/she answers incorrectly or cannot answer, he/she receives "0" point. The highest score that can be obtained is "10" and an increase in the score shows that children can distinguish intelligent signs in the media. The measurement tool, which has

no time limit, is applied individually. As a result of the reliability analysis, conducted for the measurement tool, the reliability was found to be .73.

Semi-structured interview form. It is a form developed by researchers in order to determine the opinions of parents regarding the applied education program and finalized according to the opinions of seven faculty members (5 in the field of child development and 2 in the field of measurement and evaluation). The form includes questions to determine the changes in mothers and children after the training, the shortcomings and strengths of the training program, the effectiveness of the methods and materials used in the training program, and the opinions of parents in the evaluation on of the training program.

Media literacy family education program. Media literacy family education program was prepared in order to determine parents' media literacy levels and to support the media literacy levels. The program was applied to mothers in sessions in which their children were also included, and fathers were also indirectly included in the training program through family letters written to fathers at the end of each session.

Media literacy family education program derives its philosophical basis from the philosophy of pragmatism and progressivism and reconstructionism, which are the consequences of its philosophy in education. The philosophy of pragmatism emphasizes the existence of learners' prior experiences on the subject in teaching any subject. Learners' prior experience prepares the groundwork for new learning. In addition, constant repetition of these experiences has the power to facilitate new learning. While progressivism, one of the philosophical foundations, sees education as the most important force in developing democratic and social life, reconstructionism argues that the restricting of society, social development, change and social reforms depending on the structuring will be realized through education (Sharma et al., 2018). The psychological foundations of the Media literacy family education program are based on programmed learning and the views of Ralph Taylor. It is stated that the success of education in programmed learning can be achieved by working in small steps, actively participating in the educational environment of the learners, rewarding success, correcting mistakes immediately, making gradual progress in education and giving importance to the individual speed of the learners. Ralph Taylor underlines the importance of continuity in success in education, emphasizes repetition and recruitment immediately after the learning of skills and concepts, and states that this is possible by ensuring that all subjects in the learning experience are interconnected (Taylor, 1949, in Demirel, 2017).

In the theoretical foundations of the Media literacy family education program, Albert Bandura's Social cognitive theory and the Cultural indicators theory advocated by George Gerbner and his friends were used. Social cognitive theory developed by Albert Bandura states that when people learn any behavior, they observe the people around them and shape in their own behavior based on these observations. Based on this theory, children in early childhood observe their parent's behavior and can internalize their parents' interest in media tools (Bandura, 1997, in Aslan & Özgün, 2017). In the theory of Cultural indicators, developed by George Gerbner and his friends in 1967, it is stated that all messages given in the media are planted in the audience and listeners and as a result of this planting, uniform thinking human profile emerges. However, it is emphasized in the theory that viewers/ listeners who have developed the ability to question these messages are not affected by the negative effects of the media, and therefore media literacy is important (Gerbner, 1969, in Signorielli et al. 2019).

In the design of the Media literacy family education program, methods, and techniques such as educational games, case study, brainstorming, demonstration, question-answer and discussion, which are among adult learning methods, were used. Thus, mothers who participated in the training, actively participated in the sessions and assumed their own learning responsibilities.

While preparing the Media literacy family education program, in the empirical part, interviews were held to determine how often parents and children use media tools, and a needs analysis form was used to determine the needs. While it was determined in the interviews that both

parents and children use media tools at a high level and are exposed to messages from the media, the subjects they want to receive education on are listed in Table 1.

Educational subject	Weighted rank average
The impact of media violence on children	2440
Effects of technological devices (mobile phones, computers, tablets) on children	2323
Children, television, and education	2262
What technological tools (mobile phones, computers, tablets, televisions) affect children in negative behaviors and parental responsibilities	2179
Media education and children	2126
Different programs and children	2120
Parents' responsibilities towards media tools	2118
Media literacy and its importance for children	1853
Reading media correctly	1835

TABLE 1: Educational subjects parents want to undertake for media literacy and weighted rank averages
Source: own processing, 2024

When the training that parents want to receive regarding media literacy and their weighted rank averages in Table 1 are examined, it is seen that parents mostly stated that they want to receive training on the impact of violence in the media on children.

After completing the theoretical and empirical parts and deciding on the design of the training program, the Media literacy family education program was prepared in the form of 12 sessions. The prepared training program was presented to the opinions of field experts (4 in the field of child development, 2 preschool education institutions' administrators and teachers). According to the feedback from experts, adjustments were made to the program and the program was given its final form. Media literacy family education program consisted of 12 sessions, each session was 60 minutes long and was implemented online twice a week. Media literacy family education program sessions are presented below.

- Session 1: Introduction and program introduction
- Session 2: Communication and media
- Session 3: Benefits and harms of media
- Session 4: Children and media
- Session 5: Children and television
- Session 6: Children and computers
- Session 7: Media and violence
- Session 8: Reading the media correctly.
- Session 9: Media literacy
- Session 10: Media education and society
- Session 11: Media education and children
- Session 12: Parents' responsibilities toward media

2.4 Data Collection Method

In order to conduct the research, firstly, an ethics committee report was received from Çankırı Karatekin University Ethics Committee with decision number 21 and dated March 21st, 2018. After the ethics committee report, institutional work permit was obtained from Çankırı Provincial Directorate of National Education on April 18th, 2018. After obtaining ethics

committee and institutional permissions, the administrators of the independent kindergartens affiliated with the Çankırı Provincial Directorate of National Education were interviewed and verbal permissions were obtained. Due to the COVID-19 pandemic process, parents were reached through institutions' administrators and teachers. Parents of children aged 48-60 months who continue their education in six independent kindergartens were met online via the Zoom platform on September 19th, 2020, and were informed about the education program. Contact information was obtained from parents who wanted to participate in the education voluntarily. Voluntary consent forms were sent to the e-mail addresses of the families who stated that they would participate voluntarily, and they were allowed to return the forms after signing them. After the volunteer consent forms were sent, experimental and control groups were created.

We met online with the mothers and their children in the experimental group on October 5th, 2020, and with the mothers and their children in the control group on the Zoom platform on September 28th, 2020, and their participation in the experimental and control groups and what was expected from them during the education program were summarized. In order for the pre-tests to be administered, an appointment was made with the families regarding the date and time. The children in the experimental group were met online on October 13rd, 2020, and the children in the control group were met online on October 15th, 2020, and after the children's trust was gained, the Media literacy scale child form was applied individually to the children in a period of approximately 5 minutes.

Media literacy scale parent form was applied as a pre-test to the mothers in the experimental and control groups through Google Form. Media literacy family education program started to be implemented on October 19th, 2020. The education program was implemented online between October 19th, and November 27th, 2020, in two sessions a week, each session for 60 minutes, and at the end of each session, home activity samples and family letters written for fathers were sent to mothers via e-mail.

In the implementation of the program, question-answer, discussion, brainstorming, case study, role playing, animation and story creation techniques were applied with the mothers. The program included children reading stories with their mothers with puppets, completing unfinished sentences, drawing techniques, experiments, active games with music, watching cartoons and commercials, and talking while watching them.

After the completion of the education program, the children in the experimental and control groups came together online on November 30th, 2020, and post-test applications were carried out. Post-test applications were carried out within a five-minute period with the children in the control group. The final test for mothers in the experimental and control groups was conducted via Google Form on November 30th, 2020.

Post program semi-structured interview forms with the mothers in the experimental group were conducted online on December 1st, 2020. A 10-minute interview was held with each mother and the answers were recorded. Four weeks after the completion of the education program, the mothers were contacted by phone and informed about the permanence test. An online permanence test was applied to the children in the experimental group on December 28, 2020, and the mothers were contacted via Google Form. The permanence test was completed with a child within seven to ten minutes.

2.5 Analysis of Data

In the study, SPSS 20 package program was used for quantitative data, a content analysis form consisting of categories and subcategories was created in the analysis of qualitative data, and the answers given by the mothers were analyzed in line with the content analysis form.

SPSS package program was used in the analysis of quantitative data, and Shapiro Wilk test results and kurtosis and skewness values were examined in order to determine whether the answers given by mothers and children showed a normal distribution or not, since the sample number was less than 50. When the normality analysis results of the Media literacy scale parent form sub-dimensions pre-test-post-test-permanence-test results of the mothers in the experimental and control groups and the children's Media literacy scale child form pre-test-post-test-permanence-test results were examined, it was seen that the mothers in the experimental and control groups. While the pre-test results showed a normal distribution, the post-test results show that the mothers in the experimental group did not have a normal distribution in the evaluation and analysis sub-dimensions, the mothers in the experimental group had a normal distribution in the comprehension sub-dimension, and the mothers in the control group had a normal distribution in the three sub-dimensions. In the permanence test applied to the mothers in the experimental group, normal distribution was achieved in the comprehension and evaluation sub-dimensions of the mothers, but normal distribution was not achieved in the analysis sub-dimension.

When looking at the results for children, it was determined that the pre-test results of the children in the experimental and control groups were normally distributed, while the post-test and permanence test results of the children in the experimental group were not normally distributed, while the post-test results of the children in the control group were normally distributed.

Based on the normality analysis results, an independent samples t test, a related samples t test, Mann Whitney U test, Wilcoxon Signed Rank tests were used in the research.

In the content analysis form for the semi-structured interview questions asked to the mothers after the program, positive opinions, negative opinions were found in the mother and the child after the training program, distance education problems, internet connection problems, duration strengths in the training program, in the sub-category of the missing aspects of the training program. In the sub-category of the aspects category, the following statements were included, questioning the media awareness of media messages, richness of the content, characteristics of the educator and management of the process, and inclusion of spouses. In addition, in the sub-category of the method and materials category in the education program, there are topics such as thinking on different subjects, increasing children's participation, being eye-catching, learning by doing and permanence, and adequate and document sharing in the sub-category of the evaluation of the education program.

The answers given by the mothers were coded separately according to categories and sub-categories by two independent researchers. The reliability between independent researchers was found to be 100% and the answers given by the mothers were coded and presented as A₁, A₂, A₃, A₄, A₅, A₆, A₇, A₈, A₉, A₁₀, A₁₁, A₁₂, A₁₃, A₁₄, A₁₅, A₁₆, A₁₇, A₁₈ (A= Mother).

3 Results

The findings of the research conducted to determine whether the Media literacy family education program has an effect on the Media literacy levels of 48-60-month-old children and their mothers are presented below.

MLS-PF-Pre-test	Group	n	x	ss	sd	t	p	Effect size
Comprehension-Pre-test	Experimental	18	29,94	4,42	38	1,15	0,26	
	Control	22	28,41	4,00				
Evaluation-Pre-test	Experimental	18	33,17	3,32	38	0,77	0,44	
	Control	22	32,45	2,50				
Analysis-Pre-test	Experimental	18	65,00	6,99	38	0,024	0,98	
	Control	22	65,04	4,99				

MLS- PF- Post- test	Group	n	x	ss	sd	t	p	Effect size
Comprehension- Post-test	Experimental Control	18	37,89	2,68	38	7,85	.00	10,12
		22	30,41	3,23				

Mann Whitney U test	Group	n	x	Rank sum	z	u	p	Effect size
Evaluation- Post test	Experimental Control	18	30,81	554,50	-5,06	12,50	.00	0,80
		22	12,07	265,50				
Analysis-Post test	Experimental Control	18	30,69	552,50	-5,01	14,50	.00	0,79
		22	12,16	267,50				

p<.05

TABLE 2: Pre-test-post-test mean scores of mothers in the experimental and control groups for the media literacy scale parent form sub-dimensions and t-test and Mann Whitney U test results

Source: own processing, SPSS-20, 2020

When Table 2 is examined, it is seen that the pre-test scores of the mothers in the experimental and control groups on the Media literacy scale parent form sub-dimensions are close to each other. Considering the t-test results, there was no significant difference found in the pre-test results of the mothers in the experimental and control groups in the Media literacy scale parent form sub-dimensions (Comprehension [t(38)=1,15; p>.05]; Evaluation [t(38)=0,77; p>.05], Analysis [t(38)=0,02; p>.05]). When the post-test results are examined, it is seen that the average score of the mothers in the experimental group is high. When the t-test and Mann Whitney U test results were examined, a significant difference was observed in the Comprehension, Evaluation and Analysis sub-dimensions of the Media literacy scale parent form of the mothers in the experimental and control groups in favor of the mothers in the experimental and control groups in favor of the mothers in the experimental group (Comprehension [t(38)= 7,85; p<.05]; Evaluation [U=12,50; p<.05]; Analysis [U=14,50; p<.05]). It was found that the mothers in the experimental group had scores on Comprehension (x=37,89), Evaluation (x=30,81) and Analysis (x=30,69), post-test scores. Comprehension (x=30,41), Evaluation (x=12,07) and Analysis (x=12,16) post-test scores of the mothers in the control group was found to be higher than the average. When the effect size value is examined, it is seen that it is highly effective according to Cohen's *d* (1988) criteria. This result confirmed Hypothesis 1. In other words, after training was given to the mothers in the experimental group, the sub-dimensions of the Media Literacy scale of the mothers were found to be higher than those of the control group, thus confirming Hypothesis 1.

MLS-PF	Measurement	x	ss	sd	t	p	Effect size
Comprehension	Pre-test	29,39	4,24	17	-5,23	.00	2,39
	Post-test	37,89	2,68				
Comprehension	Post-test	37,89	2,68	17	1,99	.06	1
	Permanence test	34,89	2,70				

Wilcoxon signed rank test	Measurement	x	Rank sum	z	p	Effect size
Evaluation	Pre-test	3,67	11,00	-4,99	.00	1,13
	Post-test	19,34	619			
Evaluation	Post-test	10,60	159	-3,21	.00	0,54
	Permanence test	4	12			
Analysis	Pre-test	4,50	9,00	-5,98	.00	1,44
	Post-test	21,34	811			
Analysis	Post-test	9,91	168,50	-3,62	.00	0,60
	Permanence-test	2,50	2,50			

p<.05

TABLE 3: Pre-test-post-test-permanence-test mean scores of the mothers in the experimental group for the media literacy scale parent form sub-dimensions and t-test and Wilcoxon signed ranks test results (n=18)

Source: own processing, SPSS-20, 2020

As seen in the table, the post-test mean scores of the mothers in the experimental group in the Media literacy scale parent form sub-dimensions were found to be higher than the pre-test mean scores. When the t-test and Wilcoxon signed ranks test results were examined, there was a significant difference in favor of the post-test in the Media literacy scale parent form sub-dimensions of the mothers in the experimental group (Comprehension [$t(17)=-5,23$; $p<.05$]; Evaluation [$z=-4,99$; $p<.05$], Analysis [$z=-5,98$; $p<.05$]). When we look at the effect size, it is seen that the effect size is high (Comprehension $ES=2,39$; Evaluation $ES=1,13$; Analysis $ES=1,44$). The table shows that the post-test mean scores of the mothers in the experimental group regarding the Media literacy scale parent form sub-dimensions are higher than the permanence test score mean. Considering the t test and Wilcoxon Signed Ranks test results, there was a significant difference between the post-test and permanence-test in the Comprehension sub-dimension [$t(17)=1,99$; $p>.05$], while within Analysis [$z=-3,62$; $p<.05$] and Evaluation [$z=-3,21$; $p<.05$] a significant difference was found in these sub-dimensions in favor of the post-test. When the effect size values are examined, it is seen that it is highly effective. In this case, a significant difference was found between the pre-test and post-test results of the mothers in the experimental group. This situation confirmed Hypothesis 2. However, while there was no significant difference in comprehension sub-dimension between the permanence test and the post-test of the mothers in the experimental group, there was a significant difference in the evaluation and analysis sub-dimension, causing Hypothesis 3 to be partially accepted.

MLS-PF	Measurement	x	ss	sd	t	p	Effect size
Comprehension	Pre-test	28,41	3,99	21	-2,66	.01	0,55
	Post-test	30,41	3,23				
Evaluation	Pre-test	32,45	2,50	21	3,85	.00	.82
	Post-test	34,23	2,56				
Analysis	Pre-test	65,04	4,99	21	6,31	.00	1.34
	Post-test	70,50	3,90				

$p<.05$

TABLE 4: Pre-test-post-test mean scores and t-test results of the media literacy scale parent form sub-dimensions of mothers in the control group ($n=22$)

Source: own processing, SPSS-20, 2020

According to the table, the post-test mean scores of the mothers were found to be higher than the pre-test mean scores. In other words, the post-test scores of mothers in the control group increased. When the t-test results were examined, there was a significant difference in favor of the post-test in the Media literacy scale parent form sub-dimensions of the mothers in the control group (Comprehension [$t(21)=-2,66$; $p<.05$]; Evaluation [$t(21)=3,85$; $p<.05$]; Analysis [$t(21)=6,31$; $p<.05$]). Considering the effect-size value, a high level of effect was detected. This result caused Hypothesis 4 to be partially rejected, because there was no significant difference in the comprehension sub-dimension.

Independent Sample t test	Group	n	x	ss	sd	t	p	Effect size
MLS-CF-Pre-test	Experimental	18	5,55	2,20	38	0,69	.49	0,5
	Control	22	5,14					
Mann Whitney U test	Group	n	x	Rank average	z	U	p	Effect size
MLS-CF-Post-test	Experimental	18	30,78	554,00	-5,16	13,00	.00	0,82
	Control	22	12,09					

$p<.05$

TABLE 5: Pre-test-post-test score means of the children in the experimental and control groups for the media literacy scale child form and independent samples t-test and Mann Whitney U test result

Source: own processing, SPSS-20, 2020

According to the table, the pre-test scores of the children in the experimental group and the control group were found to be close to each other, and there was a significant difference in the t test [$t(38) = 0,69$; $p > .05$]. In the post-test results, the average score of the children in the experimental group increased and a significant difference was found as a result of the Mann Whitney U test ($U = 13,00$; $p < .05$). When we look at the effect size value, it is seen that there is large effect size and that the education program applied to the children together with their mothers has a large effect on the children. Hypothesis 5 stated that there would be a significant difference between the media literacy scale pre-test and post-test scores of children in the experimental and control groups. The significant difference obtained supported Hypothesis 5.

Measurement	Rank averages	Rank total	z	p	Effect size
Pre-test	3,50	3,50			
Post-test	9,85	167,50	-3,58	.00	0,60
Post-test	6,39	57,50			
Permanence test	4,25	8,50	-2,19	.03	0,40

$p < .05$

TABLE 6: Pre-test-post-test-permanence test average scores and Wilcoxon signed ranks test results of the media literacy scale child form of the children in the experimental group ($n = 18$)

Source: own processing, SPSS-20, 2020

When the table is examined, a significant difference ($z = -3,58$; $p < .05$) was found between the pre-test and post-test results of the children in the experimental group in the Media literacy scale child form in favor of the post-test. The children's post-test mean scores ($x = 9,85$) increased compared to their pre-test mean scores ($x = 3,50$). In other words, there has been an improvement in children's media literacy levels. Considering the effect size, it appears to be highly effective. According to the table, it is seen that there is a significant difference between the post-test and permanence test scores of the children in the experimental group ($z = -2,19$; $p < .05$), and the significant difference occurs in favor of the post-test. The effect size appears to be at a medium level. Hypothesis 6 states that there is a significant difference between the media literacy scale child form pre-test and post-test scores of the children in the experimental group. The significant difference between the pre-test and post-test results of the children in the experimental group supports Hypothesis 6. Hypothesis 7 is based on the fact that there will be no significant difference between the post-test and permanence test of the children in the experimental group. However, as a result of the research, the significant difference between the post-test and permanence test of the children in the experimental group caused Hypothesis 7 to be rejected.

Measurement	x	ss	sd	t	p	Effect size
Pre-test	5,14	1,64				
Post-test	5,32	1,96	21	0,39	.71	0,60

$p < .05$

TABLE 7: Pre-test-post-test score averages and t test results of the media literacy scale child form of children in the control group ($n = 22$)

Source: own processing, SPSS-20, 2020

As seen in the table, the pre-test-post-test mean scores of the children in the control group are close to each other, with a significant difference not being available [$t(21) = 0,39$; $p > .05$]. Hypothesis 8 states that there will be no significant difference between the Media literacy scale child form pre-test and post-test scores of the children in the control group. The fact that there is no significant difference between the pre-test and post-test scores of the children in the control group and those obtained from the study confirms Hypothesis 8.

After the training was provided to the mothers, face-to-face interviews were held with the mothers. First of all, “Mothers, what changes did you see in yourself and your child after the program?” – the question was posed. All mothers (n=18) stated that there were positive changes in themselves and their children after the program. One of the mothers, A₁₇, said: “It was a very good practice for me to realize the things I missed no matter how careful I tried to be about the programs our children watched. It was a great opportunity for me to expand my critical perspective.”, she said, while A₂ said: “The change in her child was very effective on my child. My child shared what we learned with other family members. When his 7-year-old brother wants to watch Back Streets [a detective series], he feels fear and violence. I was very happy when you said it ‘isn’t suitable for you, don’t watch it’. I was very happy that he internalized what he heard and put into practice. Also, while watching cartoons, he and his brother make comments like ‘Mom, can this be real? How ridiculous is this?’” stated as follows.

Secondly, “What were the missing aspects of the structure of the education program for the mothers?” – the question was posed. Mothers mostly stated that shortness of time (n=13) was the shortcoming in the structure of the education program, followed by distance education problems (n=7), internet and connection problems (n=4). A₁₃, one of the mothers, said: “The only shortcoming I can point out is the shortness of the process. Maybe if it was a little longer, more children’s programs could be reviewed.”

“What were the strengths of the structure of the education program for mothers?” When asked the question, mothers mostly stated the strengths of the structure of the education program as the characteristics of the educator and the management of the process (n=20), followed by developing a perspective on media messages (n=9), questioning the media (n=8), and the richness of the content (n=6). Mother A₉ said: “We have learned once again how harmful the media can be when used in bad hands. As tech moms, we have knowledge on how to deal with this”. She expressed her thoughts as follows.

Another question asked to mothers is “How do you evaluate the methods and materials in the education program?” Mothers rated the methods and materials used in the program as being most remarkable (n=9), increasing children’s participation (n=8) ensuring learning by doing and experiencing permanence (n=8), and enabling thinking on different topics (n=7). A₁₈, one of the mothers, gave her thoughts: “The puppets, videos and games were very interesting and entertaining, especially for the children. The children listened very carefully and participated actively. Supporting the narrative technique used for parents with visuals ensured that the subject was attention-grabbing and got rid of monotony. The games supported by visuals during the breaks were very eye-catching. I know that I get excited like a child to be the first to complete the sentences in games. I think every method used ensured that the subjects were permanent and that we learned by doing and experiencing while having fun”, she expressed it as follows.

Finally, when the question “How would you evaluate the education program?” was asked to the mothers, they stated that they generally found the education program adequate (n=22) and that document sharing was nice (n=7). Mother A₈ said: “I think it was enough. The reminders of that day sent after the training not only ensured that we had documentation but also supported our spouses’ knowledge. The education content was so full and good that I think there is nothing left that I can say about it. However, since fathers set an example and are as effective as mothers in helping children acquire habits and education, can such education be carried out with fathers as well? I thought”, she expressed her thoughts as follows.

4 Discussion

In the research conducted to determine the effect of the Media literacy family education program on the media literacy levels of 48-60-month-old children and their mothers, it was determined that there was no significant difference between the pre-test scores of the mothers

in the experimental and control groups, the scores were close to each other, in other words, the media literacy levels of the mothers were similar to each other. A significant difference was found between the post-test scores of the mothers in the experimental and control groups, taken from the Comprehension, Evaluation and Analysis sub-dimensions of the Media literacy scale, in favor of the experimental group. It is possible to explain the obtained results with the structure of the Media literacy family education program. In the post-program interviews with the mothers in the experimental group they stated that they found the education program sufficient, that they ensured the permanence of the information by sharing documents, that the methods and materials used had attracted attention, and that there was change in both themselves and their children after the education program. The results obtained and the high post-test scores of the experimental group confirmed that the education achieved its purpose.

Comprehension, one of the important components of media literacy, is defined as the ability to question what messages mean and understand why these messages are given. It is emphasized that it is important to first gain the ability to understand people in gaining media literacy (İnceoğlu, 2016). What the participants expressed in the interviews with the mothers after the program was that the methods and materials used in the education program were remarkable, that they had enabled learning by doing and experiencing that they had got excited like a child during the games and wanted to finish them as soon as possible, showing that they had improved their skills in understanding and questioning media messages by ensuring active participation in the program.

Media literate individuals are expected to gain evaluation skills after Comprehension, Evaluation, in the most general sense. It means, they are able to determine the meaning, accuracy and timeliness of the messages given thorough different media channels with evaluation. A media literate individual filters the messages that are tried to be presented to them and separates important, necessary and correct information from unimportant, unnecessary and incorrect information. In order to gain this skill, the messages given in the media must be discussed separately (Kutoğlu, 2016). During the education, mothers in the experimental group were made to write newspaper news, and different cartoons and news were discussed with the mothers. It is thought that this situation increased the post-test scores of the mothers, and the fact that the mothers stated that they had developed awareness and a critical perspective towards media messages with the program confirms these thoughts.

Analysis in media literacy is defined as dividing a text into smaller pieces and realizing the underlying meaning. It is stated that examining the media texts or contents discussed in the analysis skill with the brainstorming technique will provide this skill (Algan, 2016). In this context it is thought that discussing the underlying purpose of newspaper news, cartoons and advertisements with the mothers in the education program within the group is effective on the analysis. The statement that mothers will be able to examine more media texts as the education program is longer supports this idea.

As a result of the research, which examined whether the reflection of the education received by mothers of the children and whether the inclusion of children in the program in some activities had an effect on the children, a significant difference was found in the Media literacy scale post-test results of the children in the experimental and control groups in favor of the experimental group. There are also research results showing that the participation of parents, and especially mothers, in informative activities so that children are not affected by the negative effects of media tools is effective with children (Ferguson et al., 2021; Hobbs, 2019; Jie & Zixi, 2015; Uyar & Beydağ, 2022). As in the research results, it is thought that the education programs organized for mothers are also effective with children. As a matter of fact, in the post-program interviews with the mothers, the mothers stated that there were positive changes in their children, and that in addition to regulating the children's own use of media tools, they also warned people around them and their siblings, confirming this idea.

As a result of the study, it was determined that the children's media literacy scale post-test scores increased. The aim of the education program is to ensure that the harmful effects of the media are understood and to help mothers realize the messages in the cartoons and advertisements that children prefer. For this purpose, in the educational program, cartoons that children enjoy watching are watched together with the children, what is happening in the cartoon and what is said is explained to the children, and questions are asked to help the children think about the points they cannot use or that they may see incorrectly. In particular, the questions asked in the study, about the candy featured in the advertisements, which they stated that they liked very much, enabled children to develop a perspective on advertisements. The methods and techniques used in the education program responded to the developmental needs of children in early childhood. As it is known, the techniques that are effective in helping children in early childhood learn something new are playing games, moving and spending quality time with their mothers (Aral & Kadan, 2018). Children take their mothers and teachers as examples and internalize their behaviors (Gander & Gardiner, 2015; Sağlam, 2017). It is thought that the examples of home activities given to mothers after each session during the education program strengthen the relationships between parents and children and that musical dance and game activities with puppets facilitate learning by meeting the developmental needs of children. The importance of play for children in early childhood supports the idea that children regulate their lives and emotions through play and acquire many features and skills that need to be learned (Duruoalp & Aral, 2015). Examining cartoons combined with games with children is important in raising media awareness in children in early childhood (Namy & Waxman, 2015). These activities implemented with children include learning by doing and experiencing, as stated by the mothers in the post-program interviews, it enabled them to internalize what they had learned and their post-test scores increased, but the continuity of this increase could not be observed in the measurement tools applied to both mothers and children four weeks later.

In the results of the permanence test applied to the mothers four weeks after the implementation of the training program, it was determined that there was no significant difference in the comprehension sub-dimension, but there was a significant difference in the other sub-dimensions, a decrease was observed in the mean scores, and the permanence test scores of the children also decreased and a significant difference occurred. It was found that the effect of the education given to mothers continued in the comprehension sub-dimension, while the determined effect decreased in the evaluation and analysis sub-dimension. Since evaluation and analysis in media literacy require higher level skills (Kutoğlu, 2016), continuity in these skills may not have been achieved. It is known that time and detailed examination of different media texts are play an important role in realizing these skills.

However, it is thought that the fact that education is carried out online due to the COVID-19 pandemic, the occurrence of internet and connection problems as stated by the mothers, and the shortness of the process may be effective in the lack of continuity in the analysis and evaluation sub-dimension, and this may be effective in the permanence of children's media literacy. Repetitions, learning experiences, and problem situations have an important place in learning (Duman & Peker-Ünal, 2017). The problems experienced in distance education have led to little repetition and lack of detail. These, in turn, may have affected continuity in the learning situations of both parents and children. In addition, although the mothers in the control group did not receive any training, it was determined that there was a significant difference in favor of the post-test between the media literacy scale pre-test and post-test mean scores. It is thought that the COVID-19 pandemic process had an important impact on the increase in the post-test scores in the control group. During the COVID-19 pandemic, the closure of schools, the implementation of quarantines, the children staying at home for a long time, the restriction of their movements, and the provision of media tools to them in order to prevent problem behaviors caused by this have further increased the existing interests of children (Çaykuş & Mutlu-Çaykuş, 2020; Gümüşgül & Aydoğan, 2020; Tarkoçin et al., 2020). This increasing interest

of children has also affected the complaints of mothers about this issue. It has been revealed in research (Pembecioğlu, 2020; Sarman et al., 2020; UNICEF, 2020) that mothers attend online conferences and events organized to protect their children from the negative effects of the media in response to these complaints. The interest of the mothers in the control group in such programs may have contributed to their awareness of media literacy. However, it is also seen that there is no significant difference between the pre-test and post-test scores of the children in the control group on the media literacy scale, and this difference seen in the mothers is not reflected in the children. As a result, it can be said that the lack of any training for the children and their families in the control group did not raise awareness in the children.

5 Conclusion

In line with the results obtained:

- conducting longer-term and applied studies,
- preparation and implementation of training programs in which fathers will be involved,
- it may be suggested to apply the media literacy family education program to different samples and evaluate the results.

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