

Nurturing Young Minds and Bodies: Exploring Critical Media Literacy Through Healthy Food Adventures*

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Abstract

This study aimed to help young children understand media better and develop healthy eating habits through fun and engaging activities that encourage critical thinking about media content. These activities were designed for children aged 60 to 72 months and were part of an action research project. Eleven children participated in the study, and the results showed that initially, they had limited knowledge about healthy eating and how media works. However, after taking part in the media literacy activities, they became better at analyzing media content and realized that not everything they see in advertisements is accurate. As a result, their awareness of healthy eating improved significantly. This research highlights the potential benefits of teaching media literacy to young children, which can positively influence their overall development and enhance their critical thinking skills on real-world issues.

Keywords: Early Childhood Education, Critical Media Literacy, Nutritional Awareness, Action Research.

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INTRODUCTION

Digital technologies have become an integral part of children's lives (Recalde & Gutiérrez-García, 2017; Yang & Chang, 2021), attracting children of all ages. Research indicates that many children are exposed to media tools before age one (Chaudron et al., 2015; Cheung et al., 2017; Dardanou et al., 2020; Kabali et al., 2015; Wei & Chuang, 2016). A large-scale study by the Pew Research Center (2020) involving parents in the United States with children aged 0-11 revealed that 60% of parents reported their children using smartphones before age 5, and 81% of parents with children aged 5-8 mentioned their children using tablet computers. Comparable digital technology usage patterns are evident in Turkey, where daily internet usage in 2021 exceeds the global average by about an hour (We Are Social and Hootsuite, 2021).

While new technologies offer developmental opportunities for young children (Kargin, 2022), they also present challenges (Ling et al., 2022). Early childhood significantly influences lifelong development (Mukherji & Dryden, 2014), with technology misuse potentially yielding lasting effects (Ling et al., 2022), including musculoskeletal issues, visual impairments (Asqarova & Zengin, 2022), attention deficits, behavioral problems (Gökçe et al., 2021), language development disorders (Nobre et al., 2019), eye disorders (Guo et al., 2021), and sleep disturbances (Staples et al., 2021).

Digital media has also integrated into children's lives, affecting eating habits (Bar-on, 2000). Research shows that digital media can influence improper eating habits, potentially leading to eating disorders (Wartella, 2013). Addressing healthy nutrition is pertinent as obesity becomes a global concern, with projections indicating a 60% rise in childhood obesity worldwide, reaching 250 million by 2030 (Ministry of Health, 2022). Childhood obesity tends to persist into adulthood (Sahoo et al., 2015), influenced by factors like media-driven unhealthy eating habits (Bar-on, 2000). Numerous food advertisements aimed at children promote calorie-, sugar-, sodium-, and fat-rich products (Kelly et al., 2010), contributing to poor food choices and obesity risks (European Food and Nutrition Action Plan, 2015-2020).

Advertising's impact on children's consumption habits is evident (Kraak et al., 2006), utilizing modern strategies like digital game characters, virtual marketing, and integrated online ads (Calvert, 2008). Platforms such as YouTube employ personalized ads (Demir & Kargin, 2020). Media's potential to promote healthy habits is demonstrated by a study showing Pacman favoring healthy food (Pempek & Calvert, 2009). Integrating media literacy into education becomes vital for cultivating critical perspectives (Agnoletti et al., 2021) to navigate media's evolving landscape (Hobbs, 2011). Media literacy, encompassing various literacy forms (Potter, 2005), is crucial in today's information-rich world (Çetintaş & Turan, 2018). Promoting safe media use rests with adults (Hobbs, 2011), while media content profoundly impacts children's habits (Vuksan et al., 2022). This study addresses the gap in preschool research on media's role in healthy eating habits, emphasizing critical media literacy for young children. This study aims to enable correct analysis of media content, particularly unhealthy food ads, and foster healthy nutrition awareness among 60-72-month-old children through critical media literacy activities.

This study seeks to answer the following research questions concerning critical media literacy activities with preschool children:

- How effectively do children analyze media content?
- To what extent does critical media literacy raise awareness of healthy eating?

METHOD

Research Design

This study employs an action research design, a qualitative research approach aimed at facilitating meaningful change (Bogdan & Biklen, 2003). As articulated by Merriam (2009), qualitative research encompasses techniques to define, interpret, and address matters related to meaning. Action research involves a structured sequence including planning, implementing, collecting, and analyzing data to enhance the quality of real-world actions, particularly in classroom settings (Fraenkel & Wallen, 2003; Johnson, 2003). This methodology not only illuminates existing conditions but also encourages proactive steps to improve or transform those conditions.

Participants and Data Collection

This study was conducted with 11 children aged between 60 and 72 months. The study took place in a kindergarten classroom situated within a secondary school in an urban area of a province in the Aegean Region of Turkey. This school primarily caters to children from families with socio-economic backgrounds ranging from low to middle income levels. To select participants, the researchers opted for a convenient sampling method aiming for a quick and efficient assembly of the study group, in line with the approach recommended by Baltacı (2018).

Setting

The research was conducted in a kindergarten classroom equipped with technological amenities like smart boards and computers, facilitating the exploration of media content. Additionally, the classroom's spaciousness allowed for various activities and original product creation. When needed, the study also utilized the kindergarten's multipurpose hall.

Data Collection Instruments

Prior to data collection, parental consent was obtained in accordance with ethical guidelines set forth by Uşak University Social and Human Sciences Scientific Research and Publication Ethics Committee (Meeting Date: 13.10.2022, Decision Number: 2022-138). Data collection took place during the action research phases: identifying and analyzing problem situations, devising strategies to address these issues, implementing plans, and evaluating and sharing outcomes. The study spanned five weeks with 10 visits to the kindergarten, involving interventions lasting 35 to 150 minutes (See Table 1 for the action plan). To capture comprehensive data, two cameras were deployed to record classroom activities from different perspectives. In addition to video recordings, supplementary data sources included audio recordings, photographs, researcher diaries, and students' end products.

Table 1. Action Plan

Application Week	Application Sequence	Application Period	Action
Week 1	1	40 minutes	Meeting the children / Giving information about the research
Week 1	2	70 minutes	Determination of Children's Knowledge and Awareness Levels
Week 1	3	50 minutes	Preparing Poster about Healthy / Unhealthy
Week 2	4	35 minutes	What Do Advertisements Tell? (Activity)
Week 2	5	120 minutes	Advertising Analysis (Activity) / Fictionality in Advertisements
Week 3	6	40 minutes	Website Analysis
Week 3	7	75 minutes	Let's Create Our Own Menu (Activity)
Week 4	8	110 minutes	Let's Create Our Own Menu (Activity)
Week 4	9	120 minutes	From Learning to Teaching
Week 5	10	150 minutes	We are on Stage

Data Analysis

Data analysis employed a Multimodal Interaction Analysis approach, considering not only verbal communication but also nonverbal cues such as gestures, expressions, and movements (Norris, 2013). This method enriches the analysis by exploring meanings conveyed beyond words. The researchers coded video and audio recordings, photographs, diaries, and generated products. Themes emerged through coding, guiding the subsequent findings.

Validity and Reliability Measures

Ensuring validity and reliability involved reviewing the action plan by expert researchers and revising it in light of their insights. The implementation of the plan was conducted alongside classroom teachers to foster a sense of security among children. Accurate data collection, a hallmark of robust action research (Koshy, 2005), was facilitated through multiple data sources, including two cameras from different angles, audio recordings, diaries, photographs, and children's creations. The researcher's ongoing observations and consultations with the classroom teacher augmented data collection. Achieving consensus in data interpretation was a priority (Koshy, 2005). To ensure this, both researchers independently reviewed all data, addressing any uncertainties by re-evaluating camera and audio recordings with participant involvement to gain accurate insights.

FINDINGS

Introductory Activities and Initial Knowledge Assessment

In the initial week, following the completion of necessary permissions, the children were introduced to the study. The researcher conveyed the study's purpose and introduced the cameras that would be used during the sessions, clarifying their role in the process. To exemplify the importance of the cameras, the children were given the chance to create short recordings within the classroom. These recordings were then reviewed collectively, illustrating the significance of the cameras' utility.

During the second interaction with the children, a series of questions were posed to gauge their comprehension and awareness regarding healthy and unhealthy dietary choices. The responses provided by the children were illuminating and are compiled in Table 2.

Table 2. Children's Awareness and Knowledge Levels in the Second Week

Child	What are unhealthy foods?	How do you know these are unhealthy? (Who said that, where did you hear it?)
C 1	Chips, cola	Mom/Dad told me. I drink when the acid runs out.
C 3	Jelly Bean	My brother told me
C 5	Acidic Colas	My teacher explains
C 6	Cola, chocolate, chips	I hear it on the news.
Child	If you went to a restaurant, what would you order for yourself?	Why?
C 1	Hamburger and Ice tea	Because it tastes so good
C 4	French fries, pastry, cola	I love them all
C 9	Hamburger and Coke with ice	As a menu, I mean, I love it because it's icy

From the responses, it was evident that initial awareness of unhealthy foods was somewhat limited. The query about restaurant preferences further underscored this trend, as the choices leaned exclusively toward unhealthy options. Notably, an engaging discussion emerged among the children about the potential harm of acidic colas, revealing a pivotal insight. A child referred to a YouTube video featuring "Princess Elif," a popular child YouTuber with a substantial online following. This interaction underscored the considerable influence wielded by digital personalities. After the intervention, the child altered their perspective on cola, recognizing its acidity as detrimental. This transition highlighted the effect of precise information dissemination. The subsequent conversation

delved into the adverse effects of cola, including dental concerns, kidney impact, and bone health, showcasing the researcher's role in delivering comprehensive insights.

Educational Process

Raising Awareness about Healthy and Unhealthy Foods

In the following session, the children were equipped with distinctive hats symbolizing diverse healthy foods. Each child shared the benefits and rationale behind their food choices. Visuals portraying unhealthy foods such as cola, chips, artificially colored sweets, candy, and ice cream were then presented, stimulating a discourse on their detrimental attributes. A collection of images depicting both healthy and unhealthy foods was distributed, prompting the children to classify and affix them on designated boards based on their healthiness. Though sporadic confusion arose, the children generally assigned the images accurately. The resultant posters were showcased on the school's bulletin board (See Figure 1-2-3).



Figure 1-2-3. Preparing Healthy and Unhealthy Foods Posters

A noteworthy exchange ensued when fruit juice was identified as healthy by a child (C 3). Similarly, a debate arose over blue-colored ice cream, with one child (C 5) labeling it as "healthy," while another child (C 6) countered due to the artificial color. The ensuing dialogue unearthed a misconception about the origin of such colors. The researcher facilitated the discussion, urging the children to explore the source of these colors. This exercise not only clarified the confusion but also instilled in the children a proactive approach to sourcing accurate information.

This engagement cultivated an environment where the internet evolved from a source of entertainment to a tool for learning and inquiry. The children exhibited newfound curiosity and an aptitude for questioning and understanding novel information. This preliminary engagement indicated that even before the formal initiation of the study, foundational notions about healthy nutrition had already begun to shape in the children's minds.

Following a joint viewing of a commercial, an experiment was conducted involving a commonly consumed product. During this experiment, the children were prompted with questions concerning the product's healthiness and the omission of its unhealthy aspects in the advertisement. Throughout the experiment, only two children (C 4 and C 9) responded to the query "What makes the dragees colorful?" by stating "paint." Conversely, other children did not offer opinions, and one child remarked, "They make them yellow with lemon and red with strawberry, teacher."



Figure 4. Colors of Dragees Experiment

To ascertain whether the colors in the dragees were sourced from fruits, the researcher executed an experiment (See Figure 4). Slices of lemons and oranges were placed in separate glasses of water, allowing the children to observe whether the fruits influenced the water's color. Despite the passage of time, the water remained unaffected, whereas the dragees immediately imparted their colors to the plate upon contact with water. This observation prompted a subsequent discussion. The children were then informed about the ingredients responsible for the dragees' color, including some substances banned in certain countries due to their harmful nature, and the use of beeswax for enhancing shine. Some children expressed astonishment, with C 9 remarking, "Teacher, this is like eating watercolors."

Another child (C 3) responded by saying, "But we can't eat it at all, we crave it." In response, the researcher disclosed a secret to prevent the children from becoming disillusioned by the research or dampening their initial enthusiasm. The researcher stated, "Of course, sometimes we will have strong cravings for these foods, even though it's best not to consume them at all. Occasionally, we can indulge in having a few bites."

Recognizing that rigid prohibitions might not effectively induce habit change and that an overly prescriptive stance would be inappropriate from the outset, the approach taken was intentionally flexible. Table 3 presents the responses of select children before and after the study.

Table 3. Children's Responses Before and After the Experiment

Do you think dragees are healthy or not? Why do you think that?		
Child	Pre-Application Answer	Response After Implementation
C 5	It's healthy because it gives energy, but it can rot teeth, which is unhealthy.	Unhealthy because it contains food coloring.
C 8	Unhealthy because it has chocolate.	It contains things we shouldn't eat, so it's unhealthy.
C 9	It's neither healthy nor unhealthy, but it tastes good.	There are very harmful and unhealthy disgusting dyes.
C 11	I don't eat at all, teacher, my mom won't let me.	There's too much glossy paint, very unhealthy.

The objective was not to impose discipline but to cultivate media literacy coupled with healthy dietary habits. Accordingly, a flexible and adaptable approach was embraced.

Understanding Media

The Integration of Sound, Image, and Music Elements in Media Products

During the initial application of the second week, a commercial was presented to the children utilizing solely sound, without any accompanying visuals. Subsequently, the sound was muted entirely, prompting the children to concentrate on the visual component. Finally, the commercial was

screened with both sound and image, encouraging the children to contemplate the rationale behind combining visuals, music, and sound (such as the degree of entertainment, the potential impact of solely visuals or sound, etc.).

Conversations unfolded as follows:

C 8: "I did not understand what happened when there was only sound."

C 2: "No sound but we can see."

C 1: (referring to both sound and image) "She is beautiful and funny in her own way."

The essence of this exercise aimed to facilitate the children's comprehension of how these elements collaboratively shape a more captivating and memorable content. Remarkably, most children who focused solely on the auditory dimension (excluding C 8) were able to discern the advertising company and product with ease. When presented with only images and no sound, the children accurately recited the lines from the advertisement in their appropriate contexts. Furthermore, when the complementary components (sound and image) were disjointed, a subset of children diverted their attention to other matters. However, upon the synchronized presentation of sound and image, heightened engagement and enthusiasm were evident. This outcome suggests that commercials attain their objectives more effectively through the strategic integration of various effects, sound, and images. In light of this, the children were informed that songs and dynamic visuals are harnessed to enhance product memorability, eliciting some children to spontaneously sing different jingles.

Exploring the Fictionality of Advertisements

In this activity, children viewed commercials for Hot Wheels and Barbie to cultivate their awareness of fictionality within advertisements. Following the viewing, the children were informed that they would soon engage with these toys. Subsequently, a Hot Wheels race track was set up in the classroom. The girls enthusiastically commenced play with Barbie dolls, encountering minimal issues except for slight discrepancies from the commercial in terms of doll flexibility and outfit changes. Conversely, with the Hot Wheels toy, which necessitated competitive play, the children encountered difficulties consistently launching the cars toward their target. Despite repeated attempts, the outcome remained unchanged. The researcher observed this process without interference (See Figure 5 and 6).



Figure 5 – 6. Fictionalization in Advertisements Activity

Subsequently, one child from the doll-playing group sought the researcher's assistance in dressing the dolls, while some children from the car-playing group requested aid in propelling the cars. With the researcher's support, doll attire was reluctantly arranged, while the cars consistently failed to

hit the target. This puzzling situation confounded the children. One child (C 7) proposed rewatching the commercials, prompting their subsequent viewing. C 8 continued, "Now I realize that we were doing it wrong" and wished to try anew. Despite a forceful launch resembling the commercial, the outcome persisted unchanged. The novelty of this toy and brand contributed to this enlightening experience, as none of the children had encountered similar toys before. This inability to replicate the commercial portrayal despite familiarity with the advertisements underscored the concept of fictionality, evoking profound realization. Lengthy discussions were held with the children (See Table 4 for children's responses before and after the application).

Table 4 Children's Thoughts About the Fictionality in Advertisements

Do you think everything we see in advertisements is true?		
Child	Pre-Application Response	After Application Response
C 1	Yes, for us it's all already.	We played with my teacher, we wanted to fly with Barbie.
C 4	I don't know.	Teacher, they are fiction, they are made on the computer for us to buy.
C 5	I once bought a toy that came out, so it's true.	They are not true, they are doing it for our money.
C 11	I think it's true.	Teacher, they're rigged

During a dialogue centered on Barbie's slogan, "Everything is possible with Barbie," the children were asked if everything was possible with Barbie. One child who responded affirmatively was prompted to hold the doll and articulate their intended action. An attempt at flying ensued; however, the realization quickly dawned that this endeavor was futile. C 1 exclaimed, "No." This marked a pivotal moment of enlightenment for C 1, who recognized the implausibility of the action depicted in the commercial. They commented, "It didn't happen because it can't happen; it's absurd. They are just trying to excite us." This realization underscored an essential phase in media literacy—discerning fictionality in advertisements. Conversations among children playing with the cars unfolded:

C 8: "It doesn't always have to be like that; after all, we played a fun game."

This exchange reflected a moment of awareness within the children, despite their frustration with the process.

Analyzing Websites and Advertisements Featuring Healthy and Unhealthy Foods

In another segment of the implementation plan, two websites were scrutinized—one promoting healthy food and the other endorsing unhealthy food. The chosen websites were from a hamburger company (<https://www.mcdonalds.com.tr/>, 16.05.2022) representing unhealthy food, and a kefir company (<https://www.altinkilic.com/>, 16.05.2022) advocating healthy options. As the children explored these websites, distinct features were discussed.

During the examination of the hamburger company's website, various elements were highlighted, including the allergen list displayed in minuscule fonts, intrusive pop-up advertisements enticing purchases, children's menus, and the inclusion of toys. Similarly, the kefir company's website was studied, focusing on sections elaborating on kefir's benefits and its nutritional content. Subsequently, product advertisements were also viewed, considering the potential influence of visual stimuli on children's attention. During these advertisements, the children were probed about aspects like rapid and small text passages, the frequent utilization of beloved characters in ads, and the practice of offering toys with hamburger menus.

When the children were collectively asked, "Why did the kefir company's website emphasize kefir's benefits, whereas the hamburger company's website did not provide similar information?" only one child (C 1) responded, "Because hamburgers aren't beneficial." The responses encapsulated in Table 5 emerged from children who initially accepted products as presented by food companies, illustrating their evolution in analyzing advertisements and websites.

Table 5 Website and Advertising Analysis

Why do they give toys on children's menus?

	Pre-Application Answer	Response After Implementation
C 1	To make the children happy.	We'll go and pick it up .
C 4	They didn't give it to me, teacher.	I got the kids' menu, but they're out of toys. He said it in the article, you showed me.
C 7	I don't know.	So we can go to more burger joints.
Why are there the underlining text in the commercials we just watched, why is it written so fast and small?		
	Pre-Application Response	Response After Implementation
C 7	To teach us to read, to read fast.	So that we cannot read.
C 9	I don't know.	In case we don't buy it if we read it.
C 11	I've never seen it.	It passes quickly, you have to write them down or else we can complain to the police.

The children's responses, which initially aligned with the desired product perception propagated by food companies, underwent a transformation after the website and advertisement analysis. This transformation is paramount in the context of the study's findings. Initially, the majority of children exhibited limited comprehension of the subject matter. Nevertheless, through active participation guided by the researcher, Table 5 attests to the children's accurate comprehension of the intended message. For instance, after viewing an advertisement in which the toy availability in children's menus was indicated to be limited or variable, C 4's comment reflected this awareness: "I ordered a children's menu, but no toys were left. It was stated in the text, and you showed it." As Hobbs (2011) affirms, the analysis process constitutes the crux of media literacy. The capacity to comprehend and dissect messages stands as the primary objective of media literacy, a facet astutely demonstrated through this study's analysis component.

Evaluation Activities

Menu of the Healthy Food Café

As the study neared its conclusion, the children and researchers embarked on an exercise involving the creation of an illustrative food menu. Given the children's limited literacy, ready-made menus with text-heavy content from restaurants or cafes were deemed unsuitable. Thus, the researchers prepared two distinct menus—one highlighting healthy foods and the other featuring unhealthy options.

After examining the prepared menus, the children were informed about the intention to establish a café or restaurant, though the name remained undecided. C 6 suggested the name "Healthy Food Café," a suggestion embraced by the other children as well. Subsequently, the children were tasked with curating a menu for this envisioned café. The table was adorned with numerous images of healthy and unhealthy foods, along with glue and paper. The children were guided in their task: "Let's create a menu for our café. Choose what should be on this menu from the pictures and affix them." A dialogue emerged between two children regarding the inclusion of a rainbow-colored birthday cake:

C 1: "Let's put this birthday cake too, it's soooo good."

C 4: "But it is very painted, look, there are blue, yellow, green paints."

C 1: "But it's nice."

C 4: [Pointing to the strawberry cake] "This is also good, there is no dye in this, it is strawberry."

This conversation resulted in the strawberry cake being added to the menu without objections. Throughout the study, children gravitated towards healthier food choices.

Another child (C 9) proposed the inclusion of onion rings and pizza in the café menu. When questioned about adding such items to a healthy food café, the children suggested handmade pizza (C 8) and baked onion rings (C 1), demonstrating their utilization of previously discussed knowledge about preparing foods at home in healthier ways (See Figure 7).



Figure 7. Let's Create Our Own Menu Activity

The process culminated in the creation of a menu collectively designed by the children, heavily favoring wholesome options and natural drinks such as mineral water, yogurt drink, lemonade, and orange juice. During the creation of the drink menu, a conversation occurred between the researcher and a child:

C 8: "Teacher, I think orange juice and lemonade should be included."

Researcher: (Displaying images of boxed lemonade and orange juice) "Are you referring to these? Should we add them?"

C 8: "No, of course homemade lemonade and orange juice, for the customers, I mean..."

This dialogue reflected the children's heightened awareness regarding the use of preservatives and fresh ingredients, a topic previously discussed in conversations about boxed drinks. Notably, some children had expanded their usage of media tools beyond entertainment, citing instances of watching experiments, including one about mold emerging from a fruit juice box.

Change in Children's Knowledge and Awareness Levels

Post-study evaluations aimed to ascertain any shifts in the children's knowledge and awareness. The findings presented in Table 6 underscore the efficacy of the action plan. However, while the children's responses regarding food preferences in restaurants remained consistent between the first and fourth weeks, there were instances of evolving awareness and knowledge not yet fully translating into behavior.

Table 6 Change in Children's Knowledge and Awareness Levels

	Answers on the Second Visit		Answers on the Tenth Visit	
<i>Child</i>	<i>What are unhealthy foods?</i>	<i>How do you know these foods are unhealthy?</i>	<i>What are unhealthy foods?</i>	<i>How do you know these foods are unhealthy?</i>
C 1	Chips, cola	Mom/Dad told me. I drink when the acid runs out.	Chips, Coke, Hamburger, Pizza	I watch science videos online I learn from the news
C 3	Jelly Bean	My brother told me	French fries, junk food	I can read from books
C 5	Acidic Colas	My teacher explains	Like the ones on YouTube, like Danino, Ozmo, chips.	I'll look it up online
C 6	Cola, chocolate, chips	We hear it on the news	Most of the things sold in the market	From the Healthy Food Team (the name the children gave themselves)
	Answers on the Second Visit		Answers on the Tenth Visit	
<i>Child</i>	<i>If you went to a restaurant, what would you order for yourself?</i>	<i>Why?</i>	<i>If you went to a restaurant, what would you order for yourself?</i>	<i>Why?</i>
C 1	Hamburger and Ice tea	Because it tastes so good	Pita and yogurt drink	Because yogurt drink strengthens our bones
C 4	French fries, pastries, cola	I love them all	A homemade pizza and lemonade	Because I like pizza
C 9	Hamburger and Coke with ice	As a menu, I mean, I love it because it's icy	Meatballs and Coke	I know cola is very harmful, but I love the taste.

While C1 and C4's preferences shifted to healthier foods (yogurt drink, lemonade, homemade food), C 9's preference for cola persisted despite acknowledging its harm. This instance highlights the distinction between knowledge acquisition and its practical application, indicating a progression in understanding but not yet in behavior for some children.

Sharing with Others

Another vital facet of media literacy involves not only analyzing and evaluating media but also creating one's own media products (Kejanoğlu, 2011). In line with this objective, the final week of the study was dedicated to sharing the acquired knowledge with others. The process commenced with the collaborative preparation of a presentation on the significance of healthy nutrition. The presentation was meticulously crafted to incorporate ample visuals, poetic expressions, and engaging clarity. All children contributed to its development, although some exhibited hesitancy regarding the forthcoming presentation.

The children who volunteered for the presentation underwent numerous rehearsals, and the event was extended to include another kindergarten class. The presentation took place in the school library, with both live delivery and recorded video shared with parents. The children were informed that they had the opportunity to share their newfound knowledge with their peers. When asked how to go about this, a dialogue emerged:

C 3: "I told my brother but he still eats too much junk food."

Researcher: "How about inviting him here and sharing together?"

C 3: "I don't know."

C 2: "How do we explain?"

C 1: "Let's videotape the experiments."

Researcher: "I think there's a concise way to summarize all we've learned."

Children: "How?"

Researcher: "By preparing a presentation and presenting it..."

It was then apparent that the children were unfamiliar with the concept of a presentation. They watched a video together of a firefighter delivering a presentation to young children and discussed it. A dialogue ensued, with one child noting the text in the video:

C 10: "But we can't read..."

C 6: "I can read, I can write, I can do it all." (The child demonstrated reading and writing skills)

C 10: "Then it would be very boring, just you..."

Researcher: "So can we find a different way? How can we make the presentation?"

C 1: "I suggested we videotape it."

The researcher then proposed a presentation with minimal text and abundant photographs. This experience thrilled the children. During the presentation's preparation phase, C 9 suggested including water as the most crucial beverage and C 10 proposed highlighting harmful foods. C 8 showcased images of unhealthy foods, remarking, "They've definitely eaten all of these because they don't know about them," referring to the audience for whom the presentation was intended. C 7 declared, "We'll explain the presentation just like a teacher." These expressions signaled the children's justified pride in their acquired knowledge. The presentation was collaboratively crafted, with poetic sentences rehearsed for each image (See Figure 8).



Figure 8. Sharing with Others Activity

Subsequent to the presentation, younger children not part of the study group were interviewed. When asked what their friends aimed to convey in the presentation, only a few children emphasized healthy nutrition. One child mentioned, "We saw healthy snacks, like walnuts, grapes, and fruits." Although a comprehensive awareness wasn't anticipated from a single event, the topic did generate a positive impact on the children in general.

DISCUSSION AND CONCLUSION

In today's digital age, children's engagement with technology has surged, primarily driven by the proliferation of portable and easily accessible devices. Children often use these devices to watch videos and play games (Kabali et al., 2015). For instance, Ofcom's recent media use report (2021) indicated that 47% of preschool children watch live broadcasts, and a staggering 92% utilize video sharing platforms like YouTube and TikTok. Consequently, the escalating screen time among children has highlighted the significance of media literacy as a defense mechanism against the detrimental impacts of media exposure.

This study aimed to assess the effectiveness of critical media literacy activities designed for 60-72-month-old children in enabling them to accurately interpret media signals and cultivate awareness about healthy and unhealthy foods. A substantial body of research underscores the profound influence of media on children's dietary habits (Kraak et al., 2006; Özdemir, 2020; Ural & Özmaden, 2022; Wartella, 2013; Yıldız & Eneçli, 2013). Given that the food industry is a multi-billion-dollar enterprise, fostering media literacy skills in children from an early age is crucial to safeguard them from the negative influences of this industry (Elliott & Brierley, 2012; Truman & Elliot, 2020; Truman et al., 2022).

The initial stage of the research aimed to gauge the knowledge and awareness levels of the children. It was evident that prior to the interventions, many children exhibited limited media literacy skills. Upon assessing the children's food preferences, it emerged that their choices were often swayed by factors such as a food's popularity, advertising, familial preferences, visual appeal, taste, and the inclusion of toys. Although the children cited examples of unhealthy foods, such as cola, candy, and chips, they did not perceive these items as harmful. Moreover, child YouTubers wielded influence over the children, who were captivated by the sensory elements in advertisements, particularly those promoting food. This aligns with previous findings that children struggle to evaluate the healthiness of packaged foods (Elliott & Brierley, 2012). Research by Koyuncu Şahin et al. (2018) similarly demonstrated the substantial sway of advertisements on children's consumption habits.

Subsequently, during the board study on healthy and unhealthy foods, it was notable that the children adeptly categorized their foods in line with the information provided by the researcher. This highlights the children's receptiveness to learning and their capacity to build awareness. An experiment conducted in this context unveiled the children's lack of knowledge about food contents and their misconception that colorful foods obtain their hues from fruits. Heller et al. (2015) corroborated this observation, suggesting that colorful, artificially dyed foods may be misconstrued as containing actual fruit due to their appearance.

Media analysis training revealed that a combination of sound, effects, and music in advertisements had a more pronounced impact on children. Prior studies have indicated that preschool children can recognize logos of unhealthy foods (McAlister & Cornwell, 2010; Tatlow Golden et al., 2014), with some even identifying products by brand logos and characters under the age of 3 (Aktaş Arnas et al., 2016).

The study also explored the fictionality of advertisements. By engaging the children with products and the advertisements promoting them, it was evident that the children struggled to replicate the effects showcased in the commercials during their playtime. Some children recognized the fictional nature of the advertisements and attributed their embellishments to encourage consumption. This aligns with research by Vanwesenbeeck et al. (2020), indicating that preschool children can grasp the persuasive intent of advertisements.

The study's evaluation activities included assessing children's abilities to create menus for a healthy food café. The children predominantly opted for healthy food choices and offered informative explanations to peers who favored unhealthy items. This phase demonstrated a substantial improvement in children's knowledge and awareness. In the sharing activities segment, the children

presented their prepared presentations about healthy and unhealthy foods to their peers and a younger class.

The study's outcomes showcased an enhanced ability among children to discuss media content, reason, decipher underlying advertisement meanings, comprehend food knowledge, question foods instead of accepting them uncritically, and critically interpret healthy and unhealthy foods featured in both traditional and digital media. When revisiting the children's opinions with questions similar to those posed initially, it was evident that the children offered more confident and aware responses.

Collectively, the action plan fostered heightened media literacy and nutritional awareness among the children. This perspective finds support in numerous studies highlighting the efficacy of media literacy activities on children (Papachristou & Nikolakaki, 2022; Šramová, 2014; Harris & Bargh, 2009; Evans et al., 2006; Hindin et al., 2004). However, it's worth noting that while most children displayed improved knowledge throughout the action plan, a few struggled to cultivate awareness or translate it into practice. These variations in outcomes might be attributed to the influence of older siblings or family lifestyles removed from media literacy and healthy eating concerns.

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Ethical Statement: Ethics committee approval (No: 2022-138, Uşak University Ethical Review Board) was procured for the study. In accordance with the ethical guidelines set forth by Uşak University Social and Human Sciences Scientific Research and Publication Ethics Committee, parental consent was obtained from the parents of all participants. All original names were replaced with pseudonyms to protect the privacy of the participants.

REFERENCES

- Agnoletti, M. *et al.* (2021) *Media literacy: eMedia*. Retrieved on 11.06.2023 from: <https://all-digital.org/wp-content/uploads/2021/03/Media-Literacy-Booklet-Emedia-Project-Final-ENG-1.pdf>.
- Aktaş Arnas, Y., Taş, I., & Gürğah Oğul, İ. (2016). The development of brand awareness in young children: How do young children recognize brands?. *International Journal of Consumer Studies*, 40(5), 536-542.
- Asqarova, S., & Zengin, T. T. (2022). Ekran maruziyeti bulunan çocuklarda ergoterapinin duygusal etkileri. *Pearson Journal of Social Sciences & Humanities*, 7(19), 140-145.
- Baltacı, A. (2018). Nitel araştırmalarda örnekleme yöntemleri ve örnek hacmi sorunsalı üzerine kavramsal bir inceleme. *Bitlis Eren Üniversitesi Sosyal Bilimler Dergisi*, 7(1), 231-274.
- Bar-on, M. E. (2000). The effects of television on child health: Implications and recommendations. *Archives of Disease in Childhood*, 83(4), 289-292.
- Bogdan, R. C., & Biklen, S. K. (2003). *Qualitative research for education: An introduction to theory and methods* (3rd ed.). Allyn&Bacon

- Calvert, S.L. (2008). Children as consumers: Advertising and marketing. *The Future of Children*, 18(1), 205-234.
- Chaudron, S., Beutel, M. E., Donoso Navarrete, V., Dreier, M., Fletcher-Watson, B., Heikkilä, A. S., ... & Wölfling, K. (2015). *Young Children (0-8) and digital technology: A qualitative exploratory study across seven countries*. Publication Office of the European Union (JRC93239).
- Cheung, C. H., Bedford, R., Saez De Urabain, I. R., Karmiloff-Smith, A., & Smith, T. J. (2017). Daily touchscreen use in infants and toddlers is associated with reduced sleep and delayed sleep onset. *Scientific Reports*, 7(1), 1-7.
- Çetintaş, H. B., & Turan, Z. (2018). Through the eyes of early childhood students: Television, tablet computers, Internet and smartphones. *Central European Journal of Communication*, 11(1), 56-70.
- Dardanou, M., Unstad, T., Brito, R., Dias, P., Fotakopoulou, O., Sakata, Y., & O'Connor, J. (2020). Use of touchscreen technology by 0–3-year-old children: Parents' practices and perspectives in Norway, Portugal and Japan. *Journal of Early Childhood Literacy*, 20(3), 551-573.
- Demir, R., & Kargın, T. (2020). Çocuk YouTuberlar ve paylaştıkları videolar üzerine bir doküman analizi. *Turkish Studies - Education*, 15(6), 4091–4116.
- Elliott, C., & Brierley, M. (2012) Healthy choice? Exploring how children evaluate the healthfulness of packaged foods. *Canadian Journal of Public Health*, 103(6), 453–458.
- European Food and Nutrition Action Plan. (2015–2020). Retrieved on 11.06.2023 from: https://hsgm.saglik.gov.tr/depo/Yayinlarimiz/Eylem_Planlari/Avrupa-Gida-ve-Beslenme-Eylem-Plani-2015-2020.pdf.
- Evans, A. E., Dave, J., Tanner, A., Duhe, S., Condrasky, M., Wilson, D., & Evans, M. (2006). Changing the home nutrition environment: Effects of a nutrition and media literacy pilot intervention. *Family and Community Health*, 29(1), 43-54.
- Fraenkel, J. R., & Wallen, N. E. (2003). *How to design and evaluate research in education* (5th Ed.). Mac Graw Hill.
- Gökçe, A., Arslan, İ. Ülgen Öz, S., Mete, U., Taşçı, D. ve Yengil Taci, D. (2021). Yedi yaş altı çocuklarda mobil ekran maruziyeti. *Ankara Eğitim ve Araştırma Hastanesi Dergisi*, 54(2), 188-193.
- Guo, Y., Liao, M., Cai, W., Yu, X., Li, S., Ke, X. Zeng, F. (2021). Physical activity, screen exposure and sleep among students during the pandemic of COVID-19. *Scientific Reports*, 11(1), 8529. <https://doi.org/10.1038/s41598-021-88071-4>.
- Harris, J. L., & Bargh, J. A. (2009). Television viewing and unhealthy diet: implications for children and media interventions. *Health Communication*, 24(7), 660-673.
- Heller, R., Martin-Biggers, J., Berhaupt-Glickstein, A., Quick, V., & Byrd-Bredbenner, C. (2015). Fruit-related terms and images on food packages and advertisements affect children's perceptions of foods' fruit content. *Public Health Nutrition*, 18(15), 2722-2728.
- Hindin, T. J., Contento, I. R., & Gussow, J. D. (2004). A media literacy nutrition education curriculum for head start parents about the effects of television advertising on their children's food requests. *Journal of the American Dietetic Association*, 104(2), 192-198.

- Hobbs, R. (2011). *Digital and media literacy*. Sage Publications.
- Johnson, A. P. (2003). *What every teacher should know about action research*. Pearson Education.
- Kabali, H. K., Irigoyen, M. M., Nunez-Davis, R., Budacki, J. G., Mohanty, S. H., Leister, K. P., & Bonner, R. L. (2015). Exposure and use of mobile media devices by young children. *Pediatrics*, *136*(6), 1044-1050.
- Kargın, T. (2022). Erken çocukluk döneminde dijital okuryazarlıklar. In D. Altun & F. Tantekin Erden (Eds.), *Erken çocukluk döneminde dijital teknoloji: Uygulamalar, araştırmalar ve eğilimler* (pp. 180–210). Nobel.
- Akademik Yayıncılık.Kejanoğlu, D.B. (2011). Türk medyasında haberin manipülasyonu ve dezenformasyon. In M.C. Şimşek & N. Türkoğlu (Eds.), *Medya Okuryazarlığı* (pp. 261-268). Parşömen Yayınları.
- Kelly, B., Halford, J. C., Boyland, E. J., Chapman, K., Bautista-Castaño, I., Berg, C., ... & Summerbell, C. (2010). Television food advertising to children: a global perspective. *American Journal of Public Health*, *100*(9), 1730-1736.
- Koshy, V. (2005). *Action research for improving practice*. Paul Chapman Publishing.
- Koyuncu Şahin, M., Esen Çoban, A., & Güney Karaman, N. (2018). Okul öncesi öğretmenlerinin medyanın çocukların beslenme alışkanlıkları ve bozuklukları üzerindeki etkisine yönelik bakış açıları. *İlkogretim Online*, *17*(1), 125-142.
- Kraak, V. I., Gootman, J. A., & McGinnis, J. M. (2006). *Food marketing to children and youth: Threat or opportunity?*. National Academies Press.
- Ling, L., Yelland, N., Hatzigianni, M., & Dickson-Deane, C. (2022). The use of Internet of things devices in early childhood education: A systematic review. *Education and Information Technologies*, *27*, 6333-6352.
- McAlister, A. R., & Cornwell, T. B. (2010). Children's brand symbolism understanding: Links to theory of mind and executive functioning. *Psychology & Marketing*, *27*(3), 203-228.
- Merriam, S. B. (2009). *Qualitative research: A guide to design and implementation*. John Wiley-Sons.
- Ministry of Health (2022). 22 Mart 2022 Dünya Obezite Günü. Retrieved on 11.06.2023 from: <https://hsgm.saglik.gov.tr/tr/beslenmehareket-haberler/4-mart-2022-dunya-obezite-gunu.html>.
- Mukherji, P., & Dryden, L. (2014). *Foundations of early childhood: Principles and practice*. Sage.
- Nobre, J. N. P., Santos, J. N., Santos, L. R., Guedes, S. C., Pereira, L., Costa, J. M., Souza Morais, R. L. (2019). Determining factors in children's screen time in early childhood. *Ciencia & Saude Coletiva* *26*(3), 1127-1136.
- Norris, S. (2013). Multimodal (inter)action analysis. In P. Albers, T. Holbrook, & A.S. Flint. (Eds), *New Methods of Literacy Research* (pp. 70-84). Routledge.
- Ofcom. (2021). Children and parents: Media use and attitudes report 2020/21. Retrieved on 11.06.2023 from: <https://www.ofcom.org.uk/research-and-data/media-literacy-research/childrens/children-and-parents-media-use-and-attitudes-report-2021>.

- Özdemir B. (2020). Televizyonda yayınlanan gıda reklamlarının çocuklara etkisi uzman görüşlerinin incelenmesi. *Akademik Matbuat*, 4, 17-40.
- Papachristou, E., & Nikolakaki, M. (2022). Necessity of implementing advertising literacy programs in preschool curricula in Debt-Ridden Greece. *European Journal of Education and Pedagogy*, 3(3), 135-146.
- Pempek, T. A. & Calvert, S. L. (2009). Tipping the balance: Use of advergames to promote consumption of nutritious foods and beverages by low-income African American Children. *Archives of Pediatrics & Adolescent Medicine*, 163, 633-637.
- Pew Research Center (2020). *Parenting children in the age of screens*. Retrieved on 11.06.2023 from: <https://www.pewresearch.org/internet/2020/07/28/childrens-engagement-with-digital-devices-screen-time/>
- Potter, J. (2005). *Media literacy* (3th ed.). Sage.
- Recalde, M., & Gutiérrez-García, E. (2017). Digital natives: The engagement experience to online protection. *Young Consumers*, 18(2), 159-179.
- Sahoo, K., Sahoo, B., Choudhury, A. K., Sofi, N. Y., Kumar, R., & Bhadoria, A. S. (2015). Childhood obesity: Causes and consequences. *Journal of Family Medicine and Primary Care*, 4(2), 187-192.
- Seo, E. & Ma, J. (2021). Infants' Use of Video Content and Caregivers' Media Literacy. *Korea Communication Journal*, 20(3), 123-160.
- Šramová, B. (2014). Media literacy and marketing consumerism focused on children. *Procedia- Social and Behavioral Sciences*, 141, 1025-1030.
- Staples, A. D., Hoyniak, C., McQuillan, M. E., Molfese, V., & Bates, J. E. (2021). Screen use before bedtime: Consequences for nighttime sleep in young children. *Infant Behavior and Development*, 62, Article 101522.
- Tatlow-Golden, M., Hennessy, E., Dean, M., & Hollywood, L. (2014). Young children's food brand knowledge: Early development and associations with television viewing and parent's diet. *Appetite*, 80, 197-203. golden
- Truman, E., & Elliott, C. (2020). Health-promoting skills for children: Evaluating the influence of a media literacy and food marketing intervention. *Health Education Journal*, 79(4), 431-445. <https://doi.org/10.1177/0017896919889647>
- Truman, E., Daroux-Cole, L., & Elliott, C. (2022). Educating for children's health: Lessons learned on facilitating media literacy & food marketing programming. *Health Promotion Practice*, 24(3), 584-587. <https://doi:10.1177/15248399211072532>.
- Ural, B. & Özmaden, M. (2022). Televizyon reklamları: Çocukluklarda obezite ve besin seçimine etkileri. *Sağlık Akademisyenleri Dergisi*, 9(3), 294-293.
- Vanwesenbeeck, I., Hudders, L., & Ponnet, K. (2020). Understanding the YouTube generation: How preschoolers process television and YouTube advertising. *Cyberpsychology, Behavior, and Social Networking*, 23(6), 426-432.
- Vodopivec, J. L. (2011). Some aspects of teaching media literacy to preschool children in Slovenia from a perception standpoint of teachers and parents. *Acta Didactica Napocensia*, 4, 69-78.

- Vuksan, V., Bagaric, Z., & Lasic-Lazic, J. (2022). Croatian youth media literacy, dietary habits and healthy diet information: A pilot. *Proceedings of INTED2022 Conference*, 7, 8.
- Wartella, E. A. (2013). Medya, beslenme ve çocukluk obezitesi. P. Şengözer Şiraz (Trans.) and in H. Toker (Ed.), *I. Türkiye Çocuk ve Medya Kongresi Bildiriler Kitabı* (pp. 243-252). Çocuk Vakfı Yayınları.
- We Are Social, & Hootsuite. (2021). *Digital 2021: Turkey*. Retrieved on 11.06.2023 from: <https://datareportal.com/reports/digital-2021-turkey>
- Wei, M. H., & Chuang, S. Y. (2016). A study of 3C product use, behavioral performance, and learning attitude among young children of the touch-screen generation. *Journal of Computer Science and Application*, 8(2), 47-69.
- Yang, C., & Chang, C. J. (2021). Use of electronic products by Taiwanese children and their effect on children's development: applying data from kids in Taiwan study. *Bulletin of Educational Psychology*, 53(2), 257-284.
- Yıldız Ö. E., & Eneçli C. (2013). Reklamda animasyon karakter kullanımının çocukların beslenme alışkanlıkları üzerindeki etkileri. *İletişim Kuram ve Araştırma Dergisi*, 36, 241-253.